

THE RELATIONSHIP OF EMOTIONAL DEVELOPMENT
TO ACADEMIC SELF-CONCEPT
IN GIFTED STUDENTS

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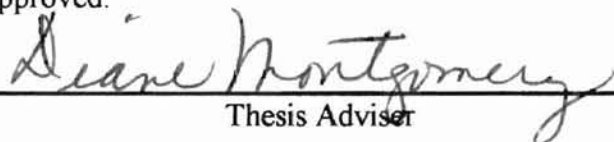
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PREFACE

This paper will address the issues concerning the affective domain of the gifted student. A discussion about Dabrowski's Overexcitabilities theory will include the explanation of the five domains and what they mean to the emotional development of gifted students. In addition, a discussion concerning academic self-concept will be presented. The theory to be focused on in that concern is the self-concept theories related to giftedness. Lastly, the paper will include a synthesis of the two theories and the relationship they have to each other concerning the affective needs of gifted high school students. The researcher will examine secondary students who are gifted in regard to their overexcitability areas and how that relates to their academic self-concepts in the areas of Math and English.

The purpose of this research is to examine the affective needs of gifted students which is an area that has not been examined very closely. All teachers know that the emotional development of the student affects how the student functions in class. This research will hopefully give some substantive evidence to back up this belief. Moreover, it will draw attention to the fact that the emotional development of gifted students is very different than that of the regular student. The intent of the researcher is to bring some evidence to the field which will enhance the knowledge of how emotional development affects self-concept in gifted students.

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CHAPTER ONE

INTRODUCTION

One conventional view of gifted students focuses on the IQ (intelligence quotient) and academic achievement of the student. This viewpoint started in the 1920's, after Terman (Piirto, 1994) identified gifted children with higher measured intelligence than the general school population these students are found to be superior to other age mates in intellectual achievement, athletic ability, and social development. After 35 years, the theory of intelligence was taken a bit farther by J.P. Guilford (1967) in a theory known as "The Structure of Intellect". This theory states that intelligence can be broadened to include divergent thinking. Guilford's theory started educators in the direction of providing services for students with higher intellect defined other than just IQ. From there, researchers moved to other delineated models focusing on various areas of performance, such as the Renzulli (1976) model. Renzulli thought that gifted students exhibited three components: above-average ability, task commitment, and creativity. Although this theory, at first, seems to include more of the whole person in the assessment of giftedness, it continues to be achievement based. More recently certain theorists within a psychological philosophy (Dabrowski, 1967; Piechowski, Silverman, & Falk 1985) changed the focus to include social and psychological development of gifted children.

The notion that gifted children suffered from certain developmental differences came to light with a theory called dyssynchrony, or an uneven development both internally

and externally (Silvermann, 1993). This definition was expanded by Silverman (1993) to say that gifted children suffered from an asynchronous development which includes the emotional as well as cognitive realm. The theory of asynchrony describes a development which exists on two levels. The gifted child has a mind which is developed to the level of an older child or even an adult; however, his/her physical body is not at that level. In addition, the development of his/her social ability may not be that of a level which would allow him/her to interact with his/her mental peers. Silverman (1993) also emphasizes the fact that there is a relationship between cognitive ability and emotional intensity.

The emotional intensity was discussed in detail when Dabrowski (1967) posited the theory of Positive Disintegration. Research is conducted on this theory today because leaders in the field of giftedness acknowledge the need for fostering the emotional and social development of gifted students.

Dabrowski

Dabrowski (1969) started out looking at the emotional "multilevelness" of eminent people. He saw emotional development as a continuum which started at one end with egocentricity and moved to the opposite end which is altruism. He noticed that people went through "transformations" when they exited one level and moved on to another. Karen Nelson (1989) states, "Dabrowski observed that the most gifted and creative individuals with whom he worked seemed to exhibit higher levels of empathy, sensitivity, moral responsibility, self-reflection, and autonomy of thought than the general population" (p. 5). Dabrowski called this "positive maladjustment"(p. 5).

Along with the notion of positive disintegration emotionally, Dabrowski (1969) cited that people have certain "psychic overexcitabilities" which implies a response that is above and beyond how others would react. Michael Piechowski, who was a student of Dabrowski's and carried on his work after his death, views an "overexcitability as meant to convey that this is a special kind of responding, experiencing, and acting, one that is enhanced and distinguished by characteristic forms of expression" (Piechowski & Colangelo 1984) (p. 81).

There are five areas of overexcitabilities which fall into separate domains (Piechowski & Miller, 1995) : psychomotor, sensual, intellectual, imaginal, and emotional. They are seen as dimensions of mental functioning, a mode of being or as channels of perception through which emotions flow. It is a way in which people view their world and base their decision making. The psychomotor realm is concerned with physical activities. It is represented by a high level of energy, a capacity for being active and energetic. The sensual area is seen as having expanded and enriched sensory perceptions. These are people who commonly have been referred to as kinesthetic or hands-on learners. The intellectual domain is expressed through a pursuit of knowledge and search for truth. This is expressed through discovery and questioning of the heart of ideas and theoretical analysis for ideas. The imaginal arena is presented as a joy in being in the realm of fantasy, dreams, and inventions. A love of vivid imagery, richness of associations, and a penchant for the new and unusual is expressed by people who function in this realm. Lastly, the emotional realm is defined as having a depth and intensity concerning emotional life. This is expressed through having a wide range of feelings,

attachments, and compassion for people and other living things (p. 177). The five areas cover the entire breadth and depth of human experience and personality types.

Perfectionism

Many gifted students fall prey to the problem of perfectionism. As others see them as great achievers, they see themselves as complete failures because they consistently do not meet the standards they set for themselves. Because of a heightened awareness they tend to expect more from themselves and become very self-demanding. The importance is in their perception of their achievement. What others see as signs of success, such as; a good report card, a nice job, and a secure future, the perfectionist sees as average achievement. The perfectionist demands more from themselves because they see how much others think of them.

The gifted student will perceive that everyone thinks very highly of them and will do anything not to have that image tarnished. However, that mentality can snowball out of control as the child tries to be "good" all the time. They try so hard to be the person everyone thinks they are that they have little room to be their genuine self. They will do things just because they are expected to and will strive to do them perfectly. This leads to children spending much of their lives doing what others want and not what they truly want.

By definition this unrealistic attitude has a hugely damaging effect on the child's self-concept. They can no longer regard themselves in a positive light because they never measure up to their own standards. The standards which are so high that they will never measure up leave them feeling like utter failures for most of their life. If this problem is

not addressed then such attitudes can lead to clinical problems such as; depression, eating disorders, compulsive behaviors, and suicide (Delisle, 1995).

Statement of the Problem

Every person is directed by their emotional development in his/her life. How they make decisions and view the world is related to how they see themselves and deal with their emotions. As a result of the lack of study being done on emotional development in gifted students, more study is needed about overexcitabilities in relation to other areas of self, particularly self-concept. Gifted students have been looked at as achievers and IQ's only for so long that the focus has not been on the whole child, specifically their affective needs. Teachers have characteristically thought that since a child was gifted and achieved at an high levels that they could handle all of life's other problems. However, their emotional development causes them to feel things more intensely than others and to see the underlying motives of the people around them. Such an acute awareness of themselves and the world has led to many emotional problems in the gifted. In particular, depression, suicide, drug use, and perfectionism are prevalent in the gifted population (Delisle, 1992; Schmitz and Galbraith, 1985). Delisle points out that perfectionism is one of the many causes of suicide among gifted adolescents. The student constantly strives to succeed and this becomes a struggle to continue such a lifestyle. The perfectionist person sees life as a series of missed opportunities instead of the success that life really brings (1995).

Not only does the school personnel of today not see these problems; seldom is it recognized that gifted students have emotional needs at all. Dabrowski's theory has

shown that gifted people have emotional needs which are intense, often tumultuous, and above and beyond that of the average population. Teachers and counselors in particular should become aware of these needs and find ways to address them.

Gifted students have problems in how they feel about their academic self. They tend to be perfectionists or underachievers at an alarming level. Others around them see the gifted student as having superb achievement while the gifted student themselves do not necessarily see it that way. Research is needed in this area because it is important for teachers and school personnel to notice that the achievement they think is appropriate for the gifted student is not what the student thinks is appropriate for themselves. The teachers should become more in tune with the standards that the gifted student sets for themselves and how their achievement is tied to their emotional life.

Definition of Terms

Overexcitabilities are generally stated in the context of five areas or domains (Piechowski & Miller, 1995): psychomotor, sensual, intellectual, imaginational, and emotional. They are seen as dimensions of mental functioning, a mode of being, or as channels of perception through which emotion flows. These areas are discussed in this study as realms in which gifted individuals prefer to function when it relates to decision making.

Academic self-concept is generally stated as how students feel about their skill level in a specific area. The term is more succinctly defined by Colangelo (1979) as, "an organization people hold about ability to succeed in an academic subject" (p. 188). Since

then, academic self-concept has been studied in a broad fashion. Much research has been done to gain knowledge of how children feel about school and their place in it.

Researchers questioned students on their feelings about how they were achieving in a global sense.

Developmental potential is another area which is discussed in this study.

Developmental potential is defined as a person's range of talents, special abilities, intelligence, and ways of processing experiences (Piechowski, 1979). It can be described as an endowment which determines what level of development a person may reach in optimal conditions.

Self-Concept Theory

In 1986, Marsh saw the need for more clearly delineating academic self-concept into specific content areas. Marsh (1986) stated that self-concept should be looked at in a way he called "frame of reference". In the Frame of Reference theory, Marsh (1986) states that students use two types of comparisons to arrive at their own self-concept. The first is known as "external" comparison which is defined as a process when students look at the performance of their peers and through that comparison rate their performance. The other is the "internal" comparison refers to the process when students look at their performance in one area or subject against their performance in another area or subject and infer about their ability in each. Marsh noticed that self-concept had as much to do with a student's affective needs as it did their academic needs.

Purpose of the Study

The purpose of the study was to examine the connection between the affective and academic realm. Dabrowski's (1967) five areas connect to all types of gifts and talents a person may possess and they influence how that person perceives the world around him/her. The link between emotional development and academic self-concept is established through the student's perception of themselves first and then the world.

Therefore, the purpose of the study was to examine the relationship emotional development, as established in Dabrowski's theory of Overexcitabilities, to academic self-concept, as conceptualized by self-concept, in gifted high school students.

Significance of the Study

The importance of this study lies in its focus on the affective domain of gifted students which has historically gone unnoticed. The results of this study assists researchers and school personnel in realizing the belief that giftedness has an important social-emotional component as well as an academic one. It assists school personnel in developing students to their full academic potential by adequately meeting their social/emotional needs. A better understanding of the "psychic overexcitabilities" (Piechowski & Miller, 1995) will provide teachers, parents, and students information in which to successfully approach school achievement and life satisfaction.

Assumptions

The assumptions which are being made are ones related to the affective needs of the gifted student. Each person has affective needs; however it has been hypothesized that those needs are greater for the gifted student (Delisle, 1992). This is due to the asynchronous development of the gifted student in relation to their peers. Another assumption is that the gifted student has a higher level of emotional development than the average ability student (Dabrowski, 1967).

Limitations

The limitations of this study are linked to generalizability. The researcher is examining a sample of academically able students who are enrolled in one type of program option in high school specifically and the results will only generalize to that population. In the same vein, because of the domain specificity of the frame of reference theory the researcher will be examining secondary level students. Therefore, the results will not generalize to younger age gifted students.

Research Questions

The current study examines the relationship between emotional development and academic self-concept. The questions asked are: (1) What is the relationship between mathematical and each of the areas of overexcitability? (2) What is the relationships between English self-concept and each of the areas of overexcitability? (3) What is the relationship of mathematical self-concept to English self-concept of students? (4) Can

mathematical self-concept be predicted by any of the areas of overexcitabilities? (5) Can English self-concept be predicted by any of the areas of overexcitabilities? (6) What is the relationship mathematical self-concept and English self-concept to emotional development? It is hypothesized that the emotional development of the gifted student will be positively related to their self-concept because of the connection to the student's interest area and perceptions of the world. In addition, the area of overexcitability will have a positive correlation to their area of giftedness.

CHAPTER TWO

REVIEW OF RELEVANT LITERATURE

This chapter presents a review of the literature relevant to the study. The theories discussed are Dabrowski's theories of emotional development and theories of academic self-concept specifically as it relates to giftedness. The chapter focuses specifically on the Theory of Positive Disintegration and the link it has to psychic overexcitabilities.

Dabrowski's Work

Dabrowski's theory of emotional development started in the 1920's and 1930's while he was working as a therapist in hospitals in Poland during WWII. He earned an M. D. in psychiatry and a Ph. D. in psychology. His formulation of the theories were based on observations in his clinics, personal experience, and study of gifted, creative, and eminent people (Nelson, 1989). Others have studied and applied his theory in psychology, sociology, and education. Most notably and related to giftedness is Michael Piechowski (1986).

Dabrowski found creative and developmental potential and richness among his clients who were said to have psychoneurotic symptoms and psychotic disorders. According to Nelson (1989), "He saw in these person's lack of adjustment for their social reality a sensitivity to reality of a higher order " (p. 3). This led him to three very important theories; developmental potential, positive disintegration, and psychic

overexcitabilities. All of the theories are explanations for certain types of maladjustment which serves as positive functions in certain individuals, such as gifted and creative people.

Theory of Developmental Potential

Developmental potential is defined as a person's range of talents, special abilities, intelligence, and ways of processing experiences (Piechowski, 1979). It can be described as an endowment which determines what level of development a person may reach in optimal conditions. Dabrowski recognized the intensity of emotions and intellect as well as the extreme moods which are part of psychological makeup of the gifted. From having the capabilities of higher emotional development, Dabrowski went on to describe the ways in which people use their emotions.

Theory of Positive Disintegration

Dabrowski stated that people have a "multilevelness" (Hague, 1976) to their emotional development. There are five levels: 1) primary integration, 2) unilevel disintegration, 3) spontaneous disintegration, 4) organized multilevel disintegration, and 5) secondary integration.(Hague, 1976). The five levels work in a hierarchy which people try to move through. This is not to be confused with a stage theory where once people leave one stage they do not return to it. This is a process which is ongoing and people can move back and forth throughout their lives. According to Hague (1976), "Disintegration that is associated with movement through the levels is called 'positive' if it involves dissolution of mental functions at lower levels and reintegration at higher levels" (p. 232).

That is to say, people experience anguish, depression, and other emotions commonly thought not to be healthy in order to change it into something positive, this is called integration.

However, let it be noted there are two distinct types of integration, primary and secondary. Primary is the lowest level with hardly any development. According to Hague (1976), "mental functions are subordinated to primitive drives" (p. 232). Urges rule these types of people and they have virtually no inner conflicts. The major scope of their feelings range from being upset at others who try to inhibit their satisfaction by not letting their urges be met to feelings of elation derived from physical pleasure. They have little ability to feel empathy or sensitivity to others.

In contrast, secondary integration is the opposite end of the developmental spectrum and is achieved as a result of completing the entire process of positive disintegration. According to Hague (1976), "It is the integration of high level mental functions with the dominant role of higher emotions emphasizing the major dynamism of autonomy, authenticity, and responsibility" (p. 232). People who reach secondary integration are said to be "self-actualized" which indicates they have a high degree of insight and are very altruistic. An example would be Mother Theresa or Ghandi. People who attain this level are few and are known as eminent for their ideas and creativity. Most people stay in a state of disintegration at levels two or three (Dabrowski, 1969).

The stages of disintegration are noted by ambivalence and a sense of inferiority. It becomes "multilevel" if there are conflicts between higher and lower levels of the same functions. "What is" versus "what should be" is the cornerstone of positive disintegration. For example, a gifted child may see a homeless child and begin to feel guilty because they

have so much. In order to resolve this the gifted child would need to "do something" about it like work at a volunteer center or donate some food to a shelter. The benchmarks of positive disintegration are strife, anxiety, shame, guilt, and inferiority. The ability to move out of positive disintegration is the sign of emotional maturity.

Psychic Overexcitabilities

Within the multi-levelness of emotional development Dabrowski recognized five areas of "psychic overexcitabilities". The five areas are: sensual, psychomotor, intellectual, imaginal, and emotional. These are noted as overexcitabilities (OE) because, they illustrate a marked intensity of perception. The overexcitability can be symbolized by channels of perception or a mode of being in the world. Following his death, the work on overexcitabilities was taken up by Dabrowski's protégé, Michael Piechowski. Piechowski (1976) took the definitions of overexcitabilities and investigated the types of behaviors associated with each.

The sensual OE is characterized by an expanded and enriched attention to sensory experiences. The psychomotor OE is known by the level of energy a person has and their capacity for being active and energetic. The intellectual OE is noted by the pursuit of knowledge and search for the truth. It is expressed through discovery and questioning the heart of ideas and theoretical analysis. The imaginal OE is characterized by a person who loves the realm of fantasy, dreams, and inventions. They have a grasp of how to use vivid imagery, richness of associations, and have a penchant for the unusual. The emotional OE is characterized by a person's depth and intensity of emotional life. Their need to connect with others is great and pervades their personality.

The negative sides to overexcitabilities are demonstrated by the way a person releases emotional tension. People who are inclined to exist in the sensual realm are known for changes in lovers, sex, and avoidance of self reflection. As a result, they are at the lowest level of development in this stage. People who are inclined to exist in the psychomotor realm are known for their impulsive actions, delinquent behavior, and nervous habits such as; nail-biting, chain smoking, and workaholicism. At first they seem to have no guilt or emotion, but at a second glance one can notice that they are emotionally deprived individuals. Those who exist in the imaginational arena have such abilities as mixing truth and fiction, retelling dreams in vivid detail, having visual recall of highly emotional scenes, and visualization of anticipated events. They have exaggerated expectations, fears of the unknown, recurring dreams, and personification of own feelings. Those who exist in the emotional realm have extreme feelings, empathy for others, and an *affective memory*. They can suffer from fear, anxiety, guilt, extreme concern with death, depression, and suicidal moods. Seemingly, the disorders people who have an emotional OE can suffer from what seems like signs of mental illnesses, while in reality, they are at the highest end of emotional development (Piechowski, 1976).

Overexcitability Questionnaire

As a result of identifying the behaviors of each area Piechowski developed a questionnaire which would probe an individual's beliefs and hit upon the way they release tension. This questionnaire is known as the Overexcitability Questionnaire (OEQ). The first study Piechowski, Silverman, and Falk (1985), in the *Perceptual and Motor Skills* journal, conducted using the OEQ was with intellectual adults and artists including

dancers, writers, and visual artists. A group of graduate students was used as a control group. The subjects filled out a 21 item open-ended questionnaire (OEQ). An analysis of variance and an analysis of covariance revealed that there were "overall significant differences between groups on forms of overexcitability" (p. 541). A Scheffe test was used to compensate against a Type I error. Findings were as follows: the group of artists scored higher in each of the five OE areas than the graduate students, they also scored higher than the gifted adults in the emotional and imaginal areas, the gifted adults scored higher than the graduate students in the emotional, intellectual, and imaginal areas. The conclusions Piechowski (1985) came to after this study were, "artistic talent tends to be associated with high levels of all five overexcitabilities, most markedly imaginal and emotional, while intellectual talent tends to be associated with a high level of intellectual, imaginal, and emotional overexcitabilities" (p. 547). This was the beginning of a field of study that would focus on the socio-emotional needs of gifted people. The results illustrated the multidimensionality of the gifted person who up until this point was looked at through the lens of achievement and eminence only.

Overexcitabilities and the Gifted

Another study expanded the groups to include gifted adolescents. Piechowski and Nicholas Colangelo were interested in the application of the OE and how it would apply to gifted students. They postulated that gifted children could have the same levels of intensities that gifted adults did. Piechowski and Colangelo (1984) investigated 49

students who were enrolled in the Iowa gifted programs. They placed this group of adolescents against a group of intellectually gifted adults and a group of graduate students. The OEQ was the instrument used to measure the students OE. The nonparametric Mann-Whitney two-sample rank test was used. Three comparisons made were; gifted versus nongifted adults, gifted adolescents versus gifted adults, and gifted adolescents versus nongifted adults. Results indicated, "gifted adolescents are higher than the graduates on intellectual and emotional OE's, supporting the conclusion that these two OE's are characteristics of giftedness. The gifted adolescents are also significantly higher on imaginal OE lending support to the significance of a similar difference on imagination between the gifted adults and graduate students" (p. 85). The results lend support to the researchers' hypothesis and was evidence of the emotional development of giftedness being apparent from early life. A surprising result correlating with this assumption is the evidence that the findings show a consistency across all ages of gifted students including the youngest group at age 9. Piechowski and Colangelo (1984) states, "they [OE's] represent the kind of endowment that feeds, nourishes, enriches, empowers, and amplifies talent. Without the overexcitabilities a talent would be no more than a bare computational device" (p. 87). With this study Piechowski illustrated the characteristics of giftedness to be inherent and evident from very early on in life. Also, that advanced emotional development was not something restricted to adults.

In 1995, he and Nancy Miller did further research to see if an interview mode could allow researchers to use the OEQ with younger gifted students. Piechowski wanted to investigate whether an interview format of the OEQ would yield better answers with younger students. The subjects were gifted students ranging in age from 9 to 14 who

were enrolled in the "University for Youth" summer program in Denver, CO. Subjects were randomly assigned to two groups; group A (n=26) were given the written questionnaire first and interviewed 2 weeks later, and group B (n=20) were interviewed first and given the written questionnaire 2 weeks later. The children were also asked which method they preferred. A t-test was used to compare the two groups. Results were, "on four of the five OE's, no significant differences exist between the two groups. Subjects completing the questionnaire had significantly higher scores on emotional OE than those answering the same questions in interview form" (p. 179). The interview seems to be successful overall. However, the written form was better for the questions assessing emotional OE in part due to the personal nature of such responses. The subjects find it much easier to elaborate on paper and have someone read it later than to reveal certain things face to face.

Overexcitabilities and Creativity

Many other researchers in the field of giftedness have been influenced by Dabrowski's theories enough to carry out studies of their own. Shelagh Gallagher conducted a study to investigate the relationship between creativity and OE. In 1986, Gallagher investigated 12 gifted students and 12 randomly selected sixth graders. The article appeared in *Roeper Review*, Gallagher investigated the relationship between OE's and creativity. The 24 sixth graders were given the OEQ and the Torrance tests of creativity. A Pearson Product correlation coefficient was used to compare the tests. A Mann Whitney was also performed in each of the five OE areas. The high creative group had a higher level of Imaginational OE than the lower creative group. The gifted group

once again illustrated a higher intellectual and emotional OE than the control group. The correlation between the OE scores and the Torrance tests were insignificant. Gallagher (1986) stated, "the lack of correlation between the OE scores and the TTCT raises some questions about the nature of different creativity tests" (p. 118). This finding adds a different twist to the picture of emotional development. Some questions about the conventional creativity tests were raised and researchers started to hypothesize that the OEQ might be a viable test for creative potential as well. Shirley Schiever (1985) conducted a similar study with seventh and eighth graders. The Gallagher study's results were basically the same as in the Schiever study. The replication of the Schiever study lent support to the hypothesis in Gallagher's study. These two studies relate directly to some of the original work done by Dabrowski with his study of eminent creative adults.

Overexcitabilities and Emotional Development

In addition to the realm of creativity other researchers in the field of giftedness see the link between emotion and cognition. Miller, Silvermann, and Falk (1994) in the *Journal for the Education of the Gifted* recognized the results of the earlier Piechowski studies, but wondered about the impact emotional development has on gender. In the vein of theories being proposed about emotional research leaving out the female gender, Miller et al. (1994) hypothesized that since past studies were based on findings of males; the females true development was distorted. The researchers also hypothesized that females would have higher emotional development than males. In part because that is how Dabrowski investigated this concept.

The major use of research into emotional development and overexcitabilities is the door to perception. Emotional development is directly related to a person's perception of the world and of themselves. This researcher is interested in student's perceptions of themselves. Some work has been done involving emotional development and general self-concept. Which is defined as an organization of perceptions that people hold about their ability and image. In contrast, little research has been done involving emotional development and academic self-concept. This study has as an underlying belief that gifted students relate their achievement to their emotions on a consistent basis.

Self-Concept Theory

Academic self-concept was studied by Marsh (1986) using perception as the key. This theory is known as the frame of reference theory. The cornerstone of this theory lies on two comparisons which students make. The "external" comparison is one that students make between themselves and the outside world of their peers. A student will look at his/her performance and rank themselves with his/her peers to rate his/her academic self-concept. The "internal" comparison is when a student's perception is a reflection on the self. A student will look at his/her achievement in one area and compare it to his/her achievement in another area (Marsh, 1986).

Marsh and Shavelson note that the external comparison follows a positive path and the internal comparison is follows a negative path. In their first study, Marsh and Shavelson (1985) examined 152 seventh and eighth graders from public schools in Florida. The instruments they used were the Self-Description Questionnaire and the Academic Perception Questionnaire, which included 104 items in ten different domains. They only

used the mathematics and English subtest areas. The questionnaires were administered to groups of 20 students and the session lasted 50 minutes. The results were analyzed using multi-variate analysis. The results revealed that the mathematics and English self-concepts were uncorrelated while the the achievements in the two areas were moderately correlated (.62 to .72). That is to say there were positive relationships from mathematics SC to mathematics achievement and the same with English. There was a negative path from English achievement to mathematics SC. The findings supported both the external and internal comparisons which were hypothesized. However, the negative path from mathematics achievement to English SC was not found.

Marsh and Shavelson (1988, 1990a, 1991, 1992) since then have spent their careers refining this concept. Many studies have been conducted in other parts of the US and the world. They have used the same instruments and slightly different samples. The two researchers have defined the theory as, " self-perceptions must be evaluated in relation to frames of reference and that these frames of reference may differ from those used to evaluated objective indicators of achievement or those used by external observers" (p 107). The 1990a study focused on the effects of the "big fish little pond". This study revealed that the ability of one's classmates had a strong effect on the frame of reference by which the student examined their own SC. Marsh (1990a) used the 14, 825 subjects from his other studies and performed multiple regression on the results while analyzing the size of the school from where the respondents came. He then added the average test scores of the students in each school. The results fit with the previous studies which stated that English achievement negatively affect English SC and the same with mathematics. Also that the relation of English achievement to mathematics SC were

uncorrelated. This study is one which relates more to the gifted population than any other.

General Self-Concept and Giftedness

The results of the aforementioned study are due to the fact that the gifted student may or may not be enrolled in classes addressing their giftedness. While a student who is gifted in English areas may be in an Honors English class; they may not be enrolled in an Honors mathematics class. The gifted student would then have two separate frames of reference each depending on the average ability of the other students in the class. In a parallel light, if the gifted student attends an academy of all gifted students their comparisons will be significantly different than that of a gifted student enrolled in an inclusive public school. The aforementioned study was the only one to come close to addressing the gifted population.

Consequently, researchers in the gifted field spearheaded their own research in this area. Colangelo and Brower (1987) looked at the impact of the "gifted" label on students and their siblings. In the study 25 pairs of siblings were given the Adjective Checklist which consists of 300 adjectives commonly used to describe attributes. The Adjective Checklist generates 24 scales which combine to make up a composite self-concept. The Academic Self-Concept Scale was also used; it is an eight item self-assessment. The results were analyzed with matched pair t-tests. Results indicated that the gifted student had higher SC than the unlabeled sibling. However, both siblings had high SC. Interestingly, the unlabeled sibling scored higher on the Personal Adjustment Scale than

the gifted student. That confirms to this researcher what has been repeatedly hypothesized about the affective needs of gifted students. In the recent past more focus has been placed on attending to the affective needs of the gifted student because it has been recognized that these students seem to be more asynchronous in their SC adjustment than average ability students.

In a similar realm, Cooley, Cornell, and Courtland (1991) examined the SC of gifted African-American students. They wanted to look at the adjustment of African-American gifted students compared to their counterparts. Groups of 35 black students were compared to groups of 35 white students all of which attended a summer institute at the University of Virginia. The Perceived Self-Competence scale for Children which is a 36 item self report questionnaire was used. Peer status and teacher ratings were also used. The results were analyzed using a MANOVA. Results revealed that black students did not differ with the white students in SC or academic self-esteem. Both groups reported positive SC and high levels of self-esteem.

Gifted Student's Academic Self-Concept

Lastly, the most directly related study was done by Montgomery and Williams in 1994. They were interested in the frame of reference specific to gifted students. The subjects were ninth graders enrolled in honors science classes (n=103). The subjects were from white, upper-middle class families and had at least 2 years of honors classes. The researchers examined the IOWA basic skills test scores on the long version and the mathematics subtest. Also they gave each subject the ME Scale which is a self-concept scale for gifted children. It is a self-report questionnaire which is used to assess a student's

perceptions of academic SC. The instrument was developed specifically for the gifted population. They adapted the scale to be content specific to mathematics and English. The ME Scale is a 35 item instrument where subjects indicate that they either agree or disagree with the statement. Possible scores range from 0 to 35 with one point given for each item of agreement. The instrument was given in a counter-balanced design during the Honors science class.

The results were examined using a conventional path analysis. There was a strong correlation (49%) between English and mathematics achievement. Verbal and mathematics SC were not significantly related ($r=.0295$). Positive paths were revealed between English SC and English achievement, same as with mathematics. The negative path was also supported. This correlates with both the internal and external comparisons. The study illustrates the importance of academic SC with multidimensions. The two types of giftedness is an indicator of the importance of specific content area considerations. The study stresses the importance of examining SC with homogeneous groups over multiple academic areas. The study also confirms the "big fish little pond effect" of comparisons being related to the student's peer group.

Hypothesis/Research Questions

The study examined the relationship between emotional development and academic self-concept in academically able students. The questions cover the following relationship areas: differences of the overexcitability profiles of mathematics able and English able students and emotional development and its relationship to academic self-concept. It is hypothesized that the emotional development of gifted students will have an effect on their

self-concept. In addition, the area of overexcitability will have a correlation to their area of self-concept.

CHAPTER THREE

METHOD

The purpose of this study was to explore the emotional development of students who were gifted by investigating its relationship to academic self-concept. Emotional development is defined as the Dabrowski Theory of Emotional Development (Dabrowski, 1969; Piechowski, 1989) with five areas of observation: intellectual, sensual, imaginal, psychomotor, and emotional. Academic self-concept is defined as the student's views of performance in a specific content area. The frame of reference theory is linked to the type of comparison the student makes (Marsh, 1986). This chapter includes a discussion into the selection of subjects, instrumentation, and the research design to used.

Subjects

The subjects (n=48) were students enrolled in secondary level program options, such as Honors classes, designed for students who were gifted. The subjects range in age from 15 to 18 years and were of both genders. The subjects are enrolled in Kansas high schools. Subjects consisted of 26 males and 22 females. Their ages range from 14 yr. old to 18 yr. old. The students are enrolled in grades ninth through twelfth with; 12 freshmen, 13 sophomores, 13 juniors, and 10 seniors. The subjects attend three rural high schools in the state of Kansas with total student enrollment ranging from 300 to 750. A cross sectional representation of race and socioeconomic status was made by

choosing students from area rural schools. However, since Kansas has an individualized program for gifted students all of the subjects were identified gifted by the state criteria and were enrolled in the program for at least one year.

Subjects were chosen dependent on their enrollment in a class which was chosen according to size of the district. An attempt was made to include area rural and urban schools as well as suburban schools from a metropolitan area.

Instruments

The instruments used in the study include the Overexcitabilities Questionnaire (OEQ) (Piechowski & Miller, 1995) and the ME Scale (Feldhusen & Kolloff, 1981) for both Mathematics and English academic self-concept. The OEQ instrument consists of 21 open-ended questions. Subjects were instructed to write their answers using as much space as needed and taking as much time as needed. The responses were then judged by at least two raters who evaluate each response according to overexcitability category and intensity of response. Each OE category had a possible of 21 points with the higher the score the more of an intensity in that category. The raters gave a 1, 2, or 3 depending on the response with; 1-weak response, 2-distinct expression of OE, 3-richness and intensity of OE. The raters were given certified training to ensure consistency. Disagreements were resolved by arriving at a consensus. This consensus allows the rater to reexamine and justify the score given thus increasing accuracy. The interrater mean correlation was .72. In this instance the researchers was run their own interrater correlation. According to Piechowski and Miller (1995), "the necessary elements of reliability-accuracy and stability-are safeguarded" (p. 178). The internal consistency averaged a .77 and the test-

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retest reliability was .65 with a three to six week interval between tests. Validity for the OEQ is accruing as more studies were conducted. The limitation of the instrument is that it can get too lengthy and requires extended periods of time to evaluate and score.

The ME Scale (Feldhusen & Kolloff, 1981) consists of 40 statements which the students indicated if they agree or disagree with statements in reference to their academic self-concept. An adapted version was used which separates the scale into domains. This adaptation was made by Montgomery and Williams (1994). In this version there were 35 items. Possible score is 35 with one point given to each item of agreement. Higher scores indicate higher perceived self-concept. Two tests, one for English and one for mathematics, was administered. The adapted instrument has an established internal consistency reliability of a mean score equaling .855. The concurrent validity between the adapted instrument and the original instrument was established at .854.

Procedures

The subjects were asked to complete both of the items in either their Honors English or Honors mathematics class. The measures took approximately 90 minutes of time. Extra time was given for the OEQ as needed. The teachers administered the instruments after giving a brief explanation of the study. The teacher was given a copy of the instrument. However, if necessary the teacher may administer the instruments. No training was needed to administer the instrument therefore, if the teacher administers then the reliability was not compromised.

Consent was required of both the student and his/her parent. The researcher went to the classes a week before the study was conducted and explain the study, as well as,

handed out the consent forms. The teachers collected the consent forms throughout the week and gave them to the researcher on the day of the instrument administration. The subjects from Kansas had already given consent during the IEP meeting. The subject's parents were sent a letter reminding them of the study and alerting them to the date of the study. The subject were asked to put their first and last initial on the instruments for identification and cataloging purposes. After data sheets have been compiled the researcher removed the names and replaced them with a code number in order to keep all of the instruments from one subject together. The subjects were also informed of their right to stop their participation at any time during the study. The teachers helped in making clear to the students that their participation is in no way dependent upon or linked to any grades or bonus points in any context.

Design Analysis of Data

The researcher used various statistical procedures to analyze each of the questions. For question number one and two 10 correlations were run. A Pearson product correlation was run between the mathematics self-concept score and each OE area. Then a Pearson product correlation was run between the English self-concept score and each OE area. A Pearson product correlation was also run between the mathematics self-concept and the English self-concept scores. Finally, the researcher ran a regression analysis between each self-concept and each area of overexcitability.

CHAPTER FOUR

RESULTS

The purpose of this study was to examine indicators of emotional development and academic, mathematics and English self-concept. The study examines four questions relating to “psychic overexcitabilities” and academic self-concept. The research questions being examined were; (1) What was the relationship between mathematical self-concept and each of the areas of overexcitability? (2) What was the relationships between English self-concept and each of the areas of overexcitability? (3) What was the relationship of mathematics self-concept to English self-concept of students? (4) Can mathematical self-concept be predicted by any of the overexcitabilities? (5) Can English self-concept be predicted by any of the overexcitabilities? The results of each question were examined according to statistical analysis and discussed in detail.

Subjects

All 48 students are identified gifted by the state criteria and are enrolled in a gifted program option. The criteria for identification in the state of Kansas was one of multiple criteria assessment. The student was first recommended by self, a parent, or a teacher. The standardized test scores of a student are then looked at by subtests and must meet the 95 percentile or higher on at least three of the tests. After that the students are given the Stanford-Benet IQ test and must meet a score of 128 or higher. Lastly, the student was given the Torrance Test for Creative Thinking which was examined for high

ability. If the student does not make one of these criteria then a performance assessment was taken. This can be performance in the area of academics, creativity, or special talent.

Instruments

The subjects were given three instruments consisting of; the Overexcitability Questionnaire (OEQ) and the ME Self-Concept Scale for both mathematics and English. The instruments were completed in about 90 minutes, however, some subjects were given extra time to complete the OEQ. The OEQ was a short answer survey consisting of 21 open-ended questions. It was scored by two raters which examine each response for indication of one of the overexcitability areas and also for the intensity of the answer which ranges from one to three. One was the weakest and three was the strongest indication of the overexcitability. The raters came to a consensus score for each question. The areas were then totaled and scores can range from a one to a 21 in each category. An interrater correlation was computed by running a Pearson product correlation between the two raters scores and for this study the interrater reliability was 0.860. This was high considering the mean interrater reliability was 0.72 (Piechowski & Miller, 1995).

The ME Self-Concept Scale was an instrument which consisted of 35 questions statements relating to mathematics and English. The subjects indicated whether they agree or disagree with each statement. The statements which are marked with agree were then totaled and a self-concept score was given. The higher the score the greater the self-concept in that area.

Descriptive Statistics

Descriptive statistics were computed for each of the groups; mathematics ME, English ME, Intellectual (T) OEQ, Imaginational (M) OEQ, Emotional (E) OEQ, Psychomotor (P) OEQ, and Sensual (S) OEQ scores. The researcher calculated the mean and standard deviation (SD) for each category of scores. The results can be found in Table 1.

Correlations were calculated between the mathematics self-concept and the English self-concept, as well as, between each self-concept and each OE area. This was to find the relationship between the variables. Lastly, a regression analysis was computed for the each of the five overexcitability area scores on the mathematics self-concept; then the OE were regression on English self-concept in the same manner.

Findings

A Pearson product correlation was run on the mathematics and English self-concepts scores to examine the relationship between mathematical and English self-concept. The results show that the mathematics was correlated to the English self-concept with a value of 0.193. This would indicate a low correlation between mathematics and English self-concept. However, this was the result expected since most students feel that they are strong in one domain or the other. Very rarely do students

indicate that they hold strengths in both domains. This supports the separation of mathematics from English for the other research questions.

The relationship between the overexcitabilities and each self-concept was examined by using a Pearson product correlation analysis (Table 2). The most interesting correlation was between mathematics self-concept and the intellectual overexcitability (0.331). This value was significant because it reveals a positive correlation between the preference to intellectual activities and attitude toward performance in mathematics. The importance of this finding was that it reveals a relationship expected between the need for intellectual stimulation and a propensity for problem solving in gifted students. The next correlation was found between mathematics self-concept and emotional overexcitability which was 0.237. Gifted students may feel an emotional connection with their academic progress in general because they place a high standard on success. The connection between mathematics self-concept and psychomotor overexcitability was an interesting one with a positive and significant correlation of 0.206. This may indicate that students who have a propensity for problem solving also have a need for physical action or intense physical manipulation of their environment. Lastly, there was a negative correlation between mathematics self-concept and imaginal overexcitability which was -0.213. This means that when mathematics self-concept increases the tendency toward imaginal intensity decrease. Overall, the results of the relationship between mathematics self-concept and overexcitability areas reveal that students who have a high mathematics self-concept are stimulated by intellectual, emotional, and psychomotor activities.

However, the relationship between English self-concept and overexcitability areas was the opposite to the mathematics. An interesting relationship was between English self-concept and emotional overexcitability with a correlation of 0.268. This was interesting because it demonstrates that students who are confident in their English skills have a propensity to examine the emotional realm. The link between good English ability and people skills was an important one. The next significant relationship was between English self-concept and imaginal overexcitability which was 0.265. This was interesting because it demonstrates that students with high English skills have a desire to express their imaginations. The student who has a high imagination and high English ability was likely to express themselves through writing which would bode well for their English self-concept. The next relationship was in the area of sensual overexcitability which has a correlation of 0.294. This reveals that there was a propensity between English expression and the love of sensory experience such as, tasting rich food or admiring a vivid sunset. The relationship demonstrates that people who express sensory experiences also have high English self-concept. The next area of relationship was intellectual overexcitability which has a correlation of 0.199. This indicates that students with high English skills have an intensity in intellectual stimulation. Although, this was not as high as imagination it was still important to a student's English skill. The English area was one that has a need for attention to detail and critical thinking which was found in the area of intellectual overexcitability. The only negative correlation found was in the area of psychomotor overexcitability which was -0.156. Overall, the link between English self-concept and emotional, imaginal, and sensual overexcitability are the highest.

The relationship between expressions of emotional development and academic self-concept can be examined by looking at the areas of overexcitability. The positive relationship between each self-concept and emotional overexcitability was an interesting one. The areas of overexcitability are expressed in a way that would suggest a relation to academic self-concept.

Lastly, the researcher looked at the effect each area of overexcitability has on mathematics and English self-concept. In order to examine this effect a regression analysis was performed on mathematics self-concept and English self-concept respectively. The results of the regression analysis are listed in Table 3 and Table 4. It was found that the results of each regression were not statistically significant. Therefore, each overexcitability does not have a significant effect on mathematics or English self-concept.

CHAPTER FIVE

DISCUSSION

The purpose of this study was to examine the aspects of emotional development and its relationships to academic self-concept. The notion of emotional development has been given much attention in the media. Educators see this as a way to enhance the education of their students. However, such activities might not be the best since his theory is very broad and not specifically related to education. In this study, results show that areas of overexcitability have a correlational relationship to the areas of mathematics self-concept and English self-concept. Mathematics self-concept and the areas of intellectual, psychomotor, and emotional OE have a positive correlational relationship. English self-concept and the areas of emotional, sensory, and imaginal OE have a positive correlational relationship. However, there was a negative relationship between mathematics self-concept and imaginal OE.

The theory of developmental potential focuses on emotional development as translated into overexcitability categories. Each category relates to the preference of the student's emotional development and learning. The researcher is looking at how the overexcitability relates to the academic self-concept in gifted high school students. The crux of the study is to investigate the relationship emotional development has to the way in which a student evaluates their learning performance.

The significance of the study lies in the way in which a teacher may adapt to the learning of his/her students if they have information about the specific learning preferences

of the students. If a teacher is tuned into the way his/her students perceive their learning then the teacher may adapt exercises to aid the student in building up a more positive academic self-concept also to stretch themselves to explore areas that they may not normally gravitate toward. With gifted students specifically the more a teacher understands the advanced emotional development of the student and the part that plays in their self-concept the better a teacher will be able to adapt to the student.

The question asked in this study was how is "psychic overexcitability" related to the academic self-concept of gifted students. More specifically, how is each overexcitability area related to mathematics and to English self-concept. By examining the correlations between mathematical and English self-concept scores and the scores of each overexcitability area, several conclusions emerge.

Overexcitability areas and mathematics self-concept

The most interesting conclusion is that students reported feeling very competent in one area of either mathematics or English skills. The correlation between the two self-concepts was almost nonexistent leading to the belief that gifted students have become very specialized in their perceptions of skill. They have the ability early in life to realize in what areas their talent lies and to cultivate that talent. Schools have traditionally pushed gifted students into picking an area which they are good at and stick with it. As long as it is an area where achievement is great and that achievement is seen worthy to society. However, this may not be what is best for the student. In expressing propensity toward specific areas of overexcitability the gifted student highlights the area which they most enjoy. This is better for the affective needs of the student and since there is a correlation

between OE and academic self-concept this may also be better for the student's achievement.

Secondly, gifted students who feel they are highly competent in the mathematics area have overexcitability preferences which are intellectual in nature. The student gifted in mathematics prefer to spend their time on intellectual types of activities which allow them to problem solve, think about their own thinking, and examine the innerworkings of theories in-depth. This should not be surprising to teachers of the gifted who witness this type of behavior in their students on a daily basis. Teachers know the type of student who likes to problem solve and is very curious what they might not know about this type of student is how this preference relates to other aspects of their learning and development. In Dabrowski's theory there is a section on problem areas and the mechanisms in which emotional tension is released, this gives much insight about some of the not so commonly known aspects of the intellectually overexcitable person.

Students who like to intellectually view the world may have trouble with the more abstract concepts which are seen in subject areas which rely on English skills to a great extent. This means that looking at abstract emotional or moral concepts becomes harder for the intellectually overexcitable student. This student may tend to rationalize emotions and take a hard line stance on moral decisions. They think in a logical manner and would make decisions in this way so they may not readily understand what would seem to be a decision made by emotional standards alone. For instance, when in a literature class examining the motives of a character would be easy to them if the character acts in a logical manner. However, if the character reacts to people on an emotional level or has

contradictory moral decisions then it may be harder for the student to pinpoint the motive behind the behavior.

The intellectually driven student will spend large amounts of time just thinking about problems or issues. This should be taken into account when shaping assignment and classroom environments. Suitable time to incubate on ideas and to explore is beneficial to the student. The penchant for curiosity is very high and the student should be given leeway to explore side issues which may not be part of the curriculum. The worst thing to do to any student is to squelch their curiosity especially, if it is a vital part of their being according to Dabrowski (1969).

The intellectually overexcitable student also falls into the psychomotor OE category as well. Many people may be surprised by that particular result because of stereotypes of intellectual people. The majority of the population thinks that an intellectual person is bookish and weak while the physical person is athletic and not very bright. However, that is a huge misconception. When examined closely the aforementioned concept becomes easier to grasp because of the underlying aspects in each OE area. The intellectual and psychomotor OE both state a tendency for activity and curiosity. Hands-on experience is also prized by people in both OE areas. By looking at those aspects it becomes much clearer as to why they both fit together. A curious person who enjoys problem solving also enjoys kinetic learning where they have the opportunity to take apart objects and examine how they work. The student enjoys working on experiments where they can be active and learn firsthand how a theory works. In science classes this is utilized quite often, but what about in other subject areas as well. A teacher

in mathematics , English, and history will have to work harder to design activities which allow for this type of learning to take place.

The focus on having many ways for students to learn is not a new one. Many researchers, such as Howard Gardener, have been writing about this for years. Although, educators think of students as falling into one of the categories of intellectual or kinesthetic learning when in fact both areas are found to be important in the same learner. This study adds a valuable piece to multiple intelligence learning by showing that not only do students learn in different ways, but that the same student indicated preferences to learning in two or more different ways which relate to each expressed area of overexcitability.

Overexcitability areas and English self-concept

As with high mathematics self-concept, students who a high in English self-concept have many needs. The results of this study demonstrate that verbally gifted students have very different needs than mathematics gifted students. Many people would think that the highly verbal student would be most closely identified by their imagination however, this was not the case. Verbally gifted students have the highest correlation in this study with the emotional OE category. This has many implications to the students learning. The first is that the ability to relate well to others goes hand in hand with the ability to express one's self. High English expression stems from the ability to evaluate the world on an emotional level. In the emotional OE, a person has the tendency toward looking for a connection to the world and the beings in it. This student needs to see how things matter to themselves or others and how things affect the world as a whole. The

emotionally overexcitable student likes to learn about others and with others. This may be why verbally gifted students are oftentimes a teachers worst enemy. However, this talking is important to their learning process. They are working through ideas by talking about them. As a result, cooperative learning may be beneficial for this type of student. Any type of discussion is also a positive teaching tool. However, the ability to make discussion and cooperative learning appropriate to the student's level of learning will take much time and effort on the part of the teacher.

The emotionally overexcitable student has problems with self-judgment and self-doubt. Therefore, in subject areas where they may not be performing extremely well they will tend to have very poor attitudes and blame their performance on personal inadequacy. A teacher will have to work to show this student that they can learn in different ways and that it just takes effort. In conjunction with that a teacher should build opportunities for the student to have success so that they can see that it is not a personality flaw which is keeping them from performing. Realizing that may be one of the most beneficial tools to helping this student succeed.

As well as being emotionally inclined the verbally gifted student is strong (0.265) in the imaginal OE category. This is no shock because the stereotype lies here. The verbally gifted person is seen as a writer. On the other hand students who are gifted in areas of art, acting, and other humanities driven fields are all verbally gifted. The ability to use ones imagination and translate that into a concrete product is the hub of this behavior. The student who falls into the imaginal OE area will be the one who spends more time using their imagination in class than anything else. This may be a positive or a negative thing depending on how they use it. The teacher should work to build

experiences where the imagination is rewarded and seen as a positive tool. The opportunity to do something creative will be received with some apprehension at first. The reason for this is that students are not accustomed to stretching their imagination in school. Students see that they use their imagination in art or creative writing class, but not in mathematics or history class. A celebration of their imagination is also important to this student in light of the fact that there is also a correlation to English skills and sensual OE.

The sensual OE area is one of the often misunderstood areas. Most people think of sensual in terms of sexual pleasure which is only one part of the area. The larger portion of the theory has to do with connection to the senses and recognition by others. The person who falls into the sensual OE area has a need for the limelight. When viewed in this way it is easier to see why verbally gifted students fall into this area as well. Most teachers can picture a student they had who they liked very much, but who was also a nuisance to have in class. Oftentimes because they were the class clowns and were a source of constant interruption. Finding a way to channel this behavior is very important to the student's learning. By giving the student a chance to use their skills of imagination and English ability while placing them in the limelight is a way to facilitate more learning. By assigning oral reports or skits as a way to assess learning, a teacher may channel the students energy in a positive way. All students like to be recognized however, verbally gifted students just may need a little bit more.

Indicators of emotional development and academic self-concept

In this study emotional OE correlated significantly to both academic self-concepts. In mathematics it was second on the list and for English it was the highest area. This leads to the belief that gifted students emotional development plays a significant role in the way they view their academic performance. The gifted student's internal comparison is different because of this heightened development. Gifted students seem to be highly invested in their academic performance. They place high value on it and it plays an important role in their identity.

Gifted students oftentimes tend to be perfectionist (Delisle, 1992) and very self-critical. Both of these traits Dabrowski (1969) points out as aspects of higher emotional development. If a student is self-critical and they do not achieve their academic self-concept may be lower only because of their internal comparison and not at all due to external comparison. If one were to look at the achievement of that student it may still be above average, but that is not good enough to them. The gifted student will often demand perfection from themselves and when they do not attain that then nothing else is good enough either.

Teachers of gifted students need to address the issue of perfectionism with their students. Time can be spent in class discussing the traits of perfectionism and the drawbacks of such behavior. Assignments which encourage gifted students to break out of this behavior are also beneficial. Self-evaluation measures given with projects could also help students to learn to realistically assess their performance. Any way to aid them in adjusting this comparison is beneficial to their identity and their emotional development.

Regular classroom teachers should realize this fact as well. The gifted student may not see themselves as the benchmark of achievement that their teachers see them as. Knowing this fact will help the classroom teacher to adjust their thinking and behavior. One of the most detrimental thing to a gifted student would be to point out their achievement as the best in the class. If they do not think this achievement is good enough praising them for it will have a negative effect on their learning. In one light it may place undue pressure on them to do better and reinforce their perfectionist behaviors. As a result of such praise the gifted student may get the impression that the teacher expects them to be perfect. Through another view praise for a task that the student spent little time and effort on will reinforce poor study skills and effort. When a gifted student knows that they can do very little and still be the best in the class they will never learn to push themselves to higher standards.

Limitations

The limitations of this study are related mostly to number of subjects and instrument. The big drawback is that the OEQ is open-ended and requires a written and thought out response which is of some length. Therefore, many students did not finish the instrument and had to take it home. Ultimately, many students did not bring back the instrument. As a result the study had a dropout of 10 subjects.

In addition, the number of subjects contained in this study is small and anyone who is wanting to replicate the study should have a larger number. The small number of subjects resulted from the sample size available at each school, and from the dropout rate.

The suggestions of the researcher would be to use a sample size that has at least one-quarter more subjects than one would need.

As an added drawback the nature of some of the questions on the OEQ is personal. This caused some unease with the subjects and some questions were non-response answers. The subjects had the understanding that they could refuse to answer any question they felt too probing. Even though the questions may not seem personal to the researcher because he/she would know what each question is looking for, it is not that way to the subjects. One question that elicited many non-responses were, "What has been your experience of most intense pleasure?" To students at the secondary level they seemed to think that the question had a sexual connotation to it.

Overall, the researcher suggests that anyone wanting to conduct further study using this instrument should be aware of the limitations and find ways to account for them with other measures.

Further study

Focusing on emotional development and academic self-concept had its most important implications in this area of affective problems such as, perfectionism. Much more can be learned through further research on the topic of higher emotional development of the gifted student. Any way that educators and researchers can realize the importance of the affective needs of gifted students is beneficial. Research on the external comparisons that gifted students make in reference to their academic self-concept are important. Few studies have been conducted on the path that the comparison takes which gifted students make when judging their performance.

Further studies could address the questions of how perfectionism is related to achievement. Some instruments to look at are achievement test scores and perfectionism scales. Emotional development can be studied further by using the PEP which is an instrument developed by Dabrowski to analyze the level of emotional development. Additional studies can also look at the differences in gender and ethnic background related to self-concept and emotional development.

TABLE ONE

DESCRIPTIVE STATISTICS

Category	Mean	Standard Deviation
Mathematics ME	22.191	6.446
English ME	23.660	6.654
T=	8.681	4.404
M=	3.830	3.497
E=	5.234	4.001
P=	4.872	2.939
S=	3.809	2.601

TABLE TWO

CORRELATIONAL ANALYSIS

ME Scales	T	Overexcitability		Categories	
		M	E	P	S
Mathematics	0.331*	-0.213	0.237*	0.206*	-0.004
ME					
English ME	0.199	0.265*	0.268*	-0.156	0.294*

* $P < 0.05$

*Significance level is at 0.05

TABLE THREE

REGRESSION ANALYSIS OF ENGLISH SELF-CONCEPT

The regression equation is

$$\text{Engl ME} = 19.2 + 0.076 T + 0.154 M + 0.432 E - 0.417 P + 0.787 S$$

Predictor	Coef	StDev	T	P
Constant	19.183	2.849	6.73	0.000
T	0.0760	0.2314	0.33	0.744
M	0.1543	0.3045	0.51	0.615
E	0.4317	0.2574	1.68	0.101
P	-0.4167	0.3215	-1.30	0.202
S	0.7870	0.4220	1.86	0.069

S = 6.224 R-Sq = 22.0% R-Sq(adj) = 12.5%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	448.08	89.62	2.31	0.061
Error	41	1588.48	38.74		
Total	46	2036.55			

Source	DF	Seq SS
T	1	81.04
M	1	131.04
E	1	69.20
P	1	32.06
S	1	134.74

Unusual Observations

Obs	T	Engl ME	Fit	StDev Fit	Residual	St Resid
19	7.0	8.000	20.918	1.927	-12.918	-2.18R

R denotes an observation with a large standardized residual

TABLE FOUR

REGRESSION ANALYSIS OF MATHEMATICS SELF-CONCEPT

The regression equation is

$$\text{Mathematics ME} = 16.5 + 0.392 T - 0.484 M + 0.290 E + 0.415 P + 0.161 S$$

Predictor	Coef	StDev	T	P
Constant	16.493	2.750	6.00	0.000
T	0.3921	0.2234	1.76	0.087
M	-0.4843	0.2939	-1.65	0.107
E	0.2901	0.2484	1.17	0.250
P	0.4146	0.3104	1.34	0.189
S	0.1606	0.4073	0.39	0.696

S = 6.008 R-Sq = 22.6% R-Sq(adj) = 13.1%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	431.33	86.27	2.39	0.054
Error	41	1479.94	36.10		
Total	46	1911.28			

Source	DF	Seq SS
T	1	209.05
M	1	102.75
E	1	37.25
P	1	76.68
S	1	5.61

Unusual Observations

Obs	T	Mathematics	ME	Fit	StDev Fit	Residual	St Resid
4	7.0	11.000	21.742	2.868	-10.742	-2.03R	
9	13.0	34.000	22.448	1.829	11.552	2.02R	
19	7.0	6.000	18.935	1.860	-12.935	-2.26R	

R denotes an observation with a large standardized residual

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The Overexcitability Questionnaire (OEQ)

Please respond to each question. Be as honest as you can. Write as much and as freely as you want. Your answers will not be shared; they will be kept in strict confidence.

1. Do you feel really high, ecstatic, or incredibly happy? Describe your feelings.
2. What has been your experience of the most intense pleasure?
3. What are your special daydreams about?
4. What kinds of things get your mind going?
5. When do you feel the most energy and what do you do with it?
6. In what manner do you observe and analyze others?
7. How do you act when you get excited?
8. How precisely can you visualize events, real or imaginary?
9. What do you like to concentrate on the most?
10. What kind of physical activity (or inactivity) gives you the most satisfaction?
11. Is tasting something very special to you?
12. Do you ever catch yourself seeing, hearing, or imagining things that aren't really there? Give examples.
13. Do you ever think about your own thinking? Describe.
14. When do you feel the greatest urge to do something? Explain.
15. Does it ever appear to you that the things around you may have a life of their own, and that plants, animals, and all things in nature have their own feelings?
16. If you come across a difficult idea or concept, how does it become clear to you? Describe what goes on in your head in this case.
17. Are you poetically inclined? If so, give an example of what comes to mind when you are in a poetic mood.
18. How often do you carry on arguments in your head? About what sorts of subjects are these arguments?
19. If you ask yourself "Who am I?" what is your answer?
20. When you read a book, what attracts your attention the most?
21. Describe what you do when you are just fooling around.

ME Scale- Mathematics

Directions: Please read all the statement. If you agree write A on the line and if you disagree write D.

- _____ 1. I am smart in Mathematics .
- _____ 2. Other people in my class like me because I am smart in Mathematics .
- _____ 3. I do good work in most of my Mathematics classes.
- _____ 4. My teachers like me because I am smart in Mathematics .
- _____ 5. I try to do my best in all my Mathematics classes.
- _____ 6. I can think of new ideas in Mathematics class.
- _____ 7. I can think of many ideas in Mathematics class.
- _____ 8. I have a good imagination in Mathematics class.
- _____ 9. I am a leader in Mathematics class.
- _____ 10. Other kids like to hang out with me.
- _____ 11. I am a good reader.
- _____ 12. I do well on test in Mathematics class.
- _____ 13. I usually get high grades in Mathematics .
- _____ 14. I can think of very unusual ideas in Mathematics class.
- _____ 15. I am well liked by older students.
- _____ 16. I do many of the problems from by Mathematics class.
- _____ 17. I like to do problems in Mathematics class.
- _____ 18. I think I will become a great person.
- _____ 19. I like to discuss things about Mathematics .
- _____ 20. I like to hang out with people who are smart in Mathematics .
- _____ 21. I have good attitudes toward school.

- _____ 22. I have high Mathematics ability.
- _____ 23. I learn quickly in Mathematics .
- _____ 24. I learn new things easily in Mathematics .
- _____ 25. I like to study Mathematics things that are hard to learn.
- _____ 26. I am highly motivated in Mathematics .
- _____ 27. I am open to new ideas in Mathematics .
- _____ 28. I have a good memory in Mathematics .
- _____ 29. I think I will do something great in life.
- _____ 30. I will go to college.
- _____ 31. I will become famous.
- _____ 32. I have many hobbies.
- _____ 33. I am different from other people.
- _____ 34. I like to read biographies about people in Mathematics .
- _____ 35. I like to read.

The ME Scale - English

Directions: Read each statement. If you agree write A on the line and if you disagree write D

- _____ 1. I am smart in English.
- _____ 2. Other people in my class like me because I am smart in English
- _____ 3. I do good work in most of my English classes.
- _____ 4. My teachers like me because I am smart in English.
- _____ 5. I try to do my best in all my English classes.
- _____ 6. I can think of new ideas in English class.
- _____ 7. I can think of many ideas in English class.
- _____ 8. I have a good imagination in English class.
- _____ 9. I am a leader in English class.
- _____ 10. Other kids like to hang out with me.
- _____ 11. I am a good reader.
- _____ 12. I do well on test in English class.
- _____ 13. I usually get high grades in English.
- _____ 14. I can think of very unusual ideas in English class.
- _____ 15. I am well liked by older students.
- _____ 16. I read many of the books from English class.
- _____ 17. I like to write papers in English class.
- _____ 18. I think I will become a great person.
- _____ 19. I like to discuss things about English.
- _____ 20. I like to hang out with people who are smart in English.

- _____ 21. I have good attitudes toward school.
- _____ 22. I have high English ability.
- _____ 23. I learn quickly in English.
- _____ 24. I learn new things easily in English.
- _____ 25. I like to study English things that are hard to learn.
- _____ 26. I am highly motivated in English.
- _____ 27. I am open to new ideas in English.
- _____ 28. I have a good memory in English.
- _____ 29. I think I will do something great in life.
- _____ 30. I will go to college.
- _____ 31. I will become famous.
- _____ 32. I have many hobbies.
- _____ 33. I am different from other people.
- _____ 34. I like to read biographies.
- _____ 35. I like to read.

APPENDIX D

IRB APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: February 24, 1998

IRB #: ED-98-070

Proposal Title: THE RELATIONSHIP OF EMOTIONAL DEVELOPMENT TO ACADEMIC SELF-CONCEPT IN GIFTED STUDENTS**Principal Investigator(s):** Diane Montgomery, Angela Lee**Reviewed and Processed as:** Expedited/Special Population**Approval Status Recommended by Reviewer(s):** Approved

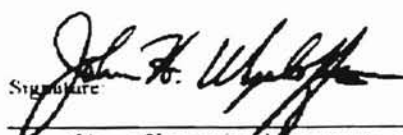
ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING, AS WELL AS ARE SUBJECT TO MONITORING AT ANY TIME DURING THE APPROVAL PERIOD

APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.

ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature



Chair of Institutional Review Board

cc: Angela Lee

Date: March 6, 1998

VITA

Angela Lee

Candidate for the Degree of

Master of Science

Thesis: THE RELATIONSHIP OF EMOTIONAL DEVELOPMENT TO ACADEMIC
SELF-CONCEPT IN GIFTED STUDENTS

Major Field: Applied Behavioral Studies

Biographical

Education: Graduated from Del City High School in May 1991; received Bachelor of Science in Secondary Education (Language Arts) from Oklahoma State University, Stillwater, OK in May 1995; Completed the requirements for the Master of Science degree with a major in Applied Behavioral Studies with an emphasis on gifted and talented at Oklahoma State University in May, 1999.

Experience: Worked as student teacher for Stillwater Public Schools, 1995; Employed by Marlow Public Schools as a secondary Language Arts teacher, 1995-1996; Employed by Stillwater Public Schools as a substitute teacher, 1996-1997; Employed by Oklahoma State University Dept. of Applied Behavioral Sciences as a research assistant, 1997; Employed by Reno County Education Cooperative as a teacher and facilitator of the gifted at the secondary level, 1997 to present.

Professional Memberships: Oklahoma Association of Gifted, Creative, and Talented (OAGCT), Kansas Association of Gifted, Creative, and Talented (KGCT), National Association of Gifted, Creative, and Talented (NAGCT), Kappa Delta Pi Honor Society.