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A Comparative Investigation of Self-Esteem, Achievement Motivation, Learning Style, and Parental Relationship Across Black and White Gifted/Talented Adolescent Groups

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LOYOLA UNIVERSITY OF CHICAGO

A COMPARATIVE INVESTIGATION OF SELF-ESTEEM,
ACHIEVEMENT MOTIVATION, LEARNING STYLE, AND
PARENTAL RELATIONSHIP ACROSS BLACK AND WHITE
GIFTED/TALENTED ADOLESCENT GROUPS

A DISSERTATION SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF CURRICULUM, INSTRUCTION
AND EDUCATIONAL PSYCHOLOGY

DIRECTOR: RONALD MORGAN, PH.D.

BY

MICHELE MEAUX

CHICAGO, ILLINOIS

MAY, 1995

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DEDICATION

To my beloved brother, Jose Torre, who is loved by his family and many friends.

To my beautiful mother who has raised her children very well and whom I dearly love.

To my son I love, am very proud of, and who is a strong yet sensitive young man.

To my brothers and sisters who have always been so proud of me.

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ABSTRACT

A comparative study of self-esteem, achievement motivation, learning style, and parental relationships across Black White gifted/talented adolescent groups, was conducted. Since there are few studies dealing with gifted/talented minority adolescents, any possible sources of potential were examined. One hundred eleven high school students (fifty-five Black adolescents and fifty-six White adolescents) enrolled in a gifted/talented program in a suburban school district located south of Chicago were selected to be participants in the study. Data sets were collected in one session. Subjects were asked to complete the following five instruments: 1) A selected demographic and social history questionnaire; 2) The Coopersmith Inventory was included to assess an individual's evaluation of himself or herself as positive or negative; 3) The Wells-Bledsoe Motivation Checklist was used to assess positive and negative factors that an individual feels affects success in school; 4) The Family Environment Scale was used to assess cohesion, expressiveness, conflict, independence, achievement, motivation, organization, and control as viewed by adolescent; 5) The Learning Style Inventory was used to

Inventory was used to assess how students prefer to function, learn, concentrate, and perform during educational activities. A two group matched subject design was used to test for main effects across the two groups. For those dependent measures on which statistically significant differences were found across groups, a follow-up multiple regression procedure was used in an effort to more clearly identify those factors that might contribute most strongly to the individual differences among the respondents across the two groups. Analysis of the data sets revealed a complex array of differences across groups and a number of significant inter-relationships among the independent variables and dependent measures.

CHAPTER I

INTRODUCTION

American society is composed of many minority groups that may or may not share the dominant middle-class values and experiences that represent the predominant public school approach to the education of the gifted/talented. Children from these groups often score lower on traditional intelligence measures of ability. Differences may be due to a different emphasis of cognitive development in their home and neighborhood settings. There is a clear under representation of minority students within this gifted group, Blacks are particularly under represented in gifted/talented programs at the K-12 level. That is to say that there is a great disparity between minority representation in the general population and in the gifted/talented programs operating within the public schools. In addition, many universities and colleges are experiencing an under representation of minorities capable of meeting entry requirements.

Statement of the Problem

The overall purpose of the study proposed here is to compare self-esteem, achievement motivation, learning style,

and parental relationships across Black and White gifted/ talented adolescent groups. Since there are very few studies dealing with gifted/ talented minority adolescents, it is paramount that all possible sources of potential be carefully examined in order to identify and include all students capable of meeting college entry requirements in gifted/ talented programs. Nationally, public school enrollment consist of 30% minority, but less than 20% of these individuals are represented in gifted/ talented programs. Students from low income backgrounds comprise 20% of the student population, but make up only 4% of the students scoring at the highest levels on standardized achievement and ability tests. Disadvantaged students are less likely to be enrolled in academic programs that adequately prepare them for college. These disadvantaged students are half as likely to take course work in advanced math and science than are more advantaged students. Only 2% of high school seniors from poor families take calculus compared to 7% of those from more advantaged backgrounds (U. S. Department of Education, 1989). Given these findings, it is evident that programs need to be created that address academic issues as well as other non-academic areas such as self-esteem and motivation. Of course, self-esteem and motivation are important non-academic factors that must be considered with respect to educating all students. They are factors that the gifted/

talented adolescent must possess in order to become productive and ethical leaders of our nation (Ross & Parker 1980). Self-esteem and motivation are variables that have a significant impact on individuals during adolescence (Foster, 1983). Learning style also has been reported to be related to success in an academic setting (Kelly, 1984).

Assessment of an individual's learning style is an important and useful predictor that can be used with respect to identifying conditions under which an individual is most likely to learn, remember, and achieve. Since each individual learns based upon a complex set of reactions to varied stimuli, certain patterns tend to be repeated when the person concentrates (Dunn, Dunn & Price, 1989). Knowing how individuals prefer to learn during educational activities can help educators plan effective programs. In addition to educators being cognizant of students' learning style, it may also be helpful for parents to be aware of their child's learning preferences, in terms of enhancing parent-child relationships.

Adolescence is a time of growing free of earlier dependencies as well as a process of self-discovery, self-growth, and identity formation. This process cannot occur normally without interaction with significant others (Wright & Keple, 1981). According to Conger (1973), Erikson (1968), and Josselson (1973), relationships with parents greatly enhances

ego identity if a warm relationship exists between both parents and the adolescent. Middle adolescence is a particularly important period for ego identity formation (Tidwell, 1980). Parental as well as adolescent perceptions, how a family encourages or inhibits personal growth, the importance of organization, structure, rules, and procedures within the family's daily life affects adolescents in forming their own identity (Wright & Keple, 1981).

Definition of Terms

The operational definitions of terms as they are used in this study are as follows:

Minority - refers to persons of African American race in particular Black or Black Americans.

Gifted - refers to children identified as possessing demonstrated or potential abilities that give evidence of high performance capabilities in specific academic areas which require services not ordinarily provided by the school.

Talented - refers to students not identified as gifted but as high achieving and included in Honors classes or enrolled in the college preparatory programs.

Self-Esteem - refers to the evaluation an individual makes and maintains with regard to himself. An attribute of approval or disapproval and indicates the extent to which a person believes himself capable, significant, successful and worthy.

Achievement Motivation - the degree to which an individual is trying to succeed in school. The concern an individual strives for is disposed toward or is interested in class assignments or grades.

Learning Style - comprehensive approach to the identification of how students prefer to function, learn, concentrate and perform during educational activities.

Relationship with Parents - refers to how involved people are in their family and how openly they express both positive and negative feelings. Ways in which a family encourages or inhibits personal growth. The extent to which set rules and procedures are used to run daily family life.

Multicultural diversity - cultural heritage from the home that is different from the mainstream culture. Success in school is a function of a student's ability to adapt in another culture and the similarity between the home and school environment. Differences in learning, verbal interactions, and test taking strategies affect success in school. Educators must minimize discrepancies between home and school environment as well as adapt instruction to fit the needs of all children.

Research Questions

Given what is reported above, several factors (race of the child, income of the parents, education of the parents, standardized achievement test scores, and teacher perceptions or expectations) seem to influence an individual's placement

in a gifted/talented program. The investigation to be described here was designed to focus on those specific factors that may affect minority placement in gifted/talented public school programs. It is expected that the findings of this study may be useful with respect to helping educators become more aware of cultural factors that result in few minority or low socioeconomic children being selected to participate in gifted/talented public school programs. The study was designed to address the following research questions:

1. Are there differences in self-esteem scores across Black and White gifted/talented adolescent groups?
2. Are there differences in achievement motivation scores across Black and White gifted/talented adolescent groups?
3. Are there differences in learning style preferences across Black and White gifted/talented adolescent groups?
4. Are there differences in parental relationship measures across Black and White gifted/talented adolescent groups?
5. Are there interaction effects among the measures of self-esteem, achievement motivation, learning style preferences, and parental relationships across Black and White gifted/talented adolescent groups?

Assumptions

The following assumptions were made:

1. The selected population samples are a representation of Black/White adolescents who are gifted and/or talented.
2. The instruments are assumed to be valid and reliable.
3. The statistical techniques employed are considered to be appropriate for the analyses.
4. Subjects will be honest and sincere respondents.

Limitations

The findings of this study will be limited by the following:

1. The study is restricted to a specific geographic location that is relatively small.
2. The status of the sample is restricted to Freshmen, Sophomores, Juniors, and Seniors in a suburban high school.
3. The findings are applicable only to the restricted sample.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter is divided into five parts. In what follows, several definitions of gifted/talented adolescents will be given. Special attention will be directed at those factors which reportedly relate to the identification of gifted minority children. Different theories of intelligence will be briefly discussed (eg., Sternberg, Gardner, and Vygotsky) within the context of the creativity, problem solving and critical thinking literature. After which a discussion of self-esteem (including early and late adolescence), age affects, sex differences, social class, self-concepts of gifted/talented adolescents, and special considerations with respect to counseling gifted/talented adolescents will be presented. The third section of this chapter is crafted to focus on the multidimensional concept of achievement motivation (eg., gifted adolescents and the motivation to win, motivation to experiment, intrinsic motivation, and recommendations to help all children be motivated to achieve). In the fourth section of the chapter, a discussion is presented with respect to what we know about learning styles among gifted students. Specific issues

addressed are the teacher's role, sex differences, learning styles of the gifted, hemispheric dominance as it affects learning style, and possible implications for instruction. In the final section of the chapter, a discussion of gifted of gifted adolescents' relationships with parents and how developmental changes affect them is presented. Focus is given to identity development and the role of the family, gifted adolescents' views of growing up, and the importance of moral development.

A Definition of the Gifted and Talented

Gifted and Talented students are those who, because of outstanding ability, are capable of high performance. Students who are capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas: general intellectual ability, specific academic areas, creative thinking, leadership ability, visual arts, performing arts, psychomotor ability, talent associated with the student's cultural heritage or psycho-social ability (Heidinger, Oberg, and Welling, 1988). Since the mid 1970's the conceptions of giftedness have embraced qualitative as well as quantitative dimensions (Tidwell, 1980).

In a report to the Congress of the United States the emphasis was on the multidimensionality of the gifted and talented child identified by professionally qualified persons as possessing outstanding abilities and capable of high

performance in one or several of the aforementioned areas (Marland, 1972). Tidwell (1980) wanted to present a broadened psycho-educational view of gifted adolescents. The results of her research indicated that gifted adolescents have positive feelings about themselves. Self-concept scores are higher than the general population as well as need for achievement in an academic setting. They view themselves as being in control of their own lives and possess positive attitudes toward school, their teachers, and learning.

According to a study conducted by Powers, Douglas, and Choroszy (1986) gifted students enrolled in a university summer program were highly motivated, had completed their junior year in high school, were predominantly Caucasians, and responsible for certain expenses. These factors affected those students chosen for the study. Males were more insightful, fast-learning, intellectually adaptable, competitive and headstrong. Females were more impulsive, enthusiastic, cheerful, talkative, less group-conforming, more spontaneous and genuine than their norm groups. Gifted males were identified as more rebellious and gifted females more self-sufficient than their peer groups. However, Milgram and Milgram (1976) found that older adolescents in gifted programs had less positive self-perceptions than their same age nongifted counterparts. Betts and Neihart (1988) have developed six profiles of gifted and talented youth. They stated that educators and parents must understand the development of the whole child. Their framework stresses

looking closely at the feelings, behavior, and needs of the gifted/talented individual. The six profiles help educators and parents gain a deeper awareness of the gifted/talented.

There are few studies that examine differences between gifted males and gifted females. Several studies compare gifted students to their nongifted peers or older individuals. There is evidence that gifted children may display personality functioning for certain variables that is more mature than expected for their age. A review of the empirical literature is inconsistent. Differences between the gifted and their nongifted peers indicated that gifted students score higher on many positive qualities than their nongifted peers. Many of the studies have small sample size, homogeneous gifted samples are compared with heterogeneous normative groups, suggesting the possibility of confounding by factors such as SES or increased attention by the researcher or teacher, as well as sex-linked patterns of differences. Some research suggests that gifted students resemble older groups of individuals, other research finds no consistent patterns to these differences. Research suggests that gifted achievers differ in personality from gifted underachievers. Achievers tend to be higher in responsibility and measures of self-control. Other personality dimensions tend to favor achievers (Olszewski-Kubilius, Kulieke & Krasney, 1988).

According to Dayton and Feldhusen (1989) there are three distinct categories of students enrolled in vocational

courses. These categories include academic talent, vocational talent, and both academic and vocational talent. The results indicate that high motivation/persistence and intellectual/academic abilities are common traits of both the academically and vocationally talented. Some gifted/talented adolescents will become dropouts. Some are not interested in college programs but want courses that will prepare them for real life. It is suggested by Dayton and Feldhusen that basic content, skills, and appropriate career attitudes and values, as well as higher order cognitive skills such as problem solving and decision making can provide vocational programs with appropriately challenging and satisfying experiences for all three types of talented students.

Gallagher (1988) outlines a proposed national agenda for the education of the gifted. One theme is program quality support network which would support a variety of activities and include research, development, dissemination, and leadership training. Another theme is collaborative efforts with other professionals. History indicates that a national agenda is necessary for training activities and resources to carry them out. A third theme which is a clear priority would be those subgroups of children that we would refer to as gifted in intellectual potential, but who are not currently receiving any special educational services for a variety of reasons. They include underachieving gifted, culturally different gifted, gifted handicapped, early childhood, and gifted girls and women. The next section of this paper will

discuss the identification of gifted minority children, especially African-Americans.

Identification of Gifted/Talented Minority Students

The influence of social class, race, and ethnic origin on the development of talent potential has been an issue for decades. Historically, children from non-Anglo-Saxon stock and of the poor were considered intellectually inferior and surely not a source of giftedness or talent (Passow, 1980). American society has three types of status groups: social classes, ethnic or immigrant and color castes. Children from low-income backgrounds, minority students, as well as ethnic or immigrant groups are underrepresented in the gifted/talented programs (Sato, 1974; Ogbu, 1987; VanTassel-Baska, Patton & Prillaman, 1989). The focus is to stress strategies for identifying African-American gifted/talented learners which must take into account the unique strengths, weaknesses, and cultural differences each student brings to the educational setting.

According to Banks (1988) evidence indicates that the socialization and intellectual environment of the homes of different racial groups vary even when they are members of the same social class. The Otis-Lennon Mental Ability Test results, Metropolitan Achievement Test scores and home environment ratings were administered to fifty Black and fifty White middle-class families of ninth-grade girls. The results of the study indicated that White middle-class

parents score significantly higher regarding intellectual pursuits than Black middle-class parents. The cultural difference in the home experience and parent-child interactions in Black and White families of the same social class are different (Trotman, 1977). This may explain the 10 to 15 point difference in intelligence test scores by members of the two groups. Many Black middle-class families have relatives who are working class or lower class. Black middle-class families may live in mixed class neighborhoods, participate in community organizations or institutions that have participants from all social-class groups, and often visit relatives who live in the inner city. However, most middle-class White families live in a middle-class community, have middle-class relatives and friends, and send their children to middle-class schools (Banks, 1988).

Both gifted and multicultural programmers aspire to maximize the development of the individual. For the minority gifted student meeting needs implies reducing the discrepancies which may exist between what the student is able to do and what the student is given the opportunity to do. The school must reduce discrepancies between curricular, instructional, and environmental conditions geared to the norm and those required for adequate functioning by culturally different students (Clasen, 1979). In order for these changes to occur, parental involvement in the educational program is required. The primary difference between Black achievers (gifted/talented) and non-achievers is the behavior

of the parents. Teachers as well as parents of achievers tend to be warm, accepting, supportive and at the same time, demanding of a better than average performance from their children (Shade, 1978).

Administrators must plan and require inservice training for their staff to alter expectations about the probability of gifted/talented students being found among the culturally different. The culturally different gifted/talented student may need help with affective matters such as family and peer attitudes toward the gifted child's "being different." The opportunity to teach other students can be very exciting and rewarding for gifted/talented students (Howard, 1977). A composite approach is suggested by Chambers and Barron (1978) in identifying the most able from culturally different backgrounds: high level convergent thinking abilities (upper 15 percent) using non-verbal measures, motivational, and personality profiles similar to adults who are achieving at high creative or intellectual levels and are contributing significantly to society.

The University of Vermont sponsors minority gifted/talented high school students from all over the country. The Research Apprentice Program gives these students the opportunity to study with an internationally recognized scientist during the summer. Students are high school juniors who plan to attend college in a health-related field; who have studied biology, chemistry, or related life or physical science, and algebra for at least one year. The program seeks students

with some research experience, high overall grades in science and math courses, and indications of leadership potential (Hedin, 1988). Mentors, summer programs, like the one at the University of Vermont, and businesses must be used in order for ethnic minorities to develop their full potential. The gifted/talented need opportunities to develop their talent in settings in which few minorities are represented or gifted/talented are not aware of the existence. The minority community must be involved so that their gifted/talented children will be successful, literate high school and college graduates, as well as productive members of society.

The future of this society is at risk if minority children are not given the same opportunities as the dominant group. Minority communities must become involved in the education of their children. McNamee (1990) works with a minority community, using her knowledge to establish abilities, motivation, activities, and problem-solving skills so that Headstart children engage in activities that will develop behaviors needed to succeed in a public school setting. The staff and parents have clear objectives which they reinforce by interacting with the children and each other. These objectives result in positive interactions between teachers, parents and children. Society profits when children enter school and benefit by using their intelligence to reach his/her potential.

Concepts of Intelligence

Factors other than intelligence are important when discussing intelligence between and within groups. Studies show that all ethnic and racial groups fall within the full range of intelligence. But the difference between groups may be due to housing, income, and schools that may be different for groups other than the majority race in a culture (Dreger & Miller, 1968; Klineberg, 1963; Berrenta-Clement, Schweinhart, Barnett, Epstein & Weikart, 1984; Barnett, 1985). One's success in real life is less dependent upon intelligence than other factors that influence one's success such as social class, opportunity, motivation, personality traits, years of schooling, and an individual's skills to match the requirements for the job. Factors that are related to crystallized and fluid intelligence affect every individual on a daily basis (Ceci, 1990).

Sternberg's triarchic theory of human intelligence is important for all children, especially the gifted/talented. Intelligent performance must be socioculturally relevant (Sternberg, 1985). Children must be exposed to reading and writing outside of the school setting in order to perform efficiently in school related tasks. Cultural factors affect what an individual values in his/her environment. Individuals who master their environment use strengths and compensate for weaknesses. Those individuals who are successful are able to modify the environment so as to maximize the goodness of fit between the environment and their adaptive skills.

Sternberg's theory stresses the need for continuity and continuous incremental rise in the ability to problem-solve. An individual must be able to pay attention, recognize what is expected of him/her, be able to organize information once it is presented, and remember the information when it is necessary. The instructor controls the amount of learning that is introduced in order to perform certain tasks. Sequenced subgoals are necessary in order for mastery to occur. A mastery model implies relatively close control by the teacher. This theory assumes that each individual is capable of developing the skills necessary to problem solve. It also assumes that individuals do not have preconceived impressions of subject matter. This implies that what children are exposed to will affect what they learn as well as what kinds of interest they will pursue. Sternberg (1985) remarks, "a family's high level of motivation is necessary for adequate intellectual performance. . . differences in motivation may account for large shares of differences in observed performance, regardless of the level of performance" (p. 341).

Vygotsky states, "Teaching represents the means through which development is advanced; that is the socially elaborated contents of human knowledge and the cognitive strategies (intelligence) necessary for their internalization are evoked in the learners according to their actual development levels" (p. 131). Schools should focus upon emerging functions and capabilities. McNamee's program

(1990) seems to be successful because the emphasis is upon connecting the child's language skills that he/she uses at home to the school environment. The children are allowed to take over increased responsibility and control for carrying out tasks as they become developmentally ready. This is done by reading to the children, writing down dictated stories, and allowing the children to dramatize them. These strategies help develop effective thinking skills. Vygotsky views intelligence as dependent upon the use of the zone of proximal development. Language is a tool used to help development occur. The more one uses language, the greater the development that occurs. Experts are the individuals who help children develop. The zone of proximal development is that area in which the child needs help to complete tasks that are a little too difficult to complete alone. Since intelligence is innate in all humans, the interaction of humans with their environment facilitates the process. Vygotsky proposes that adults start with the strategies the child uses and build on them. In this way the child is able to use his/her strengths and maximize problem solving strategies. Both expert and novice go through development together in order for the child to eventually internalize his/her problem-solving ability. As an individual matures, the expert, usually the teacher, uses instructional aids as assessment occurs in the learning environment. This is appropriate for all students. The student understands what is expected of him/her. If the teaching environment as well

as the materials used are familiar to the student and are meaningful; this will result in more accurate assessments of learning potential and more successful placement of students in appropriate learning environments.

Gardner (1983) has a theory of intelligence which is based upon individuals who have made their lives influence mankind. There are seven kinds of intelligence. Linguistic intelligence is seen in writers and poets such as Ernest Hemingway and Gwendolyn Brooks. Musical intelligence as demonstrated by Amadeus Mozart, Stevie Wonder, and the Suski method of teaching music. Teaching young children this method assumes that being placed in a particular environment will be productive when the child's developmental skills catch up with his/her practice skills. Visual spatial intelligence is recognized in the work of Frank Lloyd Wright and engineers. Logical-mathematical intelligence is evidenced by individuals such as Albert Einstein as well as theories of molecular structure. Kinesthetic intelligence is seen in athletes such as Michael Jordon, dancers such as Josephine Baker, Michael Jackson, and jugglers who can command their bodies to respond in a particular fashion. Interpersonal intelligence is demonstrated by presidents and world leaders such as Jimmy Carter and the assassinated Egyptian President Anwar Sadat. Intrapersonal intelligence as noted in individuals who are religious and know themselves and their mission in life, such as Mohandas Ghandi and Martin Luther King Jr. Gardner feels that schools stress linguistic

and logical-mathematical skills but should also emphasize other forms of intelligence in order to help all students reach their full potential.

Creativity and the Gifted Adolescent

Torrance (1979) reports that intelligence and creativity are interacting variables that are necessary components for creative problem-solving. The attempt was made to include a wider range of abilities than had previous been used in identifying gifted/talented students and program development. The argument is effectively made that the Torrance Test of Creative Thinking is a culture-free test, there are no overall racial or socioeconomic differences. The following conclusions, based on several follow-up studies, seem justified: Young adolescents identified as creative on the basis of creativity test during the high school years tend to become productive, creative adults. Creative high school students who expressed a desire to enter an unusual occupation tended to have entered the expressed occupation. Creative achievements in writing, science, medicine and leadership are more predictive of success than creativity tests predicting achievement in music, the visual arts, or business and industry. The creative individual may exhibit these characteristics: the ability to produce a large number of ideas, originality, elaboration of ideas, expression of feelings and emotions through both verbal and nonverbal means, humor and richness of imagery. "All of these

characteristics tend to exist to a rather high degree in creative children and adults. All of them are important in outstanding creative achievements. All of them may be observed in school activities in almost any subject if the activities call for or permit creative expression and creative problem-solving" (p. 358-359). Creative adolescents require mentors and sponsors who will expose them to the field of their expertise, thereby, giving the creative adolescent first hand knowledge and help to develop his/her creative talents.

Guilford (1975) reports consistent findings of low correlations between scores from creativity tests and IQ. He supports the notion that creative thinking skills can be increased by training. His Structure of the Intellect involves 150 distinct intellectual abilities. Each ability involves an operation, content, and product. Creativity involves the operation of cognition, memory, divergent production, convergent production, and evaluation. The brain encodes the items, puts information into long-term memory, retrieves the information from storage, and makes comparisons and evaluations. Content involves major kinds of information such as visual, auditory, letters, words, thoughts and behavior. Products are things taken as wholes, attributes in common, meaningful connection between two things, organized set of units in relations to one another, change of some sort, and a logical link between two things. The Creativity Tests for Children revised by Guilford can be used to place the creatively gifted into programs. He suggest periodic

testing using the Structure of Intellect to check progress in development in different areas. This knowledge can help teachers prepare lessons that will make students better problem solvers.

Taylor and Sternberg (1989) report, "partially as a response to lack of efficiency of teacher judgments, more formal rating scales and checklists have been developed to assist teachers in identifying creatively gifted students. Torrance Tests of Creative Thinking is given in two forms: verbal and figural. The tasks require the student to do things such as suggest improvements in toys, name unusual uses for common objects, and complete unfinished pictures. Each form is designed to measure four areas. These areas are fluency, flexibility, originality, and elaboration" (p. 221).

Sternberg (1985) conducted a study that was focused on the implicit notion of laypersons' ideas about creativity. Laypersons' conceptions of creativity overlap with those of intelligence whether speaking of abstract problems or toward verbal materials. Creative individuals have a certain freedom of spirit and do not seem bound to conventions of society, have aesthetic taste and imagination. Sternberg believes that laypersons' ideas of creativity are important because it helps us understand implicit theories (layperson's) and helps develop better explicit theories (psychologists or scientists). Explicit theories suggest that the nature of creativity changes over the life span and that the construct of creativity may change over the years.

McLeod & Cropley (1989) report factors associated with exceptional achievement in a group of engineers were related to a combination of mental abilities and creative abilities. These creative abilities include generating ideas, recognizing alternative possibilities, seeing unexpected combinations and originality. Gardner (1983) views creativity as the highest form of intellect. Achievement of a creative breakthrough is usually the pinnacle of long effort, and stressing the need for possession of many ideas before creativity can occur. Everybody can be trained to become more creative (McLeod & Cropley, 1989). Mastery of content must occur as well as certain personality characteristics, such as independence, perseverance, flexibility and sensitivity. If the knowledge, personality characteristics, and willingness to depart from the conventional are developed, a certain chain reaction may occur. Teachers who work with creative gifted/talented youth must help students gain knowledge, develop creative skills and increase an individual's ability to cope with social and scientific changes which will occur in the 21st century.

Recommendations

The following recommendations are offered to help all children become motivated to achieve and become productive members of society.

1. Teaching staff must collaborate to improve instructional problem-solving.

2. Faculty members should learn from their colleagues by observing one another in a collaborative setting.
3. Administrators and other educational staff members must discuss ways to challenge students to think in more complex ways.
4. Stress strategies for identifying children who are under represented in gifted/ talented programs.
5. The use of multi-dimensional techniques in identifying culturally diverse students.
6. Parental involvement in educational programs.
7. The use of tutors, mentors, business, and community involvement to help all children reach their potential.
8. The educational system should also emphasize other forms of intelligence in order to help all students reach their full potential.

Self-Esteem and Educational Achievement

Self-Esteem is a multidimensional construct. How an individual views himself/herself is influenced by many factors. Academic success or failure does affect one's self-esteem or self-concept in a school setting. General self-esteem refers to the evaluation an individual makes and

maintains about himself/herself. An attribute of approval or disapproval indicates to an individual how capable, significant, successful, and worthy they are. Self-esteem involves social acceptance, physical attractiveness, physical ability, etc. There is a lack of agreement among studies using demographic variables such as: sex, socioeconomic status, ethnicity, race, birth order, and age. It appears that different social and psychological dynamics are operating between and among the above categories (West, Fish, & Stevens, 1977).

Maruyama, Rubin, & Kingsbury (1981) conducted a study and examined the relationships among social class, ability, educational achievement and self-esteem. They examined the effect of social class and ability with achievement and self-esteem. Results indicated that social class and ability measures were related to achievement and self-esteem. General self-esteem (Coopersmith Self-Esteem Inventory, General Self, Social Self-Peers, Home-Parents Subscale, and School-Academic Subscale) and school academic self-esteem measures were more highly related to measures of achievement. Social class is important as it relates to ability. The results are in agreement with earlier research that states academic achievement is highly stable and that self-esteem does not cause achievement. The possibility also exists that under certain circumstances changes in self-esteem could influence achievement. It is purposed that future research examine antecedents of achievement.

Intelligence is a factor that affects self-esteem. Torrance claimed that a child's self-concept is an amalgamation of appraisals of significant others in the child's life. If a child is not considered an asset by his family and friends, then these negative appraisals will be reflected in the child's developing self-concept. Bracken's study supports other findings that self-concept and peer relations are less directly related to academic success. Academic self-concept is not necessarily generalized to other nonacademic areas (Bracken, 1980).

Early, Middle, and Late Adolescence

During the onset of puberty three major changes occur and interact with each other: biological maturation, social changes in an individual's perception of himself/herself in family and peer relations, and new ways of thinking and learning (Buescher, 1985). A study was conducted to assess the relationship between sex-role orientation and self-esteem in early adolescence. The findings agree with earlier studies that suggest that in the American culture, masculine traits and behaviors are highly valued and rewarded (Lerner, Sorell & Brackney, 1981). Masculinity is related to high levels of self-esteem for both males and females. The study assumes that major differences in sex-role orientation do not change from early to late adolescence. Future research with sex-role orientation should focus on multiple dimensions of psychological well being (Lamke, 1982). Academic

self-concept is an individual's perception of ability to perform academic certainty tasks. Harris (1971) conducted a study in which it was reported that early adolescent males tend to have negative attitudes associated with accuracy. But middle adolescent males tend to have a positive attitude with accuracy. But no significant differences for females and attitude with accuracy were found. However, by middle adolescence males are more certain, more positive, and accurate than females. Academic self-concept changes between early and middle adolescence for males but is stable for females.

Self-concept formation has long been considered the most significant milestone of adolescence. Individuals with high self-esteem function effectively in a variety of situations and consider themselves as fulfilled and happy. Focusing on the nature of the adolescent's self-esteem is a way of monitoring healthy self-concept formation. The late adolescent must resolve conflicts regarding independence, sexuality, morality, and vocational choice or career aspirations. In our society high school graduation is a symbol of adulthood; a time when most leave the family of origin, obtain full-time employment, and/or continue their education (Richman, Clark, & Brown, 1985). Few studies have been done regarding late adolescence. Richman, et al. were the first researchers to study race, gender, and social class as it affects self-esteem, in late adolescence. High SES females were lower on several measures of self-esteem. They

were lower on general self-esteem than were Black students and White males. The researchers of this study purpose that high SES White females perceive themselves as being under great pressure to excel in all their undertakings, such as academic, physical attractiveness, social interactions, extra-curricular activities, athletics, etc.

There is considerable controversy about self-concept as some theorists postulate that an adolescent's self-concept is stable from age 13 through 18 and those theorists who postulate that an adolescent's self-concept changes across the same age span. (Ellis, Gehman, & Katzenmeyer, 1980) However, if one accepts Piaget's theory that there is a change of intellectual development across adolescence, then there should also be a change in the organization of self-concept during adolescence. Results of the research of Ellis, et al. indicates that there is a combination of continuity and reorganization of self-concept boundaries across the adolescent years. Ellis et al. reports, The reorganization of self-concept may reflect a change in the self. For as the individual ages, the self becomes differentiated. The self-concept reorganizes as a reflection of the expansion, differentiation, and developing complexity of the self. McCarthy and Hoge (1982) conducted a longitudinal study of age effects in adolescent self-esteem. Results indicate a reorganization of self as the adolescent becomes older and self-esteem rises. High school students have more freedom in selecting courses and interests than a 7th or 8th

grade student. It is postulated that self-esteem is stable over time. O'Malley and Bachman (1983) state, "if factors such as intellectual ability, socioeconomic status and physical attractiveness contribute to self-esteem from age 15 through 18 and if these factors are stable, then self-esteem from age 15 through 18 will show some degree of stability simply because of the external causes." These researchers refute the reorganization of the self which results in a change in adolescent self-concept across the same age span.

Sex Differences

Recent research findings are inconclusive concerning self-esteem and sex differences. Many studies suggest that gifted children have better self-concepts than the normative groups (Coleman & Fults, 1982; Karnes & Wherry, 1981; Maddux, Scheiber & Bass, 1982; Kelly & Colangelo, 1984). While Richman et al. (1985) reports lower self-concepts in late adolescent females and Bracken (1980) found no significant differences between gifted adolescents and non-gifted adolescents. Recently researchers have used a multi-method approach, self-reports as well as parent and teacher ratings, to investigate sex differences in self-esteem. Results indicate that gifted males experience lower self-satisfaction in areas of physical strength and aggressiveness. Gifted adolescent females seem confronted by conflicts between their identity as gifted and their emerging identity as women. Gifted adolescent females who were analytic and independent

were given low ratings by their teacher. Both mothers and teachers rated gifted males more positively than control males on the aggressiveness scale. Gifted males lack of aggressiveness may affect how they perceive themselves as males compared to non-gifted males. It appears that sex-role expectations and their interaction with giftedness reflect the impact of peers and the importance of strength and aggressiveness as the male matures during adolescence (Loeb & Jay, 1987).

Due to the multidimensional factors affecting self-esteem in adolescence as well as individual differences in cognitive development and identity formation Hollinger (1985) investigated the stability of self-perceptions of instrumental traits (decisiveness and independence, etc.) and expressive traits (gentleness and kindness, etc.) and social self-esteem over a 14-month period among a group of gifted/talented adolescent females. Results of the study indicate that females who are decisive, independent, and expressive have better social self-esteem. There was a change in self-perceptions over the 14-month period, as adolescent females advanced from Sophomore to Junior year in high school.

The results of a research study conducted by Tomlinson-Keasey & Smith-Winberry (1983) indicated that gifted college females had high self-acceptance scores. Gifted college males, who had participated in all day programs in high school, had the highest self-acceptance scores. Males who

received some intervention had high scores, but males who received no intervention fell below the population mean. Females who had been involved in the most extensive gifted programs had higher career aspirations. The researchers attribute this to three factors: the female's expectations, expectations of significant adults, and peer expectations. Callahan (1989) reviews recent articles and books that focus on the gifted female. Women face many problems in planning and preparing for the work place. Women face more restricted ranges of career options, economically disadvantaged positions in the work world, and under-utilization of their potential and abilities, and need assistance in understanding the role of work in their lives. Richman et al. (1985) indicated that high SES females must adjust to internal conflicts of high expectations to excel and the negative image of the sex-role stereotypes. They may have lower self-esteem because of greater discrepancy in sex-role attitudes and expected behavior. Research conducted by Tidwell (1980) indicated that there are no sex differences in self-esteem among a sample of gifted high school adolescents.

Culturally Diverse Adolescents

Research results are inconsistent regarding race or ethnicity and self-esteem. Some studies report adolescents from low socio economic status families report low self-esteem (Bledsoe, 1981; Osborne & LeGette, 1982; and Brand, Ruiz, & Padilla, 1974). However, other studies report

SES is not an important factor for positive self-esteem among Black students (Zirkel & Moses, 1971; Trowbridge, Trowbridge & Trowbridge, 1972; Spencer, 1982). Osborne and LeGette (1982) report race differences in all academic self-concept scores. Differences in academic self-concept were due to differences in social class. Both Black and White adolescents in lower social classes had significantly lower general self-concepts than those from higher social classes. However, regardless of SES, Blacks perceived themselves less positively than Whites supporting earlier research that indicated that race and social class affect self-esteem. Changes in self-esteem did seem to occur, in a positive direction, for older adolescents. Eleventh grade students had greater confidence, made greater gains in personal identity and in establishing relationships with others than ninth and tenth grade students.

Carter (1988) conducted a study to determine if socioeconomic status could predict racial identity attitudes. Results indicate that socioeconomic status did not predict racial identity attitudes. Carter states, "racial identity attitudes and socioeconomic status appear to represent separate constructs. Thus, it seems that it may be important to consider the subjects' or clients' attitude toward themselves and their ascribed racial group. Researchers cannot assume automatically that if one is Black one identifies with Blacks or Black culture, or that if one is middle class or upper class one does not identify with Blacks or Black

culture." Carter believes that racial identity attitudes are due to internal representations an individual perceives rather than a reflection of an individual's actual external conditions imposed by social class.

Richman, et al. (1985) reports that Black late adolescents' self-esteem scores were significantly higher than White adolescents in general and area - specific measures. Richman, et al. suggest that Black adolescents have higher general self-esteem due to "street wiseness" and the ability to take on adult roles at an earlier age than White adolescents. Other possible explanations are offered: "The rise in self-concept could be due to the rise of black militancy during the 1970's and the effects of desegregation of southern children support the racial differences in general self-esteem "Richman et al. (1985).

Research by Eato & Lerner (1981) involved the social and physical environment of a school and how these factors affected achievement and self-esteem in early adolescents, enrolled in a segregated school. Results indicate that the early adolescents' self-esteem is accounted for by social and physical environments in the school. But academic self-esteem was highly related to the teacher perception score. Environmental perceptions are independent of academic self-esteem which is closely related to grade point average and teacher perception.

Tidwell (1980) was interested in racial, as well as, sex, and identification procedures in gifted programs (traditional or nontest criteria) for a sample of Sophomore students and how these factors affected self-esteem. Results indicated that significant differences do exist in the self-esteem of gifted students and are related to race. White and Black adolescents scored significantly higher than Asians. The researcher purposes three possible explanations: Black adolescents' high self-concept scores may be due to parents and teachers expectancy effects; the positive impact of the civil rights movement during the 1960's and 70's resulting in positive self-esteem during the adolescent's formative years; and the civil rights movement desired equal rights for all minorities, but Blacks were most involved in the movement. Asian family structure may explain why gifted Asians in this sample exhibited consistently low self-concept scores.

Teachers may express stereotyped expectations based upon labels assigned to children even when the objective behavioral evidence runs contrary to those expectations' (Henderson, 1980). Teachers may hold different academic expectations for students based on sex, age, ethnicity, race, physical attractiveness, or even size (height and weight). Henderson feels that culturally diverse students may not exhibit the behaviors such as attentiveness and persistence at tasks that teachers consider important. This may result in lower expectations from the teacher which influences the interaction between student and teacher and may result in

repeated failures. The student may exert less effort which may result in learned helplessness. McNamee (1990) suggests that the school build on abilities acquired by children in their home environments. Bilingual and multicultural programs will not be successful unless children experience personal, social, and academic competence within the total school setting. Henderson suggest more research is urgently needed so that culturally diverse students succeed in an academic setting.

A study conducted by Gray-Little & Applebaum (1979) involved adolescent 7th and 10th grade subjects who differed significantly in self-esteem as a function of race, parental education, socioeconomic status, achievement, IQ scores, and number of siblings. Results indicated White adolescents scored higher on self-esteem, as well as all other variables measured. Findings indicated that academic self-esteem is highly correlated with achievement and cognitive ability. When students were matched by cognitive ability or achievement there were no differences in academic self-esteem scores. The researchers reported that racial differences in academic self-esteem resulted in higher or no racial differences in academic self-esteem if the subjects are matched by ability or achievement in an integrated school setting. Higher self-concept scores for Black adolescents tend to exist in segregated or schools in which Blacks are the majority. Gray-Little & Applebaum suggest that future research should focus on methodological problems which may be

confounded by race and focus on variations in self-esteem of subjects who are equated on characteristics that are relevant.

Gifted Adolescents

Research findings consistently support the notion that academic self-concept among gifted/talented adolescents is highly related to achievement as measured by grade point average. Students who have had consistent success in an academic setting view themselves as capable and face new academic challenges with confidence (Colangelo & Pfleger, 1979; Chovan & Morrison, 1984).

However, social self-concepts are an important dimension of self-esteem that must be considered. There is little research on the relationship between social and academic self-esteem of the gifted. Ross & Parker (1980) conducted a study which focused on the academic/social self-esteem of early adolescents. The findings support the hypothesis that gifted/talented students have significantly higher expectations of success in academic rather than social encounters. Gifted/talented students tend to focus their attention on academic tasks at the expense of interpersonal skill development in grade school. Peers between the 5th through 8th grade age range place significant emphasis on sameness. Peers may be ambivalent or negative toward the gifted/talented which may explain less confidence in social self-esteem among these children. The researchers suggest ways in

which teachers can help raise social self-esteem for gifted/talented students. Teachers can support interaction among all children through discussion. Allow children to interact by tutoring, leading, following, working independently as well as in groups in the classroom setting (Ross & Parker, 1980).

Several studies indicate different results with grade school gifted children and general self-esteem. Israeli children of superior intelligence (140 IQ) reported greater adequacy in social self-esteem including self-appraisal, self-acceptance, and positive self-concept. The gifted children reported more positive self-concept than that of average children. Highly creative children were found to be better adjusted than equally intelligent, but less creative peers (Milgram & Milgram, 1976). Self-esteem of gifted intermediate grade (4th, 5th, & 6th) students may diminish when enrolled in gifted/talented resource programs but remains high when compared to average students. The diminished self-concept appeared to be temporary. Self-esteem increased significantly by the 7th grade. The gifted scored higher than their less intelligent classmates. Coleman & Fults (1982) suggest parents and teachers become sensitive to the emotional needs of the child since a new social comparison must be made once the student is identified as gifted. Kelly & Colangelo (1984) report gifted junior high school students have significantly higher academic and self-concepts compared to their same age normative peers.

The researchers suggest future studies involve cross sections of schools and grade levels (K-12).

According to Feldhusen & Hoover (1986) "self-esteem and self-concept should be viewed as a component of giftedness and/or talent." They review research that indicates gifted youth may possess self-concepts which relate to the ability of the gifted child to recognize their giftedness. The gifted/talented child's self-concepts are improved by participation in gifted programs.

Gifted/talented adolescents must resolve social and personal problems by using appropriate coping mechanisms in order for healthy integration of identity to occur (Leroux, 1988). Results of this study indicate that males do not accept their body image, social image, or inner emotions as well as females. Females have negative self-concepts with respect to impulse control and family relations. This sample expressed dissatisfaction with the school system regarding alternative learning opportunities and lack of creative achievement. General self-esteem in social relationships falls below the norm. Leroux suggest future research should include differences in self-perception as it relates to social relationships among gifted high school adolescents. Kerr, Colangelo, & Gaeth (1988) state that gifted/talented adolescents view their academic self-concept as positive, but the social implications are viewed negatively and is the issue of most concern to adolescents. They perceived peers, teachers, and parents as having negative attitudes toward

their giftedness but studies reveal that teachers and peers are neutral but parents and siblings are more positive than the gifted perceive.

Counseling Gifted Adolescents

Adolescence is a time of change which results in self-identity and adequate adjustment in adulthood. Purkey (1966) compared gifted high school students to average students. Results of the study indicated similar and positive self-esteem ratings. Results did not support Terman's findings that gifted individuals, as a group, tend to possess more accurate self-insight. However, an educator of gifted children believes that gifted children go through the same developmental stages as their age mates but in a different manner. Due to their giftedness they develop different types of self-images. There are six types (Roeper, 1981): 1) The perfectionist - often feel pressured and guilty, whenever failure occurs, which leads to feelings of inferiority. 2) The child/adult - may be under-achievers since they do not allow themselves to be learners and cannot allow themselves to be seen as a peer of other children. 3) The Winner of the Competition - similiar to the child/adult and parents are in awe of the child's giftedness. This child has a realistic concept of himself and may feel parental support. 4) The Exception - feels above the rules and regulations, is unrealistic concerning perceptions of themselves as well as being very self-centered. 5) The Self Critic - can never

live up to his/her expectations involving emotions, actions, thoughts and behaviors. These children do not believe in their giftedness but feel unrealistically responsible.

6) The Well Integrated Child - feels free to develop their abilities because they recognize all normal humans have negative and positive feelings.

The well integrated child is equipped to cope with his/her emotions and can enjoy their giftedness. This educator strongly suggest that the emotional development of the gifted become part of the educational process. Future research should involve the emotional adjustment of the gifted (Roeper, 1981). Some researchers emphasize the importance of educators to exhibit sensitivity to emotional adjustment of gifted adolescents. Unrealistic goals or success due to external factors may predispose some gifted adolescents to poor self-esteem, loneliness or depression. Students exhibiting these behaviors should be referred for counseling or psychotherapy. The gifted population served today is more heterogeneous than ever before in the history of the United States. It is imperative that intervention for emotional problems in this population occur as soon as symptoms are exhibited. The gifted adolescent may appear more mature than the normative group. Due to their higher sensitivity, internal conflicts may result in alienation expressed in underachievement, antisocial behavior, or indifference. Poor home situations as well as overwhelming alienation indicate the need for special attention and

careful diagnosis. The school must identify and reward these troubled adolescents (Purrkey, 1966; Roeper, 1981; Kaiser & Berndt, 1985; Altman, 1983; Seeley, 1985).

According to Buescher (1985) counseling gifted adolescents must involve social and emotional concerns so that the understanding adult can direct the most appropriate educational and career guidance efforts so that the adolescent can make the most of his/her potential. Middle grade students through high school may react negatively to the fact that "slowing down of cognitive acumen is characterized by a sense of taking more time and increased effort to master what seem to be 'smaller', though certainly more complex, concepts or skills" (Buescher, 1985). Pressures from society may result in adolescents attempting to reach identity formation prematurely. They run the risk of premature career decisions as well as missing the opportunity to examine other possible career choices. Buescher (1985) suggest that sensitivity of counselors and parents to the emotional and social needs of the gifted will help adolescents become adults who are capable of using their potential.

Research indicates as gifted youth advance from preadolescence to early adolescence stress, strengths, and burnout remain fairly uniform. These students experience low levels of self-esteem, high levels of state (situational) and trait (general) anxiety, and poor quality school experience. Stress and burnout among gifted adolescents is a complex interplay of many variables which are recently becoming

understood. Future research must include valid and reliable instruments and conceptual models established from psychometric work (Fimian & Cross, 1986).

Buescher's (1987) curriculum model suggest that programs for the gifted from middle school through high school should include a counseling component. This component can be implemented in several ways: 1) a period within a course in personal growth and development; 2) use of the curriculum to focus on special topics of interest to gifted students; 3) use of qualified staff to direct learning activities such as independent reading or meet as a group to discuss specific issues; and 4) involve the gifted by allowing them to become part of the planning activity. Educators must focus on assisting all individuals to become self-actualized adults. Self-actualization is an active, growth-oriented process. Age appropriate growth occurs when individuals interact with their environment which results in an optimal fit (Berndt, Kaiser & Van Aalst, 1982).

Recommendations

Given what is reported above, the following recommendations are offered:

1. Teachers must understand the affective needs of gifted adolescents.
2. Gifted adolescents may need individual conferences, group meetings, and experiences that promote understanding of self and others.

3. Other school staff can assist teachers in creating an atmosphere where the gifted may develop self-direction and independence.
4. Educators must be sensitive to all children and their emotional needs and treat each child as an individual.
5. School environments that value and accept all students in combination with parents' support will result in fostering strong positive self-concepts.
6. The curriculum has the greatest potential as a delivery system for meeting the guidance needs of the gifted.

(Ketcham & Snyder, 1977; Sanborn, 1979; Buescher, 1987)

Multidimensional Concept of Achievement Motivation

Research indicates that inner states of the organism guide behavior. Psychological research is interested in identifiable behaviors, such as persistence, change in direction and variation in performance, rather than inner states. Maehr (1974) reports that achievement motivation refers to a standard of achievement which results in success or failure, indicates that an individual is responsible for the outcome and indicates some level of challenge. Achievement motivation is a universal construct but has a different orientation in different cultures. Crandall, Katkovsky, and

Crandall (1965) conducted a study involving students in grades 3-12. Results indicated that locus of control was highly related to SES. They purposed that internal or external orientation represents a motivating tendency which accounts for individual differences in achievement performances. An internal locus of control was noted for eldest children and children of small families. Children who feel responsible for successes and failures are more likely to exhibit behaviors in academic areas such as persistence and striving. Locus of control and field dependence or field independence are variables Gainer and Cole (1986) have investigated. Field independent individuals are considered more analytical and are able to extract data from a field by restructuring the field. Field dependent people view a field of information as a whole and directly apply the information gained. Field dependent people are considered more sensitive to social cues and have better interpersonal relationships. Results from the study indicate that when looking at both factors, locus of control and field independence are important variables when considering academic achievement of low SES adolescents. Internal field independent adolescents' reading scores ranged from 1.7 to 2.1 levels and math scores .7 to 2.5 grade levels above the other groups.

Students who are successful in an academic setting attribute failure to lack of effort while students who attribute failure to lack of ability are labeled failure-avoiding or helpless. Success for individuals who feel good

about themselves take some personal credit for success and attribute failure to circumstances beyond their control. Failure orientated individuals blame themselves for failure and attribute success to luck. Weiner, Russell, and Lerman (1979) conducted a study involving cognition and emotions. Results indicated that frustration and upset were linked with failure outcomes. Success was attributed to pride, competence, etc. and failure to guilt or resignation (internal attributions). Success was attributed to gratitude, thankfulness, etc. and failure to anger or surprise (external attribution).

Schunk (1984) addresses ideas of self-efficacy (personal judgments of one's ability in specific situations) as an important variable in academic achievement, as it affects motivation and persistence. The school environment influences self-efficacy judgments. Students should develop self-efficacy as they gain skills and experience success in the classroom. Other school environments indicate that the students are less capable and skill mastery does not develop self-efficacy skills. Different school environments affect positive development or self-efficacy skills. Earlier research conducted by Schunk (1983) indicates that performance contingent reward (task accomplishment) for low-achieving children leads to the highest level of problem solving, skill development, and self-efficacy when compared to contingent reward (program participation). Lindgen, Moritsch, Thulin, and Mick (1986) indicate that high school

students rated high on need for achievement and low of need for affiliation tend to receive higher grades, spend less time in social activities, and more time studying than students who score high on achievement and affiliation motivation.

Corno and Mandinach (1983) discuss self-regulated learning which is critical to motivation maintenance in the classroom.

Self-regulated learning consist of specific cognitive activities, such as deliberate planning and monitoring, which learners carry out as they encounter academic tasks. Learning is less self-regulated when some of the processes are overtaken by classroom teachers, other students, or features of written instruction (Corno & Mandivach, 1983).

Low achievers benefit if they use verbalized cognitive strategies. Both motivation and performance outcomes are improved if these students engage in task-focused learning. High achieving or high ability students, use effective learning strategies, should be challenged by inquiry teaching, involving alternative sequences of activities that challenge and exercise their cognitive capabilities. Elementary school teachers should provide activities that demonstrate, guide, and exercise student cognition. Teachers must demonstrate the steps one takes in determining

information relevant to completing a task. Students must be able to sort and chunk information in meaningful categories. Instruction should help students learn how to use knowledge they possess and anchor new information in memory. Instruction should include practice in generating appropriate analogies, models and advanced organizers which should help students be motivated and actively involved in self-regulated learning.

In a recent study conducted by Blankenship (1987) individual differences in resultant achievement motivation were investigated based upon atypical shifts (movement to a more difficult task following failure) and movement to an easier task following success) and responses to incentives. Results indicated that low-resultant achievement motivated subjects took three times as long to attempt achievement tasks compared to high-resultant achievement individuals.

According to Blankenship,

anxiety-motivated forgetting could account for an inability to remember the previously chosen level, and anxiety-motivated perceptual distortion might account for the failure to process outcomes accurately (1987).

Blankenship suggests future research address the ability of high-Ram and low-Ram subjects to remember past outcomes.

Students are involved in success and failure perceptions in the academic setting. Wigle and Rea (1989) investigated the reliability and validity of the Assessment of Motivational Outcomes using two sections of a psychology course from a small midwestern college. Results indicate validity and reliability across groups but not time. Future research needs to develop instruments to access students' perceptions of motivation outcomes in an academic setting.

Intrinsic Motivation and Gifted Students

Educational programs for gifted students that stimulate divergent thinking, positive attitudes and problem-solving skills are necessary but not sufficient factors for creative learning to occur. Trefflinger (1975) expressed the need for educators to help students become self-directed learners. Schools must make learning more enjoyable, more related to the real world, and more flexible. He states, "...create new curriculum packages to insert in the school day" (Trefflinger, 1975, p. 50). Self-directed learning must be accompanied by consistent, supportive changes in other academic areas. As students become more self-directed learners change must occur in goals, objectives, and instructional activities, as well as the evaluation process. Viernstein and Hogan (1975) conducted a study indicating that parents, as well as gifted/talented adolescents are factors involved in intrinsic motivation. Adolescents who come from a stable home environment and have parents with similar

values who are good role models tend to have high achievement motivation. The researchers also state that unambitious, indifferent parents may experience difficulty in producing upwardly mobile children. The whole child needs to be considered when evaluating an individual for placement in a gifted program. Educators must consider unique patterns of skills and motivations. An individual's ability to solve highly complex abstract problems in a unique way and the use of motivational strategies are seldom considered in placement in the gifted program (Freehill & McDonald, 1981).

McCombs (1984) indicates through her research that metacognitive, cognitive and affective skills and processes are interrelated in providing an effective motivational skills training program. Data obtained from her research indicates this type of training contributes to higher course performance and high self-efficacy perceptions. It is suggested that some students receive similar training before entering a technical course. The seven skill modules are:

1. The Introduction Module - informs the students that they are responsible for their learning and discusses concepts in developing self-efficacy skills.
2. Self-Knowledge Module - helps students explore and resolve conflicts in his/her value systems.
3. Career Development Module - helps students use self-knowledge skills and explore and plan for career interest.

4. Goal Setting Module - describes the purpose of goals as directing and motivating human behavior. Uses exercises to help students set short and long-term goals.
5. Stress Management Module - presents strategies for managing stress.
6. Effective Communication Module - describes personal communication styles and how an individual style can impede goal attainment.
7. Problem Solving Module - provides a summary of the training and how the student has learned how to systematically work through and solve problems.

Lloyd and Barenblatt (1984) indicate that educational policy must emphasize the intrinsic value of education rather than the extrinsic value, such as the ability to enjoy materialistic rewards, higher life-time earnings or higher social class mobility. Results indicated that need for achievement and intrinsic motivation are strong predictors of academic success. However, this study using the Intrinsic Intellectual Motivation Scale, implies that social class is unrelated to intrinsic intellectual motivation and may predict academic success above the effects of IQ. The researchers suggest the IIM as a tool in identifying gifted/talented children for special programs and identifying other variables that produce an effect upon IIM (Lloyd & Barenblatt, 1984). According to Rogers (1985) intrinsic

motivation is less evident when extrinsic rewards are offered to students. She suggests that teachers give positive feedback that is informative to the student. It is a tool for self-improvement which will be necessary throughout the child's school career. Future research should investigate the effects of extrinsic rewards on intrinsic motivation. Gottfried (1985) reports that students who reported higher intrinsic motivation had significantly higher academic achievement. This research indicates the need for both specific and general intrinsic motivation to be conducted in future research. Subject areas appear to be involved in increases and decreases in academic intrinsic motivation across the grades (4th & 7th). Reading motivation decreased whereas social studies motivation increased with advancing grade (Gottfried, 1985).

Gifted adolescents are generally intrinsically motivated across all academic areas. However, they prefer independent mastery, as well as greater reliance on independent judgment. Results of the study indicate gifted early adolescents who perceived themselves as academically competent are also more intrinsically motivated to seek challenging work (Li, 1988). Winners of the Westinghouse Science Talent Search who choose life science projects as compared to physical science projects indicated that bettering the human condition was a primary motivator. Results indicated that all subjects of this study were not uniformly exposed to science education. Females had limited knowledge concerning science or aspiring

to become scientist. This is an initial study involving the winners of the science talent search. This will become a longitudinal study. Subsequent studies will examine career success and public participation of these gifted adolescents at various points in their lives (Subotnik, 1988). Motivation is a combination of internal and external factors related to individual differences. Recent research indicates that adolescent females exhibiting extreme academic talent are more social and gregarious than equally talented males. Bourstein, Holahan, and Sawyer (1988) suggest that females involved in a summer residential program demonstrate a better balance between social and achievement interests than males. They suggest future research explore sex differences and how these differences affect life achievement and satisfaction in adult life.

Clinkenbeard (1989) conducted a study involving gifted adolescents who had completed seventh or eighth grade. These adolescents were involved in residential summer camp. Results support other studies involving intrinsic motivation. Competition may serve a purpose in helping meet academic achievement goals, but may result in long-term goals of individuals interested in competitive situations, rather than individuals interested in intrinsic desire to learn.

Recommendations

Given what is reported above, the following recommendations are offered concerning intrinsic motivation:

1. Gifted programs must include vocational/ educational choice and awareness programs specifically designed for young women and/or social awareness workshops for academic achievers who lack social acumen.
2. Educators become actively involved in fostering intrinsic motivation for the gifted and seeking challenging activities for this population.
3. Teachers provide more opportunity for independent study and allow choices when plausible.
4. Parents and educators must encourage the development of the potential of gifted females (c.f. Broustein et al., 1988, Li, 1988: Subotnik, 1988).

Learning Style/Cognitive Style

Researchers' interest in individual reception styles, which describe how one perceives stimuli best through the visual, auditory, or kinesthetic modality, are considered one aspect of cognitive style. Field dependence or independence is another aspect. Field independence involves perceptions that indicate perception of objects discrete from their

background as opposed to a gestalt view or overall impression. Cognitive style lacks adequate conceptual and empirical consistency. Guilford (1980) suggests that various interpretations of cognitive style be brought under a single broad concept. The Structure of Intellect Learning Abilities Test measures performance on semantic areas, symbolic information, and figural tasks. "Past research narrowly defines learning and does not consider diversity and the schools adopted restrictive priorities" (Hilgersom-Volk, 1987). William James, psychologist and educator, in 1890, conceptualized thinking into three components: cognitive, conceptual, and affective. Modality research began, making educators aware of the four modality types: audio, visual, kinesthetic and tactile. Cognitive learning style was strongly advanced through Jung, Myers and Briggs, and Witkin (Guilford, 1980, Hilgersom-Volk, 1987; Rubenzer, 1982; Tiedemann, 1989).

During the mid-seventies learning style became the name of choice when describing the way each individual absorbs and retains information or skills. Testing of student learning styles revealed distinct learning preferences. Perceptual strengths and structure are very important factors in making appropriate changes for unsuccessful students. New material needs to be presented in the strongest modality (auditory, visual, tactual, or kinesthetic) and reinforced through the second strongest. Teaching must involve a multisensory approach in the classroom so that all students become part of

our society and productive adults. The Learning Style Inventory assesses an individual's preference for learning and involves three elements: environmental (sound, light, temperature, and design); emotional (motivation, persistence, responsibility, and structure); sociological (peers, self, pair, team, adult, or varied); physical (perceptual, intake, time, mobility); and psychological (analytic or global, cerebral dominance, and impulsive or reflective). Learning style research provides teachers with specific techniques to use with all students in an academic setting. Instruction utilizes each student's strengths. Using the suggested techniques results in students who feel better about themselves in an academic setting (Carbo & Hodges, 1988; Dunn, 1983; Dunn, 1984; Hodges, 1988).

Gifted Students and the Role of the Teacher

Little research has been done on the teaching styles of teachers of the gifted/talented. Effective learning occurs for all students when teachers use different materials and techniques, allow higher ability students to work with less able students, build on past learning experiences, relate academic learning to real life, use advanced organizers and know personal characteristics of students (Gage & Berliner, 1988). Characteristic teaching styles of teachers of gifted students indicate intellectual and novel attributes. These attributes are similar to gifted students. Both favor independent learning, flexible learning environment, research

techniques and planning developed around concepts. Research of Howell and Bressler (1988) indicates that teachers of gifted students are thinking and feeling. Future research on teaching style preferences should use classroom observation of teaching styles to see if there is a correlation between self-reports and observation reports; investigate gender factors in teaching style, and the importance of endorsement in education of gifted students or numbers of years teaching as factors relating to teaching style (Howell & Bressler, 1988).

Logo is a computer program that seems well suited for gifted/talented students. Logo stresses independence, fluency, tolerance of ambiguity, learning alone, use of tactile and kinesthetic modalities. Logo gives the student the opportunity to become completely immersed in the computer. Students are able to investigate and learn at the beginning levels to make patterns then progress to original design graphics. Flickinger (1987) reports that elementary gifted students interacted more with each other while working with computers than on other academic tasks. Teaching implications suggest that students be allowed time and access to the computer in order to explore. Students need the interaction of peers to develop Logo language skills as success leads to future development of skills. Flickinger suggests teachers help develop Logo language skills through appropriate activities, such as writing stories on the computer.

Professor Robert Eisner is widely regarded for his research in art education, curriculum development, and educational evaluation. During a recent interview, he states that the curriculum is a device to change minds and that education is a way to develop multiple forms of literacy among all students, especially the gifted. This includes the ability to listen to and comprehend the works of Bach, Dante, or Matisse. If not the gifted/talented will not be able to form crucial concepts related to knowing and not have access to some of the world's most profound thinkers. Humans use music, dance, and poetry, and stories to communicate experiences as well as aesthetic modes of understanding. He suggests that intelligence should include one's knowledge and understanding of a wider range of knowing including aesthetic modes (Buescher, 1986).

Research conducted by Peterson, Swing, Braverman, and Buss (1982) utilized an aptitude-treatment interaction approach which compares a student's baseline knowledge to increased academic achievement. Students exhibited improved attitudes toward learning, better self-esteem, and improved learning strategies in mathematics. Dunn (1984) indicates that few educators understand that learning style characteristics contribute to an individual's ability to absorb and retain new or difficult information or skills. She reports that few reading experts have reassessed teaching through modality strength. No money is needed for teachers to redesign the academic setting so that all students are

responsive in an atmosphere designed to enhance learning. Griggs (1984) suggest that counselors use learning style when working with the gifted population but remember that each student is an individual. Counseling interventions must be compatible with an individual's preferences so that counseling is effective.

Sex Differences

The literature is inconsistent regarding differences in gifted males and females. Some research indicates greater verbal ability in females and greater mathematical, spatial reasoning and scientific ability in males. According to Callahan (1986) it is doubtful if differences exist in ability, but there are significant differences in adult achievement. There are an extremely low number of females who receive the Noble Prize or Pulitzer Prize in proportion to males. Callahan reports that female performance is highly related to expectation levels of others in the environment. Females are motivated to conform and may fear rejection, if they demonstrate exceptional characteristics. She reports that research in social learning theory attributes observed sex differences to the development of sex role concepts. Parents as well as other adults treat boys and girls differently from birth. Males are encouraged to explore and interact with their environment while females are encouraged to stay in close proximity to adults. Males are given signals that encourage greater self-confidence and competence

while females are given the reverse message. Toys for females are unidimensional, unlike males whose toys are multidimensional which encourages manipulation, exploration, or the examination of mechanical parts. Callahan suggests that consistent attempts be made to provide girls and boys the same opportunities to develop a sense of competence, exploration, rewards for achievement and encouragement to try new tasks. "We are in a position to do something about environmental factors as parents, teachers, and other professionals ... to change the effects of home, school, and community on gifted females" (Callahan, 1986). Other researchers indicate that there are sex differences on some types of spatial ability but not others. Largest differences are found only on measures of mental rotation, smaller differences are found on measures of spatial perception, and these sex differences can be detected over the life span. Research of Linn and Petersen (1985) conducted a meta-analysis of sex differences in spatial ability and have formulated these hypotheses: 1) Sex differences may be due to efficient problem solution which depends on effective use of analytic procedures. 2) Females tend to select and use less accurate strategies. 3) Sex differences in spatial ability do not generally account for sex differences in mathematics and science.

Future research projects should be designed to explore the possible influence of spatial ability on other behaviors. These researchers suggest the possibility of an assortment of

spatial skills rather than a single ability (Linn & Petersen, 1985). Between 1947 through 1983, Feingold (1988) examined gender differences in cognitive abilities between males and females who had taken the Differential Aptitude Tests conducted between 1947 and 1980 and the Preliminary Scholastic Aptitude Test/Scholastic Aptitude Test conducted between 1960 and 1983. Results indicate that gender differences declined rapidly over the years surveyed and differences over the high school grades have diminished. Feingold suggest future research in adult gender differences and if developmental patterns interact with gender. Gallagher (1989) indicates that males score significantly higher on the mathematics portion of the SAT which supports earlier research. However, when time restrictions are removed for the Cubes test, females perform at a level more smiliar to males. Gallagher suggest that the reason why females do not perform as well as males on the visual spatial test was speed of response rather than ability. Results of the study indicate both genders have the same potential for success on the SAT-M. The students are all gifted/talented but females lack the process skills necessary to solve math problems or choose less efficient problemsolving strategies. The researcher states "Future research should study math ability when visual-spatial skill is held constant, conducting path analyses could help create a logical sequence from cognitive abilities to learned skills, and the inclusion of variables, including the affective domain, could help

identify variables that could add to the prediction equation for SAT-M scores of females" (Gallagher, 1989).

Learning Styles of the Gifted

Research conducted by Torrance and Reynoldsd (1978) indicated that future occupations will require interdisciplinary skills. Gifted adolescents involved in a summer program created future communities and had to resolve government, family, economic, religious, and educational problems. Torrance has advocated programs in which children teach teachers and other adults. This program advocates children teaching other children about their culture which allows all individuals the opportunity to learn. Dunn and Price (1980) conducted a study which involved the learning style of gifted students. This study supported earlier findings that gifted students prefer formal design, less structure, and are persistent. However, this sample considered themselves less responsible and preferred tactile and kinesthetic learning experiences rather than auditory. Griggs and Price (1982) research indicates that students classified as gifted compared to their non-gifted junior high school peers were less teacher-motivated, more persistent, preferred quiet and learning alone. The importance of educators to respond to how gifted adolescents learn new or difficult material, considering individual differences when prescribing interventions or strategies are critical variables that are interrelated in helping gifted adolescents

use their potential (Griggs & Dunn, 1984). Other investigators indicate that gifted students spontaneously use more effective learning strategies than their non-gifted peers. The use of external spatial organizers as well as transformational mnemonics appear to significantly increase new learning in the gifted population. Teachers who teach these strategies help students progress during initial learning which will probably be generalized to other curriculum areas (Scruggs & Mastropieri, 1985; Scruggs, Mastropieri, Monson, & Jorgensen, 1985).

Research conducted in Japan indicates that mnemonic techniques have been successful in teaching students mathematics involving different levels including algebra, trigonometry, and calculus to students as young as preschool level. Future research should address the effectiveness of Yodai mnemonics with gifted students as well as establish a research base for other areas of exceptionality, such as mental retardation and learning disabilities (Scruggs, 1986).

The research findings supported the notion that the gifted learn and think like their non-gifted age mates. Rogers (1986) reviews the research on gifted students and reports that giftedness is based upon differences in the degree of learning and thinking. She states

quantitative differences taken at extremes become qualitative as well. Gifted persons are likely to experience different patterns of success in school and life in general. This leads to discernible differences of many kinds among the gifted over a period of time (Rogers, 1986).

Research conducted in 1971 indicated that Illinois programs for the gifted were superior in several dimensions compared to average students in suburban schools of high socioeconomic status. Gifted classes were found to be broader in scope, emphasize higher thought processes, have more discussion as opposed to lectures and more eager learners (Steele, House, Lapan, & Kerins, 1971).

Hemispheric Brain Functioning

Hemisphericity, as defined by Torrance and Reynolds (1978), is the tendency for an individual to rely on one or the other cerebral hemispheres for information processing. The left cerebral hemisphere is primarily verbal, analytical, sequential, necessary for mathematical reasoning, and writing. The right cerebral hemisphere specializes in creative thinking, divergent thinking, holistic, visuo-spatial, musical, artistic, and processing relationship concepts. Both hemispheres are able to function in an integrated manner. The researchers were involved in a study, with gifted adolescents, to determine if modifications in preferred modes of thinking and learning (hemisphericity) could occur in a short, but intense period of time. The greatest increase was in the integrated category. Future research could involve training individuals to modify information processing to best fit their lives.

Perrone and Pulvino (1977) reviewed the work of several researchers and suggest that children who come from cultures

other than the majority may have development of one hemisphere over the other. The educational system must help develop both hemispheres of the brain. The child's strengths should be used to diminish weaknesses and help all students become successful in the educational setting. Gifted/talented students can also develop by using their ability creatively. Other research indicates left-handed adults and children five years of age or younger process language equally between the right and left hemispheres. The right hemisphere processes interpretation and retention of complex visual and auditory patterns. The right hemisphere is more involved with affective responses which are needed for aesthetic evaluations or perceptions. Right hemispheric functioning needs to be encouraged by the educational system so that the chances of creative genius may be exposed (Rubenzer, 1979). Research involving gifted high school adolescents indicate a high percentage of right hemispheric dominant subjects. However, Aliotti (1981) suggest that intellectual giftedness may be associated with ambidexterity or left-handedness. He suggest that individuals who operate efficiently with both hemispheres are likely to be successful in intellectual tasks. The Binet Scale is described as a general verbal test, but several subtests represent nonverbal and right hemispheric activities. Struve (1982) compiled a science unit for grades 5-9 with lessons for gifted/talented students. She states, most effectively,

The senses are of vital importance to the brain but must be viewed as only stimuli collectors. It is the brain that perceives the world. The ear can hear the sounds of a piano, but only the brain can recognize Beethoven's Fifth Symphony and appreciate the artistry of this genius. The eye can see the colors of a sunset, but the mind is in awe of the beauty (Struve, 1982).

Several studies were conducted and noted that gifted adolescents that were visualizers were under-represented among high mathematical achievers at the high school level. Visual-spatial learners of high ability perceive in a holistic fashion. These children may not be suited to school tasks. Elementary school had a sequential curriculum, textbooks, and most teachers who are also sequential. Hemispheric learning style as it relates to creativity is a right hemispheric function. Research findings indicate that right hemispheric learning style of gifted adolescents perform creativity tasks significantly better than gifted adolescents who exhibit integrated hemispheric learning style. Research indicates that the majority of gifted males are right brain dominant and the majority of gifted females are left brain dominant. Educators could help by using teaching strategies that would best meet the learning styles of all students (Masten, Khatena, & Draper, 1988; Presmeg, 1986; Roubinek, Bell, & Cates, 1987; Silverman, 1989).

Implications for Instruction

Given what is reported above, it is recommended that implementation of the following suggestions into the curriculum for gifted/talented students has considerable potential for benefiting students and society:

1. Secondary students will demonstrate talent in science if they have the opportunity to take a variety of science courses with knowledgeable teachers. Students should be encouraged to design and conduct experiments in these courses.

2. The need for real-life experiences signals the need for computers, learning circles, designing and building projects, school trips that involve interviewing experts, writing and filming original scripts.

3. Adolescent females may learn better through reading about concepts. Males prefer manipulative activities that demonstrate the concepts. Right and left brain learning styles should be developed by both sexes.

4. Key administrators from the state superintendent to building principals must encourage and endorse learning styles as well as the uniqueness of each individual student.

5. Intellectual skills increase using various forms of representation. Educators must stimulate the broad capacities of children's minds. Aesthetic ways of knowing are vital for increasing all intellectual abilities prior to adulthood (Buescher, 1986; Price, Dunn, Dunn, & Griggs, 1981; Hilgerson-Volk, 1987; Struve, 1982; Subotnik, 1988).

Parental and Peer Relationships

There is little research that has investigated changes in conformity to peers and parents across a wide age range. This partly due to problems in measuring conformity. Results from research conducted by Berndt (1979) indicate different age trends for parent nonconformity and peer conformity. He suggest an isolation of parents from peers that is consistent with adolescence development. The adolescent views family and peers as two separate worlds. Adolescents report the greatest number of disagreements with parents involve the amount of time spent with family versus peers. By the end of high school changes occur between parent-peer relationships and late adolescence. Peer conformity decreases and the changes suggest an improvement in adolescents' relationship with parents as the young adult behaves in more acceptable ways. Results suggest an acceptance of conventional standards for behavior was increasing (Berndt, 1979).

Although wide individual differences may occur in the timing of identity development, it is generally accepted that adolescence is a time of growing free of earlier dependencies, a process of self-discovery, self-growth, and commitment to goals and values. Antecedent conditions relating to identity development must also be addressed, since this process cannot normally occur without interaction with significant others (Wright & Keple, 1981). Individuals with permissive, neglecting, or rejecting parents may be

expected most frequently to be identity diffuse, during adolescence, and have difficulty in successfully resolving identity crises. Individuals from authoritarian families may become foreclosed on parental choices or rebel, through an identity crisis, during adolescence, when parental approval cannot be gained. Individuals who have greater identification with parents prior to or during adolescence, the greater the likelihood will be of forming and maintaining personally meaningful commitments. The parents' identity statuses may influence the process of identity development through the model value they have for the adolescent. Relationships with parents greatly enhance ego identity, if a warm, positive relationship exists between both parents and the adolescent (Erikson, 1968; Josselson, 1973; Waterman, 1982).

Developmental Changes

Adolescents are influenced by parents and peers but the choice made depend upon the situation. Research conducted by Emmerich (1978) indicates that males tend to change responses to parent and peer pressures from the ninth to the twelfth grades, while female responses tend to remain stable over the same period. Since females mature faster than males, in physiological and social development, similar research should be conducted with females at a younger age. Future research should investigate adolescents' responses that do not conform to either parent or peer expectations, sex differences in reliance on parents and peers, as well as changes that occur with age (Emmerich, 1978).

Middle adolescence (15-18 years of age) and late adolescence (college age) progresses into relationships based on closeness, empathy, and interdependence of same-sex or opposite-sex relationships of different age groups. Research conducted by Fischer (1981) indicates greater frequency of intimate relationships, of late adolescent females than their male peers. Females made the transition to an intimate style earlier than males. This suggests that females become more integrated in relationship style regardless of same-sex or opposite-sex interaction. Future research should examine adolescent socialization into heterosexual roles and investigate how adolescents develop an integrated style (Fisher, 1981).

The Inventory of Adolescent Attachments was used as a measure of affective attachment of early and middle adolescence age range (junior through senior high school) youth. Results indicate an adolescent's relationship to both parents and peers is related to perceived self-esteem and life satisfaction. The quality of adolescents' affective attachment is highly related to their well-being and attachment to their parents rather than peers. Younger as well as older adolescents utilized their parents more. The results of this study do not indicate a shift in the relationship between parents and middle adolescent-aged youth to their peers while other research indicates a shift (Berndt, 1979; Emmerich, 1978). The research conducted by Greenberg et al. found the effects of high life stress are moderated by a positively perceived attachment to one's parents.

Gifted Adolescents' Relationships

Families with a gifted adolescent perceive themselves as more independent, permissive, intellectual, unstructured and harmonious in their interactions. Families of high achievers perceive their family environment as cohesive, structured and conflict free. Adolescent high achievers are more likely than low achievers to be congruent with their parents in perceptions of family environment. Gifted adolescents as a group may be described in terms of a particular set of favorable characteristics. The transformation during adolescence may be universal and individual differences as well as personal and situational factors must be considered. Interactions in the social setting of the family, peer group and school all affect the adolescent's perception of himself/herself. Psychological adjustment and support from peers is significantly stronger for males than females in a residential high school for the gifted in science and math. Females appeared to seek support from other sources if family or peer support was decreased. Females would seek support from their guidance counselor, whereas males may develop adjustment problems. The overall picture related to describing suburban adolescence supports the notion that gifted adolescents lead full and active lives. Most students rated family relationships very highly. The home environment was rated as stable and relationships with friends was also rated favorably (Beach, 1988; Dunn, Putallaz, Sheppard, & Lindstrom, 1987; Monks & Ferguson, 1983; Tabackman, 1976).

Other researchers' studies indicate different results. Scales inadequately describe adolescents' attitudes about control. There were discrepancies between self-reports and actual events. Self-descriptions regarding locus of control were not substantiated by behaviors. One subject reported that people could make new friends by becoming more assertive and participating in different activities. But the belief was never tested. Parental influences were different in all cases. All subjects were very similar to family members and chose a career related to those of parents. Less is known about parent-adolescent relationships among the gifted. Research does not exist that shows how much parental involvement is necessary, what form of involvement and in what areas. Research on parent-adolescent relationships is clearly needed. Research needs to investigate the normal pattern of relations gifted adolescents have with their parents and are they different in kind or degree from non-gifted adolescent peers (Montemayor, 1984; Zaffrann, 1983).

Moral Development

Parker and Colangelo (1979) conducted a study and found differences in values between father and mothers followed traditional sex role difference. Mothers tended to rank more high aesthetic and other-oriented values such as "A World of Beauty" and "Loving." Fathers ranked more highly values associated with person competence and general

security/protection issues. These findings suggest that among gifted adolescents there may be more conflict regarding desirable modes of behavior with mothers and interpersonal disputes, with fathers over values associated with long-range life goals.

Changes in the American family structure is resulting in estrangement between young adolescents and adults. Bronfenbrenner (1974) reported the source of this alienation. More mothers work outside the home today but the child-care industry is not adequately prepared to care for children who come from low socioeconomic households. Sixty-seven years ago most households included another adult besides the parents. Many households are headed by a single parent, usually the mother, who does not have family members close by to care for their children. Poverty among minority groups as well as mothers who are heads of households is increasing. Reduced interaction between parents and children results in alienation during early adolescence, even in homes that are middle-class or upper-class. Many individuals in the society feel many factors are responsible for the isolation. Fragmentation of the extended family, separation of residential and business areas, the breakdown of neighborhoods and drugs are some factors which isolate individuals. Bronfenbrenner contends that school achievement is related to family background and the relationship between the world of work, neighborhood and community. Businesses could adopt-a-school and bring children in the school to the place of work. The

children would be involved with working individuals and become their mentors. He believes that young and old must interact so that both benefit from each other and as a result society and each individual profits.

Kohlberg's theory of moral development focuses on the concepts of justice in which each stage has a different meaning. Moral judgments at the conventional level reflect awareness of meeting expectations of the family or group. Adolescents functioning at this level earn approval by obedience and respect of authority. Most adults function at this level and are law-abiding citizens. Moral judgment lags behind cognitive development and that formal operations are not a sufficient condition for the emergence of principled moral reasoning. Other research indicates that conflicts and contradictions will be resolved through structural reorganization. Autonomous opportunities to function in the elaboration of moral judgment and aspects of the self-image have different effects for males and females. Gifted adolescents indicate insight and self-reflection when they formulate moral problems but are considerably different from hypothetical problems (Colangelo, 1982; Leahy, 1977; Tomlinson-Keasey & Keasey, 1974; Turiel, 1977).

Summary

There are very few research studies that have been designed to examine factors related to identifying Black gifted/talented students in grades KG-12. It is important

that all students be included in special programs when they are capable and/or have the potential to meet entry requirements in gifted/talented programs of study. Race, socioeconomic status, gender, motivation, self-esteem, learning style, and parental education are also factors that appear to be related to placement in gifted/talented programs. From what is reported above, it is evident that special programs need to be created that address academic as well as non-academic variables and result in helping all students reach their potential.

Gifted/talented individuals are defined as those who demonstrate achievement or potential ability in any of the following areas: general intellectual ability, any specific academic area, creative thinking, vocational ability, leadership, visual arts, performing arts, psychomotor ability, one's cultural heritage, or psycho-social ability. It is interesting to note that gifted children may display some personality characteristics that resemble older groups of individuals. Research indicates that gifted/talented achievers differ in personality characteristics from underachievers. Gifted/talented underachievers need to be identified so that programs are developed that enhance the use of higher order cognitive skills, problem solving and decision making.

Programming for culturally diverse gifted/talented students must reduce any discrepancies found between the potential of the individual and the opportunity to use this potential. The educational setting must reduce possible differences between environmental, instructional, and curricular factors from those of the normative group.

Administrators must be supportive of identifying gifted/talented students who belong to minority groups. Teachers must receive inservice training that stresses accurate assessment of learning potential and alter expectations about the probability of finding gifted/talented students among the culturally diverse. It has been reported that the greatest difference between Black achievers and underachievers is the behavior of the parents. It is imperative that minority parents and the schools interact in a positive atmosphere so that the children of today become contributing members of the society of the future. Minority parents must become involved in their children's education. The minority community must be involved with the schools so that gifted/talented children become literate high school and college graduates.

Other factors have also been found to influence success in school. For example, Self-esteem is a factor reported to be related to academic success (Chovan & Morrison, 1984). Research indicates that minority students have lower academic self-esteem than non-minority students. Social class and race may affect academic self-esteem, but general self-esteem seems to improve in a positive direction for older minority

adolescents. However, findings from other studies have indicated mixed results in that gifted/talented minority adolescents have higher general self-esteem compared to the normative group or that there is no difference across groups. But academic self-esteem may be highly related to teacher perception. A number of factors that may affect teacher's academic perceptions of students have been reported (eg. race, sex, age, physical attractiveness, and even size). Academic self-esteem is highly related to cognitive ability and achievement. All teachers must resist stereotyping minority students. Teachers are most effective when students are expected to perform adequately in the school setting. Children who are not performing adequately should be referred only when alternative teaching strategies are unsuccessful. Counseling should be a component of the gifted/talented program. Students exhibiting poor self-concepts or emotional adjustment problems should be referred so that these concerns can be addressed as soon as possible. School environments that value and accept all children, as well as, parents who support the school will foster positive self-esteem in all students both in academic and general areas.

Achievement motivation is a multidimensional construct that reportedly affects success in school (Freehill & McDonald, 1981). Children who feel responsible for success and failures, in an academic setting, are more likely to exhibit persistent behavior and develop self-efficacy skills as they gain academic skills and experience success in the

classroom. Most gifted/talented students prefer independent mastery, have positive academic self-concepts, and are intrinsically motivated. Gifted/talented programs must include more minority students, females, the physically handicapped, and gifted underachievers. Programs must be designed so that these individuals are exposed to vocational awareness programs and/or workshops that help develop social skills should they be needed. Learning style is another educational variable that reportedly affects academic success.

Learning style is a broader concept than cognitive style. Learning style indicates an individual's preference for learning and includes environmental, emotional, sociological, physical, and psychological elements. The teacher's role is to utilize instructional techniques that build on past experiences, relate learning to real life, and allow each child to use strengths and compensate for weaknesses. Therefore, the teacher must use many types of materials so that students use visual, auditory, tactile, and kinesthetic modalities to learn. Since the curriculum is a tool to change minds, art, music, poetry, dance and story telling or writing should be part of a gifted/talented program. These are ways humans communicate and help students develop concepts that are segments of creative intelligence. The educational system must help all children develop both hemispheres of the brain. The right hemisphere processes complex visual, auditory, and visual-spatial patterns and responds affectively when evaluating aesthetic or perceptual

stimuli. Many Gifted/talented students prefer kinesthetic experiences. These students need real-life experiences such as producing and writing plays, interviewing professionals in the area of their expertise, and conducting and designing science projects.

Finally, it should be noted that parental and peer relationships are considered separate and unparalleled experiences for adolescents. The greatest number of disagreements between parents and adolescents involve the peer group and/or the amount of time spent with them. By the end of late adolescence, most individuals have found their own identity. If antecedent conditions, such as rejecting parents, are present that do not present positive role models during adolescence, the individual may experience diffuse identity. Society's youth that do not have positive role models run the risk of becoming alienated, angry, and dangerous adults. Moral development must occur in the home and parents must be the positive role models that their children imitate. Adolescence is a difficult period for most youth as they struggle to become individuals and form their own value system and personal commitments. It is imperative that the children of this society experience positive role models in the home before their adolescent years. In sum, positive role models are necessary for our children to become responsible, moral adults.

CHAPTER III

METHOD

Hypotheses

The following null hypotheses were tested:

- HO₁: There will be no significant difference in self-esteem scores across groups (Black and White adolescents).
- HO₂: There will be no significant difference in achievement motivation scores across groups (Black and White adolescents).
- HO₃: There will be no significant difference in learning style scores across groups (Black and White adolescents).
- HO₄: There will be no significant difference in parental relationship scores across groups (Black and White adolescents).

Subjects and Procedures

One hundred eleven (111) high school students (fifty-five (55) Black adolescents and fifty-six (56) White adolescents) enrolled in a gifted/talented program in a

suburban school district located south of Chicago were selected to be participants in the study. The subjects were 13 to 19 years of age. It is important to note that the Black and White subjects were carefully matched with respect to family income and/or parental occupation. Income of less than \$15,000 per year was considered to be Low SES, \$15,001 - \$35,000 per year was considered to be Middle SES, and \$35,001 and above was considered to be Upper SES.

Data sets were collected in one session. Subjects were asked to complete the following five instruments: 1) A selected demographics and social history questionnaire; 2) The Coopersmith Inventory (Coopersmith, 1989) was included to assess an individual's evaluation of himself or herself as positive or negative; 3) The Wells-Bledsoe Motivation Checklist (Wells & Bledsoe, 1984) was used to assess positive and negative factors that an individual feels affect success in school; 4) The Family Environment Scale (Moos & Moos, 1986) was used to assess cohesion, expressiveness, conflict, independence, achievement orientation, organization, and control as viewed by adolescents; and 5) The Learning Style Inventory (Dunn, Dunn, & Price, 1989) was used to assess how students prefer to function, learn, concentrate, and perform during educational activities.

Instrumentation

1. Selected demographic and social history information was gathered via a brief questionnaire designed by the investigator. Demographic information included age, grade in school, sex, and race. Social history included estimated family income, parental occupation, and the relationship status of the person with whom the student resided.

2. Two forms of the Coopersmith Inventory (Coopersmith, 1989) were utilized to assess the self-concepts among the respondents. This test is in the format of a 58 item inventory requiring a Like Me or Unlike Me response to each item. The School Form is designed for high school students, 13 - 15 years of age. The Adult Form is in the format of a 25 item inventory requiring a Like Me or Unlike Me response. The Adult Form is designed for high school students, 16 years of age or older. Reliability is reported to be .86.

3. The Wells-Bledsoe Motivation Checklist (Wells & Bledsoe, 1984) was designed to assess the degree to which an individual is trying to succeed in school. This test is in the format of a 45 item questionnaire requiring that a respondent check all items that apply. This questionnaire reportedly measures positive and negative motivating factors. Reliability is reported to be .90.

4. The Family Environment Scale (Moos & Moos, 1986) was designed to assess cohesion, expressiveness, conflict, independence, organization, and control as viewed by adolescents. This test is in the format of a 90 item inventory

requiring a True or False response to each item. It is designed to be machine scored. The printout assesses the adolescent's impressions of their families in the following areas: (1) how involved people are in their family and how openly feelings are expressed within the family; (2) the ways in which a family affects personal growth; (3) the importance of organization within the family. The Cronback Alpha coefficient is reported to range from .61 - .78.

5. The Learning Style Inventory (Dunn, Dunn, & Price, 1989) was designed to assess how students prefer to function, learn, concentrate and perform during educational activities. The instrument was designed to determine each students' personal preferences with respect to these variables. This test is in the format of a 104 item inventory. Responses are reported on a five-point Likert scale ranging from strongly disagree to strongly agree for each item. It is designed to be machine scored. The printout provides the following information: perception of the immediate environment (sound, light, heat, and design); emotional factors (motivation, responsibility, persistence, and structure); and sociological needs (perceptual preferences, time of day, food intake and mobility). Hoyt's Reliability, equivalent to a KR-20, is reported to range from .66 to .88.

Design and Statistical Analysis

The overall analytic paradigms is presented below:

(used to test null hypotheses 1-4)	Black X1a	White X1b
	Y1 - Y4	Y1 - Y4

Where the Independent Variable = X1a Black, X1b White
 Where the Dependent Variables = Self-Esteem Scores = Y1
 Achievement Motivation Scores = Y2
 Learning Style Scores = Y3
 Parental Relationship Scores = Y4

A two group matched subject design was used. A MANOVA was used to test for the main effects across the two groups. An ANOVA was used to test for significant differences between the means of the two groups on the self-esteem variable. For those dependent measures on which statistically significant differences were demonstrated across groups, a follow-up multiple-regression procedure was used in an effort to more clearly identify those factors that might contribute most strongly to the individual differences among the respondents across the two groups. Analysis of the data sets revealed a complex array of differences across groups and interrelationships among the dependent measures.

CHAPTER IV

RESULTS

As noted earlier, the overall purpose of this study was to compare self-esteem, achievement motivation, learning style, and parental relationships across Black and White gifted/talented adolescent groups. All subjects were participants in a gifted/talented program of study in a suburban school district. Nonacademic variables in the design of the study included race, self-esteem, achievement motivation, learning style, and parental relationships.

Demographic Characteristics of the Sample

Table 1 and 2 provide a summary of the demographic characteristics of the sample. Age, grade, and sex were similar across the two groups. Slightly more White adolescents resided with both parents than Black adolescents, who resided more often with their mothers. More mothers in both groups had White collar jobs than fathers had in either group. Both parents jobs were sources of income for the family. Both groups of adolescents reported A and B grade point averages. One third of the students reported grade point averages of C.

Table 1

Distribution of Sample

Frequency Table for Black/White Gifted/Talented Adolescents						
	<u>Black</u>	<u>Mean</u>	<u>STD</u>	<u>White</u>	<u>Mean</u>	<u>STD</u>
Age	13-18	15.4	1.398	13-19	15.5	1.347
Grade	9-12	10.5	1.166	9-12	10.5	1.190
Sex	Male (21) Female (34)	1.61	.490	Male (29) Female (27)	1.48	.504
Race	55	1.0	.00	56	1.00	.000
Family Income	15,000- 45,000	35,000- 44,999	1.329	15,000 45,000	35,000- 44,999	1.321
Subject Resides	Mother (21) Both Parents (23)	2.38	1.254	Mother (12) Both Parents (35)	2.75	1.08
Mother's Occupation	White Collar (26) Blue Collar (16)	1.05	.731	White Collar (20) Blue Collar (21)	1.10	.802
Father's Occupation	White Collar (11) Blue Collar (24)	.964	.902	White Collar (16) Blue Collar (26)	1.21	.825
Grade Point Average	4.0-3.5 (23) 3.4-3.0 (22) 2.9-2.0 (9) Missing (1)	1.74	.732	4.0-3.5 (19) 3.4-3.0 (26) 2.9-2.0 (10) < 2.0 (1)	1.87	.764

Table 2

Mean Scores of Sample for Family Environment Variables, Self-Esteem Variable, and the Learning Style Inventory Variables

	<u>Black</u>	<u>Mean</u>	<u>STD</u>	<u>Range</u>	<u>White</u>	<u>Mean</u>	<u>STD</u>	<u>Range</u>
Cohesion	Average	46.56	15.14	67	Somewhat Below Avg.	39.21	22.22	67
Expressiveness	Somewhat Below Avg.	43.32	11.18	51	Somewhat Below Avg.	43.17	12.41	39
Conflict	Average	52.34	11.75	49	Somewhat Above Avg.	58.87	14.62	49
Independence	Somewhat Below Avg.	45.34	11.32	66	Somewhat Below Avg.	47.55	12.31	50
Achievement Orientation	Somewhat Above Avg.	58.58	9.35	47	Somewhat Above Avg.	57.33	9.31	37
Active Recreational Orientation	Average	51.61	10.18	49	Somewhat Below Avg.	48.67	10.94	49
Moral Religious Emphasis	Somewhat Above Avg.	57.65	9.73	36	Average	50.80	11.41	46
Organization	Somewhat Below Avg.	47.56	11.77	56	Somewhat Below Avg.	45.48	12.29	44

Table 2 (continued)

	<u>Black</u>	<u>Mean</u>	<u>STD</u>	<u>Range</u>	<u>White</u>	<u>Mean</u>	<u>STD</u>	<u>Range</u>
Control	Average	56.85	11.20	55	Average	55.39	12.34	44
Self-Esteem	High	67.85	22.03	100	Average	59.64	23.55	96
LSI Achievement Motivation	High	58.94	8.51	49	High	52.21	9.53	44
LSI Persistence	High	53.70	11.18	52	Average	50.83	10.26	40
LSI Responsibility	High	54.65	9.08	36	High	50.46	10.93	42
LSI Structure	Average	48.45	8.24	33	Average	49.85	10.18	42

The means of each group on all variables measured in the study are presented in Table 2. The means were found to be similar between the two groups on expressiveness, independence, achievement orientation, recreational orientation, organization, control, persistence and structure variables. These similar means suggest that there are no significant differences between the two groups on the variables in question.

Results Related to Testing Null Hypothesis Number 1

H_{01} states that there will be no significant difference in the self-esteem scores across groups (Black and White adolescents). This null hypothesis was tested using a One Way Analysis of Variance. The results reported in Table 3 indicate that the scores revealed no statistically significant difference between the groups ($p = .06$). The mean for Black adolescents is 67.85 and 59.64 for White adolescents. The difference of 8.58 was not found to be statistically significant. Gifted Black/White adolescents seem to have similar self-esteem scores. Given these findings, null hypothesis Number one was ^{not} rejected at the .05 level of significance ($F = 3.60, p = .060$).

Table 3

ANOVA Results Self-Esteem

Black - Group 1
White - Group 2

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>F</u>	<u>Sig F</u>
Self-Esteem				
Group 1	67.85	22.03		
Group 2	59.64	23.55	3.60	.060

Results Related to Testing Null Hypothesis Number 2

HO₂ stated that there would be no significant difference in achievement motivation scores across groups. The results from a MANOVA are found in Table 4, where the dependent variables are negative motivating elements and positive motivating elements. Significant differences were found for positive and negative elements across racial groups (Wilks's Lambda = .865, p = .001). The mean scores reported in Table 4 indicate that White students responded to negative motivating factors related to achievement in school, but Black students respond to positive motivating factors related to achievement in school (negative motivating elements Black adolescents mean = .318, White adolescent mean = .400; positive motivating elements Black adolescent mean = .751, White adolescent mean = .642). Racial differences were found to be an important factor as it relates to success in an academic setting. White adolescents responded to negative motivating factors in school, but Black adolescents respond to positive factors. The differences among the means for each group were further analyzed by univariate ANOVA. For negative motivating elements, statistically significant differences were found (F = 5.57, p = .020). For Positive Motivating elements, statistically significant differences were also found (F = 10.08, p = .001). Given these findings null hypothesis number two was rejected at the .05 level of significance.

Table 4

MANOVA Results of Negative and Positive Motivating Elements

Multivariate Test of Significance

Wilks' Lambda	<u>Value</u> .8661	<u>F</u> 5.51	<u>Hypoth DF</u> 3.00	<u>Error DF</u> 107	<u>Sig F</u> .001
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<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>F</u>	<u>Sig F</u>
Negative Motivating Elements				
Group 1	.318	.181	5.57	.020
Group 2	.400	.204		

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>F</u>	<u>Sig F</u>
Positive Motivating Elements				
Group 1	.751	.151	10.08	.001
Group 2	.642	.206		

Results Related to Testing Null Hypothesis Number 3

HO₃ stated that there would be no significant difference in learning style scores across groups. A MANOVA was used to determine if there were significant differences in motivation, persistence, responsibility, and structure across the groups. The results reported in Table 5 (Wilks' Lambda = .833) were significant at $p = .001$. The mean scores for each dependent variable are as follows: Motivation Black = 58.94, Black adolescents reported greater internal motivation related to achievement in school. Motivation White = 52.21. Persistence Black Mean = 53.70 and White Mean = 50.83. These means were found to be similar indicating no difference in persistence in an academic setting between the groups. Black adolescent groups report greater responsibility for their learning than White adolescents, Responsibility Black = 54.65, White = 50.46. There were no significant difference in learning environment preference between Black and White adolescent groups, Structure, Black = 48.45, White = 40.95. Using a univariate ANOVA Test of Significance applied for each dependent variable the following results were obtained. Significant differences were found for achievement motivation ($F = 15.38$, $P = .00002$) and responsibility scores ($F = 4.81$, $p = .030$) across racial groups. However, no significant differences were found in the persistence ($F = 1.98$, $p = .161$) and the structure scores ($F = .63$, $p = .427$) across groups. The results indicate that Black students preferred

Table 5

MANOVA Results of Learning Style Inventory

Multivariate Test of Significance

	<u>Value</u>	<u>F</u>	<u>Hypoth DF</u>	<u>Error DF</u>	<u>Sig F</u>
Wilks' Lambda	.83319	5.3054	4.00	106	.001

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>F</u>	<u>Sig F</u>
Motivation				
Group 1	58.94	8.51	15.38	.00002
Group 2	52.21	9.83		
Persistence				
Group 1	53.70	11.18	1.98	.161
Group 2	50.83	10.26		
Responsibility				
Group 1	54.65	9.08	4.81	.030
Group 2	50.46	10.93		
Structure				
Group 1	48.45	8.24	.63	.427
Group 2	40.95	10.18		

achievement motivation activities while White students reported a lower preference related to academic achievement activities. Black students reported a greater responsibility related to academic success than White students. Given these findings, null hypothesis number three was rejected at the .05 level of significance.

Results Related to Testing Null Hypothesis Number 4

HO₄ stated that there would be no significant difference in parental relationship scores across groups. A MANOVA procedure was used to test for differences in the dependent measure across groups. These results are displayed in Table 6. Wilks' Lambda was .87044, $p = .011$. The mean scores for each dependent variable are as follows. Cohesion Blacks = 46.56, White = 39.21. Black adolescents perceived their families as being more cohesive than White adolescents. There is no difference between the groups in relationship to expression of feelings at home, Expressiveness Black = 43.32, White 43.17. Black adolescents perceived their families as expressing less conflict among family members than White adolescents, Conflict Black = 52.34, White 58.87. There is a difference in intellectual/cultural orientation between Black adolescents who reported, greater family exposure to cultural events than White adolescents, Intellectual/Cultural Orientation Black = 49.05, White = 41.48. Black adolescents reported a greater degree of moral/religious emphasis in the

Table 6

MANOVA Results of Family Environment Scale

Multivariate Test of Significance

	<u>Value</u>	<u>F</u>	<u>Num DF</u>	<u>Den Df</u>	<u>Sig F</u>
Wilks' Lambda	.87044	3.125	5	105	.011

<u>Variable</u>		<u>Mean</u>	<u>SD</u>	<u>F</u>	<u>Sig F</u>
Cohesion					
Group 1		46.56	15.14	4.13	.044
Group 2		39.21	22.22		
Expressiveness					
Group 1		43.32	11.18	.00	.947
Group 2		43.17	12.41		
Conflict					
Group 1		52.34	11.75	6.71	.010
Group 2		58.87	14.62		
Intellectual/Cultural Or.					
Group 1		49.05	13.59	9.52	.002
Group 2		41.48	13.02		
Moral Religious Emphasis					
Group 1		57.65	9.76	11.56	.0009
Group 2		50.80	11.38		

home compared to White adolescent's perception of their family, Moral Religious Emphasis Black = 57.65, White 50.80 . Using a univariate ANOVA applied for each dependent variable the following results were obtained. Significant differences were found across groups in cohesion ($F = 6.71, p = .010$), intellectual/cultural orientation ($F = 9.52, p = .002$), and moral religious emphasis ($F = 11.56, p = .009$). There were no significant differences found across groups related to expressiveness ($F = 0.00, p = .947$), independence ($F = .97, p = .327$) and control ($F = .43, p = .515$). Given these findings, null hypothesis number four was rejected at the .05 level of significance.

Further Analysis of the Data Set

A stepwise multiple regression was run to examine the interrelationships among the independent variables of race, conflict, positive motivating elements, negative motivating elements, self-esteem, achievement orientation, moral religious emphasis, and the dependent variables (sex and responsibility). The results ($R = .33$) reported in Table 7 indicate that there was a relationship between LSI responsibility and negative motivating elements. The value of .11 indicates that 11% of the variability in the LSI responsibility variable is accounted for by negative motivating elements. The Beta weight for negative motivating elements ($-.33$) indicates that only negative motivating elements contributed to responsibility. Responsibility decreases as negative motivating elements increase ($t = -3.78, p .00$). This one significant t value indicates that negative motivating elements is the only independent variable that accounts for a significant amount of unique variability in this instance.

Table 7

Multiple Regression Results Related to LSI Responsibility Variable
 Beginning Block Number 1. Method: Stepwise
 Variable entered on Step Number 1. . negative motivating elements

Multiple .33153
 R Sq .10991
 Adj R Sq .10224
 Std. Error 9.80205

		<u>DF</u>	<u>SUM SQ</u>	<u>MEAN SQ</u>	
116	Regression	1	1376.28396	1376.28396	Residual
	11145.30926	96.08025			

F = 14.32432 Sig F = .0002

	<u>B</u>	<u>SE B</u>	<u>Beta</u>	<u>T</u>	<u>Sig T</u>
Neg. Mot. Elements	- .173835	.045930	-.331531	- 3.785	.0002
Constant	59.042143	1.920196	blank	30.748	.0000

Variables not in the Equation

race, conflict, positive elements, esteem, cohesion, achievement, orient,
 intellect cultural orient, moral religious, achievement motivation, grade sex.

A stepwise multiple regression procedure was run to examine the relationship among the independent variables of intellectual/cultural orientation, conflict, and the dependent variables of self-esteem and cohesion. The results ($R = .76$) reported in Table 8 indicate that there is a relationship between cohesion, intellectual/cultural orientation, conflict, and self-esteem. The value of .585, indicates that 59% of the variability in cohesion is accounted for by intellectual/cultural orientation, conflict, and self-esteem. The Beta weights for intellectual cultural orientation (.40), conflict (-.38), and self-esteem (.23) indicate an inverse relationship with respect to cohesion and the conflict variables. Intellectual cultural orientation and conflict contribute similiarly to the equation. Self-esteem contributes least. Cohesion increases as intellectual cultural orientation increases, but decreases as conflict increases. These significant t values indicate that each independent variable accounted for a significant amount of unique variability in the dependent variable ($t = 6.06$ p .00; conflict $t = -5.55$ p .00; selfesteem $t = 3.46$ p .00).

Table 8

Multiple Regression Results Related to the Cohesion Variable

Beginning Block Number 1. Method: Stepwise

Variables entered on Step Number 1. .intellectual cultural orientation

2. .conflict

3. .self-esteem

Multiple R	.76495
R Sq	.58515
Adj R Sq	.57424
Std Error	12.70747

Analysis of Variance

	<u>DF</u>	<u>SUM SQ.</u>	<u>MEAN SQ.</u>
Regression	3	25965.90739	8655.30246
Residual	114	18408.70278	161.47985

F - 553.59989 Sig F = .0000

Variables in the Equation

	<u>B</u>	<u>SE B</u>	<u>Beta</u>	<u>T</u>	<u>Sig T</u>
Int Cultural Ori.	.572299	.094294	.404256	6.069	.0000
Conflict	-.534110	.096113	-.376510	-5.557	.0000
Self-esteem	.192159	-.055507	.225747	3.462	.0008
Constant	34.336366	8.924874	blank	3.847	.0002

Variables not in the Equation

race, negative motivation element, positive motivation element, achievement orientation, moral religious emphasis, achievement motivation, responsibility, grade, sex.

A stepwise multiple regression procedure was run to examine the relationship among the independent variables of cohesion, moral religious emphasis, and achievement orientation and the dependent variable intellectual/cultural orientation. The results ($R = .71$) reported in Table 9 indicate that there was a relationship between intellectual cultural orientation, cohesion, moral religious emphasis and achievement orientation. The R^2 value of .49 indicates that 50% of variability in intellectual cultural orientation is accounted for by cohesion, moral religious emphasis, and achievement orientation. The Beta weights for cohesion (.53), moral religious emphasis (.30), and achievement orientation (.15) indicate that cohesion contributes most to the equation, moral religious emphasis contributes less, and achievement orientation least. Intellectual cultural orientation increases as cohesion, moral religious emphasis, and achievement orientation increase ($t = 7.78, p .00$; moral religious emphasis $t = 4.35, p .00$; and achievement orientation $t = 2.28, p .02$). Taken together these significant t values indicate that each independent variable accounted for a significant amount of unique variability in the dependent variable.

Table 9

Multiple Regression Results Related to the Intellectual Cultural Orientation Variable

Beginning Block Number 1. Method: Stepwise

Variables entered on Step Number 1. .cohesion

2. .moral religious emphasis

3. .achievement orientation

Multiple R	.70652
R Sq	.49927
Adj R Sq	.48599
Std Error	9.86264

Analysis of Variance

	<u>DF</u>	<u>SUM SQ</u>	<u>MEAN SQ</u>
Regression	3	11052.28041	3684.09347
Residual	114	11088.97383	97.27170

Variables in the Equation

	<u>B</u>	<u>SE B</u>	<u>Beta</u>	<u>T</u>	<u>Sig T</u>
Cohesion	.376516	.048338	.533028	7.789	.0000
Moral Rel. Emphasis	.371090	.085153	.300547	4.358	.0000
Ach. Orientation	.230614	.100906	.152968	2.285	.0241
Constant	-4.512421	6.965333	blank	- .648	.5184

Variables not in the Equation

race, conflict, negative motivation element, positive motivation element, esteem, achievement motivation, responsibility, grade, sex.

A final stepwise multiple regression procedure was run to examine the relationships among the independent variables of race and intellectual/cultural orientation and the dependent variable of moral/religious emphasis. The results ($R = .50$) reported in Table 10 indicate that there is a relationship among moral religious emphasis, intellectual cultural orientation, and race. The R^2 value of .25 indicates that 25% of the variability in moral religious emphasis is accounted for by intellectual cultural orientation and race. The Beta weights for intellectual cultural orientation (.39) and race (-.21) indicate that intellectual cultural orientation contributes significantly to the equation and race (an inverse relationship) the least. Moral religious emphasis was found to be important as it relates to Blacks and intellectual cultural orientation (intellectual cultural orientation $t = 4.72$, $p .00$, race $t = -2.56$, $p .01$). These significant t values indicate that each independent variable accounted for a significant amount of unique variability in the dependent variable.

Table 10

Multiple Regression Results Related to the Moral Religious Emphasis Variable
 Beginning Block Number 1. Method: Stepwise
 Variables entered on Step Number 1. .intellectual cultural orientation
 2. .race

Multiple R	.49944
R Sq	.24944
Adj R Sq	.23639
Std Error	9.73590

Analysis of Variance

	<u>DF</u>	<u>SUM SQ.</u>	<u>MEAN SQ.</u>
Regression	1	2985.68550	2985.68550
Residual	116	11537.67891	99.46275
	F = 30.01813	Sig F = .0000	

Variables in the Equation

	<u>B</u>	<u>SE B</u>	<u>Beta</u>	<u>T</u>	<u>Sig T</u>
Intellectual Cultural Orientation	.320431	.067873	.395642	4.721	.0000
Race	-4.821388	1.859719	-.217264	-2.593	.0108
Constant	42.367656	3.538419	blank	11.974	.0000

Variables not in the Equation

conflict, negative motive element, positive motive element, esteem, cohesion, achievement orient, achievement motivation, responsibility, grade, sex.

Summary of the Data Results

There were no statistically significant differences in the self-esteem scores between Black/White gifted adolescent groups. Therefore, HO_1 was not rejected at the .05 level of significance. However, there were statistically significant differences in achievement motivation scores for positive and negative motivating elements across Black/White gifted adolescent groups. Given these findings, HO_2 was rejected at the .05 level of significance. There were statistically significant differences in Learning Style in achievement motivation and responsibility scores across Black/White gifted/talented adolescent groups. No significant differences were found in the persistence and structure scores across groups. Given these findings, HO_3 was rejected at the .05 level of significance. There were statistically significant differences in the Family Environment Scale scores between Black/White gifted/talented adolescents in cohesion, conflict, intellectual/cultural orientation and moral/religious emphasis. No significant differences were found across groups related to expressiveness, independence, achievement orientation, and control. These combined findings provide some evidence for rejection of HO_4 .

CHAPTER V

DISCUSSION

In chapter two, the review of the literature was divided into five sections. Definitions of gifted/talented adolescents were presented and exploratory factors related to identification of minority children were discussed. Several theories of intelligence were discussed within the context of the creativity, problem-solving, and critical thinking literature. In the second section of the chapter, a discussion was presented related to self-esteem (including early and late adolescence), age affects, sex differences, social class, and counseling gifted/talented adolescents. The third section focused on the multidimensional concept of achievement motivation including gifted/talented adolescents and the motivation to win, motivation to experiment, and intrinsic motivation. In the fourth section a discussion was presented related to learning styles among gifted/talented students. Issues addressed were the role of the teacher, sex differences, hemispheric dominance as it affects learning style, and implications for instruction. In the final section of chapter two, a discussion was presented

related to adolescents' relationships with parents and how developmental changes of the adolescent affect parental relationships. Focus was given to identity development, and the importance of moral development.

A sample of 111 gifted/talented adolescents between the ages of 13 and 19 selected from a suburban high school, south of Chicago, were administered a self-esteem instrument, an achievement motivation instrument that measured both positive and negative motivating elements, a learning style inventory, and the family environment scale. A demographic instrument, was designed by the investigator in an attempt to gain information about the sample that was considered to be of some interest with respect to addressing the research questions of interest.

The following research questions were addressed:

1. Are there differences in self-esteem scores across Black and White gifted/talented adolescent groups?
2. Are there differences in achievement motivation scores across Black and White gifted/talented adolescent groups?
3. Are there differences in learning style preferences across Black and White gifted/talented adolescent groups?
4. Are there differences in parental relationship measures across Black and White gifted/talented adolescent groups?

The following four null hypotheses were formulated to address these research questions:

H1: There will be no significant differences in the self-esteem scores between Black and White gifted/talented adolescent groups.

H2: There will be no significant differences in the achievement motivation between Black and White gifted/talented adolescent groups.

H3: There will be no significant differences in the learning style scores between Black and White gifted/talented adolescent groups.

H4: There will be no significant differences in the parental relationship scores between Black and White gifted/talented adolescent groups.

With respect to testing null hypotheses one and two, two factors of achievement motivation were examined (positive motivating elements and negative motivating elements). Both Black and White gifted/talented adolescents responded to positive motivating elements in an academic setting which reportedly increases their achievement motivation. However, it was found that as negative motivating elements increased among Black adolescents there was a significant impact resulting in some decreased achievement motivation.

Null hypothesis three was related to testing for differences in learning style preferences between the two groups with respect to emotional factor variables that included achievement motivation, persistence, responsibility, and structure. The Learning Style Inventory used in this investigation was designed to assess how an individual prefers to learn. Significant differences were found for achievement motivation and responsibility across groups. However, persistence and structure were not found to be significantly different across groups. It should be noted that Black adolescents did report a high preference for achievement motivation and responsibility for completing assignments, studying for classes, and being self-directed with respect to their learning activities.

Null hypothesis four was related to testing for differences in parental relationships across groups. The Family Environment Scale scores did differ across groups. There were significant differences in cohesion, conflict, intellectual cultural orientation, and moral religious emphasis. Gifted/talented Black adolescents reported more cohesive family units, less conflict, more intellectual cultural orientation, and greater moral religious emphasis in the home. Gifted/talented White adolescents reported less cohesive family units, more conflict, less intellectual cultural orientation and less moral religious emphasis in the

home. Gifted/talented White adolescents reported less cohesive family units, more conflict, less intellectual cultural orientation and less moral religious emphasis in the home. There were no significant differences found across groups in organization, control, expressiveness, independence, achievement orientation, and active recreational orientation.

The non-significant findings related to the self-esteem variable agree with those reported by other researchers who reported no significant differences between Black and White adolescent groups. It is an important non-academic factor that must be considered with respect to educating all students. Staff can assist teachers in creating an atmosphere where the gifted may develop self-direction and independence. School environments that value and accept all students in combination with parents' support will result in fostering strong positive self-concepts.

Self-efficacy (personal judgments of one's ability in specific situations) as an important variable in academic achievement, as it affects motivation and persistence. The school environment influences self-efficacy judgments. Both motivation and performance outcomes are improved if students engage in task-focused learning. Factors affecting high achieving and/or high ability students are the use of effective learning strategies, challenged by inquiry

teaching, alternative sequences of activities that challenge and exercise cognitive abilities. Taken as a whole, the results of the study indicated that there was a significant difference in achievement motivation between gifted/talented Black adolescents compared to White gifted/talented adolescents.

Learning style describes the way each individual absorbs and retains information or skills. Testing of student learning styles revealed distinct learning preferences. This involved three elements (environmental, emotional, and psychological factors). Significant differences were found for achievement motivation and responsibility across groups. Gifted/talented Black adolescents reported a high preference for achievement motivation and responsibility for completing assignments, studying for classes and being self-directed in their learning activities. Gifted/talented White adolescents reported lower preference for achievement motivation, responsibility for completing assignments and being self-directed with respect to their learning activities.

It should be noted that significant differences were found in the parental relationship scores across groups. Differences were found in cohesion, conflict, intellectual cultural orientation, and moral religious emphasis. Gifted/talented Black adolescents reported more cohesive family units less conflict, more intellectual cultural orientation,

and greater moral religious emphasis in the home. Gifted/ talented White adolescents reported less, cohesive family units, more conflict, less intellectual cultural orientation and less moral religious emphasis.

Practical Implications

1. The influence of social class, race and ethnic origin continue to impact upon the under representation of low socioeconomic status children, minorities, and foreign born students in a gifted program of study.

2. It is recommended that Administrators in-service their staff in an attempt to alter their expectations about finding gifted/talented students among the culturally diverse population.

3. It is recommended that parents and the community become involved in the education of their children. Positive interaction among teachers, parents, the community, and children will benefit society as well as help all children reach their potential.

4. It is recommended that programs be designed so that all students use their strengths and compensate for weaknesses so that each individual is able to adequately adapt to his/her environment.

Conclusions

1. In this study self-esteem scores were not found to be significantly different between Black/White gifted/talented adolescents. All of these students have been successful due to personal experiences, social, and academic competence in the total school setting as well as parental and teacher expectations.

2. Achievement motivation accounted for many individual differences in academic performance. Student ability was found to have little significance as it relates to persistence and responsibility for one's learning. Given what was found in the study, a case can be made for the motivated as students learn and become more competent, self-efficacy skills are exhibited and students feel capable of performing academic tasks successfully.

3. Learning Styles of students should be considered in teaching all students. All modalities should be used in order to reach all students. For example, gifted/talented adolescents need the exposure of several science courses in order to conduct experiments in these courses. Real-world experiences stress kinesthetic learning experiences. As students become more exposed to kinesthetic experiences there is also an increase in the ability to think abstractly.

4. Positive parental relationships help adolescents during one of the most difficult times in life. Parents who are good role models and have been involved in their child's life make adolescence less difficult by providing emotional support. Positive role models are examples that the adolescent admires and trusts. Moral religious emphasis is considered to be important for society and results in responsible, moral adults as adolescence ends around age 24.

Recommendations for Future Research

Since the future of this society will be based upon specific skills and training to obtain employment, the public schools must use all possible sources of potential talent. Future research effects should be directed at examining and helping identify all students capable of meeting standards for special programs for the gifted.

We know that the home environment enhances or impedes personal growth. It is recommended that a field experimental study be designed and conducted comparing dsyfunctional families who receive counseling assistance with high functioning families who encourage personal growth, an intellectual cultural orientation, achievement motivation, and a moral religious emphasis. The purpose of this type of study would be to examine how family involvement affects achievement in an academic setting and how daily life is an important variable that affects adolescents in forming their own identity.

It would be interesting to design studies in which mentors from the business community become involved with early adolescents. This approach would give the adolescent exposure to the real-world of employment. A study could be conducted comparing adolescents who had mentors with those who do not. Does exposure to a mentor improve performance on the job?

It is also recommended that we design studies to examine in-service efforts related to multicultural sensitivity in an attempt to alter attitudes depicting multicultural students as being less capable than majority children. Will teacher attitudes change and do student's scores improve on standardized tests as a result of these in-service efforts? How effective is the training and do the children benefit? A questionnaire should be constructed to systematically examine these issues.

Programs should be developed that stress parental involvement, tutors, mentors and the community working collectively to help all children reach their potential and receive the support that is needed in an academic setting in order to succeed in society.

Finally, it is recommended that this study should be replicated with a larger sample size using the same instruments. From the results reported here, self-esteem,

achievement motivation, learning style, and family environment appear to be important variables that affect all adolescents in an academic setting and in the real-world. Gifted/talented adolescents, regardless of race do appear to be responsible for their own learning and are self-directed learners.

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The final copies have been examined by the director of the committee and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the degree of Ph.D.

8/28/95
Date

Ronald E. Morgan
Director Signature