ACADEMIC AND SOCIAL SELF CONCEPT OF GIFTED CHILDREN IN DIFFERENT INSTRUCTIONAL GROUPS

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Bachelor of Science

Oklahoma State University

1969

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
July, 1991

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GIFTED CHILDREN IN DIFFERENT

INSTRUCTIONAL GROUPS

Thesis Approved:

Thesis Adviser

Dean of the Graduate College

ACKNOWLEDGMENTS

I wish to express sincere appreciation to Dr. Kay S. Bull for his encouragement and advice throughout my graduate program. Many thanks also go to Dr. Robert Davis and Dr. Marcia Dickman for serving on my graduate committee.

To the Jenks Public Schools and the Union Public Schools who participated in the study I extend sincere thanks. Without their involvement the study would not have been possible. I would also like to thank Debbie Brightmire for her expert typing and proofing skills.

To my husband, Stan, and daughters, Tana and Melana, I wish to extend my appreciation for their patience and long suffering throughout my graduate studies.

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CHAPTER I

INTRODUCTION TO THE STUDY

The ongoing debate on ability grouping continues as educators struggle with the dilemma of providing equal educational opportunity for all students while attempting to deal with the differential needs of the intellectually gifted. The counter demands for equity and excellence have caused policymakers to vacillate between heterogeneous and homogeneous instructional grouping, according to prevailing philosophical biases and the source of greatest pressure at the time. Educators looking to research for guidance in program design find a collection of data on the effects of ability grouping from which a consensual agreement on its benefits is difficult.

Yehezkel and Resh's (1984) examination of both cognitive and affective effects of grouping on the general population illustrates the complexity of comparative and normative processes activated by different intellectual compositions in a classroom. They found the heterogeneous group to be an enriched socio-learning environment for weaker students while an impoverished one for the strong students. Small cognitive gains were experienced by weak students in heterogeneous groups but were accompanied by some losses in the affective domain. The strong students experienced a minimal negative cognitive effect when measured against grade level performance but not against predicted potential in the heterogeneous setting. These students did, however, demonstrate positive effects in some affective variables, especially academic self

concept. It appears that one student's loss was another student's gain. Gains and losses were in the context of comparison to counterparts (i.e. weak, strong) in the opposite grouping arrangement.

The point of interest from this research is that a student's affective domain was affected by manipulation of separation and mixing, however, not to a great degree. In view of these mixed findings, caution is advised in overgeneralization of ability grouping research across the different domains of learning, between differing subpopulations, and upon variables not concisely defined.

Kulik and Kulik's (1984, 1987) meta-analytic method of reviewing research yields meaningful data describing study outcomes on a common scale, according to salient features in each study. These reviews found insufficient support for comprehensive grouping with no significant overall effect for the general population. However, clear cognitive effects were noted for grouping the gifted, reporting a significant positive effect in achievement test scores; one review of 25 studies (Kulik & Kulik, 1987) citing a gain of .33 standard deviation in 19 of them while another review (Kulik & Kulik, 1984) found an average gain of .49 standard deviation.

Such a difference in the magnitude of cognitive effects of classroom composition for the gifted calls for examination of concomitant affective effects related to the cognitive variable of achievement. Franks and Dolan (1982) allude to the importance of identifying noncognitive traits of giftedness and ways to encourage growth and development of them.

Evidence of the relationship of academic achievement to the affective variable of self concept is readily available (Anastasiow, 1964; Janos, Fung, & Robinson, 1985; Li,

1988; Ross & Parker, 1980). The power of one's perception of self "either restricts or enhances the person's capacity to fulfill his or her native potential (Bailey, 1971, p. 190)." It is linked to consequent behavior and ultimately contributes to the degree of success one experiences in later life (Davis & Rimm, 1985; Jenkins-Friedman & Murphy, 1988).

Since cognitive development influences the type and scope of information one integrates into his or her definition of self (Coleman & Fults, 1985) and gifted children tend to develop cognitively at an accelerated rate, it would follow that they would perceive themselves differently than their nongifted agemates. When gifted children see themselves as different, intellectual composition of the classroom becomes significant to their already sensitive, delicate self concepts (Bull, 1984; Coleman & Fults, 1985, Janos et al., 1985; Maddux, Scheiber, & Bass, 1982; Ross & Parker, 1980; Whitmore, 1986).

Feldhusen and Kolloff (1981) also stated that patterns of self concept and achievement in the gifted are different from those of average and below average students. In one study, achievers of average ability demonstrated higher self concepts than underachievers of average ability (Ziv, Ramon, & Doni, 1977), while the reverse was found for a gifted sample, where gifted underachievers had higher self concepts than the gifted achievers (Feldhusen & Kolloff, 1981). This invites speculation as to whether the relationship of achievement and self concept might be curvilinear among a gifted population. This hypothesized self concept curve would show at the low end those gifted achievers who struggle with a strong emotional overlay (the stronger the emotional factor, the lower the self concept). Higher on the curve would be the gifted underachiever who, because of equal standing and therefore acceptance among his/her

age peers, feels less different and possesses a more positive self concept. Gifted high achievers who would not be as well accepted by their age peers would be on the declining side of the self concept curve, with very high achieving gifted students feeling the most different and most isolated, being lowest (K. S. Bull, personal communication, July 24, 1989). Davis and Rimm (1985), however, cite numerous cases of gifted underachievers who exhibit low self concepts (as compared to self-confidence built by a perceived connection of ability, effort, and outcome).

Even if the gifted child is aware of his/her superior intelligence, this does not necessarily translate into "heightened psychological well-being or enhanced social experience" (Janos et al., 1985, p. 81). When self concept is seen as a social phenomenon, it involves more than actualization of potential. It is derived, in part, from interaction with others and internalization images and responses one perceives others to have of himself or herself (Coleman & Fults, 1983; Coleman & Fults, 1985; Whitmore, 1981). Obviously, the degree of social influence on self concept is a function of the degree of internal locus of control in the individual.

Results of studies conducted on the self concept of gifted students are as complex as those on ability grouping. Mixed findings occur, according to what variables are examined.

Notwithstanding the instructional grouping variable, there is evidence that gifted children score higher on measures of global self concept than their nongifted agemates (Kelly & Colangelo, 1984; Maddux et al., 1982; Olszewski, Kulieke, & Willis, 1987; O'Such, Twyla & Havertape, 1979). It should be noted that these gifted students were being served with at least some enriched learning opportunities, and that the grade levels

of those measured in these citations ranged from fifth grade through eighth grade.

When grouping is introduced as a variable, there is some data that suggests that segregated gifted students have a lower self concept than those in an integrated group (May, 1985). The term "lower" refers to comparative scores of the same gifted subjects with scores still remaining above the mean of the general population. A study by Evans and Marken, (1982) shows no main effect of grouping on self concept of the gifted, while a third position held by some gifted experts states that the gifted experience fewer emotional and social adjustment problems if placed with their intellectual peers (Bull, 1984; Torrance, 1963; Whitmore, 1986).

The degree of segregation is yet another consideration. When gifted children are made to stand out, they see themselves as different and alienated, implying that different is wrong (Janos et al., 1985). The question is whether the gifted feel more different when placed in a classroom with all levels of ability or when segregated with their intellectual peers. Many schools mix the two approaches so that the gifted child experiences both. Does the "pull-out" make the gifted "stand-out" even more with the segregating process a visible pronouncement of difference on a daily or weekly basis; or does partial segregation give the gifted a more balanced perspective of real society in which they must live? Which environment yields a more accurate perspective of self? More research is needed to further delineate the effects of degree of segregation.

Li (1988) claims that one reason findings of self concept of gifted students appear inconclusive is that results of unidimensional measures of self concept have been inappropriately compared to multidimensional data about self concept. The multidimensional approach to self concept isolates specific domains such as academic

self, social self, physical self and creative self, bringing to light a more meaningful set of data with possible implications for educational service. Li's (1988) domain-specific study using the Self Perception Inventory yielded higher scores for the gifted on the subscales of scholastic competence and behavioral conduct with lower than average peer scores on athletic competence. No differences appeared for the social acceptance subscale. This demonstrated that self-perceptions of the gifted were not generalized from one domain to another, but were, in fact, quite distinct. Much less research has been done with these domain-specific components. Several studies have shown significant differences between academic and social self concept of the gifted with academic self concept rising above social self concept (Bourque & Li, 1987; Kelly & Colangelo, 1984; Ross & Parker, 1980). These studies focused on varying comparisons, limiting generalizations.

When heterogeneous versus homogeneous grouping is added as a variable in studies of facets of self concept, the scope narrows and so does the amount of research. Bourque and Li (1987) found that gifted students (ages 9-11) perceived their academic self concept as higher when in the mixed group. Their teacher viewed them as more socially competent in the homogeneous setting. Crane's (1987) study failed to find significant differences among the facets of self concept of instructional groups of gifted third graders using the How I See Myself Scale.

Statement of the Problem

With this patchwork of research results, observed influences of one's social context and the multidimensional view of self concept, more precise data on gifted children in

various grouping arrangements should be collected to clear the muddy waters of research-based programming. It is the purpose of this study to investigate the academic self concept and social self concept of gifted fourth and fifth grade students (the majority of whom are of caucasian racial composition) as they are grouped heterogeneously, homogeneously, or heterogeneously with limited homogeneous instruction time (pull-out). This is to be the focus of this study.

Definition of Terms

Gifted. Children who show evidence of high performance capability in the intellectual domain as defined by a score in the top 3% on a nationally standardized test of intelligence to comply with Oklahoma Senate Bill 214 (1986). Intellectual giftedness appears also in the federal guidelines (Clark, 1983; Marland, 1972).

Academic Self Concept. Self-perceived competence in achievement capabilities in academic tasks. This supports the relationship of achievement and academic self concept (Boersma & Chapman, 1978; Colangelo & Pfleger, 1978).

Social Self Concept. Percepts and concepts of the self in relation to others. This is defined by interaction with others and internalization of images and responses one perceives others to have of himself or herself (Coleman & Fults, 1982, 1985).

Heterogeneous. Age-grouped with many levels of academic ability included.

Homogeneous. Restricted age-grouping based on intellectual similarity (e.g. homogeneous gifted as qualified by a score of at least 97th percentile or higher on an I.Q. test).

Pull-out. Heterogeneously grouped with homogeneously grouped instruction up to

five hours a week.

Hypothesis

It is hypothesized that no difference exists between the academic and social self concept (as defined by scores on the Perception of Ability Scale for Students and the social subtests of the Sears Self Concept Inventory) of gifted fourth and fifth grade students as they are grouped heterogeneously, homogeneously, or in a pull-out group.

Significance of the Study

There are many studies regarding effects on achievement and global self concept of gifted students, but fewer studies use a multidimensional approach, measuring separate aspects of self concept. The present study will add data to the literature of domain specific variables of self concept of gifted children in relation to grouping arrangements. Since most school districts have pull-out programs, the sample of the present study presents a rare educational setting of full-time homogeneous grouping for gifted students. This also contributes to the need for more research that delineates the effects of degree of segregation. Hopefully, the present study will encourage more tests of person-context goodness of fit concerning gifted students using all three grouping arrangements and student response to these grouping arrangements.

CHAPTER II

REVIEW OF THE LITERATURE

The first section of the review of the literature addresses the definition of giftedness, as this definition shapes the composition of samples on which data are analyzed and generalizations are made. Any discussion of research results is inherently influenced by the parameters of the construct theoretically adhered to by the researcher.

Subsequent sections of the review address academic self concept, social self concept, heterogeneous grouping, partial homogeneous grouping and homogeneous grouping. Literature in all the sections is examined from the perspective of relevance to gifted students. Each variable is discussed as a separate issue, aligning the present study with those studies that use a multidimensional approach to self concept.

Giftedness

The essence of most definitions of giftedness focuses on exceptional abilities which require differentiated educational services (Marland, 1972). These exceptional abilities which serve as discriminating criteria for subjects observed in research range from cognitive functioning as demonstrated in measures of intelligence to a set of uniquely combined affective traits which are thought to empower the neurological base of intelligence.

The basis for identification and inclusion of particular "gifted" subjects in studies changes with the theoretical frame of reference the researcher embraces as well as the operational approach to the construct of giftedness. Giftedness may be viewed as a unidimensional or multidimensional entity; a goal of intended behavior or identifiable traits; and it may be quantitative or qualitative in nature.

If high intellectual ability serves as the discriminating factor, a subset of the general population which varies from the mean I.Q. will be set apart, with a score whose magnitude is established by arbitration of what constitutes sufficient variance from the mean to be considered gifted. The range of scores seen in samples can fluctuate as much as from 185 down to 119 and still be labeled high I.Q. (Bekey & Michael, 1987; Chapman & McAlpine, 1988; Coleman & Fults, 1982; Karnes & Whorton, 1988; Li, 1988; Milgram & Milgram, 1976; and Neufeld & Cozac, 1980).

Brown and Yakimowski (1987) analyzed performance on the WISC-R and found that high I.Q. students (119 or higher) used different cognitive skills strategies to solve problems when compared to average I.Q. (85-115) agemates. Even with the apparent quantitative nature of I.Q. measures, the qualitative variance noted in patterns of cognitive processing on subtests of the WISC-R suggests that these patterns of performance on I.Q. subtests may serve as better indicators of giftedness than the magnitude of the total score, thereby diminishing attempts to divide quantitative and qualitative constructs of giftedness into separate camps. To whatever extent samples of gifted subjects may vary on measures of intelligence, an underlying assumption of many researchers is that intelligence measures are integral to the identification of samples to be observed in research.

The inclusion of academic achievement as demonstration of intellectual ability used in research studies of the gifted (Coleman & Fults, 1982; Evans & Marken, 1982; Humes & Campbell; Kelly & Colangelo, 1984; Kramer, 1987a; Leroux, 1988; Ross & Parker, 1980) illustrates an operational approach to the construct which seeks to serve already present high performance levels. This implies that motivation and/or task commitment is inherent to giftedness as Renzulli's (1987) model claims and limits generalizations to gifted achievers.

Another approach to the construct of giftedness raises the issue of observable high performance vs. developing potential. Tannenbaum (1983) claims that productive demonstration of giftedness unfolds in adulthood and is determined in part by one's environment, interpersonal relationships and chance. This view holds that cognitive growth evolves, making Feldhusen and Hoover's (1986) performance abilities goals for outcome behavior rather than antecedent identifying traits. Feldhusen's concept development of giftedness includes general intelligence which evolves into specific talent and is actualized by a conception of self that facilitates goal accomplishment (Feldhusen & Hoover, 1986). For purposes of research using his "ME" scale, Feldhusen identified his sample with the instruments of standard achievement test scores and teacher checklists. This method of selecting subjects assumes a positive correlation between achievement and intelligence or works from a base of demonstrated academic giftedness as opposed to intellectual giftedness. Either way generalizations are limited to high achievers.

The developmental construct approach focuses on the potential evolution of cognitive growth in orderly stages. While Bekey and Michael (1987) identified samples

of fourth, fifth, and sixth grade gifted girls in terms of I.Q. (regular gifted = 132-144, highly gifted = 145-185), it was correlation of high I.Q. and functioning at the formal operations stage which was of primary concern to these researchers. Gifted girls were found to complete tasks successfully reflecting formal operations as young as fourth grade. Time needed to complete the Piagetian tasks was less for the highly gifted group than for the regular gifted group, serving as a better predictor of problem solving/task success than either age or I.Q. This study suggests that developmental advancement should be a consideration in forming a construct of giftedness.

When Cox & Daniel (1984), at the behest of the Richardson Foundation examined the lives of outstanding adults in terms of productive and innovative accomplishments, a less precise set of identifying criteria was developed (Cox & Daniel, 1984). No mention was made of specific I.Q. scores. However, these MacArthur Fellows possessed traits of curiosity, creativity, and self-direction. They had a broad ability range, followed scientific theory, conducted explorations in unusual, innovative ways, crossed disciplines, and were known achievers. It is the uniting of these traits that is believed to equal more than the sum of the parts and result in significant contributions to society. This approach which also views the construct of giftedness as a phenomenon actualized in adulthood, focuses on finding secrets that lead to eminence.

Beyond the narrow scope of superior intelligence as representative of the concept of giftedness, many researchers would agree with Feldhusen and Hoover (1986) that giftedness is multidimensional. (Austin & Draper, 1981; Coleman & Fults, 1982, 1983, 1985; Evans & Marken, 1982; Franks & Dolan, 1982; Forsyth, 1987; Gardner, 1982; Humes & Campbell, 1980; Kelly & Colangelo, 1984; LaRose, 1986; Leroux, 1988;

Maddux et al., 1982; Meyers, 1984; O'Such et al., 1979; Ross & Parker, 1980). Feldhusen's theory follows a psychological construct with a complex set of abilities which form powerful combinations evidenced in achieving insight, effective problem solving, creative production and use of efficient metacognitive processing systems (Feldhusen & Hoover, 1986).

Austin and Draper (1981) included social cognition and social behaviors in the definition. Carter & Kuechenmeister (1986) allude to awareness of being different and creativity as contributing factors.

Sapon-Shevin's (1987) notion that giftedness is a decision, not an objective reality, is somewhat supported from the data cited above. But, does this mean if there is no decision made, there are no gifted? She goes on to describe identification of this subgroup to be a social construct demonstrating "exclusivity" in quantitative terms so as not to dilute the meaning of the construct. Establishing a definite separation of gifted and nongifted groups in research may be a matter of degree and caution is advised to confine generalizations across studies to those with similar identification criteria.

The literature in this section described giftedness as a construct, a decision, patterns of different problem-solving strategies, observable high performance, potential to be developed, and/or adult eminence. Included as possible components of giftedness were academic achievement, task commitment, and social cognition. If there is a consensus seen in literature concerning the construct of giftedness, it lies within the base of superior cognitive ability. This higher brain functioning creates extenuating circumstances which prompt educators to look to research for guidance in making decisions regarding service for the precipitating outgrowths of that ability.

Academic Self Concept

The perception one holds of oneself plays an integral role in performance associated with actual abilities one possesses. The topic of self-perception has drawn the attention of many educational researchers. Boersma, Chapman, and Maquire (1978) related that 400 studies about self concept were reviewed before 1961 and 500 have been reviewed since 1970. This large body of research indicates that researchers think it is useful in trying to understand human behavior. However, the bulk of self concept research has studied the phenomenon as a global entity for a general population.

The next section of the review of literature cites the multidimensional approach to self concept, focusing on a more narrowly defined aspect of the construct, namely, academic self concept. Marsh (1984) builds a case for the multidimensionality of the construct having greater utility and effectiveness in research, yielding data which is more precisely descriptive in academic and nonacademic realms. The gifted subpopulation, of primary concern to this study, reduces the scope of research reviewed even further.

Feelings of competency are tied to successful experiences (Boersma, Chapman, & Maguire, 1978; Davis & Rimm, 1985). In school, successful experiences take on the form of achievement. Academic achievement has been found to be correlated positively to academic self concept, bearing a stronger relationship than global self concept and achievement (Chapman & McAlpine, 1988; Marsh, Smith, & Barnes, 1985; Marsh, Smith, Barnes, & Butler, 1983). More specifically, reading self concept is highly correlated to reading achievement, as is math self concept with math achievement.

Marsh, Parker, and Smith (1983) analyzed self perceptions of fifth and sixth graders against self concept inferred by teachers and actual performance on the

Progressive Achievement Test, finding substantial correlations between academic self concept and actual ability and greater student-teacher agreement in academic areas of self concept than in nonacademic areas. There were also considerably lower correlations between academic and nonacademic student self-perceptions, indicating a distinct separation between these components of the construct. Higher correlations were found in the higher SES/higher ability group, suggesting that these students relied more heavily on their actual ability in forming self perceptions than did the other samples.

The Marsh, Parker, and Smith (1983) study lends support to the model developed by Shavelson and Bolus (1982) which features the self-concept construct to be 1) multifaceted; 2) influenced by one's environment, significant others, and attributions of one's own behavior; and 3) as with the term self esteem, evaluative as well as descriptive. In reference to the significant others, Skaalvik (1986) found that reflected teacher appraisals played a substantial role in formulating academic self concept. Other evidence of influence of significant others was found in the same study of sixth and eighth grade samples of girls who had in third grade rated themselves higher in academic self concept, but were now lower than boys in academic self-perceptions. This low standing was seen as a function of lower global self esteem among the girls, which invites speculation that nonacademic (i.e. social) self concept has a marked impact on academic self concept during those years.

Other data was collected regarding stability over time for this construct, revealing a linear, negative relationship between grade level (grades 2-5) and academic self concept (Marsh, Barnes, Cairns, & Tidman, 1984). Reasons for this decline might include children's increasing ability, as they mature, to perceive reality as it relates to

self. When measuring students at third grade or older, other studies have found the construct to remain stable over time (Boersma, Chapman, & Maguire, 1978; Chapman & Boersma, 1979b; Chapman & McAlpine, 1988;). Their data suggested that academic self concept develops until grade three and remains constant through at least grade six. These findings refer to a general population sample.

Research conducted by Chapman & McAlpine (1988) compared an average ability group to a gifted sample, with the gifted sample's academic self concept ranking one standard deviation higher than that of the average sample, establishing a substantial difference between the two groups. Though it is not surprising that higher ability students yielded higher self-ratings, the relative stability of measures over a period of two years implies that on-going high achievement levels do not necessarily create increasingly higher levels of academic self concept among the gifted. Instead, the researchers suggested that gifted students can experience difficulty in assessing an accurate sense of their abilities, both cognitive and social. It should be noted that the gifted sample did not receive special programming during the two years (i.e. they were not in an advanced curriculum).

Ross and Parker's (1980) investigation of differences between academic and social self concepts of a gifted sample suggested higher academic than social self ratings among the gifted who had experienced much academic success. The difference attributed to students investing more in their academic development since it was the surest vehicle to obtain adult approval.

Although there is a significant relationship between self concept and academic learning, Dean (1977) found low correlations between general self concept and I.Q. (for

males, .29 and females, .31) in a gifted sample. He did report that individuals with low self-perceptions used an output order in learning strategies that was similar to input learning strategies in assigned learning tasks, while those with high self-ratings used more sophisticated strategies, demonstrating the influence self-perceptions have on one's learning capabilities. This is supported by implications made from results of the Saurenman and Michael (1980) study of fourth, fifth, and sixth grade gifted pupils that a more positive general self concept is found in gifted high achievers than in gifted low achievers.

Assuming that all able learners perceive themselves as having superior ability in all academic areas would be erroneous. Phillips (1984) discovered that 20% of academically competent (75th percentile or more on SRA) students in a fifth grade sample significantly underestimated their cognitive abilities. The subjects who self-rated low competence also reported lower expectancy for success, lower perceived teacher expectancies, adopted lower standards, and were found lacking in persistence. This group seemed to have greater internality for failure than for success and ascribed failures to an internal cause rather than an external one, while claiming unstable effort the cause for high grades instead of ability, according to Phillips. This is, however, what attribution theorists would predict.

In this case, a person's perceptions of reality, not reality per se, become the more powerful predictor of achievement motivation, implicating accurate academic self concept as critical to ongoing achievement behavior. Phillips (1984) sees the key to building a healthy self concept and subsequent abilities to be persistent effort on difficult tasks. Negative self perceptions can be perpetuated from not tackling challenging tasks

that would evidence their true ability. This underscores Sylvia Rimm's (1986) claim that to remove the challenge from the learner robs him/her of growth in self-confidence, as was noted earlier in the Chapman & McAlpine (1988) results. These implications support the need for a special curriculum for gifted students, especially those at risk in their self perceptions. Differences in research data concerning academic self concept stem from different compositions of the sample, differing educational contexts, intervention programs, research instruments, and unfair comparisons of global vs. multidimensional construct data.

In this section, the literature revealed a positive correlation of academic self concept to achievement and higher academic self perceptions among gifted achievers. Academic self concept was thought to be developed by third grade and remain stable through sixth grade. Those with higher self-perceptions used output strategies which differed from instructional input strategies. To build academic self concept, challenging tasks should be conquered, not avoided.

Social Self Concept

The nonacademic facet of self concept will be addressed next, looking at self-description within a social context. The relationship of social self concept to global self concept and academic self concept in light of high intelligence is of particular interest here.

The imprecision of definitions of self concept has led to an ambiguous body of research findings to analyze regarding social self concept. Though Coleman and Fults (1982, 1983, 1985) used measures of global self concept in their studies, they defined

self concept as a social phenomenon; an inevitable outcome of having contact with others. Coleman and Fults' results supported the theory that when objective standards are not present, people compare themselves to those most similar in their social environment. There was a slight decline of general self concept of gifted students after placement in a segregated environment with other gifted students. Though the effects might be temporary, the fact remains that the social context did cause the students to re-evaluate their general self-descriptions. The question is, can general self concept and the social subset of it really be divided?

Though Marsh and Smith (1982) also established a social frame of reference as an antecedent of self concept, they have taken steps to break down the construct with multitrait, multimethod analyses to determine whether there are consistent separate components that make up self concept. Marsh and Smith (1982) use of the Self Description Questionnaire showed distinct differences in correlations of academic and nonacademic self concept to other variables, supporting their theory of multidimensionality of the construct (Marsh, 1984; Marsh et al., 1984; Marsh & Smith, 1982; Marsh et al., 1985; Marsh, et al., 1983). Their definition of the social/ peer relations subconstruct included ease in making friends, popularity, and being chosen as a friend. Shavelson, Hubner, and Stanton (1976) agree with the multifaceted features of self concept, with the two major divisions being academic and nonacademic. They further break down the nonacademic area into social and physical subsets. They also separate self-reported self concept from inferred (seen in one's acts by others) self concept. As to causal relationships, no concrete conclusion was drawn. They claim that while self concept and one's environment do interact, the direction of influence is still

unclear.

Self concept research has aligned the construct with other variables in order to acquire correlative and/or causal data in an effort to understand and predict human behavior. Some of the social self concept data deals with personal/social adjustment (behavior) while other research measures social cognition. While the gifted may rate higher in social cognition, similar ratings may not appear in social behavior. Ritchie, Bernard, and Shertzer (1982) concluded that interpersonal sensitivity was developmental, based upon a comparison of average and academically talented ten-year-olds and average twelve-year-olds. The fact that the talented group scored only slightly above their agemates does not support the notion that academically gifted children are more advanced in social/emotional skills and led the researchers to surmise that social/emotional prowess (ability to perceive emotions and non-verbal cues of others) may be a type of giftedness separate from intellectual giftedness. This supports Gardner's (1982) multiple intelligence theory, which includes social-interpersonal competence as one of seven proposed domains of intelligence, as well as linguistic, musical, mathematical-logical, visual-spatial, bodily-kinesthetic, and intrapersonal skills. Li (1988) also failed to establish a difference on social acceptance perception in comparing gifted and nongifted fourth and seventh graders.

Data that did establish differences has been collected by Lehman and Erdwins (1981) when gifted third graders rated themselves more like their mental agemates (sixth grade average) in a sense of personal worth and social skills than their chronological agemates. A gifted adolescent (grade 7-9) sample not only recognized their academic superiority but also viewed themselves more favorably in social self concept than their

nongifted agemates in a study done by Kelly and Colangelo (1984).

Seeing themselves as different does not always lead gifted students to a higher self concept. Leroux (1988) noted that gifted adolescents were highly sensitive to societal pressures, ranking themselves below the norm for sense of self in social relationships. In another sample of gifted students at the elementary level (Janos et al., 1985), the 37% who viewed themselves as "different" also had lower general self concepts. Their awareness of superior ability did not translate to psychological well-being or better social experience. A survey of Chicago students (Leaverton & Herzog, 1979) revealed gifted students in the 25th percentile on social confidence and at the 32nd percentile on self acceptance, alerting the school system to the need to help gifted students in the area of social adjustment.

To discover major indices of personal-social adjustment in a sample of gifted children in grades 4-8 Milgram and Milgram (1976) used the Tennessee Self Concept Scale, designed to study social self concept, especially in older children. Level of creativity was found to bear a stronger relationship with self concept than I.Q. The connection between self concept and creativity appeared in effective problem-solving strategies with consequential social reinforcement upon success. A causal relationship between self concept and creativity is not established here. The researcher concluded that high I.Q. does not guarantee a superiority in problem-solving ability, when comparisons are made within the gifted range, nor does it necessarily increase the number of positive social reinforcements affecting the development of self appraisal.

The perspective of person-context goodness of fit was examined when East and Lerner (1987) studied sixth graders and determined that a child whose behavioral traits

coincided with the behavioral norm within the group received more positive peer sociometric nominations. This implies that peer social support is a significant mediator between quality of children's peer relations and perceived social competence. Therefore, if the child is "different" (gifted), he/she must alter behavioral traits to make gains in social relations and subsequent social self concept. Does this define a well-adjusted gifted individual?

Looking at social adjustment from an intrapersonal perspective, investigation into self-idealization (Jenkins-Friedman & Murphy, 1988) described the adjustment of gifted persons to be better in those who exhibited less of a gap between actual and public (when in social interaction) selves. When added to the skill of using feedback from others in a constructive way healthy social adjustment can occur. It is further investigation of person-context goodness of fit that gives impetus to the present study.

In this section, one's social context was described as an antecedent to self concept. The social self concept subconstruct was divided into cognition and behavior. Gifted samples ranked higher in social cognition but mixed results were reported for social behavior, when compared to non-gifted agemates. Social self concept was described as person-context goodness of fit.

Heterogeneous Grouping

The social dynamics of education in a heterogeneous setting will be discussed next. Most research studies involve comparison of grouping arrangements, but this section will attempt to set apart the attributes of the mixed setting and gifted students in the mainstream.

Manipulation of the student body composition for educational purposes, which has taken up a considerable amount of space in educational literature, has yet to send out a definitive consensus of its effects on students. The role that class composition plays with respect to the individual was described by Yehezkel and Resh (1984) as a norm resource in the cognitive realm and a comparative reference for one's self-image. A heterogeneous mix was seen as an enriched socio-learning environment for the weak student and an impoverished one for the strong student, with the intellectual dimension as the major determinant of the quality of the environment.

Rationale for heterogeneous grouping appeared in the Yehezkel and Resh (1984) study in the form of negative statements about homogeneous grouping: disregard for diversity of human intellect and non-cognitive factors, diminishing teacher expectations and demands on "low" classes, decrease in student ambition, stigmas derived from labeling, and prevention of experiencing a true reflection of adult society.

However, heterogeneous grouping is not synonymous with random assignment to a classroom. Criteria for separating or mixing students are usually learning-relevant personal resources (Yehezkel & Resh, 1984), and as such, act just as much as a manipulation of students on the basis of intellectual ability as any other means of administrative organization of the student body. It is not as laissez-faire in nature as some would imply.

Data describing effects of classroom composition were analyzed from Yehezkel and Resh's (1984) research involving 700 tenth through twelfth graders and 4000 eighth and ninth graders in Israel. The affective domain was influenced by manipulation of composition, but the effect was weak. The level of classroom ability was related

negatively to academic self-image and teacher assessment of student motivation but positively related to locus of control. A weak student was less motivated and had a lower self-image when in a heterogeneous class than his counterpart in a homogeneous class, while a strong student showed higher self-image and motivation in a heterogeneous class than his intellectual peer in a homogeneous one. Locus of control was also enhanced by the process of modeling in the enriched socio-learning environment. Learning in a heterogeneous environment had a minimal negative effect on the strong student. An important implication stated by the authors was that change in student composition does activate different classroom processes which influence affective variables differently than cognitive variables. This gives justification for research on each of these domains separately.

The range of heterogeneity is also an influential variable that can be manipulated. A heterogeneous group appropriate for cluster grouping for the gifted is described by McInerney (1983) to consist of average to above average students, acknowledging that if the range were broadened to include students who were mentally or emotionally handicapped, a frustrating situation would occur for both teacher and students. McInerney listed the benefits of cluster grouping within this limited-range heterogeneous classroom as elevation of standards for all students, anti-elitism, and raising the level of individualized instruction. The social advantages, however, were presented as secondary to the gain from the curriculum prototype offered.

Evans and Marken (1982) looked for differences between sixth grade gifted groups in and out of heterogeneous groups but failed to find main effects on general self concept, though gifted students in the regular class scored slightly higher. As a reason

for no significant effect it was speculated that the range of heterogeneity in the regular classroom was not broad enough to create a differentiation from the special program class, due to a high level of socio-economic status and an education-oriented community.

Range may also appear as multiple ages constituting a heterogeneous group in a program that allows flexible pacing or early age entrance as described by Rogers (1986) in her review of research on gifted education. Interaction with agemates would not be accomplished in this form of heterogeneity.

In a meta-analysis of effects of grouping arrangements, Kulik and Kulik (1987) reported that in 21 out of 49 studies students reached higher levels of achievement in heterogeneous classes, but in only three cases was the difference statistically significant. When 15 studies of programs designed for all students were examined, a higher "overall" achievement rating for heterogeneous classes was found in only six of them. When main effects for subgroups of ability were considered, the low ability class effect level was near zero.

Non-cognitive effects of group arrangements were the target of another meta-analysis done by Kulik and Kulik (1984). Their analysis of nine studies failed to show supportive data for either method of sorting, with regard to effects on self concept. It should be noted that the samples were drawn from the general population.

In a response to the meta-analysis, Marsh (1984) pointed out the danger in reporting "overall" effects. High and low academic self concept reports of high and low students that supposedly reverse in heterogeneous and homogeneous settings can cancel each other out when averaged and mask any substantive effect for one or both subgroups. When intellectually gifted ninth graders were compared by Neufeld and Cozac (1980) to

their nongifted classmates in a heterogeneous grouping, general self concept of the gifted student was slightly higher but not statistically significant. Upon analysis of the correlations of self concept with the variables of sex, intelligence and achievement, no significant relationships were found. Academic and nonacademic subscale scores might have cancelled each other out.

Beyond this, Marsh (1984) agreed with Yehezkel and Resh (1984) on the scope of comparative reference, in that, at elementary level, students tend to limit their comparisons to within class referents, whereas secondary students broaden their social frame of reference to all classes. He cautioned that interpretations of such results are limited by the frame of reference stimuli established in the immediate context of each experiment. Marsh also claimed that ability grouping has substantial effect on academic self concept, but not on self-image of nonacademic nature, as was evidenced in his study of 305 sixth graders in five Australian schools.

Data to support this was gathered when sixth grade gifted and nongifted students in an instructional setting with no special programming for the gifted were measured for academic self concept (Chapman & McAlpine, 1988). The gifted rated themselves one standard deviation higher than the average students, except in the subscales of Penmanship and Neatness. If the reference group is so influential, it would be expected that the gifted academic self concept in the mixed group would continue to rise over time, but after two years it did not. Another long-term effect was declining satisfaction with school for the gifted. A possible cause for this was the lack of challenge in the regular classroom, resulting in boredom.

The regular classroom has been labeled as the most restrictive environment for

the gifted student. Bull (1984) addressed the handicapping conditions the gifted child experiences in the heterogeneous setting. When the gifted child is expected to conform to a learning environment that does not match his/her needs, that puts the child in conflict, forcing him/her to rebel, withdraw, or conform to something he/she is not. If the gifted student is there to enrich the socio-learning environment for the rest of the class, one is prompted to ask just how much does the gifted child have to forfeit to contribute to his/her peers?

In summary, criteria for selection, range of heterogeneity, cognitive vs. affective variables, global self concept vs. specific domains of self concept, gifted vs. general population samples all contribute to differences found in research data concerning heterogeneous grouping effects. Unfair comparisons across unlike studies are probably the major cause of heated debates on this issue. The more precisely the variables are defined, the more useful the results can be.

Partial Homogeneous Grouping (Pull-out)

The introduction of segregation of intellectually superior students for a portion of their instructional time is the subject of the next section of the review of the literature. It is the personal and social effects on the gifted students rather than the enrichment experiences provided during the "pull-out" time that relates to this study, albeit what goes on in both settings is important to the well-being of all students involved.

When gifted students are given the chance to satisfy their strong need to learn (be taught something they do not already know) and excel, their own sense of adequacy and well-being improves (Rogers, 1986). This is included in the rationale for providing any

amount of special programming for the gifted. The pull-out model represents a part-time program for gifted students.

Renzulli (1987) categorizes program models into theoretical and administrative kinds, labeling pull-out programs as the latter, since it involves grouping of students and allocating times and places for delivering services. Use of this administrative model is pervasive in gifted education as the Richardson Study located it in operation in 72% of the districts they surveyed (Cox, Daniel & Boston, 1985). Oglesby and Gallagher (1983) estimated that 95% of all gifted programs for upper elementary students implement the pull-out model. Wide use of the pull-out program type can be attributed to administrators' favorable attitude towards it. Its part-time nature serves a compromised tolerance by the community regarding any segregation of gifted students. Requirement of only one additional staff member and room makes it administratively feasible. Its interdisciplinary curriculum and its provision of some intellectual peer interaction and differentiation appeal to teachers and students (Rogers, 1986; Van Tassel-Baska, 1987).

Concern about the effects of labeling children "gifted" to begin with prompted Hershey and Oliver (1988) to survey pull-out students in grades four through twelve. The students regarded the label as a vehicle to obtain more challenging learning opportunities, giving it a positive rating.

Factors leading to success for the participants of Renzulli's revolving door version of the pull-out model were identified as class ranking (high I.Q.), self-concept, and locus of control. The fact that self concept was a part of the identification screening added 56% of the children experiencing success in the program, who would otherwise have been overlooked (Delisle & Renzulli, 1982).

Taking a look at the transition effects of gifted students being placed in a pull-out program, Coleman and Fults (1985) divided fourth grade program participants (one day/week) into high and low I.Q. groups and administered the Piers-Harris measure to the groups two weeks prior to placement and eight weeks after placement. Results indicated that only the low I.Q. group declined in global self concept after time, still remaining above average. Self concept of high I.Q. students proved to be robust. Overall, less variability in self concept is observed among gifted children than general population samples (Coleman & Fults, 1983).

Another investigation examined the effects over time, checking self concept of fourth, fifth, and sixth graders three times over an eighteen month period (Coleman & Fults, 1982). Average students in a regular class scored themselves higher than high achievers or gifted students participating in a pull-out program. Self concept of all groups increased over time, though. Since the first measure was taken only four weeks after placement in the special program (a new environment), the altering of the social comparison context for the gifted would logically account for a temporary readjustment of self-description. The study illustrates the dynamic nature of self concept and its relationship to the socio-educational setting.

When the social/emotional impact of a pull-out program was evaluated by Carter and Kuechenmeister (1986), gifted participants and their parents reported no adverse effects. Both students and their parents saw no promotion of elitism, experienced growth instead of interference in social interaction, and considered higher teacher expectations on the gifted academically appropriate. The only negative outcome of the survey came from those not connected with the program and even they were divided in their

responses. Some parents of non-program participants claimed that the program promoted elitism, but their children did not. Other positive data comes from Maddux et al., (1982) and Lytle and Campbell (1979), as their results indicated that gifted elementary students in a pull-out program were accepted, perceived as leaders by their nongifted classmates,and suffered no ill social effects due to the program.

Evidence that special pull-out programs enhance the students' attitude toward school was collected from fourth through ninth grade gifted students by Karnes and Whorton (1988), showing sixth graders to have the most positive perceptions of school. More positive feedback was obtained when gifted individuals took the effort to respond to a survey fifteen years after participating in a pull-out program (Humes & Campbell, 1980). The most beneficial aspect of the program listed by the most respondents was interaction with other gifted individuals, which is what some experts believe to be the single best thing any school can do for the gifted (Bull, 1984).

It is no wonder that any effort to meet the needs of the gifted would be received with positive participation on their part. However, the other side of the pull-out picture should be noted. Meyers (1984), Kramer (1987a, 1987b), and Van Tassell-Baska (1987) concurred that concern for affective needs of students was not as significant a factor as inadequate time allotment, fragmentation, and difficulty in integration of the regular and pull-out programs. Rogers (1986) expressed concern that children were either missing important curriculum or were making up missed work and claimed that the cost of a part-time program was actually greater than that of a full-time program.

Van Tassel-Baska (1987) debated the effectiveness of a part-time approach with Renzulli (1987) with regard to its underlying assumption that gifted students need only

five to ten per cent of their time in special programming and that the regular curriculum for the rest of the time needs no differentiating. Even if there is a claim of individualization within the regular classroom, this is often lip-service and does not actualize on a consistent basis.

In comparing the pull-out option to a full-time grouping arrangement in grades three through six, Kramer (1987a) concluded that major differences in effectiveness did not lie in the amount of time spent in the segregated group but in the amount of competitive vs. cooperative goal structuring and atmosphere in any grouping situation. The academic self concept of some students was negatively affected by a competitive structure and the children felt more of a sense of belonging and importance in a cooperative structure. This points out that the intended goals of a pull-out program to be the best of both socio-learning worlds may be clouded by other factors that come into play when assessing personal/social outcomes of part-time grouping arrangements.

To summarize, the pull-out grouping arrangement was favored by administrators and was most widely used at the elementary level. Its part-time status drew both positive and negative response. Program entry transition effects illustrated the dynamic nature of self concept. A cooperative learning environment in pull-out programs attributed more to the success of the program than did the grouping arrangement..

Homogeneous Grouping

The final section of the review deals with grouping to its fullest extent. Though grouping for all students will be briefly mentioned, the subpopulation of particular interest to this study is that of gifted students and the affective outcomes of their being

grouped homogeneously.

Homogeneous grouping merely formalizes what teachers already do within the classroom (Van Tassel-Baska (1987). Ability grouping is a common tool used by 77% of American schools (Lake, 1985), though motivation for such varies from wanting to win a football championship to sharing "not-enough" reading texts. If not based on social or political reasons, the objective may be to facilitate instruction by narrowing the range of ability. In the case of gifted students, it is the extension of the special pull-out program previously discussed to a full-time segregated school experience.

Ability grouping for any population can occur within a class or between classes. Kulik and Kulik's (1987) meta-analysis examined 90 studies to unfold implications of class composition among a multi-ability population between classes. Twenty-five of these studies looked at gifted homogeneous classes, counting 19 of them showing greater achievement than heterogeneous counterparts, 11 of which were statistically significant. Compared to a main effect of only .06 for total grade grouping, a gain of .33 standard deviation for talented students demonstrates substantial benefits in placing gifted students together. Lake (1985) and Yehezkel and Resh (1984) also lend supporting data to the conclusion that ability grouping most benefits the talented student.

The importance of this disparity is that using general population data to discourage homogeneous grouping of a subpopulation (gifted) is inappropriate. Another important implication to consider is if one's social comparison group affects academic self concept and academic self concept affects achievement (as mentioned in a previous section),then the theory that academic self concept declines when the gifted are placed together (Marsh, 1984) would not be supported by the Kulik and Kulik (1984) data.

Loss in achievement would be expected to accompany a decline in academic self concept when gifted pupils operated in a homogeneous (higher level) frame of reference, which did not happen. Instead, the enriched socio-learning environment stimulated achievement beyond that which could have been accomplished in a heterogeneous setting.

But what are the effects in the affective domain? Comparisons of this educational practice to pull-out programs and mainstreaming of the gifted into regular classes yielded no significant difference in self concept between groups for Harty, Adkins, and Hungate (1984) or Maddux et al., (1982), but in the latter investigation a trend in self concept scores of sixth graders favored the segregated group. Conclusions were drawn that ability grouping is neutral, and what transpires in the group is a more powerful variable in relation to self concept.

Kulik and Kulik's (1984) review reported small positive effects of ability grouping in four out of nine studies targeting self concept with a general population. An earlier comparison (Morra & Hills, 1978) cited the homogeneous setting as producing the most student gains, enhancing achievement, creativity, and social relations of the gifted, but Kramer (1987b) would argue that absence of program philosophy, community pressure, and inadequate teacher performance appraisal are also powerful determinants of program ineffectiveness beyond group composition. She would also advise against a competitive atmosphere in either type of programing for affective benefits as was mentioned earlier.

The research on homogeneous grouping for the gifted generally support the following: 1) match in content, level, and pace with ability, 2) removing unfair

competition/pressure for nongifted students, 3) lightening teacher load with the restricted ability range, 4) providing interaction with intellectual peers, and 5) the end being fulfillment of personal potential (Bull, 1984; Sonnenburg, 1983; Van Tassel-Baska, 1987; and Yehezkel & Resh, 1984).

The drawbacks of this grouping arrangement are 1) the impoverishing of the socio-learning environment for low students, 2) the impossibility of achieving true homogeneity due to wide variance in the combination of traits beyond I.Q. scores that make up gifted individuals, and 3) the concern for readjustment to real life situations which generally fall within a heterogeneous setting (Lake, 1985; Sonnenburg, 1983; Van Tassel-Baska, 1987; and Yehezkel & Resh, 1984).

For the gifted population, homogeneous grouping can appear in the form of a special all-day class, a school-within-a-school, a magnet school, special schools for only the gifted, a residential school for gifted, summer institutes, etc., etc. (Rogers, 1986). Alston (1984) evaluated the magnet class option for third, fourth, and fifth graders, noting that the most obvious benefit was confidence gained by interacting with academic peers on a full-time basis, not having to turn on and off one's giftedness as would be necessary in a part-time program. Rogers (1986) made reference to the more intensive full-time segregation being especially appropriate for the highly gifted, while the mildly gifted would fare well with integration in nonacademic classes (music, P.E., etc). Of course, numbers play a role in the feasibility of homogeneous offerings in any given school district.

In this section, homogeneous grouping literature showed cognitive gains for gifted students and mixed results for affective effects. Drawbacks listed focused on the

absence of gifted students as role models to non-gifted agemates, not on any harm caused to gifted students in homogeneous grouping. Homogeneous grouping was described as especially appropriate for the highly gifted, matching their extreme needs.

Summary

Sorting through the maze of contradictions in volumes of research can lead the on-going debate of its rewards vs. its scars into a never-ending circle. Rogers (1986) cites the impossibility of controlling for all potential intervening variables as the source of the blur in literature findings. Because of this, manipulation of intellectual composition in education can not be ascribed total blame or credit for the outcomes that occur therein. Each educator looking to research for the "best" way to deal with classroom composition must cautiously search out information that deals with variables in contexts that match as closely as possible their own for valuable insight..

CHAPTER III

METHODOLOGY

Hypothesis

The hypothesis investigated in this study states that there exists no difference in academic and social self concept of gifted fourth and fifth graders as they are grouped (heterogeneously, homogeneously, or in a pull-out group. Subsidiary data analyses were also conducted to examine the possible effects of sex, grade, and race on academic and social self concept. Student preference for grouping arrangement was also reported.

Subjects

Three groups of fourth and fifth grade intellectually gifted students were the subjects of this study. The students were selected from large suburban school districts in Oklahoma with similar socio-economic indices as well as similar racial (majority caucasian) composition with no predominant religious influence biased against traditional American culture and lifestyle. Though this study shall, by necessity of local state mandated identification procedures, utilize the framework of intellectual giftedness as measured by intelligence tests, this researcher recognizes that this identification will draw intellectually gifted students at varying levels of achievement and affective conditions, and that giftedness is far more complex that a single score on a test.

One group consisted of 20 fourth and fifth graders who were heterogeneously grouped for instruction with enrichment incorporated into the curriculum. This group was small due to a lack of these students in the schools in a state with a mandate for gifted education. A second group consisted of 56 fourth and fifth graders who were grouped within a heterogeneous setting with a regularly scheduled block of enriched services no more than five hours a week in a homogeneous group of gifted peers. The third group of subjects were a group of 56 fourth and fifth grade gifted students who received instruction in a homogeneous group of gifted peers all day every day. For each subject in each group, sex and time in present grouping arrangement were recorded.

Instruments

Perception of Ability Scale for Students

The last thirty years have yielded a substantial volume of research on self concept producing a number of instruments with which to measure it. Much of the criticism drawn by self concept studies has come as a result of inadequate standardization and validation of these instruments, reducing contributions of resulting data (Boersma, Chapman & Maguire, 1978). The problem centers around multidimensional organization of subscales, which when reviewed, may in fact, support a unidimensional construct of self concept (Johnson, Redfield, Miller, & Simpson, 1983; Halote, & Michael, 1984; Marsh & Smith, 1982).

For purposes of this study the multidimensional approach to self concept was taken, thereby calling for domain specific instruments for academic and social self concept. Very few such instruments with psychometric quality exist, especially for

elementary school. However, the Perception of Ability Scale for Students (PASS), formerly known as the Student's Perception of Ability Scale (Boersma & Chapman, 1978; Boersma & Chapman, 1990) is an instrument developed specifically to measure the academic self concept of elementary school children. It consists of seventy forced-choice (yes-no) items for five major academic areas, with equal numbers of positive and negative statements. Their factor analysis showed six subscales: Perception of General Ability, Perception of Arithmetic Ability, General School Satisfaction, Perception of Reading and Spelling Ability, Perception of Penmanship and Neatness, and Confidence in Academic Ability. The last subscale contains ten items while all other subscales have twelve items. The following psychometric data refers to the original instrument. New data on the renamed instrument will appear in the new manual now in press.

Boersma, Chapman, and Maguire (1979) obtained interscale correlations and normative data by administering the SPAS (Student Perception of Ability Scale, later renamed perception of Ability Scale for Students) to 642 children in grades three to six. Full scale to subscale correlations range from .541 to .770. Between subscale correlations range from .268 to .387. Low intercorrelations with relatively high full scale to subscale correlations indicate independence between subscales and collective construct validity for measuring academic self concept (Boersma, Chapman, Maguire, 1979).

Internal consistency determined by Cronbach's alpha was .915 for full scale and ranged between .686 and .855 for subscales (Boersma, Chapman & Maguire, 1979). These coefficients indicate homogeneity within subscales and suggest that items together measure a common domain. Test-retest reliability for a four to six week interval was

.834 for full scale with subscale values ranging from .714 to .824, showing the SPAS to be stable over time (Boersma, Chapman & Maguire, 1978; Chapman & Boersma, 1979b).

This instrument has also been used on LD and gifted samples in which differences in learning problems and achievement were clearly distinguished, establishing discriminant validity across subpopulations (Boersma, Chapman, & Battle, 1979; Boersma, Chapman, & Maguire, 1979; Chapman & Boersma, 1979a; Chapman & Boersma, 1979b; Chapman & McAlpine, 1988). The Piers-Harris Children's Self Concept Scale (Piers, 1969), did not equal the SPAS in its discriminating capabilities concerning learning problems.

External validity of the SPAS was established through correlation with the Piers-Harris Children's Self Concept Scale. Full scale and subscale correlation coefficients ranged from -.029 to .078 with none significant at the .05 level (Boersma, Chapman & Maguire, 1979). These low correlations indicate that the SPAS and Piers-Harris measure two distinct domains, supporting the multidimensional theory that academic self concept is distinguishable from general self concept. The Piers-Harris has undergone a factor analysis, investigating the construct validity of its academic self concept subscale. The internal consistency of .550 (reliability) was much lower than the SPAS (.915 for full scale) mentioned earlier, clearly establishing SPAS to be the scale of choice (Halote & Michael, 1984).

A moderate correlation was also found between the SPAS and end-of-year course grades (r= .489) thereby substantiating the relationship between academic self concept and achievement (Chapman & Boersma, 1979a). Effects for grade level were not

significant, supporting the theory that academic self concept is established by grade three and remains stable through the upper elementary years (Chapman & Boersma, 1979a; Chapman & Boersma, 1979b; Johnson et al., 1983; Ketcham & Snyder, 1977). It should be noted that this data was gathered from a general population sample.

Although the PASS (formerly SPAS) has been used with a mainstreamed gifted group versus an average group, further research is called for, using gifted students in the various special grouping arrangements, which was done in this study. With its psychometric merits, the PASS should yield meaningful data for the academic self concept of the gifted.

Sears Self Concept Inventory

While it is accepted that overall self concept is social in nature, use of a full scale measure of self concept to collect data on social self concept would not yield results exclusive to the social subscale in the same way the PASS does with the academic subscale. The instrument to be used for the measure of social self concept in this study was a set of subscales of the Sears Self Concept Inventory (Sears, 1975) since no independent test comparable to the PASS was found.

The construct of general self concept readily separates into academic and non-academic domains (Shavelson et al., 1976). The subscales of the Sears instrument lend themselves to this breakdown with Work Habits, School Subjects, Convergent Mental Ability and Divergent Mental Ability subscales falling under the heading of academics and the remaining subscales of Physical Ability, Attractive Appearance, Social Relations, Social Virtues, and Happy Qualities cluster around non-academic areas

of perception (Marsh & Smith, 1982; Ross & Parker, 1980).

Further breakdown which follows the dimensionality of self concept stated earlier would set aside Physical Ability and Attractive Appearance as distinct to the physical domain leaving Social Relations, Social Virtues, and Happy Qualities the subscales to specifically discriminate for social self concept (Marsh et al., 1982). This would comprise a twelve item measure on which children would respond to a five point scale for each item that ranges from "not so good" to "excellent" (Fishkin, 1989; Marsh & Smith, 1982).

The Sears testing protocol, which instructs subjects "compared with other boys and girls my age, how do I rate now?", sets a frame of reference which aligns itself with the social comparison theory (Marx & Winne, 1978). Since this study focuses on varying socio-learning groups, the context set by this frame of reference makes the Sears an appropriate instrument for use in this study.

The Sears scale was reviewed through multitrait multimethod analyses to establish validity and reliability data (Marsh & Smith, 1982). The analyses of the Sears subscale scores indicate reasonably good stability with an average convergent stability coefficient of .54 and each reaching statistical significance. The stability of the total score is .65. Convergent coefficients are assessments of correlations between the same traits assessed by different methods. The implications of convergence depends on the methods used. When methods which are very different are compared (e.g. ratings, systematic observations, and objective test scores), convergence implies validity. When using more similar methods (e.g., ratings by different respondents or two scores of one subject from random halves of a test), reliability is inferred (Marsh & Smith, 1982).

Correlations among the different factors of the Sears had a mean of .45, which is higher than desirable but lower than the stability of the factors over time (mean r=.57). The reason for substantial correlation between subscales could be their interrelatedness within the academic, non-academic realms, thus causing limited discriminant validity, though Marsh and Smith (1982) considered it "reasonable". Cronbach alpha coefficient for Sears non-academic self concept subscales (total of Social Relations, Social Virtues, Happy Qualities, Physical Ability and Attractive Appearance) was .71 (Ross & Parker, 1980).

Even though interpretation of each of the ten separate subscales was not recommended in an examination of construct validation by Shavelson et al., (1976), discrimination between subsets of academic and non-academic self concept appeared to warrant separate consideration. The physical subscales in an across instrument comparison (Marx & Winne, 1978) held good discriminant validity but were confounded with social subscales in several tests, including the Sears. The Sears, however, did not yield intercorrelation of the physical and academic subset, upholding a separation and distinguishable measures of the PASS and social self concept subset of the Sears SCI used in this study. Because of possible intercorrelations of physical and social facets of within instrument validation (Sears SCI), interpretations of the results may be limited, but the construct validity of the Sears appeared to the better choice against other instruments examined.

Design

The research design was descriptive in nature, with the collection of observational

data to determine if a relationship exists between grouping arrangement and self concept in gifted children. A 3 x 2 x 2 multivariate analysis of variance was performed with independent variables of heterogeneous, homogeneous, and pull-out groups along one dimension and boys and girls along another dimension. Dependent variables were academic and social self concept as measured by the Perception of Ability Scale for Students and the social subtests of the Sears Self Concept Inventory.

To analyze influence of extraneous variables of sex, grade, and race, multivariate analyses of variance were conducted. If no differences were found, data were collapsed across cells.

Procedure

The instruments were administered by a certified teacher to the subjects for each group in two school systems in late spring. A taped protocol was listened to by each group of subjects to standardize the instructions. In the protocol subjects were advised that the purpose of the measure is to find out about some feelings and thoughts they have about themselves and school. Subjects were also advised that honest responses are very important and that neither their parents nor teachers would examine their answers. Anonimity was assured by removal of names from demographic information before the researcher received the instruments. Approximate testing time was 30 minutes for completing both scales (PASS=20 minutes) (Boersma & Chapman, 1978). Subjects in each of the school districts were measured within the same week using the same procedures.

CHAPTER IV

RESULTS

The purpose of this study was to examine the effect of instructional grouping arrangements (heterogeneous, pull-out, homogeneous) on the academic and social self-concept of gifted students. There were 132 subjects divided into 3 groups; 20 in the heterogeneous group and 56 in each of the pull-out and homogeneous groups. The hypothesis stated that there is no difference in academic and social self concept of gifted fourth and fifth graders as they are grouped heterogeneously, homogeneously, or in a pull-out group. The data were analysed with multivariate analyses of variance, followed by post hoc tests to determine where between group variances existed. Subsidiary analyses (MANOVA's) were performed to determine any interaction of grade, sex, or race with scores on each instrument (Perception of Ability Scale for Students and Sears Self Concept Inventory). Grouping preference by group assignment was examined. Finally, correlation between scores on the two instruments (PASS & SSCI) was computed. Descriptive data are reported first.

Descriptive Statistics

Summative data on the instruments are presented in Table I. For 132 cases the grand mean for scores on the social subtests of the SSCI was 45.614 with a standard deviation of 7.995. Since these scales are only a subset of a number of scales, normative

data on the complete instrument cannot be compared to data in this study. The grand mean for scores on the PASS of 54.864 (SD 6.870) is above the mean of 46.49 (SD 12.59) obtained from a U.S. norming sample of general population students (Boersma & Chapman, 1990; Chapman, 1989). This is .665 standard deviation above the expected mean.

TABLE I

MEANS AND STANDARD DEVIATIONS OF SCORES ON PASS AND SSCI

	n	PASS*		SSCI**	
		Mean	SD	Mean	SD
Heterogeneous	20	52.5000	8.043	41.450	8.947
Pull-out	56	56.875	6.495	46.000	8.412
Homogeneous	56	53.696	6.353	46.714	6.792
Total Sample	132	54.864	6.870	45.614	7.995

*Perception of Ability Scale for Students.

**Sears Self Concept Inventory.

Hypothesis

Hypothesis: There will be no differences between academic and social self concept of gifted fourth and fifth grade students in different grouping arrangements.

Multivariate analyses of variance were performed for the independent variables of group and sex with the PASS and the SSCI as dependent variables. Analyzing academic and social self concept separately is consistent with the literature which encourages examination of domain-specific components of self concept (Bourque & Li, 1987; Kelly & Colangelo, 1984; Li, 1988; Ross & Parker, 1980). Multivariate analysis of variance was used because it allowed us to consider both within and between group differences on academic and social self concept. This method of analysis is also more conversative than multiple ANOVA's.

Grouping Arrangement

To test for interaction of group by sex for SSCI scores and PASS scores, a series of multivariate analyses of variance were conducted. The first of the series examined the effect of grouping arrangement on scores. The Wilks' Lambda test yielded a significant F value of 3.042 (df=4,250, $p<.018$), indicating an overall main effect. A breakdown using univariate F statistics showed a main effect for group on the PASS (F=3.979, df=2, 126, $p<.021$) as is shown in Table II, but not for the SSCI (F=2.832, df=2.126, $p<.063$).

A Tukey HSD test revealed the pull-out group to be significantly different from the heterogeneous and the homogeneous groups with a calculated F value exceeding the critical value of 3.07 (df 2,129) at a $p<.05$ level (see Table III). The pull-out group and the heterogeneous group displayed the greatest difference with the pull-out group scoring significantly higher in academic self concept. The Tukey post hoc test was used because it is the most appropriate test of pairwise differences, being more conservative than

Newman-Keulls and less conservative than the all possible combinations Scheffe.

TABLE II

SUMMARY OF UNIVARATE F TEST
FOR PASS BY GROUP

	SS	df	MS	F	p
PASS	328.327	2	164.163	3.979	.021
Error	5198.049	126	41.254		

TABLE III

PASS MATRIX OF PAIRWISE ABSOLUTE MEAN
AND PROBABILITY DIFFERENCES

	Heterog.		Pull-out		Homogen.
Heterog.	0.000				
Pull-out	4.375	($p < .03$)	0.000		
Homogen.	1.196	($p < .77$)	3.179	(p , .03)	0.000

Therefore, the original hypothesis that there exists no difference in academic and social self concept for gifted fourth and fifth graders in various grouping arrangements is not supported (see Figure 1).

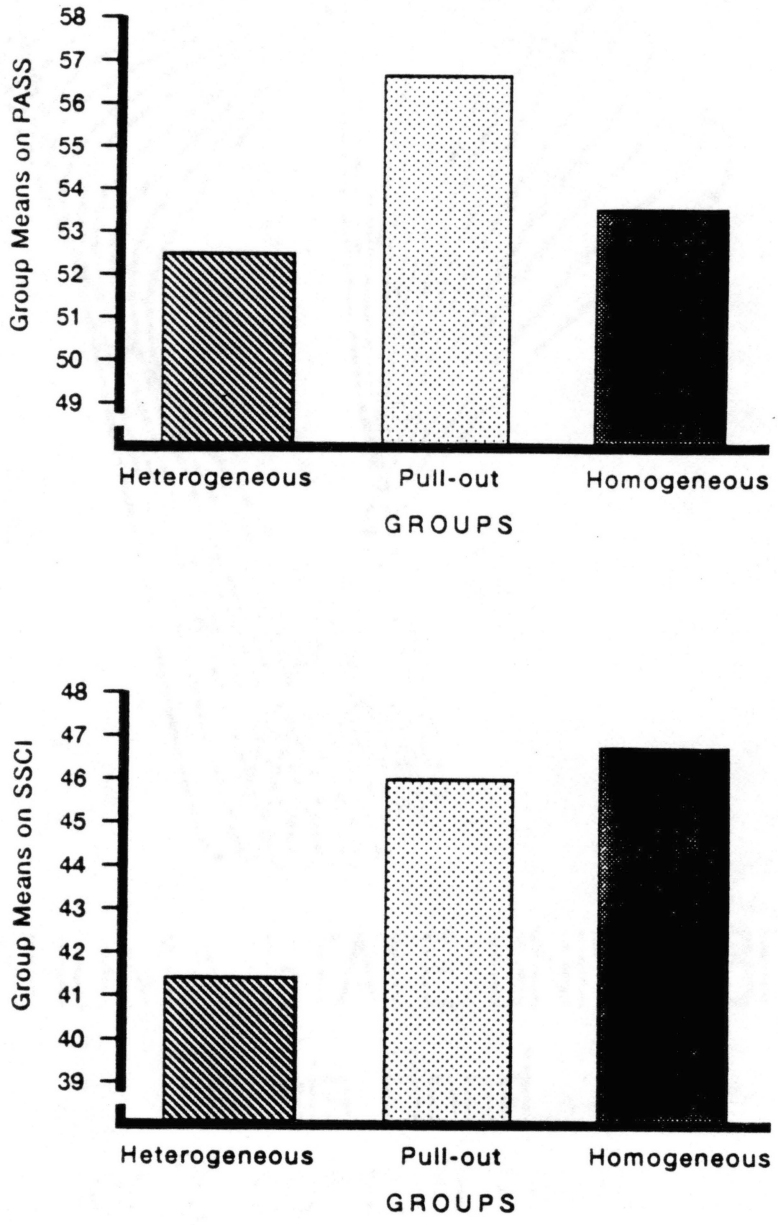

Figure 1. Group Means for Academic and Social Self Concept

Subsidiary Analyses

Subsidiary data anlayses included an examination of effects for sex, interaction of grouping arrangement by sex, effect for grade, effects for race, grouping preference, and correlation of scores on the PASS and the SSCI. Multivariate analyses of variance tests were used for sex, grade, and race. A Pearson r correlation was computed for scores on the two instruments.

Sex

The second multivariate analysis of variance was performed to examine the overall main effect of sex on instrument scores, yielding a significant F value of 10.767 (df=2,125, p<.000). Univariate F statistics resulted in significance for both the PASS (F=4.844, df=1,126, p<.030) and the SSCI (F=10.767, df=1, 126, p<.001), as is shown in Tables IV and V. Results showed that girls scored higher on the PASS and boys scored higher on the SSCI (see Figure 2).

TABLE IV

SUMMARY OF UNIVARIATE F TEST FOR SEX BY PASS SCORES

	SS	df	MS	F	p
PASS	444.167	1	444.167	10.767	.001
Error	5198.049	126	41.254		

TABLE V

SUMMARY OF UNIVARIATE F TEST FOR SEX BY SSCI SCORES

	SS	df	MS	F	p
SSCI	291.323	1	291.323	4.844	.03
Error	7578.044	126	60.143		

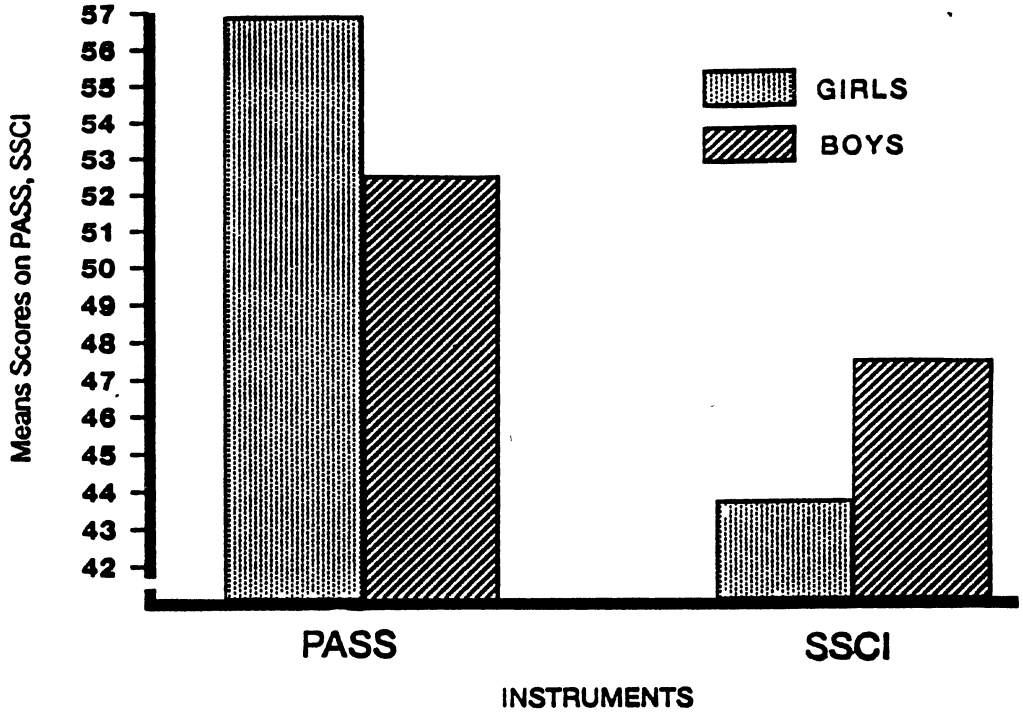

Figure 2. Mean Scores by Gender for Academic and Social Self Concept

Grouping Arrangement by Sex. The third multivariate analysis for interaction of group by sex on instrument scores resulted in an F statistic which was non-significant (F=.149, df=4, 250, p<.963).

Grade

A multivariate test for grade by SSCI and PASS scores produced a Wilks' Lambda F statistic that was not significant (F=.324, df=2,107, p<.724). Fourth and fifth graders did not score differently on the instruments. Table VI lists a breakdown of scores by grade.

TABLE VI

SCORES ON SSCI AND PASS BY GRADE

Grade	SSCI		PASS	
	Mean	SD	Mean	SD
4	46.604	7.781	55.113	6.742
5	44.949	8.116	54.696	6.993

Race. Differences in scores for racial groups could not be definitively analyzed, due to the low non-white (n=16) subjects. An overall multivariate analysis was run for

effect of race (white vs. non-white). The Wilks' Lambda F statistic of .513 (df=2,129, $p<.60$) was not significant. Therefore, scores were collapsed across racial groups for all analyses.

Time in Grouping Arrangement. Although time in grouping arrangement was recorded, there were only six cases in the category of less than six months. Therefore, groups were collapsed across time categories of more than and less than six months.

Preference

Preference for particular grouping arrangement was noted as a point of interest. With 118 cases reporting, only 8 listed heterogeneous grouping as their preference, whereas 57 selected pull-out grouping and 53 chose homogeneous grouping as their preference. Nearly all (93%) subjects preferred at least some academic interaction time with gifted peers. A 3 x 3 chi square test was calculated to compare to expectancies, but because of small cell sizes, no significant differences were found. Table VII shows distribution of preferences by group.

Correlation of Scores on Instruments

A Pearson correlation coefficient was calculated (r=.397), indicating approximately 16% of the variance is shared between instruments. This implies that scores of subjects tended to move in the same direction on the SSCI and PASS, but that the relationship is at best moderate.

TABLE VII

FREQUENCY TABLE FOR GROUP PREFERENCE BY GROUP

		Preference		
		Heterog.	Pull-out	Homog.
Group	n			
Heterog.	16	3	5	8
Pull-out	46	3	27	16
Homog.	56	2	25	29
Totals	118	8	57	53
%		7	48	45

CHAPTER V

CONCLUSIONS

Discussion

Results on the effects on self concept of grouping arrangements of fourth and fifth grade gifted students in this study indicated that the heterogeneous setting was the least enhancing in both academic and social domains. Academic self-perception in the heterogeneous group rose above the normative mean, but was below academic self concept of students whose intellectual abilities were both acknowledged and stimulated with intellectual peers on a continuous basis. It is evident that the gifted students were not fully aware of the extent of their intellectual ability in the heterogeneous group. With the apparent connection between academic self concept and achievement, the slower pace of learning for their less able classmates, and the absence of ample intellectual peer stimulation, the amount of growth in academic achievement or academic self concept that can realistically take place for the gifted student in this setting would appear to be adversely affected.

The lowest standing in social self concept was also held by the heterogeneous group, though significance was not reached. Since children tend to perceive their social success in the frame of reference of their daily peers, this implies that socialization, or more important, perception of socialization, may be slightly diminished for gifted students in the heterogeneous environment. It is more likely that, in this setting, the

gifted student finds fewer similar peers. This relates to findings from Janos, Fung and Robinson (1985) regarding gifted students who viewed themselves as different, albeit superior, reported more difficulties in their relations with other children. The subjects in that study reported negative perceptions of being different. The subjects in this study also showed the least favorable perception of social confidence when compared to other grouping assignments.

The most enhancing arrangements for academic and social self concept were the pull-out grouping for academic self concept and the homogeneous grouping for social self concept. In addition, variance within groups, as measured by standard deviations, was found to be greatest in the heterogeneous group (SD on PASS=8.043, SD on SSCI=8.947) and least in the homogeneous group (SD on PASS=6.354, SD on SSCI=6.792) in both domains.

The pull-out group's high self-perception of ability may have been influenced, in part, by reinforcement of their relative superior standing on a regular basis as they left their non-program classmates to attend the gifted class, while their gifted counterparts in the homogeneous group faced a frame of reference where their otherwise extraordinary abilities were considered the norm on a daily basis. Another possible influence on the academic self concept scores of the homogeneously grouped students could be attributed to their direct instruction in self-evaluation skills. A gifted student who regularly practices assessing his/her own progress, strengths, and weaknesses is less likely to report an inflated perception because he/she is accustomed to (feels safe enough) reporting objectively with criteria. Therefore, the lower academic self concept score of the homogeneous group when compared to the pull-out group may not represent a less

desired self concept, but one that is more accurate.

The PASS was reported to bear moderate correlation to grades (Boersma & Chapman, 1978), which implies that grades could effect influence on one's perception of academic ability. Gifted students in the pull-out group would have greater opportunity to receive consistently high grades in regular classroom curriculum, whereas grades for advanced curriculum in the homogeneous class, reflecting progress at gifted students' higher instructional level, may not always be high. Therefore, educators must weigh the cost that challenging the gifted student has on academic self concept against possible inflated perception of ability using on-grade level curriculum.

While the effect of grouping arrangement upon the academic self concept of gifted elementary students in this study cannot conclusively dictate programming decisions, several observations should be noted. The significant difference in academic self concept among grouping arrangements supports prior literature in regard to the affective influence of the intellectual composition of student peer groups. If academic self concept is related to academic achievement, then intellectual peer interaction should be included as a valid consideration in educating the gifted to their maximum potential.

Social self concept slightly affected by group placement, tended to increase with more interaction time with intellectual peers. It is no surprise to find students in the homogeneous setting finding a comfortable social place with those who possess common intellectual abilities. Empathy is more likely to be demonstrated where students struggle with some of the same consequences of being very bright. When one receives peer understanding, one feels a greater sense of social comfort.

Many educators express concern about possible lack of social skills in gifted

students who are grouped homogeneously. This was not supported in this study with the higher self-reported social confidence of that group. The gifted students who scored lowest were those left without a large day-to-day peer support group.

Though significant differences were found for academic self concept in grouping arrangements in this study, generalizations are greatly diminished by the low number of subjects in the heterogeneous group. It should be noted that difficulty was encountered in obtaining subjects for this group for several reasons.

First, school systems who mainstream gifted students were less likely to identify and/or provide differentiated services for those students due to their philosophical position. Even in a region where intellectual giftedness was mandated by state law, many schools failed to have identifying measures of student intellectual ability. Second, where gifted students were mainstreamed, school officials were reluctant to allow these students to participate in a research study which brought to their attention their giftedness. Third, any involvement with research of an affective nature was met with reluctance by school officials. Fourth, there are fewer schools that serve gifted students in a heterogeneous setting than those which separate gifted students for at least some portion of time. Therefore, the need for more research with subjects in the heterogeneous grouping arrangement is needed, if meaningful generalizations are to be made possible.

The effect of sex on scores on the PASS supports the literature showing elementary gifted girls to be aware of and comfortable with academic excellence. It should also be observed that, while gifted elementary boys scored lower in academic self concept than gifted girls, they scored well above the mean of general population students,

indicating a strong academic self concept.

The reverse trend of girls scoring lower on the SSCI than boys implies that girls are more sensitive to social interactions (i.e., relationships) than boys. Along with being a general gender issue, this is in alignment with the masculine vs. feminine viewpoint of giftedness, in which the masculine perspective focuses on productivity (achievement), while the feminine focus is on nurturing behavioral traits and personal fulfillment. Whether these are viewed from the perspective of innate or learned sex roles, differences were evidenced in this study. These findings should prompt educators to provide opportunities that encourage boys and girls in development of their respective perceived affective weaknesses.

Self-reported preference by nearly all respondents for at least some instructional time with gifted peers should be taken seriously by those who teach gifted students. By virtue of their acute awareness of their social context and hunger to learn, gifted students can contribute important information that should be considered in the decision-making process regarding their educational programs.

Recommendations

The low n for the heterogeneous gorup obviously calls for research with a bigger sample in this grouping arrangement. It is important to gather comparative data using large numbers in all three groupings in order to make generalizations about the grouping variable.

Another point of interest about the sample of this study is that, it was, by design, virtually all white, with other ethnic groups not duly represented. Further research with

minority races is recommended to see if affective measures vary among ehtnic groups.

Even though there existed no grade level differences for this study, it is recommended that similar data be collected on gifted sixth, seventh, and eighth graders to see in what way changing adolescent phenomena influence academic and social self concept, given the likelihood of early entry into the formal operations developmental stage.

Since nearly all the subjects had participated in their grouping arrangements for at least six months, there was not established a difference over time for grouping. Before and after placement indicates reaction to change, but does not show long-term effects. Longitudinal studies are needed to check for improvement or decline in academic and social self concept of gifted students in various groupings.

Summary

It is recognized by the researcher that rarely does a single educational variable act independently to contribute an effect of great magnitude. Such variables as class size, peer achievement levels, teacher effectiveness, cooperative vs. competitive atmosphere, extent of acceleration and enrichment, or personal problems could potentially interact within grouping arrangements to influence results. However, with gender interaction between scores on PASS and SSCI appearing as the only interfering variable (not grade, not race, not socio-economic status), grouping arrangement as the indepenent variable was fairly isolated. The pull-out group ranked highest in academic self concept and the homogeneous group ranked highest in social self concept. Heterogeneous grouping ranked lowest in both areas of self concept and was not preferred by the gifted students.

Grouping preference reported by students was split nearly half and half, with the pull-out arrangement slightly favored over the homogeneous arrangement.

This study concentrated primarily on intellectual composition and addressed in the discussion only issues which directly related to variables affecting gifted students' self concept in the context of their peers. Caution is advised against comparisons of studies across subpopulations. Results describing general populations do not necessarily describe gifted populations in the same circumstances. Furthermore, any other study which is compared to this one should share the same narrow criteria within its discussion or that comparison loses meaning. Attributing cause across dissimilar variables is inconsistent and misleading. Because of the low n in the heterogeneous group, the strength of this study is weakened. But even that fact was a reference to administrative attitude of reluctance to address differing needs of the gifted, so often seen in a heterogeneous program.

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APPENDIX

INSTRUMENTS

DEMOGRAPHIC INFORMATION ON SUBJECTS

Name_____

- -

Grade: 4 or 5 Boy or Girl Race: White Indian
Black Oriental
Asian Hispanic
Other_____

	yr	mo
Today's Date	____	____
Your Birthday	____	____
Age	____	____

School District: _____

Group: Heterogeneous
Pull-out
Homogenenous

Time in present grouping: < 6 mo.
> 6 mo.

Instrument: PASS
SSCI

Sears Inventory

Some boys and girls have thought about the things they do and decided that the items on these pages were helpful in thinking about themselves. This is a chance for you to look at yourself and decide what your strong points are and what your weak points are. This is not a test; we expect everyone to have different answers---so be sure your answers show how you think about yourself. Your answers are private and will not seen by your teachers. The researcher will remove your name from the information sheet before she examines the responses.

Read each item and then answer the question: Compared with other boys and girls my age how do I rate now?

Find the line under whatever heading indicates your answer. (The words at the top show what the lines in each column stand for.) Mark an X on that line. Now go right ahead. Work as fast as you like.

	Excellent	Very good	Better than most	OK	Not so good
1. Making friends easily with my own sex	____	____	____	____	____
2. Being willing for others to have their way sometimes	____	____	____	____	____
3. Being confident, not shy or timid	____	____	____	____	____
4. Being a leader--the one to get things started with own sex	____	____	____	____	____
5. Making other people feel at ease	____	____	____	____	____
6. Getting a lot of fun out of life	____	____	____	____	____
7. Having plenty of friends, among my own sex	____	____	____	____	____
8. Being sensitive to what other people are feeling	____	____	____	____	____
9. Being able to change things when they don't suit me	____	____	____	____	____
10. Being active in social affairs, with my own sex	____	____	____	____	____
11. Being easy to get along with	____	____	____	____	____
12. Enjoying myself in school	____	____	____	____	____

Sears (1975). This instrument can be obtained through Educational Testing Service Test Collection, Princeton, New Jersey.

STUDENT'S PERCEPTION OF ABILITY SCALE

Frederic J. Boersma and James W. Chapman

Name _____ Birth Date _____

Boy _____ Girl _____ Grade _____ School _____

IMPORTANT DIRECTIONS FOR MARKING ANSWERS

Use black soft lead pencil only
Circle each answer completely.
Erase clearly any answer you wish to change.
Make no stray marks on this answer sheet.
Answer each item Yes or No.

DO NOT MARK BELOW THIS LINE

STUDENT I D | 1 | 6 | 0 | 1 |
Col 1 2 3 4

SEX [ ] 5

GRADE [ ] 6

AGE IN MONTHS [ ][ ][ ] 7 8 9

VITA

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