Self-Concept of Female Students:  
A Study of Ability and School Level

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ABSTRACT

The self-concept of gifted and average-ability students were examined. Using Harter's *Self-Perception Profile for Children*, the self-concepts of 95 girls from 18 schools were compared by age and ability. It was hypothesized that domain-specific self-concepts and global self-worth would be differently related in gifted versus (vs.) average-ability and elementary (grades 4 and 5) vs. secondary students (grades 8 and 9). As predicted, it was found that global self-worth and perceived physical appearance declined with age, and that perceived physical appearance and social acceptance were significant predictors of global self-worth. In addition, perceived scholastic competence was higher in gifted vs. average students, but it was more highly correlated with global self-worth in average-ability not gifted students as thought. It appears that the self-concept of female students may be related to school climate and ethnicity as well as ability and age.
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CHAPTER 1

Introduction

Background to the Problem

Lewis Terman’s benchmark study *Genetic Studies of Genius* (1925) began the interest in the physical, mental and character traits, in addition to the intellectual traits of the gifted child. Prior to the twentieth century and the explosion of empirical scientific research, giftedness was often associated with insanity, frailty, and other social, emotional and physical weaknesses (Whitmore, 1980). Terman’s study countered the popular belief that giftedness was accompanied by poor health and physique, and poor mental health and adjustment (Passow, 1981). Researchers of giftedness, however, may have since abandoned notions of gifted students as physically and mentally weak or frail, but concerns over their socio-emotional development persist. Simply, researchers have posited that if the emotional and intellectual minds are ultimately inseparable, giftedness must impact upon the non-intellective aspects of cognition.

In short, gifted students present a unique set of emotional and social needs. Studies have suggested that the emotional development of gifted students may be adversely affected by mismatches between social and academic needs, inadequate programming, and unrealistic teacher and/or parent expectations (Smith, Polloway, Patton & Dowdy, 1998). Furthermore, adolescence and gender may give rise to unique socio-emotional needs in gifted students, or may magnify difficulties endured by adolescents in general; gifted adolescent female students may experience unique academic and emotional needs when the difficulties of puberty, giftedness and gender-role expectations are compounded. In particular, there is much concern over these
young talented girls' potentially poor self-concepts. If their needs are not met and their concerns not addressed, these students may not only suffer from poor self-concepts, but also fail to achieve their potential in their domain of giftedness, a concern for students, parents, educators and researchers alike.

**Significance of Adolescence**

Developmental theorists view adolescence as a distinct period in human development with physical, emotional and social changes that prepare the child for adulthood. Erikson (1968) viewed adolescence as the fifth stage of human development, identity verses identity confusion, during which adolescents are confronted with issues surrounding their identity, role and future. Similarly, Piaget (as cited in Santrock, 1996) viewed adolescence as the fourth and final stage of development, the formal operational stage, during which individuals begin to think in more abstract and logical rather than solely concrete terms. Both theorists believed this period to be vital to the physical, emotional and social development of the individual. As such, this age group is significant to this study because of the unique and potentially turbulent nature of adolescence, and its impact on achievement and socio-development, including self-concept.

**Adolescence in Average Students.** Santrock (1996) provided a thorough but concise description of the general physical and socio-emotional issues experienced in adolescence, which is summarized below.
i) Physical

Adolescence marks the onset of puberty, including many physiological changes. Not only do glands and hormones stimulate a significant increase in the growth rate of the muscular and skeletal systems, but they also cause changes in the reproductive organs. In females, this results in height and weight gains and secondary hair growth, as well as the development of breasts and the onset of menstruation.

ii) Emotional

With the physical changes and increase in abstract thinking during adolescence come significant changes in feelings and attitudes. This can include an increase in negative body images (especially in females), egocentrism, the importance of physical appearance and social acceptance, sexual attraction, introspection and conflict regarding the value of achievement; it may also include a decrease in the value of relationships with parents, and teachers due to an increased importance of autonomy and decision power. In all, these concerns can negatively impact the overall and domain specific self-concepts of students during early adolescence, as well as achievement in school.

iii) Social

As much as adolescence indicates an increase in the awareness of self, it also indicates an increase in the awareness and evaluation of relationships with others, especially peers. To many adolescents "how they are seen by peers is the most important aspect of their lives" (Santrock, 1996, p. 217). This is suggested by a
decrease in relations with parents and teachers and in attention to achievement, as well as an increase in peer interactions, which may be important for normal social development. Adolescents may value highly peer acceptance, and thus are willing to adopt the attitudes, beliefs or behaviors of their peers while hiding their true selves. Further, it seems that the emotional and social stresses of adolescence are intensified because they coincide with the transition to high school.

**Adolescence in Gifted Students.** Buescher (1991) provided a description of how adolescence may differ in gifted students when compared to average students, a summary of which follows.

i) Physical

There appears to be no difference in the timing and nature of physical changes between gifted and average students, only in the emotional response of gifted students to these changes.

ii) Emotional

Many of the emotional difficulties associated with gifted adolescents stem from their belief that society perceives “giftedness” as “different”, which opposes their desire to be “normal”. Adolescence is a period of slowly resolved conflict for all individuals, but in the gifted student it may seem more pronounced because of her previous rapid development and academic progression. The troubles of adolescence cannot be reasoned or quickly dismissed, as might be expected by otherwise capable young
people. This can lead to confusion in gifted adolescents who may be struggling with their physical and emotional identity, and are not rewarded with the immediate resolutions to which they have grown accustomed. As well, the increased introspection of adolescence, coupled with the perfectionism and supersensitivity characteristic of some gifted students (see Significance of Underachievement), may result in their having poorer body images, more anxiety and unhappiness surrounding achievement and relationships, and a greater need for physical attractiveness in comparison to average-ability students.

iii) Social

As the importance of peer relations increases and their belief that being gifted makes them “different” or “abnormal” persists, gifted adolescents may hide their talents to gain acceptance. Furthermore, gifted adolescents, whose identity had previously been formed by parents and teachers as children, now seek peer approval, which they hope to gain by conformity and, perhaps, the abandonment of talent development. The social stigma of the gifted label may accentuate the need of gifted students to belong, as does the transition from the familiar and protective environment of elementary school to the seemingly cold and discouraging environment of high school. In sum, the emotional and social traits of gifted adolescents may not differ in nature to those of average ability students, but in intensity and effect on achievement and self-concept.
Significance of Gender

Terman's (1925) insightful study propelled the investigation of the socio-emotional aspects of gifted boys and girls, and the issues surrounding gifted girls still receive attention from educational researchers. Much of the discussion involves the conflict between girls feeling pressure to conform to the gender role expectations of society and the peer role expectations of their classmates.

Gender-Role Stereotyping. Research has indicated that gifted girls tend to drop out of gifted programs as they progress through school (Reis & Callahan, 1996). Are these girls no longer gifted and academically able? This is unlikely. Until the age of twelve, girls are self-confident, courageous, and resistant to harmful images of feminine behavior (Silverman, 1995). Unfortunately, during adolescence the "plight of being female in a sexist society" (Silverman, p. 142) becomes increasingly concerning for gifted girls. When compared to boys and average ability girls, gifted girls have more anxiety and perfectionism and a greater tendency to attribute successes to luck or hard work and failures to lack of ability (Randall, 1997); this limits their academic success and lowers their self-concept (Randall; Reis & Callahan; Silverman). As well, gifted girls face the conflict of defining their identity according to the traditional feminine role dictated by society or according to the role dictated by their outstanding abilities (Randall; Reis & Callahan; Silverman). Gifted girls may bow to social convention and adopt a docile, dependent, and less intelligent persona, rather than exert their academic talents and pursue non-traditional roles.
Furthermore, researchers have found that parents and teachers, who may have once encouraged talent development, may now contribute to the identity dilemma faced by gifted girls by also demanding compliance, attributing success to hard work and not ability, limiting academic choices, and not providing guidance in dealing with social issues and time management (Manor-Bullock, Look & Dixon, 1995; Randall; Reis & Callahan, 1996; Silverman, 1995). Again, this clash may result in the gifted girl assuming that she must choose between achievement and social desirability which, to her, appear to be mutually exclusive.

Given the potential sensitivity and isolation of gifted girls, adolescence and gender issues may have a greater influence on the socio-emotional development of gifted girls than on that of average ability girls. These factors may impact gifted girls differently than average ability girls in the severity of the decline in over-all self-concept and/or one or more of the domain specific self-concepts – physical, academic, social, behavioral and athletic – during adolescence. As well, the importance of the specific domains of self-concept and their impact on over-all self-worth may also differ in gifted girls, an issue which will be discussed further in the subsequent chapter.

Social Stigmatization of Gifted Students. The pressure to select a traditional identity is not only perpetuated by parents and teachers, but also by peers. As noted previously, adolescence is marked by an increase in the importance of social acceptance and peer approval; this is also true for gifted adolescents, and may be compounded by their feelings of isolation and aberrance (Callahan & Cunningham, 1994; Coleman & Cross, 1988; Cross, Coleman & Stewart, 1993; Frey, 1998;
Silverman, 1995). For example, Cross et al. found that 85% of gifted students thought there were few students in their school like them, and that teachers and peers viewed them differently relative to average students. Similarly, Manor-Bullock et al. (1995) found that 65% of gifted students felt socially different, and that others saw them as smart and overly studious. This feeling of difference clearly opposes the powerful desires of gifted girls to conform and to be popular (Callahan & Cunningham; Frey, 1998; Reis & Callahan, 1996). In order to gain acceptance, gifted girls may downplay their abilities, abandon gifted educational services, avoid difficult or male-dominated areas of study (Callahan & Cunningham; Randall, 1997; Reis & Callahan; Silverman), or place an excessive value on being attractive (Reis & Callahan; Silverman). This behavior, called social manipulation, may result in a sharp decline in the achievement of gifted girls, as “there appears to be very little value in choosing achievement over social acceptance” (Silverman, p. 146).

These socio-emotional pressures to choose acceptance over achievement may impact the self-concept of gifted adolescent females. Self-concept not only implies a general evaluation of competency (Harter, 1982), or self-worth, but also domain specific areas of self-concept that may be low despite an average over-all self-concept (see Definition of Self-Concept in the following chapter). As a result, research may reveal low self-concepts in gifted adolescent girls in one or more domains and/or over-all self-worth relative to their average ability peers.
Significance of Underachievement

So often, achievements and products, as opposed to potential and talent, categorize gifted students; it is assumed that if they are not achieving, they are not able. When asked how many students in his school have been identified as gifted, one administrator in the target school district commented, "Forty, but you wouldn’t know it to look at them. They're not even on the honour roll." Consideration must be given to these underachieving students who, through teacher nomination and ability testing, have been identified as gifted, yet do not seem to produce the work of which they are capable. If these students are not reaching their academic potential, researchers must explore the affective issues that may negatively impact the academic development of gifted students (Smith et al., 1998). A directional cause-and-effect relationship is not being suggested, but there is a relationship between academic achievement and self-concept (Dixon, 1998; Whitmore, 1980), and one cannot be explored in isolation of the other.

Characteristics of Gifted Underachievers. Despite diversity among the population of gifted underachievers, there are some common psychological traits among them (Kline & Short, 1991; Reis & McCoach, 2000; Tidwell, 1980; Whitmore, 1980), such as social isolation and an increased incidence of perfectionism, supersensitivity, fear, and anxiety. All of these factors may obstruct gifted students from reaching their academic potential (Whitmore, 1980).
i) Perfectionism

Perfectionism can be a positive motivating factor in well-adjusted students, resulting in thorough, high-quality work. Conversely, it can manifest as unrealistic expectations for the level of complexity, quality and/or quantity of work, excessive self-criticism, and frustration (Kline & Short, 1991; Parker & Mills, 1996; Reis & McCoach, 2000; Siegle & Schuler, 2000; Smith et al., 1998; Whitmore, 1980). Perfectionism can also lead to withdrawal from difficult courses, increases in anxiety and unhappiness, and negative attitudes towards school (Reis & McCoach; Whitmore), thus contributing to lowered self-concept and achievement.

ii) Supersensitivity

A biological perspective on giftedness, provided by Cruikshank (as cited in Smith et al., 1998) indicates that giftedness is the result of a supersensitive nervous system capable of assimilating exceptional amounts of sensory information. Not only is the gifted child able to distinguish and categorize large amounts of information, but she is also more perceptive socially than average students, thus acknowledging verbal and non-verbal messages easily and efficiently. However, according to Cruikshank (as cited in Smith et al.), this results in overly analytical and critical tendencies towards the self and others, an unusual sensitivity to the expectations and feelings of others, and a heightened emotional depth and intensity (Freeman, 1994; Reis & McCoach, 2000; Smith et al.; Whitmore, 1980). These characteristics, in turn, may negatively impact her self-concept and/or relationships and thus her academic performance.
iii) Fear and Anxiety

Similar to the perfectionism and supersensitivity observed in gifted students, excessive fear, anxiety and hopelessness are other traits supporting the hypothesized extreme emotionality of gifted students. It has been suggested that gifted students experience more distress due to normal events than average students do (Freeman, 1994), including more anxiety due to school and relationships (Tong & Yewchuk, 1996), more hypochondria (Whitmore, 1980), and more hopelessness and unhappiness (Freeman; Kline & Short, 1991; Tong & Yewchuk). Researchers have advised that these students are more vulnerable to depression, worry and fear, which may have a negative influence on their academic and personal development (Freeman; Kline & Short; Tong & Yewchuk).

iv) Social Isolation

Students may experience stigma associated with the gifted label. Paradoxically, society values innovation and excellence, yet opposes individualism and elitism (Whitmore, 1980). This can create conflict for the gifted student because she is receiving encouragement from teachers and parents to excel, thus differentiating herself from her peers, as well as pressure from peers to conform (Reis & McCoach, 2000; Whitmore). Indeed, Reis and McCoach asserted that sixty-six percent of underachieving gifted students named peer pressure as their primary opposition to getting good grades. As a result, gifted students may repress their talent and intelligence in order to achieve acceptance by their peers and avoid social isolation (Reis & McCoach; Whitmore).
Social isolation may occur if a student does not conform, or if she perceives herself to be different (Freeman, 1994; Tidwell, 1980). Researchers have found that gifted students, when compared to average students, have fewer friends (Freeman, 1979; Reis & McCoach, 2000) and those they have are usually older (Freeman, 1979). Tidwell reported that 64% of the 1,593 students examined in his study perceived themselves to be either "very unpopular or unpopular" (p.66). Although this may not result directly in the restraint of intellect, having few same-age friends and believing oneself to be different may result in emotional difficulties and negative school attitudes, which can inhibit achievement.

**Summary**

We cannot assume that the socio-emotional traits of gifted adolescent females have little impact upon their achievement and self-concept, especially if they are not achieving at a level commensurate with their scholastic strengths. Research has suggested that gifted students, albeit not a homogeneous population, have specific and unique non-intellectual traits that may affect their academic progress at school (Freeman, 1994; Hoge & Renzulli, 1993; Kline & Short 1991; Silverman, 1995). Gifted females may suffer from the social stigma of giftedness due to poor body images, excessive value of physical attractiveness, and competing desires to achieve or conform to traditional views of femininity. Before we can expect gifted females to achieve their full academic potential, we must identify and understand their socio-emotional needs.
In addition, the physical and social changes of adolescence, including the transition to high school, may bring further declines in academic achievement due to the increased need in gifted females to gain peer approval and social acceptance. Therefore, adolescence is a crucial period in the development of talent, ability, self-concept and self-worth. If gifted students are underachieving, they may suffer from heightened perfectionism, sensitivity, fear and anxiety related to achievement and social issues, stress, and feelings of failure and rejection, and thus, may decline even further in both achievement and self-concept during adolescence and the transition to secondary school. Consequently, the self-concept and achievement of gifted adolescent females who are potentially underachieving may be more negatively influenced than that of younger gifted students and same age average-ability females.

**Purpose of the Study**

Given the potential for heightened perfectionism, sensitivity, fear, anxiety and social isolation in gifted students, the possible turmoil of adolescence, the difficult transition from elementary to secondary school, the potential for social stigma due to being labeled gifted, and the pressure to meet societal ideals of femininity, there should be concern regarding the development of positive self-concept in gifted adolescent females. Further research in this area that considers the age and gender of gifted students when exploring their self-concepts is needed. This study addresses four general questions: Is the self-concept of gifted girls different from that of average girls? Is age a significant factor in gifted females’ self-concept? Is the importance of the five domains of self-concept (scholastic, athletic, social, behavioral, and physical)
investigated in this study for gifted girls different from that of average girls in terms of how they relate to global self-worth? Is age a significant factor in how the five domains relate to global self-worth?

Definitions of Terms

For the purposes of this study, the following definitions apply:

**Ability or aptitude** is the intellectual capability and talent in science, language arts, mathematics, or social studies, which may be measured by IQ testing or a more holistic evaluation, as outlined by the target school district (see Giftedness) (Feldhusen, 1986; Silverman, 1995).

**Achievement** is age-related academic performance in a school environment, best determined by teachers and other educators rather than standardized achievement tests (Reis & McCoach, 2000).

**Adolescence** corresponds to the ages of 11-18, with early adolescence being ages 11-15, and marked by the onset of puberty, the increase in identity exploration, abstract thinking, peer relation importance, and the decrease in parental attachment (Santrock, 1996).

**Egocentrism** refers to "the heightened self-consciousness of adolescents that is reflected in their belief that others are as interested in them as they themselves are, and in their sense of personal uniqueness" (Santrock, 1996, p. 122).

**Giftedness** is denoted by the criteria of the target school district, a large school district in the Lower Mainland, and includes: (a) skills such as above grade ability in literacy, math ability, reasoning, written expression and/or social skills, (b) interest in challenging
learning opportunities, the world around us, project work, or research, (c) personality traits such as the ability to focus attention for blocks of time, emotional intensity and sensitivity, and/or evidence of significant under-achievement, and/or (d) the demonstration of original thinking, the ability to tinker with ideas and resources, and analytic, organizational and reflective skills. These criteria are outlined in a referral form for an elementary school enrichment program that runs throughout the school year to provide academic challenges in specific areas to potentially gifted students. More specifically, the classroom teacher assesses the student based on the criteria, and then refers her to the School Based Team (SBT). The SBT then prioritizes referred students based on school priority, gender and geographical equity, and the best match between the students’ educational needs and the program objectives. Programs include leadership, technology, math, robotics, fine arts, and language arts. Once a student attends the program, she is then formally labeled 'gifted' if deemed appropriate by the Gifted Resource Facilitator instructing the program.

**Gender-role stereotypes** are “broad categories that reflect our impressions and beliefs about males and females” (Santrock, 1996, p. 359).

**Peers** are students who are of the same age or grade level within a school (Santrock, 1996).

**Puberty** is “a rapid change to physical maturation involving hormonal and bodily changes that occur primarily during early adolescence” (Santrock, 1996, p. 87).

**School Level** refers to whether a student is in elementary or secondary school.

**Self-Concept** is a multidimensional model of “how we view ourselves in terms of abilities, skills, appearance, and social acceptability” (Byrne, 1996, p.429).
Self-Worth is "the degree to which one likes oneself as a person, likes the way one is leading one's life, is satisfied with oneself, in general, is happy with the way one is" (Harter, 1985, p. 1); it is used interchangeably with self-esteem.

Underachievement in gifted students is performance at or below grade level in their academic areas of strength, determined by the criteria for giftedness denoted by a school district, as perceived by their teachers and/or parents (Reis & McCoach, 2000). Furthermore, the use of standardized achievement tests may not reflect school experience or classroom performance, but potential ability and a propensity for writing tests (Reis & McCoach) and therefore is not included in the definition. It may seem peculiar to classify a student achieving at grade level as underachieving, but for students who have demonstrated ability well above that of their peers, producing work merely at their grade level in their area(s) of strength is significantly below their capabilities (Reis & McCoach; Whitmore, 1980).

Literature relevant to the self-concept of gifted adolescent females is reviewed in the following chapter.
CHAPTER 2

Literature Review

Because of the inconsistency in defining both self-concept and giftedness, this chapter explores critical reviews of both theories and empirical studies pertaining to the self-concept of gifted adolescent females. It includes a brief summary describing the unique traits of this population, followed by construct definitions, reviews of current research and its limitations, and the research questions of this study.

Impact of Underachievement, Adolescence and Gender on Self-Concept

Reis and McCoach (2000) cited several articles that have found poor self-concept to be one of the most common characteristics attributed to underachieving students (e.g., Freeman 1994; Whitmore, 1980), but empirical evidence has been inconsistent and often contradictory. Shavelson et al. (1976) and Marsh (1986, 1990a, 1990b) theorized that global self-concept is highly correlated with academic self-concept and social self-concept, and that during adolescence this relationship changes. Prior to adolescence, academic achievement played a large role in forming global self-worth, more so than social self-concept. During adolescence, however, as social relationships become more important, social self-concept becomes more influential in developing global self-concept than academic self-concept (Marsh, 1990a, b). This theory is particularly important for gifted students whose academic talents may be abandoned for social acceptance. If the importance of social self-concept does not increase, the decrease in the importance of academic self-concept, a once-valued strength, may result in a lowered overall self-worth.
It may be that previous research is contradictory because of instrument use with inappropriate populations (Byrne, 1996), inconsistent construct definitions, and confounding factors such as programming and gender (Byrne, 1996; Hoge & Renzulli, 1993), all of which are discussed in subsequent sections (see Psychometric Issues for Self-Concept & Current Research). This author asserts that if these limitations were taken into consideration, the results of studies exploring the link between ability and self-concept would be more consistent and generalizable, clarifying the relationship between academic achievement and self-concept.

**Defining and Assessing Giftedness**

Theories regarding the development of intelligence and the definitions of giftedness are abundant, varied, and often discordant. This contributes to the erratic and non-generalizable results of existing research. To address this concern and ensure that the current study is supported by theoretical evidence, an extensive discussion of the conceptions of giftedness will be included. The following section summarizes a few of the major models of intelligence, psychometric issues pertaining to the measurement of intelligence, and the definition framing this study.

**Conceptions of Giftedness.** The nature and development of intelligence is widely debated. Although many theories of giftedness exist, the definition for this study is borne from theories that closely parallel the identification and instructional process employed in our public education system. This is vital because a close match between theory and practice not only aids the understanding of the socio-emotional traits of a
particular conception of giftedness, specifically self-concept, but also the generalizability and validity of the study. The following section surveys a number of conceptions of giftedness, some of which are popular but do not match the criteria put forth by the target school district. Because the definition and measurement of giftedness is so highly varied in current research (Hoge & Renzulli, 1993; Ziegler & Raul, 2000), it is important to explore prominent definitions in light of their practical use to provide a clear foundation and rationale for the definition used in this study.

i) Terman: An Ability-based Conception

Galton (1869, as cited in Tannenbaum, 1986) may have formed the basis for IQ testing when he devised a normal curve consisting of fourteen intervals of ability ranging from idiocy to genius, with only a few people categorized at the two extremes. This model paralleled the normal curve represented by standardized ability tests, or IQ tests, employed by Terman. Although he was responsible for the Stanford-Binet Intelligence Test and measured the general intelligence of children in the hopes of predicting exemplary adult performance, Terman did so without the support of a theory of intelligence development or structure (Tannenbaum, 1986). He believed that mental traits and abilities, since coined the 'g' factor, could be assessed through a standardized IQ test, with giftedness determined by percentile scores. The 'g' factor represented general mental ability, implying that giftedness stemmed from an inherent and non-specific ability to acquire and process information quickly (Tannenbaum, 1986). Terman also believed that these mental traits were similarly configured in average and gifted people, but were refined and expressed differently in the gifted (Delisle, 1992;
Tannenbaum, 1986). Furthermore, he acknowledged nonintellectual factors influencing productivity, but believed that intelligence was largely hereditary (Grinder, 1990). Although this model ignores the multi-faceted nature of intelligence and uses only one score to define intelligence, IQ scores at or above 125-130, or the 95th to 98th percentile, are widely used by researchers, educators and administrators to identify gifted children, and thus will be included in the definition of giftedness used in this study.

ii) Tannenbaum: A Psychosocial Approach

Tannenbaum (1986) challenged the use of IQ tests as the sole determinant of giftedness as narrow and risky. Instead, he offered four broad categories of talent based on prevalence and significance – scarcity, surplus, quota and anomalous – produced by superior general intelligence, exceptional special aptitudes, non-intellective factors, environmental influences, and chance. General ability was loosely defined as the \( g \) factor, or outstanding and varied abilities in academic subjects (as opposed to performing arts), whereas a special ability was a narrower area of specialization, such as verbal reasoning, number facility and spatial relations (Tannenbaum, 1986). Non-intellective factors were defined as “the social, emotional and behavioral characteristics that can release or inhibit the full use of a person’s abilities” (p.40), including socioeconomic status, parental expectations, and peer support. In a subsequent paper, Tannenbaum (1991) revised this model. He outlined eight categories, partnered into four broad dyads. A gifted person could be a producer of thoughts, a producer of tangibles, a performer of staged artistry, or a performer of human services. These four
categories were further divided based on whether the skill was demonstrated proficiently or creatively.

Although these two models reduce the need for intelligence testing and allow for giftedness to be defined in nonacademic terms, they are not without limitations. Both theories embrace a structure of intelligence that is dependent mainly upon production or performance. Unfortunately, Tannenbaum (1986, 1991) asserted that giftedness is designated through production and performance in adulthood, and thereby excluded children and underachievers from his definition. Furthermore, these definitions are so expansive and encompassing that, based on the interpretation of proficiency and creativity, the majority of adults could be viewed as gifted in some regard. However, this definition is pertinent because despite criteria set forth by school districts, the dominant perception of giftedness among teachers and students alike is one of general ability. Often, gifted students are expected to perform well in all subject areas, not just their areas of strength, and, to this end, are placed in general enrichment programs. This practice rarely accounts for the unique academic, social, and emotional needs of gifted students, nor does it recognize their potential areas of weakness.

iii) Renzulli: The Three-Ring Conception

Renzulli (1986) identified two types of giftedness: schoolhouse giftedness and creative-productive giftedness. Again, this model recognized test or lesson-based giftedness ("schoolhouse"), measured by IQ and aptitude tests. It also recognized activity or product based giftedness ("creative-productive"), which is original, purposefully designed, and "emphasizes the use and application of information and
thinking processes in an integrated, inductive, and real-problem-oriented manner” (p.58). These definitions have been incorporated into Renzulli’s Three-Ring Conception of giftedness.

Renzulli (1986) asserted that giftedness cannot be determined through a single criterion, and believed that “persons who have achieved recognition because of their unique accomplishments and creative contributions possess a relatively well-defined set of three interlocking clusters of traits” (p.65). The traits included above average but not necessarily superior ability, task commitment, and creativity, with interaction among the three traits resulting in creative-productive accomplishment. “Ability” included general ability measured by IQ and aptitude tests, and more specific abilities requiring knowledge, skill or performance, such as music composition, ballet, mathematics, and photography, in the “top 15-20% of human endeavor” (p.67). This definition complies with that of Tannenbaum and the school district’s definition because it recognizes both task commitment and creativity. Unfortunately, this definition also asserts that high levels of motivation and production must be present in gifted persons. Although Renzulli (1986) did not exclude children in his definition, the necessity of persistence, endurance, dedication, and creative accomplishments excludes underachievers and other talented adolescents as truly gifted.

iv) Sternberg: A Triarchic Theory

Sternberg’s conception of giftedness employed three subcategories, much like Renzulli’s Three-Ring Conception (Sternberg, 1986, 2000), that, in combination, denote giftedness. The first subtheory, componential intelligence, consisted of an individual’s
mental powers that lead to intelligent behavior, which were strictly related to the internal world of the individual, and how they learn, plan and perform. The second subtheory, experiential intelligence, related the individual's experiences with tasks or events requiring intelligence, specifically "the roles of novelty and automatization in exceptional intelligence" (Sternberg, 1986, p.223). Finally, contrary to the first subtheory which related to the individual's internal world, the third, contextual intelligence, "relate[d] intelligence to the external world of the individual" (Sternberg, 1986, p. 223) in terms of environmental adaptation, selection and shaping.

The componential subtheory specified the mechanisms that produce exceptional performances, including high-order processes, execution processes, and knowledge-acquisition. The experiential subtheory described intelligent task accomplishment as the ability to negotiate novel tasks or situations, and the ability to automatize information processing. Third, the contextual subtheory maintained that intelligence consists of "purposive adaptation to, shaping of, and selection of real-world environments relevant to one's life" (Sternberg, 1986, p. 235). In sum, intelligence must (a) be defined within a sociocultural context, (b) be goal-oriented, (c) indicate adaptation to one's environment, (d) indicate the changing of one's environment when adaptations fail, and (e) indicate the selection of appropriate environments when adaptation and shaping fail.

This model is useful because it allows giftedness to be defined in context, unlike aptitude tests that measure general ability only. Furthermore, it does not employ a single index of intelligence, recognizing that giftedness may not only differ from one group to another, but also from individual to individual (Sternberg, 1986). This facilitates the study of giftedness specific to age, gender and culture. Unfortunately,
although not stated as explicitly as in Tannenbaum’s and Renzulli’s model, Sternberg’s subtheories all require exceptional production of skills, knowledge or materials, again excluding underachievers. If an individual is observed in a variety of contexts that are meaningful, relevant and purposeful to them, as suggested by Sternberg (1986), they may achieve the level of excellence required by his definition. Sadly, this is not practical as a means for identifying gifted students in our public school system due to time and financial constraints.

v) Feldhusen: Intelligence, Self-Concept and Motivation

In his review of conceptions of giftedness, Feldhusen (1986; Feldhusen & Hoover, 1986) formulated a definition that amalgamated the traits and definitions of various existing theorists. Key to his definition was the difference between factors that denote giftedness and factors present in gifted individuals; he coined these factors antecedent traits and outcome behaviors (Feldhusen & Hoover).

Feldhusen (1986) maintained that giftedness consisted of superior general abilities and special focussed talents, also suggested by Gardner and Sternberg, which predisposed an individual to high achievement or production. It was “the ability to think well and process information effectively, to achieve insights and solve problems, and to use efficient metacognitive processing systems, as proposed by Sternberg” (Feldhusen & Hoover, 1986, p.142). On the other hand, Feldhusen (1986; Feldhusen & Hoover, 1986) asserted that self-concept, motivation and creativity should not be identification factors, but program goals for the gifted. In omitting motivation, self-concept and creativity from his definition, Feldhusen not only allowed for varied expressions of
giftedness that were not necessarily tied to intelligence testing, but also allowed for the inclusion of underachievers as highly intelligent individuals.

vi) Gardner: Multiple Intelligences

Gardner's (1983, 1993, 1999) popular theory of multiple intelligences cannot be overlooked in a discussion of conceptions of giftedness. Like Sternberg and Renzulli, Gardner offered a broad perspective of intelligence, but his theory included eight rather than three categories of ability. Smith et al. (1998) and Feldhusen (1986) described the categories as (a) logical-mathematical, representing ability in comprehending logical or numerical patterns and long links of reasoning, (b) linguistic, representing sensitivity to sounds, rhythms, word meanings, and functions of language, (c) musical, denoting ability in producing and appreciating musical expressions, (d) spatial, referring to the capacity to perceive the visual-spatial world, (e) bodily-kinesthetic, denoting the ability to control body movements and handle objects in a skillful manner, (f) interpersonal intelligence, relating to skills in discerning and responding to other people, (g) intrapersonal, denoting the ability to guide one's own behavior and demonstrating complex and intimate knowledge of self, and (h) naturalist, demonstrates exceptional skill in the recognition and classification of species.

This model requires assessment in many skill areas, acknowledging often overlooked abilities and recognizing different types of intelligence equally (Smith et al., 1998). Although there is little empirical support for Gardner's model, it is "consistent with theories of intelligence derived from factor analysis" (Feldhusen & Hoover, 1986, p.141). Gardner's theory lies between Terman's notion of general ability and
Tannenbaum’s theories of specific abilities. For example, musical ability is a category of intelligence that is more specific than the $g$ factor, but can be demonstrated in various forms of specific talent, such as playing the piano or conducting an orchestra. As well, Gardner’s use of ability rather than achievement, allows for the inclusion of underachievers in all eight categories. Unfortunately, the ideology behind Gardner’s model is appealing, but the current practice of identification and educational programming in the public education system is far too limited to effectively meet the expectations of this model.

vii) Ministry Definition

In their Manual for Special Education Services, the British Columbia Ministry of Education (1995) defines giftedness as follows

A student is considered gifted when she/he possesses demonstrated or potential abilities that give evidence of exceptionally high capability with respect to intellect, creativity, or the skills associated with specific disciplines. Students who are gifted often demonstrate outstanding abilities in more than one area. They may demonstrate extraordinary intensity of focus in their particular areas of talent or interest. However, they may also have accompanying disabilities and should not be expected to have strengths in all areas of intellectual functioning. (p. E17)

This definition describes giftedness not only in terms of academic potential, but also creative potential, which allows for students who are differently able to receive special education services. Furthermore, it does not exclude underachievers as in Tannenbaum’s or Renzulli’s definition.

The manual recommends that one or more of the following criteria be used in identifying gifted students: (a) teacher observation, (b) student achievement records, (c) nomination by teachers, parents and/or self, (d) interview of parents and students, and
(e) Level C testing of cognitive ability, achievement, aptitude and creativity, but without specification of scores needed. School districts are responsible for determining criteria for identifying gifted students, and distributing these guidelines to schools. The Ministry's definition is very broad and encompasses aspects of several of the theories discussed above. Included in the definition is the notion of a normal curve (i.e., in IQ testing) and general ability, but it most closely parallels Renzulli's (1986) model in its acknowledgement of superior ability, creativity and intensity or task commitment as potential indicators of giftedness. With its inclusion of underachievers and those with disabilities, this definition counters the requirement of production and high achievement suggested by Gardner (1983, 1993), Feldhusen (1986; Feldhusen & Hoover, 1986) and Sternberg (1986).

viii) District Definition

As suggested by the Ministry, the specific criteria for identifying gifted students have been set by the target school district, a large district in the Lower Mainland of British Columbia. According to its definition, gifted students are: interested in challenging learning opportunities, capable of intense focus of attention for blocks of time, curious about ideas and the world around us, interested in project work and research, and able to work well independently as well as with others. They also have good communication skills; demonstrate original thinking and ability to tinker with ideas and resources; and demonstrate analytic, organizational and reflective skills, emotional intensity and sensitivity, above grade level abilities in disciplines or skills, and/or evidence of significant under-achievement. This definition is similar to the Ministry's
definition in its link to theory, as it recognizes superior general ability, task commitment, and creativity, as well as underachievers. It provides the operational definition of giftedness used in this study.

**Psychometric Issues with Giftedness.** Hoge (1989) also reviewed definitions of the giftedness construct, but did so within a context of assessment and identification. He cautioned against definitions founded in IQ tests, as they were "narrow both in cognitive terms and in the IQ test's choice of intellectual functions to evaluate" (p.6). Because this construct has implications for programming and labeling students, care must be taken when defining giftedness, especially for the purposes of identification. Hoge asserted that the enormous variability in the content and precision of the definition, the level of exceptionality, and the question of stability over time, indicated that varied constructs are being tapped; there is no universal trait deemed "giftedness." Although contrasting theories and definitions of giftedness continue, Hoge contended that giftedness must be defined explicitly, rooted strongly in theory, validated empirically, and reflected in the selection instruments and procedures employed.

**Defining and Assessing Self-Concept**

Like the definitions of giftedness, the self-system is ambiguously defined owing mostly to similar terms being used interchangeably. In her review, Byrne (1996) noted that "terms used interchangeably with self-concept were identified as self, self-estimation, self-identity, self-image, self-perception, self-consciousness, self-imagery and self-awareness; those used interchangeably with self-esteem were self-regard, self-
reverence, self-acceptance, self-respect, self-worth, self-feeling and self-evaluation" (p.2). Byrne (1996) and Brinthaupt and Erwin (1992) described the distinction as one of description verses evaluation; self-concept refers to descriptive aspects of the self, whereas self-esteem refers to evaluative aspects of the self. Byrne (1996) identified the following seven models of the self-concept/self-esteem construct.

**Theoretical Models of the Self-System.** Byrne (1996) argued that there are numerous models of self-concept that have been hypothesized and used to create measurement instruments. These models are reviewed, as it is imperative that there be a strong link between measurement and theory when examining self-concept.

i) Nomothetic Model

This is the most traditional model, identifying self-concept as a unidimensional construct comprised of equally weighted factors. Items on an instrument tap the academic, social, physical and emotional self-concepts, which together form the global self-concept. Marsh and Hattie (1996) and Harter (1990) argued against this model as it does not present self-concept as a multi-dimensional construct, simply combining item scores to produce a global self-concept score. Despite these issues of validity, the *Piers-Harris Children's Self-Concept Scale* (Piers & Harris, 1969) is often used in research to measure self-concept.
ii) True Unidimensional Model

In this model, which uses the term self-esteem, items on a psychometric instrument measure only global self-esteem. The score obtained is comprised of responses to items tapping only global self-esteem, not considering other dimensions which may be contributing factors to a sense of wellness, and thereby produces a unidimensional profile of the self. Again, despite concerns regarding operationalizing self-esteem as a unidimensional structure, the Coopersmith Self-Esteem Inventory (1987) and the Rosenberg Self-Esteem Scale (1965) are used in current gifted education research.

iii) Independent-Factor Model

The term self-concept is used in this model that is composed of multiple independent factors that are only weakly correlated and develop independently from one another. The facets of self include the self as a person, and as a student of English, Math, Science, Social Sciences, Arts and Physical Education. This model taps only academic and overall self-concept, assuming that no other domains impact upon self-concept development.

iv) Correlated-Factor Model

This model, using the term self-worth, depicts multiple domain-specific self-concepts – academic, social, behavioral, emotional and physical – which are variably correlated with one another depending on age. Harter (1990) contended that a multi-domain hierarchical structure of self-concept enables researchers to separate domains
of self-concept from global self-concept, and to determine how these facets are weighted and associated across various developmental stages. Harter's (1985) Self-Perception Profile for Children (SPPC), used in this study, is based on this model.

This model and instrument were chosen for several reasons, both theoretical and practical. In terms of theory, the nature of this study required an instrument that was multidimensional and considerate of developmental issues. Harter's SPPC taps into multiple domains, including global self-worth, and is appropriate for both elementary school and secondary school students; its importance rating scale also makes allowances for developmental differences. Secondly, its inclusion of academic self-concept as a single construct reflects the identification process and programming of the target school district. Because giftedness is not treated as a domain-specific construct but as an indicator of general ability, especially in secondary schools, this should be reflected in the self-concept instrument used. In terms of practicality, the format of the SPPC is short and simple, and attempts to avoid bias with its alternative item structure (see Instruments). Also, it is easily understood by even young participants, and easily scored by the researcher. Finally, and most importantly, several studies (Chan, 1988; Davis & Connell, 1985; Hoge & McSheffrey, 1991; Kelly & Jordan, 1990; Worrell, Roth & Galbenko, 1998) to which these results are compared have employed Harter's instruments as they are highly regarded by researchers in this field (Byrne, 1996; Hoge & Renzulli, 1993).
v) Compensatory Model

This model proposed that once global self-concept is determined, the remaining variation is explained by multiple facets that are inversely proportional. For example, social and physical self-concepts may be negatively correlated with academic self-concept. The belief is that low self-conceptions will be compensated for by high self-conceptions in other domains. This means that an individual must perceive definite areas of strengths and weaknesses as opposed to a uniform evaluation of self; this may result in few scores of self-worth at the extremes, despite poor or exceptional domain-specific self-concepts.

vi) Taxonomic Model

Components of this model reflect the meeting of two or more facets of self-concept, each of which may have two levels. In terms of ANOVA, this model provides a two-way analysis, where one factor could be the domains of self-concept and the other could be an evaluative component. For example, a 4x2 design could designate academic, social, emotional and physical self-concepts as the first factor, and personal and third person perceptions as the second. The Tennessee Self-Concept Scale (Fitts, 1965) was based on this model of self-concept, but its multi-level and evaluative nature were too complex for use with preadolescents.

vii) Hierarchical Model

In this model, self-concept is at the peak of a hierarchy of multiple correlated, domain-specific facets and their subareas (Marsh, 1986, 1989). For example, general
self-concept may be comprised of four domains – academic, social, physical and emotional – which are split further, such as academic self-concept into English, History, Math and Science. Similar to the Correlated-factor Model, it is relational and multidimensional. Marsh’s (1992) Self-Description Questionnaires was based on the hierarchical model. Despite its use in several studies (Brounstein, Hollahan & Dreyden, 1991; Norman, Ramsay, Martray & Roberts, 1999; Tomchin & Callahan, 1996;), it was not appropriate for this study. First of all, Marsh’s instruments separated academic self-concept into specific domains, which was not the practice of identifying gifted students and determining programs for gifted students in the target district. Secondly, its format was complicated and lengthy which was not suitable for the age group examined in this study.

**Global Self-Worth.** Important to this study is an examination of the development of global self-worth, or “being sure of oneself, being happy with the way one is, feeling good about the way one acts, and thinking that one is a good person” (Harter, 1982, p.88). Global self-worth, according to Harter (1982; 1985; 1990), relates to whether a person can perform competently in domains which he or she perceives to be important, and whether he or she receives support from significant others. A critical review of literature in this area will be included in a subsequent section of this chapter.

**Psychometric Issues with Self-Concept.** Byrne (1996) discussed the psychometric issues of measuring self-concept, which are, unfortunately, prevalent in current literature. First of all, validity issues arise due to the diversity of sample items
and models of self-concept that assume factorial stability across various categories, such as age or ability (see Theoretical Models of the Self-System), an assumption that directly opposes the nature of this study. Harter (1982) argued that in employing a unidimensional self-concept model, researchers assumed that children did not make distinctions among the domains in their lives. She asserted that studies using a unidimensional model (Hoge & Renzulli, 1993; Karnes & Wherry, 1981; Klein & Zehms, 1996; Lea-Woods & Clunies-Ross, 1995; Lewis & Knight, 2000; Loeb & Jay, 1987; Maddux, Scheiber & Bass, 1982; Tong & Yewchuk, 1996; Worrell, Roth & Galbenko, 1998) ignored the possibility that children may not feel equally competent in various domains.

Furthermore, Harter (1982) suggested that the number of domains and the relationship among them are developmentally dependent and studies that treated students in different developmental stages equally (Hoge & McSheffrey, 1991; Hoge & Renzulli, 1993; Kelin & Zehms, 1996; Lewis & Knight, 2000; Ross & Parker, 1980; Tomchin & Callahan, 1996; Worrell, Roth & Galbenko, 1998) did not allow for the developmental differences in self-concept. Specifically, she stated that prior to the age of eight, children have not constructed a view of general self-worth over and above domain specific competencies. Similarly, she posited that students in grades 9 and higher may develop job competency and romantic appeal subscales of self-concept as they move into the work force and begin to desire and develop intimate relationships. Given the empirical evidence that self-concept is multidimensional and age-related (Harter, 1982, 1985, 1990; Marsh, 1986, 1990a; Marsh & Hattie, 1996), appropriate construct definitions must be outlined in research and reflected in selected instruments.
Secondly, instruments based on a particular model are frequently used inappropriately; researchers have separated the subscales of a unidimensional instrument to yield domain-specific scores where only a global score was intended (Hoge & Renzulli, 1993; Klein & Zehms, 1996; Lea-Wood & Clunies-Ross, 1995; Lewis & Knight, 2000; Worrell, Roth & Galbenko, 1998). The definition and model of self-concept must be reflected in an age, ability, and socially appropriate instrument that employs a suitable format.

**Definition in the Present Study.** In the present study, the global self-worth and domain-specific self-concepts of gifted and average adolescent females were assessed and compared based on age and ability. It was not only important to determine how these aspects of the self are perceived, but also to determine whether they were weighted or combined in different ways. Therefore, the Nomothetic Model, True Unidimensional Model, Independent-factor Model, and Hierarchical Model were not used because the first two are unidimensional, and the last two consider the domains of self-concept to be equally weighted. Furthermore, the Compensatory Model was not selected because Byrne (1996) and Marsh and Hattie (1996) found it to be indefensible, nor was the taxonomic Model selected because an instrument that reflects this model was not available (Byrne, 1996). Though the psychometric issues involved with self-reports cannot be avoided, most relevant instruments adopt this format (Byrne, 1996) and the Correlated-factor Model used in this study was well represented in the selected instrument. The *Self-Perception Profile for Children* was designed by the major
proponent of this model (Harter, 1985) and aptly considered the multidimensional developmentally specific nature of self-concept.

**Current Research**

The following section overviews important studies on the relationship among ability, gender, age and self-concept. Before reviewing empirical findings, concerns regarding the methodology of the research must be addressed. Hoge and Renzulli (1993) and Ziegler and Raul (2000), in their reviews of empirical studies on giftedness, raised five major concerns with the research: (a) varied, imprecise or absent definitions and/or measurements of giftedness, (b) lack of control groups, (c) co-ed samples, (d) inclusion of wide range of ages within samples, and (e) sampling from intact, specialized gifted programs. These issues are addressed where relevant in the following sections.

The Relationship between Self-Concept and Ability. Educators and researchers have been examining why gifted females often fail to achieve their potential both in and outside of school (Reis & Callahan, 1996), but results are varied and inconsistent. Researchers have suggested that their low self-concept, relative to that of average-ability students, is a contributing factor to their apparent lack of success (Kline & Short, 1991; Lea-Woods & Clunies-Ross, 1995). In this context, self-concept, in general terms, is how we view ourselves in terms of "abilities, skills, appearance, and social acceptability" (Byrne, 1996, p.429), and is a multi-faceted and hierarchical construct (Harter, 1985; Marsh, 1986, 1989). This means that there are different aspects or
domains of self-concept that relate to over-all self-worth; the importance of these domains may change with ability, gender and age (Harter, 1985, 1990; Marsh, 1986, 1989, 1990b). Domains of self-concept include scholastic, behavioural, social, physical, and athletic self-concepts, as well as overall or global self-concept (Harter, 1985; Hoge & Renzulli, 1993).

Researchers interested in this field of study may intuitively believe that the self-concept of gifted students differs from that of average ability students due to the unique pressures placed upon gifted female adolescents because of their abilities, socio-emotional traits, and sex-role expectations. Tannenbaum (1991) stated that gifted students had lower self-concepts relative to their average-ability peers, as did Dixon (1998), and Hoge and McSheffrey (1991). Dixon cited the social stigma of being viewed "gifted" as a major influence on global self-worth. As such, she posited that achievement was related to both academic and social-self-concept. Similarly, Hoge and McSheffrey suggested that global self-concept related most to social self-concept, with scholastic self-concept being less important, especially in females. Although these concerns were well argued and supported by the personal and professional experiences of researchers, empirical studies are necessary to clarify these assertions.

The Relationship between Self-Concept and Gender in Gifted Students. Global self-concept appears to be lower in girls than boys in general, but some researchers have suggested that this difference is more dramatic in gifted girls (Randall, 1997; Reis & Callahan, 1996; Silverman, 1995). Callahan and Reis (1991) suggested that gifted girls could be under-identified because achievement test scores are based more on
processing speed than ability, and thus girls may doubt their intellectual competence. For example, Dreyden and Gallagher (1989) found that when achievement tests were not time constrained, girls' scores increased dramatically. Callahan and Reis also asserted gifted girls' self-concept declined steadily because they valued their achievements less as they entered adolescence, and felt that their achievements were the result of hard work rather than ability. Still, the results of empirical studies are varied, and do not provide a clear explanation of the relationship between self-concept and gender in gifted students.

Some studies have suggested that gifted girls have a higher total self-concept than regular students and/or gifted boys (Chan, 1988; Colangelo & Pfleger, 1978; Coleman & Fults, 1983; Leroux, 1988; Loeb & Jay, 1987). Chan compared the perceived competence of grades 5-7 gifted students in full-time programs and part-time programs to average students in regular programs. She found that gifted girls in grades 5 and 6, though not in grade 7, had higher scholastic competence than boys, and "possibly higher general self worth (p < 0.06)" (p.312). However, the gifted students were identified using only the criterion of scoring in the 98th percentile on an achievement test, and programming may have been a confounding factor in these results. Similarly, Leroux found that the males in her study of grade 12 gifted students were more anxious, less confident and had lower physical and social self-concepts than their gifted female counterparts, but no specific operational definition of giftedness was provided, nor was there a control group. Loeb and Jay found that gifted girls aged 9-12 had higher self-concepts than non-gifted girls, but, again, the gifted sample was from a special gifted program. It is difficult to examine these findings as a whole because of
the range of ages, the inconsistent construct definitions, the possible programming effects, and the varied means of assessing self-concept; this limits the generalizability of the results.

Others found no difference in the self-concept of gifted girls relative to that of average students and/or gifted males (Brounstein, Hollahan & Dreyden, 1991; Chapman & McAlpine, 1988; Freeman, 1979; Hoge & Renzulli, 1993; Karnes & Wherry, 1981; Klein & Zehms, 1996; Lewis & Knight, 2000; Pyryt & Mendaglio, 1994; Ross & Parker, 1980; Tidwell, 1980; Tong & Yewchuk, 1996). However, three of the studies used subjects from intact gifted programs (Brounstein, Hollahan & Dreyden; Pyryt & Mendaglio; Ross & Parker), and four studies used only IQ cut-off scores to identify gifted students (Chapman & McAlpine; Karnes & Wherry; Lewis & Knight; Pyryt & Mendaglio). Again, programming effects and narrow definitions of giftedness limit the generalizability of these studies.

There is also evidence that the social pressures acting on gifted females contribute to a lowered self-concept relative to average students (Field et al., 1998; Kelly & LaVerne, 1990; Kline & Short, 1991; Lea-Wood & Clunies-Ross, 1995; Robinson, Kehle & Jenson, 1986; Worrell, Roth & Galbenko, 1998). Kline and Short suggested that the heightened sensitivity of gifted students increased the difficulties faced by gifted girls, and found significant differences in the self-concept of gifted girls versus average girls. Field et al. found that boys had a higher global self-esteem, but they employed an infrequently used instrument to determine global self-esteem. Kelly and LaVerne also found that gifted males had the highest overall self-concept when comparing gifted and average ability boys and girls, and had a higher scholastic self-
concept than gifted females. Unfortunately, each sample group had only 15 participants. Robinson et al. and Worrell et al. also found that males had higher global self-esteem than females, but neither study had a control group, and Worrell et al. studied only grades 7-11 Math and Science students who were denoted as gifted by unspecified achievement scores and “academic products” (p. 159).

Examination of the domain specific self-concepts of gifted girls is no more consistent or clear than the examination of global self-concept. Although Pyryt and Mendaglio (1994) found that gifted students did not have a higher over-all self-concept, they found that they did have a higher academic self-concept, supported by Hoge and Renzulli (1993). Furthermore, two of the studies found that gifted girls had a lower social self-concept than their average ability peers (Klein & Zehms, 1996; Lea-Wood & Clunies-Ross, 1995), but these results should be viewed cautiously because they used unidimensional instruments, yet reported domain-specific self-concepts. Finally, Ross and Parker (1980) found a discrepancy between academic and social self-concept that was stable over time.

The Relationship between Self-Concept and Age in Gifted Students. Kline and Short (1991) and Silverman (1995) suggested that gifted adolescent girls are more at-risk for academic, social and emotional difficulties because of the confusion surrounding gender role expectations that does not appear before pubescence. They also suggested that the heightened sensitivity characteristic of gifted students, coupled with the seemingly contradictory expectations to excel academically and conform to traditional social roles of femininity and docility, magnified the difficulties faced by gifted
adolescent girls. Furthermore, Reis and Callahan (1996) suggested that adolescents are more susceptible to these pressures, and thus to low self-concepts. Byrne (1996), Harter (1985, 1990), and Marsh (1986, 1990b) have also explored the developmental issues surrounding self-concept and found that the number and relationships among domains is related to age, which must be considered when reviewing literature examining the relationship between ability and self-concept.

Some studies have looked at age as it related to global self-concept either as a specific independent variable or as a possible intervening factor in the socio-emotional development of gifted students. Lea-Wood and Clunies Ross (1995) found that the self-concept of gifted grade 8 girls was significantly less than that of gifted grade 7 girls. However, Hoge and Renzulli (1993) in their meta-analysis of fifteen studies found no significant differences by grade level, but the same concerns raised in regard to their assessment of gender differences apply here. The meta-analysis combined the results of studies that used various construct definitions and age ranges, and sampled from various gifted programs enrolling both males and females. Ross and Parker (1980), too, found no age differences in their study of gifted students in grades 5 through 8, but again, these students were participating in a gifted education program, and no comparison group was examined. Karnes and Wherry (1981) examined students in grades 4 to 7 and found no age differences, but differences may have been masked by the inclusion of only elementary school students.

Another study similar to the studies examining global self-worth examined domain specific self-concepts as they related to age, but without valid and consistent results. Klein and Zehms (1996) found that 8th-grade girls scored lower than 3rd-grade
and 5th-grade girls in five of six scales, but used the Piers-Harris Children's Self-Concept Scale (1969), a unidimensional instrument, to determine domain-specific self-concepts. Lewis and Knight (2000), too, found that junior high girls had a lower behavioral self-concept using the unidimensional Piers-Harris. Again, unidimensional instruments were not intended to measure domain-specific self-concepts and should not be used for this purpose.

Summary

Hoge and Renzulli (1993), and Ziegler and Raul (2000) offered several explanations to account for the inconsistencies in self-concept and gifted literature. First of all, programming has been shown to affect global self-worth as well as domain-specific self-concepts. In some cases, gifted students who attended specialized programs, both segregated and partially integrative, have reported significantly different self-concepts than have gifted students who are fully integrated. Unfortunately, much of this research in this area is sampled from special programs where results may not have reflected the self-concepts of fully included students, and where underachievers were not likely to be found. Second, studies often included a wide range of ages, not just one developmental stage. Because the patterns and domains of self-concept vary with age (Byrne, 1996; Harter, 1982, 1985; Marsh, 1990b), the self-concept of adolescents should not be viewed or interpreted in the same manner as that of younger students. Finally, the inconsistent definitions of both giftedness and self-concept undermine the validity of this research and limit its comparability.
As such, there is a need for research examining the relationship between self-concept and ability that considers both gender and age as independent variables, and does not sample from specialized programs. A relational and multidimensional instrument should be used to measure self-concept, which can tap differences in self-concept that are masked in unidimensional models. Lastly, gifted students should be selected from regular classroom programs, and comparison groups from the same schools should be used to limit confounding factors as much as possible.

**Research Questions**

The purpose of the following study was to address the following questions regarding potentially underachieving gifted adolescent females.

Question 1: Is the self-worth of gifted girls different than that of average girls?

Question 2: Does self-concept decline with age more dramatically in gifted females?

Question 3: Are the domain specific self-concepts of gifted girls different than those of average girls?

Question 4: How are the gifted girls' perceptions of social acceptance and their ratings of importance across the five domains (scholastic, athletic, social, behavioral, and physical) different from those of average girls, at both the elementary and secondary levels?
The next chapter states the seven hypotheses borne from these four research questions as well as describes the methodology used in this study.
CHAPTER 3

Methodology

This chapter outlines the methodology used in this study. The methodology is described as follows:

- Hypotheses
- Participants
- Setting
- Instruments
- Procedure
- Design
- Variables
- Summary

Hypotheses

The purpose of this study was to test the following hypotheses.

Hypothesis 1. The overall self-concept of gifted girls is significantly lower than that of same-aged average ability girls. This hypothesis is based on the theory that social pressures to mask ability negatively impact upon the global self-worth of gifted girls, which may be highly positively related to their academic self-concept and achievement (Dixon, 1998; Hoge & McSheffrey, 1991; Kline & Short, 1991; Lea-Wood & Clunies-Ross, 1995; Tong & Yewchuk, 1996).
**Hypothesis 2.** The domain-specific self-concepts of gifted girls are different than those of average ability girls. Specifically, gifted girls have a higher scholastic self-concept and lower social self-concept. This means that over-all self-concepts can be the same, but the specific self-concepts in gifted girls differ from those of average ability girls.

**Hypothesis 3.** The overall self-worth of girls is inversely related to age. This hypothesis is based on the research that links the transition of adolescence to a decline in self-concept as the adolescent struggles to cope with academic, physical, social and emotional changes (Buescher, 1991; Santrock, 1996).

**Hypothesis 4.** Scholastic competency is more positively related to global self-worth in gifted students than it is in average ability students. This is based on research that scholastic competence and its rating of importance is high in gifted students, especially in gifted elementary school students (Hoge & Renzulli, 1993; Klein & Zehms, 1996).

**Hypothesis 5.** Scholastic competency is related to global self-worth more so in younger gifted students than it is in adolescent gifted students. Again, this reflects the assertion that scholastic competence is more important in elementary school students.

**Hypothesis 6.** Physical appearance and social acceptance are more positively related to global self-worth than the other three domain-specific competencies are in
secondary school students, and that they are more positively related to global self-worth in secondary school students than they are in elementary school students. This assertion stems from the belief that self-concept is a developmentally-dependent construct (Harter, 1985), and that adolescents place a higher value on appearance and popularity than academics and behavior once they reach puberty (Buescher, 1991; Santrock, 1996; Silverman, 1995).

**Hypothesis 7.** There is a significant difference between the perceived importance of social acceptance of secondary and elementary school students, and also between that of gifted and average ability students. This is based upon the idea that social acceptance becomes more important in secondary school, as a student reaches adolescence (Santrock, 1996), and that the stigma of giftedness may increase the desire of gifted students to be accepted and liked (Buescher, 1991).

**Participants**

In this study, there were 95 female participants, ages 9-15 years, sampled from seventeen schools (4 secondary and 13 elementary) in a large school district in the Lower Mainland. The subjects were divided into four groups: gifted students in grades 8 and 9 (n=24), gifted students in grades 4 and 5 (n=22), average-ability students in grades 8 and 9 (n=26), and average-ability students in grades 4 and 5 (n=23). These age groups were selected to target early adolescents versus preadolescents, as well as to include groups who have recently made the transition to high school. Gifted participants were recruited by the school contact, a staff member responsible for gifted
education at each school; these contacts included resource and classroom teachers, administrators and counselors. The names of gifted students were provided by the target school district, and students who may have met the district's criteria for giftedness but were not formally identified were not used in the study. The control group was selected by the school contact and classroom teacher from each of the 17 schools. Contacts, with the assistance of classroom teachers, were asked to select students who were in the same grade and class as the gifted students, and who were of average ability and did not have special educational needs. This excluded ESL and students with learning disabilities whose unique needs may affect their self-concept scores.

In terms of ethnicity, the sample was comprised predominantly of Caucasian students (n=74), and the remaining students were Asian (n=11), Indo-Canadian (n=5), and Latina (n=5). The group of gifted elementary school students included 1 Asian student, 1 Indo-Canadian student and 3 Latina students, whereas the group of average ability elementary school students included 3 Asian students, 4 Indo-Canadian students and 2 Latina students. The gifted secondary school students were all Caucasian except for 1 Asian student, and the average ability secondary school students included 6 Asian students. Ethnicity should be kept in mind when interpreting the results as 61% of the average ability students versus 89% of gifted students were Caucasian.

Because the participants were volunteers and were selected using specific criteria, the sample was non-random. Parents and children gave the researcher informed consent to participate under the assurance that all information would be coded
to maintain confidentiality and anonymity. Child characteristics were coded according to their age/grade and ability.

**Setting**

Data were collected in a designated room in the participant's school, usually an empty classroom or office. The questionnaire was administered at one time to all participants from that school, and only re-administered when participants were absent.

**Instruments**

**The Self-Perception Profile for Children (SPPC; Harter, 1985).** The SPPC, as described in the previous chapter, has a multi-dimensional and relational structure based on the Correlated-Factor Model of self-concept. It includes six subscales and also weighs domains differently in terms of their importance to the participant. Five of the scales — scholastic competence, social acceptance, athletic competence, physical appearance, and behavioral conduct — tap specific domains of self-concept while the sixth scale taps global or over-all self-worth. Scholastic competence refers to “the child's perceptions of his or her competence or ability within the realm of scholastic performance” (Harter, 1985, p.6). Social acceptance examines “the degree to which the child is accepted by peers or feels popular” (Harter, p.6). The child’s perception of his or her competence in sports or outdoor games is tapped by the athletic competence subscale. The physical appearance scale refers to “the degree to which the child is happy with the way he or she looks, likes one's height, weight, body, face, hair, and feels that he or she is good-looking” (Harter, p.6). Behavioral conduct estimates “the
degree to which children like the way they behave, do the right thing, act the way they are supposed to, avoid getting into trouble, and do the things they are supposed to do” (Harter, p.6). Finally, the global self-worth subscale taps “the extent to which the child likes oneself as a person, is happy with the way one is leading one’s life, and is generally happy with the way one is” (Harter, p.6).

The instrument consists of 36 items in a 4-point structured alternative format, with each subscale consisting of six items. Each item consists of a two-part statement; for example, “Some kids like hard work because it’s a challenge BUT Other kids prefer easy work that they are sure they can do.” The child is asked to choose which child best represents them, and then asked to judge whether the statement is *sort of true* or *really true* for her. According to Harter (1985), this is an effective format because it reduces socially desirable responses by implying “that half of the kids in the world...view themselves in one way, whereas the other half view themselves in the opposite manner” (p.7). The responses are scored from 1 to 4 with 4 denoting a high perceived competence score. In the example given above, the child who judges that she really likes to work hard would receive a 4, and the child who judges that she sort of likes to work hard would receive a 3. Similarly, the child who judges that she sort of prefers easy work would receive a 2, and the child who judges that she really prefers easy work would receive a 1. Within each subscale, half the items are worded such that the first part of the statement reflects high perceived competence, while the remaining items are worded such that low perceived competence appears first.

Harter (1985) reported the internal consistency reliability coefficients for the subscales as follows: (a) 0.80 to 0.85 for scholastic competence, (b) 0.75 to 0.80 for
social acceptance, (c) 0.80 to 0.86 for athletic competence, (d) 0.76 to 0.82 for physical appearance, (e) 0.71 to 0.77 for behavioral conduct, and (f) 0.78 to 0.84 for global self-worth.

The Discrepancy between Children's Perceptions of Competence and their Ratings of Importance. A separate measure, entitled *How Important are These Things to How You Feel About Yourself as a Person*, accompanies the *SPPC* (1985) and measures the discrepancy between a child’s perceptions of competence and her rating of importance. It is a 10-item scale, with 2 items for each of the five domain-specific subscales. The statements are worded and scored as in the *SPPC*, with a score of 4 indicating high importance. To calculate the importance score for each domain, the two scores are averaged, and scores of 3.0 or above are used for the calculation of the discrepancy score. These scores of 3.0 to 4.0 are subtracted from their respective competence scores, resulting in a discrepancy score for only those domains that are deemed important by the child. If the importance of the domain is greater than the competence, the discrepancy will be negative; if the importance of the domain is less than the competence, the discrepancy will be positive. All discrepancy scores are added to provide a total discrepancy score, which is then divided by the number of domains used, yielding a mean discrepancy score. A large, negative mean discrepancy score represents low self-worth due to low perceived competence in domains that are important to the participant. A small negative, zero or positive score reflects high self-worth borne from high perceived competence in important domains.
Procedure

The administrators of 13 elementary and 4 secondary schools in the target school district received a package which included a letter (Appendix A) inviting them to participate in the study, as well as a copy of the letter to the parents (Appendix B) and the instrument (Appendix C and D). The letter included a consent form outlining the purpose of the study, guaranteeing the privacy of the school, and offering a summary of research findings upon completion of the study. Once school consent was obtained, the contact from each school gave the consent forms to the gifted students (names were provided), and to the average ability students who were selected by the contact and classroom teacher (for criteria see Definition of Giftedness and Participants).

The participants were approached by the school contact, and invited to participate in the study. Students/parents received a letter (Appendix B), similar to that received by the school, which included a consent form outlining the purpose of the study, guaranteeing the privacy of the subject, and offering a summary of research findings upon completion of the study. The letter also assured the students and parents that participation was strictly voluntary and that they could withdraw at any time without penalty. The participants were instructed to take the letter home to their parents/guardians. Participants were instructed to fill out the consent form and demographic information and return them to the appropriate school contact if their parents had given consent. The consent forms were either sent to the researcher or compiled at the time of data collection. These procedures were repeated as necessary to obtain an adequate sample.
All data collection was completed by the author. With the exception of the demographic information that was completed by the parents prior to meeting with the participants, data were collected from the students in their school environment. The *Self-Perception Profile for Children* (SPPC; Harter, 1985), and *How Important are These Things to How you Feel about Yourself* (Harter, 1985, attached to the SPPC) questionnaires (Appendix C and D) were administered usually outside of class time. Brief instructions were given before the administration of the questionnaires emphasizing that there were no right or wrong answers, and that their responses would remain anonymous. The administration time ranged from 10 to 20 minutes, depending on the age and reading speed of the participants. I also gathered information on each subject’s school achievement; grades in English, Socials, Math and Science from the most current report card and grades 4, 6, and 8 were obtained from the participants’ school files. These data were not analyzed or reported, but were recorded and included in the discussion to determine whether achievement declined with the transition to secondary school.

**Design**

The present study employed a comparative factorial design and a correlational design. Group comparisons were made using MANOVA, and differences between relationships were made using Fisher scores, and t tests as suggested by Bruning and Kintz (1987); relationships among global self-worth, domain-specific competencies and school level were analyzed using multiple regression. Results of these analyses are presented in Chapter 4.
Independent and Dependent Variables

The independent variables of the present study were: (a) gender, (b) age, and (c) ability. The dependent variables were the children’s self-concepts and the discrepancies between perceptions of competence and their ratings of importance.

Summary

In this chapter, the study’s methodology was presented, including hypotheses, descriptions of participants, instruments and variables, and the data collection procedures. The next chapter presents the results of the study.
CHAPTER 4

Results

This chapter presents the results of the study, including analyses and descriptive statistics relevant to the seven hypotheses described in the previous chapter. Analyses were performed using SPSS 9.0 and manual calculations to test for differences between independent correlations (Fisher z scores) and dependent correlations (t tests), as suggested by Bruning and Kintz (1987). All analyses were tested for the assumption of homogeneity of variance and in cases where variances were not equal, the corrected values were used. An alpha level of .05 was used for all statistical tests with the exception of MANOVA; a Bonferroni correction (\( \alpha = .01 \)) was used to compensate for the increased risk of making a Type I error when using the univariate results. Effect sizes (\( \eta^2 \)) and power (1-\( \beta \)) were also reported using the guidelines suggested by Spatz (2001). The chapter ends with a summary of the findings.

Effect of Age.

Because age was one of the factors examined in this study, it was important to ensure that age differences only occur where intended. To this end, t tests were conducted to compare the ages of gifted and average students. There was no significant difference found between the ages of gifted and average ability students, \( t(93) = -.220, p = .826 \). Also, when comparing ages within school levels, no difference was found between either the gifted elementary students and average elementary students, \( t(43) = .207, p = .837 \), or between the secondary gifted students and average
secondary students, \( t(48) = .698, p = .488 \). Variances in all three tests met the assumption of homogeneity of variances.

**Results of Analyses.**

Boxplots were used for all hypotheses to determine outliers, with Appendix E providing an overall picture of the global self-worth and domain-specific competencies of the whole sample (N=95). Outliers were included, but exploratory analyses were conducted without the outliers and significant results are included where appropriate.

**Hypothesis 1.** This hypothesis asserted that the overall self-concept of gifted girls was significantly lower than that of same-aged average ability girls. Specifically, it stated that comparisons must be made between the global self-worth of gifted secondary school students and average-ability secondary school students, and gifted elementary school students and average-ability elementary school students. In order to test this hypothesis, two \( t \) tests were performed, one for elementary school students and one for secondary school students.

Boxplots (Appendix F) revealed only 1 secondary school student, case 8, as an outlier. Conversely, there were 6 outliers within the elementary group. Cases 53, 83 and 92 from the gifted elementary school students, and cases 60, 70 and 80 from the average-ability elementary school students were identified as outliers. These cases were not deleted as the variances of the groups were found to be equal, despite their inclusion. Tables 1 and 2 show the means and standard deviations (SD) of global self-worth and the five domain specific self-concepts for all four groups.
Table 1

*Means and Standard Deviations of Global Self-Worth and Domain-Specific Competencies of Elementary School Students*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gifted (N=22)</th>
<th></th>
<th>Average (N=23)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Global Self-Worth</td>
<td>3.576</td>
<td>0.448</td>
<td>3.449</td>
<td>0.549</td>
</tr>
<tr>
<td>Domain-Specific Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic Competence</td>
<td>3.061</td>
<td>0.772</td>
<td>3.094</td>
<td>0.577</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>3.538</td>
<td>0.385</td>
<td>3.225</td>
<td>0.651</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>3.348</td>
<td>0.718</td>
<td>3.319</td>
<td>0.696</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>3.106</td>
<td>0.716</td>
<td>3.152</td>
<td>0.624</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>3.606</td>
<td>0.380</td>
<td>3.095</td>
<td>0.621</td>
</tr>
</tbody>
</table>

*a* The score ranged from 1 (low self-worth) to 4 (high self-worth).

*b* The score ranged from 1 (low perceived competence) to 4 (high perceived competence).

Table 2

*Means and Standard Deviations of Global Self-Worth and Domain-Specific Competencies of Secondary School Students*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gifted (N=24)</th>
<th></th>
<th>Average (N=26)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Global Self-Worth</td>
<td>3.396</td>
<td>0.542</td>
<td>3.167</td>
<td>0.577</td>
</tr>
<tr>
<td>Domain-Specific Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic Competence</td>
<td>2.528</td>
<td>0.892</td>
<td>2.942</td>
<td>0.587</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>3.285</td>
<td>0.704</td>
<td>3.205</td>
<td>0.511</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>2.722</td>
<td>0.607</td>
<td>2.481</td>
<td>0.675</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>2.917</td>
<td>0.629</td>
<td>2.955</td>
<td>0.603</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>3.299</td>
<td>0.600</td>
<td>2.891</td>
<td>0.611</td>
</tr>
</tbody>
</table>

*a* The score ranged from 1 (low self-worth) to 4 (high self-worth).

*b* The score ranged from 1 (low perceived competence) to 4 (high perceived competence).

The results did not support the hypothesis. Contrary to prediction, there was no significant difference between the global self-worth of gifted and average-ability students at either the elementary, \( t(43) = .844, p = .403 \), or secondary school level \( t(48) = 1.444, p = .155 \).
Hypothesis 2. To test whether the domain-specific self-concepts of gifted girls differed from those of average ability girls, a MANOVA was conducted. It was further hypothesized that gifted girls have a higher scholastic self-concept and lower social self-concept than average ability-girls.

Again, boxplots revealed several outliers among the gifted and average students (Appendix G). Four gifted secondary school students and only 1 gifted elementary school student scored extremely low on at least one of the six categories. Similarly, there were 8 extreme scores among the average-ability students. Six participants, 5 secondary school students and 1 elementary school student, reported extremely low global self-worth and/or domain-specific self-concepts. The data were tested for homogeneity and were found have equal variances despite the outliers; thus, these scores were included in the analyses. Further exploration revealed no difference in whether the null hypothesis was rejected with the exclusion of these extreme scores.

The hypothesis was partially supported by the analyses. There was a significant difference between the domain-specific self-concepts of gifted and average ability students, $F(1,93) = 4.720, p = .001$. When examining the univariate results, academic self-concept was significantly higher in gifted students when compared to that of average-ability students $F(1,94) = 15.153, p = .000$. Power was good, $1 - \beta = .971$, and the effect size was small, $\eta^2 = .140$. Alternately, physical appearance was not found to differ between gifted and average students, $F(1,94) = .883, p = .350$; nor did social competence, $F(1,94) = .094, p = .760$; athletic competence, $F(1,94) = 2.340, p = .129$; nor behavioral conduct, $F(1,94) = 2.604, p = .110$. 
Hypothesis 3. To determine whether the overall self-worth of girls was negatively related to age, a bivariate correlation was conducted. Literature suggested that global self-worth is negatively correlated with age (see Current Research), and consequently a one-tailed correlation was used (Table 3). All subjects (N=95) were included in the analysis as the outlier (Appendix E), case 8, did not have a significant impact on the results. The hypothesis was supported with a small negative correlation, \( r = -0.197, p = 0.028 \).

Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Self-Worth</td>
<td>-.197*</td>
</tr>
<tr>
<td>Domain-Specific Competence</td>
<td></td>
</tr>
<tr>
<td>Athletic Competence</td>
<td>-.183</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>-.086</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>-.463**</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>-.131</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>-.141</td>
</tr>
</tbody>
</table>

Note. N=95.
*\( p < .05 \)  **\( p < .01 \)

To better understand this finding, two-tailed correlations between age and the five domain-specific competencies and a MANOVA examining school level, ability and the importance ratings was conducted. Table 3 presents the results of the correlations, and Table 4 presents the means and standard deviations of the importance ratings for secondary and elementary school students.

The results in Table 3 showed that only physical appearance had a high moderate negative correlation with age, \( r = -.463, p = .000 \). Four outliers (Appendix E),
one for academic self-concept, social self-concept, behavioral self-concept and global self-worth (cases 8, 31, 66, and 47 respectively) were identified with scores well below the average. Correlations were re-calculated without the outliers, but no significant differences were found.

Table 4

Means and Standard Deviations of Importance Ratings for the Domain-Specific Competencies of Elementary and Secondary School Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Elementary (N=45)</th>
<th>Secondary (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Athletic Competence</td>
<td>2.567</td>
<td>1.058</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>3.500</td>
<td>0.564</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>2.022</td>
<td>0.761</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>2.322</td>
<td>0.847</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>3.389</td>
<td>0.738</td>
</tr>
</tbody>
</table>

*The score ranged from 1 (low importance) to 4 (high importance).*

To determine whether perceived importance in this and other domains were different for the two age groups, elementary and secondary students, a MANOVA was conducted. For elementary students (Appendix H), 1 outlier (case 58) was found among the physical importance ratings and 2 among social importance ratings (cases 66 and 80); all of these scores were well above the mean. For secondary students, 2 outliers (Appendix H), cases 47 and 61, were detected among the behavioral importance scores, and 1 among the academic performance ratings (case 39); all of these scores were well below the mean. None were omitted as they did not significantly influence the results of the MANOVA, which showed a significant main effect for school level, $F(1,93) = 3.684$, $p = .005$. Again, the univariate scores were examined and only perceived importance of physical appearance was found to be significantly higher in
secondary school students $F(1,94) = 11.764, p = .001$, when compared to that in elementary school students. For this factor, observed power was good, $1-\beta = .885$, and the variances were not significantly different.

Hypothesis 4. This hypothesis suggested that scholastic competency is more positively related to global self-worth in gifted students than it is in average ability students. To test this, separate correlations between scholastic competency and global self-worth were performed for gifted students ($N=46$) and average ability students ($N=49$). Scholastic competency was found to have a significant relationship with global self-worth in both gifted students, $r = .373, p = .011$, and average ability students $r = .446, p = .001$.

Table 5

Correlations between Global Self-Worth and the Five Domain-Specific Competencies in Gifted and Average Ability Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gifted (N=46)</th>
<th>Average (N=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic Competence</td>
<td>.585**</td>
<td>.338*</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>.431**</td>
<td>.271</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>.740**</td>
<td>.439**</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>.489**</td>
<td>.292*</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>.373*</td>
<td>.446**</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01

To test whether the difference between the correlations was significant, a Fisher $z$ score (Bruning & Kintz, 1987) was calculated. It was not significant, $z = .288, p = .611$. Again, there were several outliers (Appendix G). Among average ability school
students there were 4 outliers, all of whom were in secondary school; the global self-worth score of participants 8 and 80, and the academic self-concept score of participants 8 and 23 were extremely low. There were 3 outliers among the scores of gifted students. Participants 20 and 31 had extremely low scholastic competence scores, and participant 31 also had a very low global self-worth score.

Five participants were omitted, 3 from the average students and 2 from the gifted students, and the analyses were conducted with the subsamples. The correlation between global self-worth and scholastic competence in average students (n= 46) decreased, \( r = .393, p = .006 \); for gifted students (n= 44) the correlation not only decreased, but was not significant, \( r = .087, p = .575 \). Again, z scores were calculated and the hypothesis was not supported. Indeed, the correlation between scholastic competence and global self-worth in average students was found to be significantly higher than that in gifted students, \( z = 2.249, p = .024 \), which was opposite to the prediction.

Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gifted (N=46)</th>
<th>Average (N=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Athletic Competence</td>
<td>2.380</td>
<td>.984</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>3.380</td>
<td>.643</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>2.141</td>
<td>.867</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>2.250</td>
<td>.861</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>3.370</td>
<td>.653</td>
</tr>
</tbody>
</table>
To explore whether this difference between the academic self-concept of average ability and gifted students was pertinent, the means and standard deviations of the importance ratings (Appendix I) were compared in gifted and average ability students (Table 6). The means for scholastic importance rating of gifted and average-ability students were almost identical, and thus were assumed to be equal.

Hypothesis 5. Similar to Hypothesis 4, this hypothesis looked at the scholastic competency of gifted students. More specifically, it asserted that scholastic competency is related to global self-worth more so in younger gifted students than in adolescent gifted students.

Table 7

*Correlations between the Global Self-Worth and the Domain-Specific Competencies of Gifted Elementary and Secondary School Students*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Elementary (N=22)</th>
<th>Secondary (N=24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic Competence</td>
<td>.499*</td>
<td>.610**</td>
</tr>
<tr>
<td>Behavioral Conduct</td>
<td>.443*</td>
<td>.403*</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>.877**</td>
<td>.652**</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>.321</td>
<td>.621**</td>
</tr>
<tr>
<td>Scholastic Competence</td>
<td>-.026</td>
<td>.519**</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01

To test this hypothesis, scholastic competence was correlated with global self-worth in both gifted elementary school and gifted secondary school students, and then compared using a Fisher z score (Bruning & Kintz, 1987). Scholastic competence was found to have a significant correlation with global self-worth in secondary school students, $r = .519, p = .009$, but a non-significant correlation in elementary school.
students, \( r = -0.026, p = .908 \). The difference was found to be significant, \( z = 2.201, p = .028 \), but the relationship was opposite to the prediction.

Again, there were outliers in these groups (Appendix J). Participant 31, a gifted secondary school student, had an unusually low scholastic competence score, and participants 53, 83 and 92, gifted elementary school students, had low global self-worth scores. When these scores were omitted from the analyses, the correlations were not significantly different, \( z = 1.685, p = .093 \).

**Hypothesis 6.** During adolescence, the relationship between domain-specific competencies and global self-worth changes. As such, it was hypothesized that physical appearance and social acceptance are more positively related to global self-worth than the other three domain-specific competencies are in secondary school students; it was further hypothesized that they are more positively related to global self-worth in secondary school students than they are in elementary school students.

In order to test this hypothesis, a multiple regression was performed using the forward elimination method with global self-worth as the criterion variable, and physical appearance, social acceptance, academic competence, athletic competence, behavioral conduct and school level as the predictor variables. All cases were included as the outliers did not significantly alter the results. Tables 1 and 2 show the means and standard deviations for the global self-worth and domain-specific competencies of elementary and secondary schools respectively, and Table 8 summarizes the results of the regression analysis.
Table 8

Summary of the Multiple Regression Analysis for Variables Predicting Global Self-Worth

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical Appearance</td>
<td>.299</td>
<td>.065</td>
<td>.419**</td>
</tr>
<tr>
<td>2. Scholastic Competence</td>
<td>.223</td>
<td>.077</td>
<td>.252**</td>
</tr>
<tr>
<td>3. Social Acceptance</td>
<td>.150</td>
<td>.073</td>
<td>.175*</td>
</tr>
<tr>
<td>4. Athletic Competence</td>
<td>.116</td>
<td>.067</td>
<td>.161</td>
</tr>
<tr>
<td>5. Behavioral Conduct</td>
<td>.076</td>
<td>.087</td>
<td>.093</td>
</tr>
<tr>
<td>6. School Level</td>
<td>.090</td>
<td>.099</td>
<td>.087</td>
</tr>
</tbody>
</table>

Note. \( R^2 = .417; \Delta R^2 = .397 \). Steps 4-6 were excluded because they were not significant.
*p < .05   **p < .01

All the variables were entered into the first model, but athletic competence, behavioral conduct and school level were eliminated because they were not significant predictors. This partially supported the hypothesis. Physical appearance and social acceptance were significant predictors of global self-worth, but school level was not; this model explained 39.7% of the variance in global self-worth. The intercorrelations are shown in Tables 9 and 10 to provide further description of the relationship among global self-worth, domain-specific competencies and school level.

Table 9

Intercorrelations among Domain-Specific Competencies and Global Self-Worth in Secondary School Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global Self-Worth</td>
<td>--</td>
<td>.319*</td>
<td>.227</td>
<td>.320*</td>
<td>.404*</td>
<td>.456*</td>
</tr>
<tr>
<td>2. Athletic Competence</td>
<td>--</td>
<td>.138</td>
<td></td>
<td>.357*</td>
<td>.271</td>
<td>.107</td>
</tr>
<tr>
<td>4. Physical Appearance</td>
<td>--</td>
<td></td>
<td>.366*</td>
<td>.325*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Social Acceptance</td>
<td>--</td>
<td></td>
<td></td>
<td>.117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Scholastic Competence</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N=50.
*p < .05   **p < .01
Table 10

*Intercorrelations among Domain-Specific Competencies and Global Self-Worth in Elementary School Students*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global Self-Worth</td>
<td>-</td>
<td>.491*</td>
<td>.510*</td>
<td>.821*</td>
<td>.294*</td>
<td>.363*</td>
</tr>
<tr>
<td>2. Athletic Competence</td>
<td>--</td>
<td>.246</td>
<td>.512*</td>
<td>.179</td>
<td>.202</td>
<td></td>
</tr>
<tr>
<td>3. Behavioral Conduct</td>
<td>--</td>
<td></td>
<td>.437*</td>
<td>.359*</td>
<td>.497*</td>
<td></td>
</tr>
<tr>
<td>4. Physical Appearance</td>
<td>--</td>
<td></td>
<td>.267</td>
<td></td>
<td>.306*</td>
<td></td>
</tr>
<tr>
<td>5. Social Acceptance</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td>.252</td>
<td></td>
</tr>
<tr>
<td>6. Scholastic Competence</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N=45.

*p < .05  **p < .01

Hypothesis 7. This hypothesis examined the perceived importance of social acceptance. It asserted that there is a significant difference between the perceived importance of social competency of secondary and elementary school students, and between gifted and average ability students. To test this hypothesis, two t tests were performed, one comparing the social acceptance importance rating in elementary versus secondary school students (Table 4), and one comparing that in gifted versus average ability students (Table 6). There were no outliers when examining social importance ratings by school level (Appendix H) or by ability (Appendix I). There was no significant difference between the social importance ratings in elementary and secondary school students, t(93) = -1.076, p = .285, or in gifted and average ability students t(93) = -1.976, p = .051.

Exploration of the two items in Harter's *How Important are These Things to How You Feel About Yourself as a Person* (1985) revealed a concern regarding the consistency of the two items. This is presented and discussed in Appendix K.
Summary

In this chapter, the descriptive statistics and results of analyses pertinent to the eight hypotheses were presented, both with and without outliers. The analyses supported Hypothesis 2, 3 and 6 but not 1, 4, 5, and 7. Discussion of these results follows in the next chapter.
CHAPTER 5

Discussion

This chapter discusses the results of this study, including a brief description of
the purpose and limitations of the study, as well as a consideration of the outliers found
during analyses. This is followed by a summary and discussion of the results as they
pertain to each hypothesis and suggestions for improvement. The chapter ends with
recommendations for future research.

Summary of Research Purpose

Researchers have posited that there are unique socioemotional concerns for
gifted female students (Buescher, 1991; Kline & Short, 1991; Parker & Mills, 1996;
Randall, 1997; Reis & Callahan, 1996; Reis & McCoach, 2000; Silverman, 1995;
Whitmore, 1980). These students might be at risk during adolescence for academic
and social difficulties, given the potentially turbulent nature of physical and emotional
changes, and the transition to secondary school from elementary school. As such, this
study intentionally limits age and gender in its exploration of self-concept. Of particular
interest is these girls’ self-concept, especially in areas they believe important. This
study asked if there were differences in the global self-worth and domain specific
competencies or in their relationships with each other in female students when age and
ability are considered.
Limitations of the Study

The results of this study should be viewed with consideration given to both school climate and the characteristics of the participants.

School Climate. The study included students from 17 schools, 4 secondary and 13 elementary. This presents concerns for two major reasons: a disproportionate sampling pool in secondary versus elementary schools and variability in socioeconomic status of the populations of the schools.

First of all, only four secondary schools were sampled for this study. An attempt was made to select elementary school students from the feeder schools of the secondary schools, to match younger and older students as much as possible, but an adequate sample could not be obtained. Elementary school students from all over the target district were sampled, but the secondary school students were selected from a particular area within the district. In fact, three of the four schools, which accounted for 48 of the 50 secondary school participants, are within 3 km of each other. This is problematic because this area has a particular level of community and school resources, which are not available in the areas in which 8 of the 13 elementary schools are situated. As such, the secondary schools may be more alike than the elementary schools in terms of possible influences on socio-emotional and academic development, such as school climate, resources and socioeconomic status.

Two of these external factors may be socioeconomic status and overall achievement within the school. Again, the three secondary schools present very particular economic and academic climates. The general population of these schools
can be categorized as upper-middle to upper-class in terms of average family income; on the other hand, several of the elementary schools are situated near low-income housing, and have substantial lunch programs in place. The three secondary schools have an incredible number of students on the honour roll (students achieving a ‘B’ average or higher). All three of these schools have 35-50% of their grade 8 and 9 students achieving at least a 3.0 GPA. This discrepancy in achievement levels within the schools is a concern because schools with a highly academic climate may not promote the stigma surrounding giftedness. Indeed, academic ability might be much valued, which may account for the findings in Hypothesis 5 that showed a higher correlation between global self-worth and scholastic competence in secondary versus elementary students.

**Characteristics of the Participants.** As well as differences that may occur due to school climate, the ethnicity of various groups may have had an impact on the results of this study. There were 21 minority students included in the study (see Participants in Chapter 3), but they were not represented equally among the four groups. There was only 1 Asian student within the gifted secondary school group (N=24) whereas there were 6 Asian students within the average-ability secondary school group (N=26). Similarly, there were only 5 minority students within the gifted elementary school group (N=22) – 1 Asian, 1 Indo-Canadian and 3 Latina, whereas there were 9 minority students within the average ability elementary group – 3 Asian, 4 Indo-Canadian, and 2 Latina. This results in only 6 minority students within the gifted group and 15 within the
average ability group. Similarly disproportionate, there were only 7 minority students among the secondary school students and 14 among the elementary school students. While this may not have directly influenced the results, these groups cannot be assumed well matched. It is not apparent whether this discrepancy reflects identification procedures or is merely an artifact of sampling methods, but the age and ability effects may be masked by the confounding factor of ethnicity.

**Outliers**

There were numerous outliers in this study when the groups were examined, as indicated by the eight hypotheses. Although there were four groups depending on school level and ability designation, comparisons were also made by ability and school level independent of one another. Outliers were determined by examining the boxplots (Appendices E-J) according to which groups or constructs were being compared, but is important to note that these outliers may be a product of a small sample size. Of the 15 cases with extremely low domain-specific or global self-worth, 8 were minority students; to have 8 of 21 minority students from the total population in this study report very low scores cannot be ignored. Again, minority students may represent a subpopulation that would have been more clearly defined with a larger sample size.

As suggested by Spatz (2001), results were presented both with and without outlying scores, especially important when using correlation. However, it may be that these students represent a subpopulation that would be better defined in a large sample, and need further examination. Not all outliers warrant discussion. Harter (1982, 1985) argued that global self-worth is most affected by self-concept scores in
domains perceived to be important by the participant. As such, only discussion of participants with low scores in domains they valued is necessary. This includes participants with low scores in domains of average importance, and participants with low scores in domains of high importance.

This study looked most closely at global self-worth, scholastic competence, physical appearance, and social acceptance. The following numbers are not meant to suggest significance, but to elicit caution when viewing the results of this study. The 4 participants with poor perceived scholastic competence were all secondary school students, 2 gifted and 2 average ability students. Conversely, 8 participants reported low global self-worth, and 6 of those 8 students were minority elementary school students. This was unanticipated, as it was assumed that global self-worth was higher in younger students, which may not be so in all students. For minority students, this may depend on their specific culture, parental beliefs, and the how long they have lived in Canada, or may simply show that their values were not reflected in the selected instrument. For example, family relations may be important in some cultures which is not represented in Harter’s instrument (1985). Furthermore, there were 3 elementary school participants with low physical appearance scores and 3 participants with low social acceptance scores. Of these 6 students, 5 were either a minority and/or were sampled from schools in low-income areas. Similarly, there were multiple low scores in 6 students, and again they were mostly minority students (5 of 6 students). It is unclear what impact this may have had on the results of this study, but it is clear that ethnicity cannot be assumed to be insignificant. Although these scores were omitted where indicated, this may have left a subsample that was biased in age, ethnicity or both.
Summary of Results and Discussion

Hypothesis 1. The overall self-concept of gifted girls was hypothesized to be significantly lower than that of average-ability girls at the elementary and secondary school level. The analyses did not support this hypothesis. The difference between the global self-worth of gifted and average-ability elementary school students was nonsignificant, as was the difference between gifted and average-ability secondary school students. This finding indicates that ability did not result in lower global self-worth, even for adolescents. One explanation for this result may be the nature of the schools sampled, particularly the secondary schools. Academic achievement is highly regarded and prevalent in these secondary schools. It was assumed that talent would be more valued in younger students, and gifted secondary school students would receive negative attention in an environment where scholastic achievements are not valued. In academically competitive schools, however, the disparity between the achievement of gifted students and their peers may not be daunting, and thus the opposite may be true.

Also, several researchers have posited that programming, specifically segregated higher-level classes, contributes to social difficulties that may lower overall self-worth (Ablard, 1997; Brounstein, Hollohan & Dreyden, 1991, Chan, 1988). Some of the gifted elementary students had participated in a partial pullout program, but none were enrolled at the time of testing. Only seven of the gifted secondary school students voluntarily participated in a program that was specialized, but not segregated. Again, this may have contributed to the nonsignificant difference between the global self-worth of gifted and average-ability students at both school levels.
Hypothesis 2. It was asserted that the domain-specific self-concepts of gifted girls differ from those of average-ability girls; specifically, gifted girls would have a higher scholastic self-concept and lower social self-concept than average-ability girls would. The analyses only partially supported this hypothesis, as there were no significant differences in the domain-specific competencies of the groups with the exception of scholastic competence.

The perceived scholastic competence of gifted students was significantly higher than that of average-ability students. This supports the findings of previous studies (Ablard, 1997; Davis, 1985; Hoge & Renzulli, 1993; Kelly & Jordan, 1990) that found gifted students to have a high scholastic-self-concept. This is important not only because of the difference between the groups, but also because of its link to the previous hypothesis. Dixon (1998) asserted that scholastic self-concept depends on achievement. The grades of participants were recorded to determine achievement, and only 2 participants were underachieving; the scholastic competence scores for these 2 participants were also outliers in this domain as they were extremely low. The other gifted participants were all achieving at a level commensurate with their academic strengths. Dixon also asserted that perceived scholastic competence largely contributes to global self-worth; the importance ratings for scholastic competence are very high (Appendix I), which lends support to this claim. This offers an explanation as to why the global self-worth of gifted students was not lower than that of average-ability students, as predicted.

In contrast, analyses did not support the hypothesis that social self-concept would be lower in gifted students when compared to average-ability students; there was
no significant difference. Perhaps, again, the academically encouraging school climate and the minimal use of pullout programs did not foster the stigma that would demote social acceptance. Boxplots (Appendix I) also indicate that social acceptance was not highly valued when compared to scholastic competence and behavioral conduct.

Hypothesis 3. Global self-worth was negatively correlated with age. It seems that overall self-worth decreases as females reach adolescence, perhaps due in part to developmental changes and the transition to secondary school. The effect was small, but significant, and attests to the concern for girls as they enter high school. It is important to note that this examination did not extend beyond grade 9 students, and no assumption is made regarding this trend past that age.

Supplementary analyses may offer an explanation for these results (Tables 3 & 4). Examination of the relationship between age and the domain-specific competencies showed that only physical appearance had a significant negative relationship with global self-worth. Harter (1985) contended that perceived competence does not factor in global self-worth if the domain is not valued, and thus the importance ratings were also compared. Again, the importance of physical appearance was found to be significantly higher in secondary school students. In sum, perception of physical appearance not only declines in secondary school students, but also is more highly valued and thus may negatively affect the overall self-worth of female students as they reach adolescence.
**Hypothesis 4.** Analyses did not support the hypothesis that scholastic competence is more highly related to global self-worth in gifted students than in average-ability students. It was predicted that gifted students would place a high value on academic ability, and if their perceived scholastic competence were higher than that of average-ability students this would be reflected in its relationship with global self-worth. Hypothesis 2 did find that gifted students had a higher scholastic competence than average ability students did, but scholastic competence was significantly correlated with global self-worth in both gifted and average students (Table 5). Because correlation is not robust to the effects of outliers, analyses were conducted with and without these scores; neither result supported the hypothesis.

In fact, when the outliers were omitted from the calculations, average-ability students displayed a significantly higher relationship between scholastic competence and global self-worth than did gifted students. Perhaps the positive academic climate of the schools, where achievement is prevalent and academic success is coveted and rewarded, results in achievement having a larger impact on the global self-worth of average-ability students who may struggle in this domain more so than gifted students. Indeed, the importance rating for scholastic competence was almost identical in gifted and average-ability students (Table 6), indicating that achievement was as highly valued in average students as it was in gifted students.

**Hypothesis 5.** While the previous hypothesis examined the scholastic competency of gifted versus average students, this hypothesis examined this domain in only gifted students. It suggested that the academic talents of young gifted students are
encouraged in an elementary school where the students' values have not shifted to favour physical appearance and social acceptance. Conversely, gifted secondary students are pressured to conform and be accepted socially, and thus their scholastic competence would not relate to global self-worth as much as it does in gifted elementary students.

The analyses, with or without the outliers, did not support this hypothesis. Scholastic competence was found to be highly related to global self-worth in gifted secondary students, but not at all in gifted elementary students (Table 7); this difference was significant, but contrary to the prediction. This finding, again, lends support to the notion that the high level of achievement within the secondary schools fosters academic success and encourages scholastic achievements, even during adolescence.

**Hypothesis 6.** This hypothesis posited that the pattern of relationships among the domain-specific competencies and global self-worth changes as girls reach adolescence. Specifically, a combination of physical appearance, social acceptance and school level will be more related to global self-worth than scholastic and athletic competence, and behavioral conduct.

The pattern of results indicated that global self-worth was most significantly predicted by the extent to which female students felt confident in their physical appearance, scholastic competence and social acceptance. The belief was that if a student felt attractive and accepted, she would feel good about herself overall, especially during adolescence because developmental changes were linked with changes in the relationship between domain-specific competencies and global self-
worth. However, perceived social acceptance and physical appearance were not differently related in elementary and secondary school students. Indeed, physical appearance may be more related to global self-worth in elementary school students than in secondary school students (Tables 9 and 10).

The hypothesis that social acceptance would be more related to global self-worth was based on the notion that the need to be accepted increases in adolescence, and that this would be even more so in gifted students due to the stigma of the gifted label. As the other analyses have shown, this stigma does not appear to be a factor in this sample. School climate, it seems, has encouraged academic achievements, as it was a significant predictor of global self-worth in both gifted and average-ability students at both school levels.

Most disturbing was the significance of physical appearance in the development of the global self-worth of elementary school students. The idea that physical appearance becomes more meaningful during adolescence (Santrock, 1996; Silverman, 1995), particularly for gifted students (Buescher, 1991; Hoge & Renzulli, 1993), was not supported. Why do young girls with positive body images have the highest global self-worth? The importance scores (Table 4) and boxplots (Appendix H) did not offer an explanation; physical appearance may even be more important to elementary school students than to secondary school students.

One plausible explanation is that this sample of elementary school students was skewed by the results of a few students. Not only were there far more outliers (see Outliers) among the elementary school students, but these outliers were predominantly minority students (7 of 9 cases). It may be that these students represent a subsample
that would be more clearly identified and defined with a larger sample, or that the predictors of their global self-worth were not reflected in the chosen instrument. However, it could also be that young minority students suffer from poorer body images than young non-minority students and secondary students, which should be addressed in future research.

**Hypothesis 7.** This hypothesis asserted that there is a significant difference between the perceived importance of social acceptance in elementary versus secondary students, and in gifted versus average-ability students. There were no outliers for this set of analyses, but there were some concerns regarding the consistency between the two pertinent items, which are discussed in Appendix K.

The hypothesis was not supported by the results. Both gifted students and secondary students did not have the high perceived importance of social acceptance as was expected. Again, the need to conform and to be accepted would only be in effect if the school environment were averse to academic talents. This may not be the case in this sample given the highly positive academic climate of some of the schools. Similarly, secondary school students whose academic and athletic talents were valued at school may have felt good about themselves, as their roles in the school were highly regarded.

**Suggestions for Improvement of the Present Study**

There are two principal ways that this study can be refined. Firstly, it would be beneficial to sample a wider range of secondary schools. Limitations in obtaining
participants at the elementary level required the sampling of thirteen schools, which were varied in socioeconomic status, academic achievement, and school resources/climate or extracurricular activities. When examining socioemotional constructs such as self-concept, it is important to account or control for as many confounding factors as possible. If elementary schools were matched with secondary schools in terms of socioeconomic and achievement levels, several non-significant results from this study may have been averted. Obtaining the sample of elementary school students and then selecting matched students from the secondary school into which these elementary schools feed would be an effective and relatively simple method to address this issue.

Secondly, as much as elementary and secondary schools should be matched, so should the participants. The results of this study not only indicate that school climate may be a factor in examining the self-concept of students, but that ethnicity may also be a confounding factor. It is not clear from the results what impact minority students had on the outcomes, but the consistently low scores, particularly of elementary minority students, suggest that members of comparison groups should be matched in terms of ethnicity. In this study, only 7 secondary school students were minorities, whereas 14 elementary school students were minorities; there were 6 gifted minorities and 15 average ability minorities included. The practical way to limit the influence of race on research is to pair students as much as possible. Perhaps selecting gifted students first and then selecting a control group based on the race, age and classes of the gifted students would be an effective method to achieve this end. However, it should be noted
that the ethnic bias might have been an artifact of identification processes, not solely of sampling methods.

**Future Directions**

This study explores the global self-worth and domain-specific competencies of gifted and average-ability students in elementary and secondary school students outside of specialized educational programs. It did not produce many significant results, but still provided several interesting directions for future research.

The results pose an intriguing question surrounding the relationship between school climate and the self-concept of its students. The high scholastic self-concept of secondary schools students in particular did not support research (Buescher, 1991; Santrock, 1996; Silverman, 1995) that the priorities of adolescents shift away from academic achievement to physical appearance and social acceptance. A study that groups schools by achievement and resources (particularly athletics) would provide information on whether a student's development of self is impacted by the values of the school population as a whole. Acknowledgement of age, socioeconomic status and programming would also be essential to expand upon this study.

The present study also has implications for minority students in the target district. The remarkably low physical and social self-concept and global self-worth scores of minority students are of concern; these students may be at-risk for socioemotional and academic difficulties. It is not clear whether this group is a subpopulation with unique needs, whether a larger sample size would have balanced the extreme scores of these girls, or whether their scores are not low, but the scores of other participants are
inflated. A study targeting this group, still considering age, may reveal concerns pertinent to educators, parents and researchers. Also of concern is the relatively few minority students being identified as gifted. In a target district with such racial diversity, it is surprising that more minority students are not identified as gifted. District personnel, administrators and classroom teachers should revisit identification procedures to determine if the screening process confines minority students more so than non-minority students.

The significant results also suggest a need for the education of students regarding body image and the value of physical appearance. Of the domain-specific competencies, only physical appearance declined with age while its importance increased. Harter (1985) would suggest that a low self-concept in a domain that is highly valued would negatively influence overall self-worth. Though the decline in global self-worth was small, the strong relationship between physical appearance and global self-worth cannot be dismissed. Most astonishing was the very strong relationship between physical appearance and global self-worth in young students. It may be that physical appearance is more important in elementary school students than thought. Support from teachers in educating and fostering positive body images in adolescents and preadolescents will help to address this concern.

The present study has provided information regarding the relationship between age and ability in female students that is based on theory and supported by the identification and programming practices of the target district. Similar research in this area that considers ethnicity and school climate will certainly expand upon the findings of this study.
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Bacon, Inc.


APPENDIX A

The Letter to the School/Administrator
To Whom It May Concern:

As the principal of ______________________, Ms. Liane Pereira has requested my permission to study students in my school. I understand that this is part of the required coursework for her Master of Arts degree from the Department of Educational and Counselling Psychology and Special Education at the University of British Columbia.

Ms. Pereira has informed me that she wishes to study students to explore their perceptions of their physical, athletic, social, academic, behavioral and over-all selves; a copy of the self-report instrument has been given to me. Ms. Pereira has assured me that she will be making contact with the students and parents to obtain consent, and that participating in the study is strictly voluntary. She has also assured me that no names will be recorded, and that data will be coded and kept in locked filing cabinets.

Given these guidelines, I grant Ms. Pereira permission to approach students and parents to participate in the study. It is understood that she must complete her data collection by June 15th, 2002. If you need further information, please do not hesitate to contact me at 604 ___________.

Sincerely,

__________________________________________
Principal
APPENDIX B

The Letter to the Parent/Participant
CONSENT FORM

Participant:

I, ______________________ consent/do not consent (circle one) to participate in this study.

Signature: ______________________ Date: ______________________

Parent/Guardian:

I, ______________________ consent/do not consent (circle one) to my child's participation in this study.

I have received an explanatory letter and a copy of this consent form for my own records.

Signature: ______________________ Date: ______________________

Please complete the following:

Name of School: ______________________

Participant’s Date of Birth: ______________________

Participant’s Grade: ______________________

Times that the participant IS NOT available (Please circle):

Before school       M  T  W  Th  F
Lunch          M  T  W  Th  F
After school      M  T  W  Th  F

*Please return this to ______________________ as soon as possible.
APPENDIX C

Self-Perception Profile for Children
(SPPC; Harter, 1985)
**WHAT I AM LIKE**

*Sample Item*

<table>
<thead>
<tr>
<th>Really</th>
<th>Sort of</th>
<th>Really</th>
<th>Sort of</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>True</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>for Me</td>
<td>for Me</td>
<td>for Me</td>
<td>for Me</td>
</tr>
</tbody>
</table>

Some kids would rather **play outdoors in their spare time**

BUT

Other kids would rather **watch T.V.**
<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids feel that they are very good at their school work</td>
<td>Other kids worry about whether they can do the school work assigned to them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids find it hard to make friends</td>
<td>Other kids find it's pretty easy to make friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids do very well at all kinds of sports</td>
<td>Other kids don't feel that they are very good when it comes to sports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids are happy with the way they look</td>
<td>Other kids are not happy with the way they look.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids often do not like the way they behave</td>
<td>Other kids usually like the way they behave.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids are often unhappy with themselves</td>
<td>Other kids are pretty pleased with themselves.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids feel like they are just as smart as other kids their age</td>
<td>Other kids aren't so sure and wonder if they are as smart.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids have a lot of friends</td>
<td>Other kids don't have very many friends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids wish they could be a lot better at sports</td>
<td>Other kids feel they are good enough at sports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>Really True for Me</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>10.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids are happy with their height and weight</td>
</tr>
<tr>
<td>11.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids usually do the right thing</td>
</tr>
<tr>
<td>12.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids don't like the way they are leading their life</td>
</tr>
<tr>
<td>13.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids are pretty slow in finishing their school work</td>
</tr>
<tr>
<td>14.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids would like to have a lot more friends</td>
</tr>
<tr>
<td>15.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids think they could do well at just about any new sports activity they haven't tried before</td>
</tr>
<tr>
<td>16.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids wish their body was different</td>
</tr>
<tr>
<td>17.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids usually act the way they know they are supposed to</td>
</tr>
<tr>
<td>18.</td>
<td>![☐]</td>
<td>![☐]</td>
<td>Some kids are happy with themselves as a person</td>
</tr>
<tr>
<td></td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>Really True for Me</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>19.</td>
<td>Some kids often forget what they learn</td>
<td>BUT Other kids can remember things easily.</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Some kids are always doing things with a lot of kids</td>
<td>BUT Other kids usually do things by themselves.</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Some kids feel that they are better than others their age at sports</td>
<td>BUT Other kids don’t feel they can play as well.</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Some kids wish their physical appearance (how they look) was different</td>
<td>BUT Other kids like their physical appearance the way it is.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Some kids usually get in trouble because of things they do</td>
<td>BUT Other kids usually don’t do things that get them in trouble.</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Some kids like the kind of person they are</td>
<td>BUT Other kids often wish they were someone else.</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Some kids do very well at their classwork</td>
<td>BUT Other kids don’t do very well at their classwork.</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>Some kids wish that more people their age liked them</td>
<td>BUT Other kids feel that most people their age do like them.</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>In games and sports some kids usually watch instead of play</td>
<td>BUT Other kids usually play rather than just watch.</td>
<td></td>
</tr>
<tr>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>28. □ □ Some kids wish something about their face or hair looked different</td>
<td>BUT Other kids like their face and hair the way they are.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. □ □ Some kids do things they know they shouldn't do</td>
<td>BUT Other kids hardly ever do things they know they shouldn't do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. □ □ Some kids are very happy being the way they are</td>
<td>BUT Other kids wish they were different.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. □ □ Some kids have trouble figuring out the answers in school</td>
<td>BUT Other kids almost always can figure out the answers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. □ □ Some kids are popular with others their age</td>
<td>BUT Other kids are not very popular.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. □ □ Some kids don't do well at new outdoor games</td>
<td>BUT Other kids are good at new games right away.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. □ □ Some kids think that they are good looking</td>
<td>BUT Other kids think that they are not very good looking.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. □ □ Some kids behave themselves very well</td>
<td>BUT Other kids often find it hard to behave themselves.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. □ □ Some kids are not very happy with the way they do a lot of things</td>
<td>BUT Other kids think the way they do things is fine.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

How Important are These Things to How You Feel About Yourself as a Person
(SPPC; Harter, 1985)
HOW IMPORTANT ARE THESE THINGS TO HOW YOU FEEL ABOUT YOURSELF AS A PERSON?

<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Actually Important</th>
<th>Sorted Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Some kids think it is important to do well at schoolwork in order to feel good as a person</td>
<td>Other kids don't think how well they do at schoolwork is that important.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Some kids don't think that having a lot of friends is all that important</td>
<td>Other kids think that having a lot of friends is important to how they feel as a person.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Some kids think it's important to be good at sports</td>
<td>Other kids don't think how good you are at sports is that important.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Some kids think it's important to be good looking in order to feel good about themselves</td>
<td>Other kids don't think that's very important at all.</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Some kids think that it's important to behave the way they should</td>
<td>Other kids don't think that how they behave is that important.</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Some kids don't think that getting good grades is all that important to how they feel about themselves</td>
<td>Other kids think that getting good grades is important.</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>Some kids think it's important to be popular</td>
<td>Other kids don't think that being popular is all that important to how they feel about themselves.</td>
</tr>
</tbody>
</table>
8. Some kids don't think doing well at athletics is that important to how they feel about themselves as a person. Other kids feel that doing well at athletics is important.

9. Some kids don't think that how they look is important to how they feel about themselves as a person. Other kids think that how they look is important.

10. Some kids don't think that how they act is all that important. Other kids think it's important to act the way you are supposed to.
APPENDIX E

Boxplots for the Global Self-Worth and the Five Domain-Specific Competencies
APPENDIX F

Figure F-1: Boxplots of Global Self-Worth and the Five Domain-Specific Competencies in Elementary School Students

<table>
<thead>
<tr>
<th></th>
<th>gifted</th>
<th>average</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>22</td>
<td>23</td>
</tr>
</tbody>
</table>

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.

Ability Designation
APPENDIX F

Figure F-2: Boxplots for the Global Self-Worth and the Five Domain Specific Competencies in Secondary School Students

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.
APPENDIX G

Boxplots for the Global Self-Worth and the Five Domain-Specific Competencies of Gifted and Average Ability Students

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.
APPENDIX H

Boxplots for the Importance Ratings of the Five Domain-Specific Competencies in Gifted and Average-Ability Students

Ability Designation

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.
APPENDIX I

Boxplots for the Importance Ratings of the Five Domain-Specific Competencies for Elementary and Secondary School Students

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.
APPENDIX J

Boxplots for the Global Self-Worth and the Five Domain-Specific Competencies in Gifted Elementary and Secondary School Students

School Level

Note. The legend, reading from top to bottom, indicates the variables as they appear on the graph from left to right.
APPENDIX K

Item Analysis for the Social Acceptance Importance Rating

Harter's SPPC (1985) uses two items to identify how important social acceptance is to how you feel about yourself as a person. This was important to this study as it was hypothesized that the importance of perceived social acceptance would be related to both age and ability due to the socioemotional traits associated with giftedness and the developmental changes associated with adolescence (see Chapter 1). The concern was that gifted students would suffer from social isolation and feelings of aberrance owing to the stigma of the gifted label. The hypotheses (see Chapter 3) were borne from curiosity regarding the differences between elementary and secondary school students and gifted and average-ability students in terms of feeling different or rejected; it was not to determine the differences in perceived popularity. Harter uses popular in several of her items regarding social acceptance which is of concern for this study because popularity may not have the same meaning as acceptance, and it was acceptance that was of concern.

The Difference between Friendship and Popularity. Research has suggested that popularity and friendship are different constructs (Bukowski, Hoza & Newcomb, 1994; George & Hartmann, 1996; Oppenheimer & Thijssen, 1983). Specifically, friendship "refers to a subjectively defined, voluntary and reciprocal relationship between two individuals" (George & Hartmann, 1996, p. 2301). Oppenheimer and Thijssen posit that friendship becomes less associated with material notions and more emotional or psychological notions as a person reaches adolescence. On the other
hand, popularity appears to be the view of a group towards an individual based more on visibility and status than meaningful relationships (Eder, 1985; George & Hartmann, 1996; Goldberg & Chandler, 1992; Luftig & Nichols, 1991). Luftig and Nichols suggested that, to students, popularity is related to athletic ability, appearance and visibility within a school. Similarly, Eder states that popularity is based on group membership, school-wide recognition, social class, and attractiveness. From these definitions, it appears that popularity and friendship are distinct constructs that may be related, but are not interchangeable. As such, the perceived social acceptance and social acceptance importance rating items in Harter's SPPC (1985) should be reviewed as they include conceptions of both friendship and popularity.

**Harter's (1985) Social Acceptance Importance Items.** In examining the data pertinent to Hypothesis 8 (see **Chapter 4**), it seemed that the two items included to measure the importance of perceived social acceptance (see **Appendix D**) were not consistently scored among participants. The first item concerns the number of friendships the students have whereas the second item concerns popularity. The intention of this study was to determine acceptance, not popularity. Indeed, feeling included by a few close friends does not equate to school-wide social acknowledgement or peer status, but it may provide a sense of belonging to negate the stigma of giftedness. In addition, students may not desire popularity, and thus rate it as unimportant to how they feel about themselves as a person. It is difficult to determine how this may have impacted upon the perceived social self-concept scores of the participants in this study, but the two items in the social acceptance importance rating
do present distinct results. Because of this discrepancy, the results of Hypothesis 8 (see Chapter 4) are revised below.

The Revised Results and Discussion for Hypothesis 8. To determine the discrepancy score for perceived social acceptance, average importance rating scores of 3 or higher (the average score of the two items) were subtracted from the perceived social acceptance score. A negative score would mean that a student had a low perceived competency in a domain that was viewed to be important. Initially, only 25 participants had scored a 3 or higher for social acceptance importance. Further inspection revealed that many participants scored 3 or higher on the item related to friendship, but scored the item related to popularity below 3. When the second item was dropped from the analyses, 59 participants had scored 3 or higher; thus, the analyses for hypothesis were recalculated with the single item for the importance of social acceptance.

In order to test this hypothesis, two t tests were performed, one comparing the social acceptance importance rating in elementary versus secondary school students, and one comparing that in gifted versus average ability students. There was no significant difference between the social importance ratings in elementary and secondary school students \([t (93)= -1.198, p= .234]\), but there was a significant difference between gifted and average ability students \([t (93)= -2.113, p= .037]\). The average-ability students felt that social acceptance was important to how they felt as a person overall more so than gifted students did.

The hypothesis was not supported by the results. Both gifted students and secondary students did not have the high perceived importance of social acceptance as
was expected. Indeed, the average-ability students valued social acceptance more highly than did gifted students. In gifted students, the need to be accepted would only be crucial if the school environment was averse to academic talents, which is unlikely in such highly positive academic schools. Similarly, secondary school students may not feel that having many friends is not as valuable to how they feel about themselves when the school climate strongly promotes athletics and academics. In fact, acceptance and friendships may be more valued in average-ability students who may be struggling academically in a school that rewards academic achievement. The perceived scholastic competencies are significantly lower than those of gifted students, which supports the idea that average-ability students may be feeling unsuccessful in academic environments.

It is important to note that items concerning quantity not quality of friendships and items concerning popularity were also included in the six items measuring perceived social acceptance. This may have impacted upon those scores and contributed to the non-significant results obtained in the analyses of this study. Further exploration of friendship and belonging versus perceived popularity in gifted and average-ability as well as elementary and secondary school students would expand upon the findings of this study.
References


