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A study of gifted students: Relationship of intelligence and self-concept

Leah H. Lorber
University of Northern Iowa

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A STUDY OF GIFTED STUDENTS:
RELATIONSHIP OF
INTELLIGENCE AND SELF-CONCEPT

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Leah H. Lorber

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This research paper by Leah H. Lorber

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has been approved as meeting the research paper requirement for the Degree of Master of Arts in Education.

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Gaile S. Cannella
Director of Research Paper

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Mary Nan Kay Aldridge
Reader of Research Paper

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Date Received

Gaile S. Cannella
Graduate Faculty Advisor

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Date Received

Charles R. May
Head, Department of Curriculum and Instruction

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CHAPTER I

INTRODUCTION

Gifted education has begun to receive more attention from educators. As a result, studies and programs have emerged which identify students according to a five-part federal definition that considers general intellectual ability, academic aptitude, creativity, leadership ability, and talent in the visual and performing arts (Baltzer, 1982). Unfortunately, some of these students who display these promising characteristics sometimes exhibit social, emotional and behavioral problems as well (Alvino, 1981).

Statistics reveal that many bright adolescents are failing to attain a desired end or "dropping out" of school and life. A government study reported that 80,000 youth with reported IQs over 110 make up 11 percent of the total population leaving school before graduation each year (Warner, 1964). Yale University School of Medicine estimated 8-12 percent of college students' deaths to be suicide (Parrish, 1957); over a five year period, the University of Michigan cited an 85 percent increase in student suicides and attempts (Grollman, 1971); and the "wrist-cutting syndrome" is most prevalent among females who, among other factors, are under twenty and have a higher than average IQ (Grueling and DeBlassie, 1980).

These figures indicate that there are mentally superior students who are undergoing difficulties and are not reaching their fullest potential. Research supports that difficulties people experience in living are closely related to the way in whch they see themselves. Many theorists considered self-concept, ones perceptions and evaluation

of oneself, to be a key point in our understanding of how the individual functions (Combs & Snygg, 1959; Jersild, 1954; Phillips, 1964; Rogers, 1961).

The self-concept of children with superior intelligence has historically been expressed in the view that genius and psychological maladjustment go hand in hand (Lombroso, 1891; Freud, 1922; Kretschmer, 1931). However, Terman's longitudinal investigation of intellectually gifted children clearly contradicted those views that highly superior intelligence is associated with social and emotional instability (Burks, Jensen, & Terman, 1930; Cox, 1926; Terman, 1925; Terman & Oden, 1947, 1959). Strang, in her review of the literature (1963), cited only half a dozen studies through 1958, all reporting superior adjustment in children and adolescents of superior intelligence. A more recent study reported a significant positive correlation between self-concept and intelligence (O'Such, Havertape & Pierce, 1979).

Given this current trend of research to support that mentally gifted persons have more adequate personal-social adjustment, as contrasted by the statistics in drop-out rate and suicide, which indicate the opposite, it appears worthwhile to further examine the realtionship between intelligence and self-concept. The purpose of this study was to add to the research dealing with the relationship between intelligence and self-concept.

Statement of the Problem

This study sought to investigate the relationship between intelligence and self-concept. Specifically, intelligence quotient (IQ) scores derived on the Slosson Intelligence Test for Children and Adults (SIT) for a total population of seventh graders in one school district were correlated with scores from the Piers-Harris Children's Self-Concept Scale or "The Way I Feel About Myself" (PH). In addition, PH mean scores for high and low IQ subgroups were analyzed for variance.

Limitations of the Study

This study was conducted from February, 1982, to April, 1982. The subjects of the study were the total population of 52 seventh grade students in a southern Iowa rural community school district with a total enrollment of 752 students. This school district was consolidated from four communities, each populated with 1,500 or less citizens. These communities tended toward low socio-economic conditions as indicated by the fact that one out of five families qualified for free or reduced lunch as reported by Title I statistics.

Hypotheses Tested

In order to investigate the relationship between intelligence and self-concept, this study proposed the following hypotheses:

I. No relationship exists between self-concept as determined by the Piers-Harris Self-Concept Scale and intelligence as determined by the Slosson Intelligence Test for Children and Adults for seventh grade students.

II. No difference exists in self-concepts between students who obtain high intelligence test scores and those who do not.

Definitions of Terms

Terms used in this study are defined as they relate to the literature that was reviewed and their applicability to this study.

Affective Education is that part of education which deals with the feeling, attitudes and values of the student (Chase, 1975).

Construct as defined in the area of psychology is an intellectual synthesis, as every sense perception is a construct (Webster, 1963).

Drop-out is the one who fails to achieve or attain a desired end.

Gifted Student is the one who has superior intellectual development and is capable of high performance, including demonstrated achievement or potential for the purposes of this study.

Intelligence is the measure of performance on specific tests of cognitive ability (Sattler, 1982).

Intelligence Quotient (IQ) is an index of rate of cognitive development found by obtaining the ratio between mental age (MA) and chronological age (CA); IQ = MA/CA x 100. The Slosson Intelligence Test uses the ratio IQ. Preferred current practice is to compute a Deviation IQ which is the IQ obtained by converting raw scores on an intelligence test to a score distribution having a mean of 100 and a standard deviation of 16 for the Stanford-Binet or 15 for the Wechsler tests (Sattler, 1982).

Self-concept is defined in this study as a multi-dimensional construct that covers the range of ones perceptions and evaluations of oneself (Whitmore, 1980).

Organization of the Study

The first chapter of this study has introduced the alarming statistics that gifted students have a high rate of academic drop-out and suicide. These characteristics indicate poor self-concept which is in direct contradiction to the literature which supports the premise that superior intelligence promotes superior self-concept. In order to further investigate this problem, the chronological order of chapters in this study is as follows: Review of Literature, which surveys current studies on (a) gifted and self-concept, (b) self-concept and intelligence, and (c) curriculum and strategies utilized to enhance self-concept (affective) in gifted education; Methods and Procedures, which describes this study designed to ascertain the direction and degree of relationship between measured self-concept and intelligence of 52 seventh graders as derived on the Piers-Harris Self-Concept Scale and the Slosson Intelligence Test; Results of the Study; and Summary, Conclusions and Recommendations based upon the results of the study and the literature pertaining to affective education of the gifted.

CHAPTER 2

REVIEW OF LITERATURE

Recent statistics indicate that, in spite of high intelligence and ability, some gifted students are not meeting schools' and society's levels of expectation and are dropping out or leaving school before graduation, or worse, committing suicide. Since an individual's self-concept generally is thought to be directly related to ones performance, self-concept and the gifted student seems to be related research. In addition, another aspect of self-concept at issue here is the relationship of self-concept and intelligence. Research supports that there is a significant positive correlation between self-concept and intelligence (O'Such et al., 1979). Therefore, the gifted student with superior intelligence should also have a superior self-concept, a notion that conflicts directly with the data citing gifted drop-outs and suicides. This paradox indicates that educators need to understand the constructs of intelligence and self-concept in regard to gifted students to be able to provide appropriate curriculum for the gifted.

This study investigated the relationship of intelligence and self-concept by investigating the relationship between the IQs derived from the Slosson Intelligence Test with the self-concept scores derived from the Piers-Harris Self-Concept Scale for 52 seventh graders. The literature cited in this study branches into three areas: (a) gifted and self-concept, (b) self-concept and intelligence, and (c) strategies designed to enhance self-concept in gifted education.

The first category, gifted and self-concept, is introduced with a brief overview of various positions held in the past by scholars and researchers on the personal-social adjustment of the gifted and expands to the current philosophies and studies dealing with the gifted child's personality attributes. The second category, self-concept and intelligence, reports the literature that deals with intelligence and self-concept. Four key studies are cited: the first three compare intellectually gifted to average groups and the fourth examines intellectually gifted children exclusively. The third category examines current literature on the strategies recommended to enhance the self-concept of the gifted student.

Gifted and Self-Concept

In 1891 Lumbroso published the Man of Genius in London which postulated a connection between genius and nervous instability or insanity. This line of thinking was reinforced by Kretschmer in 1931, whose theory attributed genius to "bastardization" which created a "polar tension within the individual", accounting for a "restless impulsiveness" that led to exceptional accomplishments and to insanity (Hollingworth, 1942). In 1890 Sir Francis Galton was the first scientist to produce a comprehensive description of gifted individuals and to supply information about the origins and development of genius (Whitmore, 1980). Beginning in 1906 in America, Terman's work supported Galton's findings as his systematic study of young geniuses discredited the theory that the gifted child

could excel only in certain kinds of mental performance and lacked general ability; that giftedness furthermore was accompanied by illness, social failure or some compensatory deficiency. In this study, Terman's research group was selected in a field study conducted in 1921-1923. Terman identified 1,470 children with IQs of 135 or over on the Stanford-Binet. They were mainly from grades 3-8 in the California public school system. Another 58 children, younger siblings of previously selected subjects, were added in 1928 (Sears,1977). For the initial study of the children, in 1922, Terman secured data by questionnaires, interviews, and rating scales from parents and elementary school teachers. Terman's data indicated that mentally gifted children typically are large and strong for their ages, healthier than average children, more emotionally stable, far less apt to be guilty of juvenile mis-behavior, and more resistant to temptations than other children.

However, the first work of Terman's, The Mental and Physical Traits of a Thousand Gifted Children (1925) reported at least one out of five gifted children has more "faults" than the average child of the general population; one out of 20 presents a serious problem. His follow-up in 1947 (Terman & Oden) concluded that the gifted population contains fewer severely maladjusted personalities than did the general because of the superior problem solving and coping skills possessed by the intellectually superior. Although they found 80% of the subjects had attained satisfactory adjustment, 15 percent exhibited some"maladjustment " and 5 percent were

seriously "maladjusted."

More recently, Thomas (1967) refined our understanding of the conflict that produces "maladjustment" for the gifted child. He described it as occuring in three basic configurations of conflict: (a) two or more needs in conflict e.g., the need for social approval and also for nonconformity or independence; (b) conflict between inner needs and the superego or conscience e.g., the conscience repressing the creative impulse or need for self-expression, or the conflict between the need for social approval and the guilt instilled by "goofing off with the crowd"; (c) conflict between the individual's need for both expressed individuality and social acceptance, and the tendency of children and adults to reject the child who is different.

Current literature also indicates that gifted children demonstrate personality attributes that may tend to increase their vulnerability to Thomas's conflicts. These are perfectionism, supersensitivity and deficit social skills. Whitmore (1980) regards the internal pressure towards perfection as the most influential, yet overlooked, aspect of being gifted. This characteristic has made gifted children vulnerable to chronic situational feelings of inadequacy and inferiority because it is accompanied by a tendency to set unrealistic performance expectations. The child tends to be unrealistic in the level of complexity, the level of quality and perfection, and in the quantity of productivity (s)he expects of (her)himself (Whitmore, 1980). Other studies that support this idea of

perfectionism include a study by Barrett (1957) reporting that both gifted achievers and underachievers suffer from feelings of inadequacy; a report by Strang (1951) included many personal writings by gifted children that revealed their sense of perfectionism and dissatisfaction with personal performance; and Haggard's (1957) study of the effects of pressure to achieve on the feelings and behavior of gifted students which reported that both achievers and underachievers suffer negative effects from academic pressure.

Cruickshank (1963) theorized that the supersensitibity of the nervous system creates intellectual giftedness by allowing the assimilation of extraordinary amounts of sensory input. That supersensitivity enables the child to be more discriminating of the details of stimuli and variations in quality, and more perceptive regarding relationships, which contributes to a tendency to be analytical and critical of self and others. This supersensitivity is easily extended to social awareness of interpersonal reactions, group dynamics, and causal relationships between persons. A danger in the child's supersensitivity to social feedback is the tendency to perceive rejection and then to develop feelings of social isolation.

Finally, the gifted child may suffer deficit in social skills. Whitmore (1980) describes two variations of the problem. One type is the high achiever who attempts to manipulate and control social situations, the other is one who has had limited interaction with other children in the formative years. In a supporting study, Hollingworth (1942) described

highly gifted children who found greater personal satisfaction in solitary play than in trying to enjoy interaction with agemates who do not share the same interests or abilities. Torrance (1963) also studied the factor of social isolation caused by this intellectual-emotional rift which caused the creatively gifted child to believe (s)he is a "minority of one." He reported the resulting loneliness may drive some gifted children to great achievements, but the more frequent result is underachievement, apathy, withdrawal, violence, delinquency and/or mental illness(Torrance, 1970).

Self-Concept and Intelligence

There have been few empirical studies on the question of personal-social adjustment in children of superior intelligence. Strang (1963), in her review of the literature, cited only half a dozen studies through 1958, all reporting superior personal-social adjustment in children and adolescents of superior intelligence. In summaries of research McCandless (1967) and Thompson (1972) concluded that self-concept is a major index of personal-social adjustment. They reported many studies relating positive self-concept to school achievement, but no studies on the relationship of self-concept to intelligence. Getzels and Dillon (1973) reviewed the literature on giftedness, broadly defined as high intelligence, and reported no additional empirical studies of the relationship of superior intelligence to personality characteristics in gifted children.

A recent review of the literature found studies and research that primarily consist of delineating the variables that distinguish the gifted from normal or standardization populations. The following three studies compare gifted students to a norm or average population.

Klein and Cantor (1976) conducted a survey to investigate the early social and psychological development of the gifted child. Of 92 children from kindergarten to fourth grade, 38 were considered gifted on the basis of an IQ of 130 or above on the WISC or Standford-Binet Intelligence Scale. The Self-Esteem Inventory and the Piers-Harris Children's Self-Concept Scale were used to measure self-esteem. Of the gifted children, 41.4% fell within the low self-esteem group as compared to 37.6% of the nongifted children; and 33.3% of the gifted were in the high esteem group compared to 32.9% of the nongifted group. When only kindergarten children's scores were examined, 22.2% of the gifted were in the high esteem group compared to 33.3% of the nongifted children. These percentages indicate the gifted students in this study do not exceed nongifted students in self-concept scores.

The second study, by Milgram and Milgram (1976), compared the personality characteristics of two groups of Israeli students in grades 4-8, one intellectually gifted with a mean WISC IQ of 140 (N = 182) and in a gifted program, and one nongifted (N = 310). An Israeli adaptation of the Tennessee Self-Concept Scale was used. The scale consists of 100 items to which students answer yes or no, yielding 29 scores. In addition to an

overall self-esteem, the scale yields self-concept measures in five different areas of the life space (physical self, moral-ethical self, personal self, family self, and social self), in three levels of self-concept (self-description, self-acceptance, and evaluation of one's behavior), and in a variety of criterion-keyed adjustment/maladjustment scales. In this study not all differences favored the gifted group. Nongifted children had a more positive self-concept with regard to body image (Physical self). Also at the older age levels (seventh-eighth grades), the nongifted children described themselves in more positive terms (Identity, $\bar{D} = 4.93$, $t = 2.97$, $p < .05$), reported greater sense of personal worth and self-confidence (Personal self, $\bar{D} = 2.96$, $t = 2.21$, $p < .05$), and were less similar to neurotic reference group(Neurosis, $\bar{D} = 5.21$, $t = 2.69$, $p < .01$).

Another study from Israel (Ziv, Rimon and Doni, 1977) examined self-concept in fifth to eighth grade gifted and average achievers and underachievers. Group intelligence tests were administered to 2000 children and the top 95 children were identified as gifted. The average IQ for this sample on individually administered WISC was 142 (scores ranged from 131 to 156). Another sample of 95 children was matched to the gifted sample on age, sex and socio-economic level from the initial population of 2000. The mean IQ of this sample was 105 (range 100-110). Both samples were divided into thirds on the basis of school grades. The children in the upper third in each sample were considered achievers and the children in the lower third were considered underachievers.

A test of self-concept was constructed with six scales for three dimensions (evaluation, potency and activity), each on a continuum of points from 1 to 10 (from lowest to highest category). All students filled out the self-concept scales and the Mann-Whitney U test was used to compare group data. The results indicated that the self-concept of the achievers in the average sample was significantly higher than that of the underachievers ($U = 428$, $p < .05$), but in the gifted sample the reverse was true: underachievers showed higher mean self-concepts than achievers ($U = 210$, $p < .05$). In addition, the group mean for self-concept (115.5) of the non-gifted achievers was higher than the group mean for self-concept (110.5) of the gifted achievers. The data for the gifted group is contrary to accepted theory for the relationship of self-concept and intelligence and self-concept and achievement.

One study was found that did not compare gifted to normal but did separate the gifted into two groups for comparison. This study by Milgram and Milgram (1976) examines the relationship of intelligence to self-concept in Israeli children (N=159) of IQ 125 and above (mean WISC IQ = 140) across a wide range (grades 4-8). The tests used were the Milta, a new edition of a group test widely used in Israel, and an Israeli adaptation of the Tennessee Self-Concept Scale (described previously in another study). The Milta consists of five timed subtests: Sentence Completion, Vocabulary, Verbal Analogies, Oddities and Arithmetic. Standard scores were computed separately by subtest and the five subtest

standard scores were summed for a total score per subject. The relationship of intelligence to self-concept was found to be weak. In an analysis of variance only three of the 29 measures of self-concept yielded significant main effects for intelligence. High intelligence children were less likely than low to adopt a yea-saying response set,($F = 9.10$, $p < .003$); more self-consistent in self-concept ($F = 9.02$, $p < .003$); and tended to be less characterized by deviant pathological signs ($f = 2.99$, $p < .10$). (In the analysis of variance, children above or below the median in intelligence were referred to as high or low . Scores below the median ranged from 125-140.)

Strategies to Enhance Self-Concept in Gifted

In the review of literature for strategies to enhance self-concept in gifted education, numerous studies which deal with affective education were listed. Chase (1975) attributes this increase in affective education to the growing influence of humanistic psychology. He cites that curriculum has been developed around the basic assumptions of humanistic theorists, that people can become aware of and control the forces affecting them, can make choices, can respond freely and intelligently, can solve their problems and can nuture personal and interpersonal growth. As a result, experiences have been developed for students to help them feel good about themselves, become aware of themselves, and others, develop

communication and problem-solving skills to help them cope with things in general. The studies concerned with that part of affective education which refers to self-concept are those cited in this part of the review of literature.

Generally, these studies on strategies used to enhance self-concept in gifted children discussed the unique problems of gifted students that lead to feelings of inadequacy and development of negative self-concept such as those addressed in the first part of this literature review. They then describe what would be the most appropriate curriculum and strategies to prescribe for gifted children. These recommended strategies were often grouped into categories by the authors. For example, Clark (1979) discussed three elements necessary for development of a positive self-concept for gifted children: (a) opportunities to experience themselves as positive, loving persons who are cared about and thought well of by others; (b) teaching functions necessary to facilitate the establishment of a climate of trust, acceptance and caring; (c) and organizational patterns which encourage the small group or close, interactive group. Canfield and Wells (1976) cited seven strategy areas for enhancing self-concept: (a) building strategies for an environment of positive support; (b) strategies which concentrate on personal strengths; (c)self-discovery strategies; (d) strategies for acceptance of body; (e) goal-setting strategies; (f) strategies which explore general semantics; and (g) strategies which deal with relationships with other. Sisk (1972)

describes a set of guiding principles which capitalize on building gifted students' inner strengths, or their perception of inner strengths. These principles were expressed in terms of teacher behavior in relation to the individual gifted pupil. The teacher will help the gifted student (a) think about who (s)he is and what (s)he can or ought to do; (b) to feel valuable and worthwhile; (c) to see learning as relevant to his(her) individual need; (d) and to develop and maintain a learning atmosphere that reflects purposeful learning. Whitmore (1980) described a special program for highly gifted underachievers which was shaped by findings in research on the characteristics of gifted children and structured around a framework of social psychological theories and principles. The two primary concerns involved in planning and evaluating this program were (a) enhancing self-esteem and revising self-concepts, and (b) developing motivated classroom participation through providing appropriate curriculum and instruction. The principal program elements were: (a) the individualization and personalization of the teaching-learning process; (b) the pupil-teacher partnership in learning; (c) the support of a responsive peer group; (d) and an atmosphere of freedom to express, experiment, and explore without threat of failure or rejection.

Although many curriculum packages or products on the educational market were listed, including a compendium of techniques and resources by Treffinger et al.,(1976), this study generally discusses types of strategies, rather than the products or curriculum packages themselves. These types of

strategies will be discussed as they pertain to the teacher and educational climate, the student, and the student's relationships and interactions with others.

The teacher and the climate. A number of studies have concluded that among the significant people believed to affect children's feelings about themselves are their teachers. Perkins (1958) found that teachers who had completed several years of child study promoted healthier personality growth in children defined in terms of congruency between self and ideal self. Edeburn and Landry (1974) reported research that proposed that a teacher's self-acceptance was positively related to the development of good self-concepts in elementary schoolchildren. The teacher is the model and leader, and Purkey (1970) distinguished two aspects of the teacher's role that significantly influence the self-concept of the student in the classroom: (a) the attitudes conveyed and (b) the atmosphere developed. The teacher must be self-aware and honest with personal feelings and thus, be able to be accepting and honest with others in a sensitive manner. Arent (1979) states that the most fundamental base from which the teacher works is unblemished authenticity, that truth is steadfast and non-negotiable. Alvino (1981) sees the teacher as the day-to-day guidance counselor and lists nine general guidelines which overlap with many other authors' suggestions: (a) accept and treat all students as unique persons; (b) build trust by being honest, supportive and open; (c) set up situations and experiences for encouraging student self-discovery,

awareness, and understanding of their needs, desires, values and abilities; (d) advocate and cultivate student self-determination and freedom in varied contexts; (e) help liberate students from oppressive and unrealistic external and self-expectations, (f) give students an opportunity to set goals for themselves and practice decision-making skills in all facets of school life; (g) help students understand what is involved in making ethical judgments, as well as the impact and consequences of their actions; (h) help students come to terms with their responsibilities to others and themselves; and (i) enhance possibilities for greater student self-acceptance and productivity.

Some of the other strategies that promote this climate are (a) the teacher's use of reflective or active listening; (b) evaluation of a student's work by looking at strengths (Canfield and Wells, 1976); (c) use of a style of teaching compatible with style of learning for gifted student (Whitmore, 1980); (d) a balance between graded and value-free work to provide both for the opportunity to excel and for experimentation and risk-taking without fear of failure (Arent, 1979); (e) use of plans, contracts and agreements to provide for self-selection, self-pacing and self-evaluation (Whitmore, 1980); (f) provide problem solving and discovery learning for development of creative and analytical abilities (Whitmore, 1980); (g) utilize activities for divergent and convergent thinking to solve problems and effect change which affirms the gifted student's power to overcome obstacles and solve problems interferring

with personal accomplishments (Whitmore, 1980); (h) encourage students to design and maintain a physical environment that is attractive and bespeaks the degree to which the place is important and valued by its inhabitants (Whitmore, 1980); and (i) utilize observations, interviews, open-ended sentences, group discussions, and self-concept measures to analyze and determine specific problems for intervention (Fraisier and McCannon, 1981). This list of effective supportive strategies concerning teacher and educational environment is not exhaustive, nor is it totally distinct from the following two categories of strategies for enhancing self-concept.

The Student. Whitmore (1980) refers to intrinsic strategies as those which provide daily experiences that modify self-perceptions to include a greater potential for being successful, competent, accepted, respected and capable of continued growth. They develop in the child a sense of control over his(her) future as consequences of his effort and behavior. Whitmore describes four principal kinds of intrinsic strategies to modify self-perceptions: (a) experiences directed toward self-discovery and self-development,; (b) the development of self-direction and competence for independent functioning; (c) a motivating curriculum and (d) an appropriate mode of learning and teaching.

She continues to break down the strategy of self-discovery and development into three objectives: (a) increased self-awareness; (b) increased self-expression; and (c) nurturance of self-development. Numerous activities

have been offerred in the literature for this area. Among these are games to heighten sensory awareness, body awareness and acceptance activities (movement education, exploration of space, muscle control, relaxation, rhythm) and body language exploration. Other self-awareness strategies include journal writing, autobiographies, personal timelines, success sharing, mirror bragging, guided success fantasies, personal evaluation sheets, self-portraits, self-collages, personal flags and coat of arms and self-descriptions and sentence completions (Canfield and Wells, 1976). In addition, imaginative, creative activities can be personally satisfying while affirming the complementary value of individual differences in a group. Creative self-expression through the arts enhances self-esteem (Whitmore, 1980).

Activities for self-direction include those that encourage student decision-making and sharing of responsibility and those for setting goals and selecting learning activities from alternatives and evaluating achievement. Canfield and Wells (1976) state that the goals must be conceivable, believable, achievable, controllable, desirable and stated with no alternatives in order to be growth facilitating. They describe goal setting activities such as expressing dreams and wishes, "I want to be" exercises, and happy packages to be used as techniques to help students gain control over their lives. Canfield and Wells (1176) also describe an eight step goal-setting model: (a) become aware of yourself, (b)take responsibility for your situation, (c) look at the possible alternatives, (d) choose

among the alternatives, (e) affirm your decision (f) develop a plan of action, (g) Act, now! and (h) evaluate the outcome.

Krippner and Blickenstaff (1970) described a self-discovery/self-direction activity in which the gifted child lists on nine separate pieces of paper who (s)he is and rank orders the nine ascribed roles. At a signal the child puts the least important role aside and thinks what his (her) life would be like if it were stripped of that characteristic. This porcedure continues until all nine aspects have been discarded. Finally (s)he has the opportunity to take back the roles (s) he desires and to throw away those which do not appeal to him (her). This activity helps gifted children to clarify who they are and who they want to be.

Weingarten (1956) recommends reading books as a means of self-directive adjustment, as a variety of novels, biographies, dramas and poems will contain ideas that will contribute to the formation of values, characters who bear a resemblance to the gifted student or others in his (her) environment, and conflicts that suggest his (her) own. Hoagland (1972) defines this strategy as bibliotherapy in which an attempt is made by an individual to promote his (her) mental emotional health by using reading materials to fulfill needs, relieve pressures or help his development as a person. A study of bibliotherapy by Fraisier and McCannon (1981) cites that a successful bibliotherapy program requires meaningful follow-up discussion. In addition, they recommend techniques such as sociodrama, role-playing and creative problem solving as useful follow-up techniques.

Gifted Students and Their Relationships with Others. The final area of gifted strategies this study will discuss concerns the relationships of a gifted child and others. Gifted children need the opportunity to be homogeneously grouped at least part of the time to examine common problems, work them through together, and boost their self-images in the process. In addition, because gifted children have difficulty identifying with their peers, sometimes refuse to accept authority, and are often hypercritical of others, they need plenty of opportunities to interact with other children (Alvino, 1981). Alvino states that it is usually best to utilize a co-learning environment, rather than authoritarian. Canfield and Wells (1976) contend it is necessary to have an environment of trust and support so the gifted child can feel secure enough to take risks. This environment can be developed by mutual self-disclosure, positive support techniques such as positive feedback and sharing and trust activities. These strategies expand the student's capacity for self-disclosure and taking risks and develops as cohesive group identity which generates pride. Glasser's (1969) class meetings, role-play, sociodrama, and pantomime help the student to develop empathy and understanding relative to others, to improve communication skills, including the transmission and perception of nonverbal messages and to develop a repertoire of alternative behaviors to improve social skills for dyadic and group interpersonal relations (Whitmore, 1980). Interactions with people and participation in group discussions will help students recognize others struggle with

similar concerns and thus reduce their tendency toward self-degradation; while a listening group who responds with an effort to understand affirms the student's personal worth and ability to trust relationships.

Summary

In summary, the review of the literature indicates that historically there has been a trend to move from one extreme, that giftedness is linked with insanity, to another, the idea that giftedness is concomitant with superior mental health. More recent research is not supportive of either of these polarized views. Careful study of a more diversified sample of students identified as gifted has led researchers to identify a broader spectrum of characteristics which may effect the gifted child's self-concept positively or negatively. Personality attributes such as perfectionism, supersensitivity, and deficit social skill may tend to increase the gifted child's vulnerability to conflict and maladjustment.

In addition, recent research of gifted children does not support the popular view that intellectually superior children have superior self-concepts. Three Israeli studies (Milgram and Milgram,1976; Ziv, Rimon and Doni,1977; Milgram and Milgram, 1976) and one American study (Klein and Cantor, 1976) reported little evidence of a significant relationship between intelligence and self-concept in gifted children. However, the absence of a relationship between intelligence and self-concept within the gifted sample may not contradict the work of Terman and others who

found a sample of gifted children to be superior in personal-social characteristics when compared with the general population. Perhaps the relationship of intelligence to self-concept is mediated by effective problem-solving and consequent social reinforcement. However, the studies here have reported that increments of intelligence do not necessarily reflect differences in self-concept. Further clarification of this issue is needed and more research into this relationship of self-concept and intelligence is warranted.

Growing interest in affective education as it evolved from humanistic psychology, and a more comprehensive understanding of the characteristics influencing self-concept in gifted children has produced a number of resources and studies pertaining to strategies and curriculum to enhance self-concept. Experiences have been developed for students to feel good about themselves, become aware of themselves, and others, and to develop communication and problem-solving skills to help them cope with things in general. Some of the critical factors reported in the literature to effect positive self-concepts are teacher attitude, educational climate and interpersonal relationships. Several strategies and activities designed to enhance self-concept are listed.

CHAPTER 3

METHODS AND PROCEDURES

Recent statistics have revealed that mentally gifted students have a high rate of academic drop-out and suicide (Warner, 1964; Parrish, 1957; Grollman, 1971;Grueling & DeBlassio, 1980). These characteristics indicate poor self-concept which is in direct contradiction to the literature which summarizes gifted children as showing superior feelings of competence and success as reflected in higher self-concept scores (O'Such, Havertape and Pierce, 1979). This paradox provides the impetus for this study to investigate the relationship between self-concept and intelligence. This chapter describes the methods and procedures utilized in this study which is derived from the descriptive research found in the literature.

The Subjects

The subjects of this study were the total population (N = 52) enrolled in the seventh grade in a small southern Iowa school system with a total enrollment of 752 students. The school district is a consolidation of four rural communities, each populated with 1500 or less citizens. These communities tend toward low socioeconomic conditions as indicated by the statistic that one out five families qualifies for free or reduced school lunch as reported by Chapter 1 data. Twenty-four boys and twenty-eight girls, mean age 13.1 years, comprised the subjects. The variables of age, sex, and socio-economic status were not used in this study.

Instrumentation

This descriptive study seeks to quantify the magnitude of the relationship between intelligence scores and self-concept scores. In order to obtain a quantitative measure which can be statistically compared, tests needed to be

selected to measure the constructs of intelligence and self-concept. The resources drawn upon for instrument recommendations were the current literature, the Southern Prairie Area Education Agency (SPAEA) psychologists and consultants, and CSE Elementary School Test Evaluations (Hoepfner et al., 1976).

The Piers-Harris Children's Self-Concept Scale or "The Way I Feel About Myself" (PH) was the instrument recommended by SPAEA specialists to obtain a quantitative measure of the construct of self-concept. This instrument was also utilized in four of the studies found in the current literature, a utilization rate unsurpassed by any other single self-report scale.

According to the authors, the PH was designed primarily for research on the development of children's self-attitudes and correlates of these attitudes. It consists of eighty statements that describe feelings, characteristics, or talents the child ascribes to self. All statements are written at a third grade reading level and can be answered with a yes or no response (e.g., "My friends think I have good ideas.") Approximately fifty percent of the statements are worded positively and the remainder negatively to attenuate potential acquiescent response sets. The PH may be scored for a composite score which yields a raw score (range 0 to 80), percentile and stanine. Additionally, the scale may be scored for six cluster scores, each purporting to measure one of these subdimensions of self-concept: (a) behavior, (b) intellectual and school status, (c) physical appearance and attributes, (d) anxiety, (e) popularity, and (f) happiness and satisfaction.

Validity An attempt was made to build content validity into the PH scale by defining the universe to be measured as the areas about which children reported qualities they liked or disliked about themselves. Items were developed from Jersild's (1952) collection of children's statements about themselves in the categories of physical characteristics and appearance; clothing and grooming; health and physical soundness; home and family; enjoyment of recreation; ability in sports and play; ability in school and attitudes toward school; intellectual abilities; special talents; just me, myself; and personality, character, inner resources, emotional tendencies(Piers and Harris, 1964).

A preliminary pool of 164 items were written to cover all these areas, but non-discriminating items were dropped during item analyses. In a pilot study using a sample of 90 children from third, fourth, and sixth grade, items answered in one direction by fewer than ten percent were screened, resulting in retention of 140 items. These 140 items were administered to third, fourth and tenth graders and forty repetitious items discarded. Using a sixth grade sample of 127 students, the thirty highest and thirty lowest scores were identified and on each item Cureton's Chi test was applied to determine whether the item significantly discriminated between the high and low groups at the .05 level or better. In addition, only those items answered in the expected direction by half or over half of the high group were used. Eighty items met these two critera and constitute the present scale (Piers and Harris, 1964).

A factor analysis performed on the eighty remaining items indicated that factors from the retained items cut across some of the original Jersild categories

but reflect an emphasis on his last two groups: just me, myself and personality, character, inner resources, emotional tendencies (Piers, 1969).

In respect to concurrent validity, Piers (1969) cites studies in which the PH is compared to Lipsitt's Children's Self-Concept Scale (1958) and the SRA Junior Inventory. The correlations were .68 and -.64, respectively, which indicate a moderate correlation between the PH and the listed tests.

Reliability Piers (1964) reports that most of the reliability data for the PH come from the original standardization which used the 95 item scale with twelve classes of third, sixth and tenth graders from Pennsylvania Public Schools (N = 363). To judge the homogeneity of the test, the Kuder-Richardson Formula 21, which assumes equal difficulty of items, was employed with resulting coefficients ranging from .78 to .93. As a check, the Spearman-Brown odd-even formula was applied for half the grade six and grade ten sample, with resulting coefficients of .90 and .87, respectively (Piers and Harris, 1964).

A retest after four months on half the standardization sample resulted in coefficients of .72, .71 and .72, which were judged satisfactory for a personality instrument in the experimental stage over so long a period of time. The revised eight item scale was shown to have better reliability in a study which found for both a two-month and four-month test-retest coefficients of .77 for 244 fifth graders in Oregon Public Schools.

Therefore, in respect to validity, the PH scale relates only moderately to other instruments cited in comparative studies. However, in relation to reliability, for the purposes of this study, the scale is judged to have

good internal consistency and adquate temporal stability.

The Slosson Intelligence Test for Children and Adults (SIT) was selected to produce an IQ score for the subjects of this study. Results of the CSE Elementary School Test Evaluations (Hoepfner et al., 1976) and review of literature (Sattler, 1981),indicated the instrument, while not regarded as the caliber of test used for decision-making purposes, has examinee appropriateness and meets the needs of this study.

Validity. The SIT is constructed of items similiar in nature to the Stanford-Binet tasks. For validation purposes the Stanford-Binet Form L-M and the SIT were administered to 701 subjects, ages 4-50. Correlations between the tests ranged from .90 to .98. In comparison with the Wechler Intelligence Scale for Children (WISC) full scale IQ, the average difference between IQ scores was 7.7 for ages 6 to 16.

Reliability A high reliability coefficient of .97 (test-retest within a period of two months) was obtained for 139 individuals from age 4 to 50 years. The mean IQs of the initial tests and retests were 99.0 and 101.3 respectively. Standard deviations were 24.5 and 25.1; respectively; standard error of measurement was 4.3 (Slosson, 1971).

Advantages of the SIT are that it can be given by relatively untrained examiners and is administered orally to individuals within ten to thirty minutes. However, the score is obtained by the ratio IQ formula, which has disadvantages in that the standard deviations vary throughout the age range

covered by the scale. Also the standardization population came from no other area other than rural and urban New York State. No attempt seems to have been made to get a representative norm group. However, for the purposes of this study, the SIT will meet the requirements of providing mental age or IQ score which can be correlated with a self-concept score.

Collection of Data

In accordance with Iowa law pertaining to individual testing, signatures of permission were received from the parents of the fifty-two seventh graders who participated in this study. The testing schedule was then proposed and approved by the school administrators and teachers of the students involved.

The Piers-Harris Children's Self-Concept Scale was administered by the author to the seventh graders in each of three homeroom periods. After directions were read to each group, students completed the scale individually. Scales were collected and scored by the author to yield a raw score, percentile, and stanine.

Each of the fifty-two seventh graders was individually administered the Slosson Intelligence Test by the author during a study hall period. One student could be tested daily, totalling five per week. This schedule spanded eleven weeks from mid-February to April for completion. Each test was scored by the author to yield a ratio IQ.

Analysis of Data

The two instruments used in this study, the Slosson Intelligence Test and the Piers-Harris Self-Concept Scale, yielded ratio IQ scores and self-concept raw scores, percentiles and stanines, respectively. The Statistical Package for the Social Sciences (SPSS) (Nie, et al., 1975) was applied to the IQ and self-concept scores to analyze data in respect to the following hypotheses:

I. No relationship exists between self-concept as determined by the Piers-Harris Self-Concept Scale and intelligence as determined by the Slosson Intelligence Test for seventh graders.

II. No difference exists in self-concept scores between students who obtain high intelligence test scores and those who do not.

The SPSS yielded basic statistics of mean, variance, range, sum, standard error, kurtosis, minimum, maximu . standard deviation and skewness for the variables of IQ and PH. In addition, a distribution of IQ scores less than 109 and greater than 110, a scattergram of IQ versus PH score, a Pearson product moment correlation coefficient of IQ to PH, a multiple regression table of PH to IQ, and an analysis of variance of PH by IQ group was also processed by this computor package.

To test the first hypothesis of this study the Pearson product moment correlation coefficient, designated r, was utilized (Van Dalen, 1979). To test the second hypothesis, an analysis of variance was used (Van Dalen, 1979).

CHAPTER 4

RESULTS OF THE STUDY

This chapter discusses the results of the data from a study derived from the conflicting information offered by recent statistics which indicated mentally gifted students have a high rate of academic drop out and suicide on the one hand, and the current literature which summaraizes gifted children as showing superior feelings of competence and success, on the other. In order to investigate this contradiction this study was set up and two hypotheses formed to examine the relationship between self-concept and intelligence. Data was gathered and appropriate statistical tests were applied to ascertain if the two variables have a significant relationship. The results pertaining to the acceptance or rejection of the two null hypotheses and summary of analyses are presented here.

Results

The intent of this study was to examine the relationship between intelligence and self-concept as variables in both a total group and split group situation. The variables of intelligence and self-concept were represented by IQ scores from the Slosson Intelligence Test (SIT) and self-concept scores from the Piers-Harris self-concept Scale (PH) obtained by a total population of 52 seventh graders in a small rural southern Iowa school system. Results of the data supported the first hypothesis and rejected the second hypothesis.

Hypothesis I states that no relationship exists between self-concept as determined by the PH and intelligence as determined by the SIT. In order to quantify the magnitude of the relationship between the variables of intelligence and self-concept, a Pearson product moment correlation coefficient (r) was computed for the IQ and PH scores. Table 1

presents the mean and standard deviation for the variables as computed for the entire sample.

Table 1

General Descriptive Statistics

Entire Sample

Variable	Mean	Standard Devation	Cases
IQ	106.4423	15.3411	52
PH	54.4808	13.5769	52

The resulting correlation of IQ with PH was .1356 which is not significant with 52 subjects. To be significant p would have to be less than .05 (in this data, p = .169). Therefore, the data from this study supports the null hypothesis that there is no significant relationship between self-concept and IQ.

Hypothesis II states that no difference exists in self-concept scores between students who obtain high intelligence test scores and those who do not. In order to test this hypothesis, the 52 subjects were divided into two sub-populations by IQ scores. Self-concept score means were calculated for the part of the subjects whose IQ scores were less than 109 and for the group of subjects whose IQ scores were greater than 110 as shown in Table 2.

Table 2

Description of Subpopulations

Criterion Variable PH by IQ Group

Group	Value Label	Mean	Standard Dev.	N
Entire Pop.		54.4808	13.5769	52
1.	Less than 109	50.9655	13.0178	29
2.	Greater than 110	58.9130	13.1116	23

When the total population is divided into two groups based on IQ, the data reveals that the IQ group less than 109 has a PH average score of 50.9655 while the high IQ group has an average PH score of 58.9130. A one way analysis of variance of PH by IQ group discloses that there is a significant difference between low and high IQ groups in their PH scores. F = 4.715 is significant at the .05 level since the computed significance level was .0347 as shown in Table 3.

Table 3

Analysis of Variance of PH by IQ Group

Source of Variance	Sum of Squares	df	Mean Squares	F	P
Between groups	810.189	1	810.189	4.715	.0347
Within groups	8590.792	50	171.816		
	eta = .2936				

Therefore, the second null hypothesis is rejected since the data indicates that there is a significant difference between the self-concept scores of those students who obtain high IQ scores as opposed to those who do not. However, in measuring the strength of the differences eta = .2936 which indicates a weak difference in average self-concept score between high and low IQ groups.

Summary of Analyses

This chapter has discussed the hypotheses and results of this study which adds to the literature describing the relationship of self-concept and intelligence. The first null hypothesis, stating that no relationship exists between self-concept as determined by scores from Piers-Harris Self-Concept Scale and intelligence as determined by the Slosson Intelligence Test for a total population of 52 seventh graders in a rural southern Iowa school, was supported by the results of the data. A correlation coefficient of .1356 is not significant at the .05 level of probability. On the other hand, the statistical data (F = 4.715, p .05) rejected the second hypothesis stating no difference exists in self-concept scores between students who obtain high intelligence scores and those who do not.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

As a result of current statistics and studies offering contradictory views of the self-concept of mentally gifted children, this study has been designed to add to the descriptive literature investigating the relationship between self-concept and intelligence in this area. Specifically, this study examines the hypotheses that (a) no relationship exists between self-concept and intelligence in a total population of students and (b) no difference exists in self-concept scores between students who obtain high intelligence test scores and those who do not.

The test instruments used to measure the constructs of self-concept and intelligence were the Piers-Harris Children's Self-Concept Scale of "The Way I Feel About Myself" (PH) and the Slosson Intelligence Test for Children and Adults (SIT). These instruments were administered by this researcher to a total population of 52 seventh graders in a small rural Iowa school system in the spring of 1982.

Collected data was processed by computor utilizing The Statistical Package for the Social Sciences (SPSS) (Nie, et al., 1975). To test the first hypothesis, a Pearson product moment correlation coefficient was calculated to measure the relationship of the variables of self-concept and intelligence as defined by the PH and the SIT scores. The resulting correlation coefficient of .1356 is not significant at the .05 level of significance and therefore, supports the first null hypothesis.

However, the second hypothesis was rejected. The subjects were divided into two groups according to IQ scores greater than 110 (N = 23) or less than 109 (N = 29). The mean PH scores were tested by a one-way analysis of variance which yielded the resulting data which did not support the null hypothesis. The value of F was 4.715, which is significant at the .05 level. A measure of strength (eta = .2936), however, indicated a weak difference between the two group PH mean scores.

Conclusions

Results of this study lead to the following conclusions:

1. There is no significant relationship between self-concept and intelligence in a total population.

2. There is a significant difference in self-concept between high and low IQ groups.

The first result of this study that found no significant correlation between self-concept and IQ seems to lend support to the current literature that has found little or no relationship between self-concept and intelligence in mentally superior children (Klein & Cantor, 1976; Milgram & Milgram, 1976; Ziv, Rimon & Doni, 1977). These studies, in return, help clarify those alarming statistics reporting that many bright adolescents are "dropping-out" of school and life (Warner, 1964; Parrish, 1957; Grollman, 1971; Grueling & DeBlassie, 1980). Since self-concept may not be correlated with IQ, it seems that it cannot be assumed that

mentally superior children will hold a superior self-concept. Therefore, this evidence seems to be highly supportive of diagnostic and prescriptive affective education with gifted students.

The results of the second hypothesis support that literature which finds a significant positive correlation between self-concept and intelligence (O'Such, Havertape & Pierce, 1979) and reports superior adjustment in children of superior intelligence (Burk, Jensen, & Terman, 1930; Cox, 1926; Terman, 1925; Terman & Oden, 1947, 1959). However it should be noted that in this study the strength of difference in average self-concept score between high and low IQ groups was weak.

This difference in self-concept between the two groups may be attributed to the difference in adademic achievement in the above and below average IQ groups. The high IQ group may experience increased self-esteem as a result of school-related success due to their higher ability level without being so advanced to be bored with school curriculum and suffer poor self-esteem as a result of this divergence. Results of a study by Milgram and Milgram (1976) suggested that self-concept may be a function of IQ to a point, possible an IQ score of 125, and that above an IQ score of 125 differences in intelligence are not necessarily associated with more favorable personal-social adjustment. Although the IQ scores in the high group ranged from 110 - 152, the mean IQ score was 120, which may be too close to the norm to be representative of a "gifted " group.

Recommendations

It is this researcher's opinion that before educators can provide appropriate curriculum for gifted students, they need to recognize that self-concept may not correlate with intelligence, and that mentally superior students may possess inferior self-concepts. This recognition needs to be coupled with an awareness of the characteristics of gifted children that make them susceptible to personal-social maladjustment and the kinds of behaviors they demonstrate as a result of these problems.

Once educators have reached this level of awareness, a diagnostic-prescriptive approach should be utilized to develop appropriate affective curriculum for the gifted. Specifically, educators need (a) a means of assessing the level of self-concept in each student, (b) a repertoire of strategies, resources and curriculum to enhance self-concept and (c) a means of evaluating the effect of the intervening curriculum on the individual's self-concept.

In summary, the resulting development of this positive self-concept will allow the gifted child to attain the following goals:

1. Be his/her own person.
2. Pursue competency.
3. Be clear that one doesn't have to be good at everything.
4. Appreciate sincere praise.
5. Respect those who are different.
6. Find ways to maintain self-confidence even when it is uncomfortable to be different.
7. Accept disappointments, defeat or competition without losing confidence.
8. Enjoy life, people, learning, giftedness, special talents.
9. Give and accept love.
10. Move beyond him/herself to a commitment to contribute to the best of his/her ability for the eradication of man's inhumanity to man.

(Arent, 1979).

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