

AN INVESTIGATION OF INTELLIGENCE AND SELF-ESTEEM
OF PRIMARY AND SECONDARY EMR PUPILS

by

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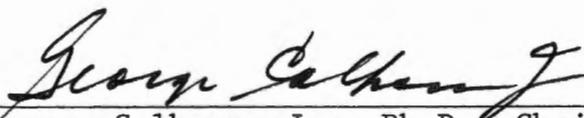
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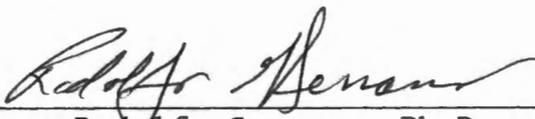
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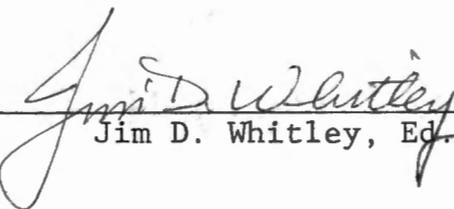
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Chapter 1

INTRODUCTION

Special education was designed to meet the needs of individuals who are unable to profit from regular classroom education. In order to qualify for this service, pupils must deviate from the norm so markedly that they are virtually unable to compete with children in regular classes for any number of cognitive, affective, or physiological reasons. For example, the mentally retarded pupil usually does not receive maximum benefit from a regular school program and, therefore, requires a special class or supplementary instruction and services.

Educators agree that the traditional school curriculum consisting of the three R's has not succeeded in increasing the academic performance of many exceptional pupils. This is evident in classrooms for the educable mentally retarded (EMR), since these pupils require more individualized attention than pupils who are not intellectually deficient.

While there has been a recent upsurge of research in special education relative to segregation versus integration, many professionals contend that more emphasis should be directed to matters concerning educational goals, instructional methodologies, supportive services, self-perception, and

normalization. Foster, Ysseldyke, and Reese (1975) suggested that labeling tends to produce a condition of self-fulfilling prophecy which causes an adverse effect on teacher expectation of pupil's school performance.

In attempts to enhance academic achievement and self-concept, several investigators have endorsed partial integration into regular classrooms. Meyerowitz (1962) and Carroll (1967) reported supporting partial integration of EMR pupils into regular classrooms. Many studies report that promotion of positive self-image in pupils increases academic achievement (Wylie, 1961; Frerichs, 1970). A number of researchers have found that performance influences self-concept. Students who underachieve scholastically or fail to live up to their own academic expectations suffer significant losses in self-esteem (Diller, 1954; Borislow, 1962; Gibby & Gibby, 1967).

Indeed the literature is well documented with evidence indicating a positive relationship between self-perception and academic achievement. Caplin (1969) queried as to which was the precedent variable, posed the following question: "Does one achieve higher because of a higher self-concept, or does one have a higher self-concept because he achieved higher?"

Statement of the Problem

The relationship between academic achievement and self-concept might suggest that a positive self-concept may be

related to one's ability to display himself through self-drawing, the latter as an indicator of how one perceives himself. Drawing is one method many pupils use in expressing themselves according to the attitudes and perceptions others disclose toward them. Little research has been conducted relative to self-perception and the Goodenough-Harris Draw-A-Person at the time of this study; therefore, empirical research is necessary to test this theory. Since the DAP has been used as a projective test, it might well mean that one could infer self-perception from the pupils' drawings.

Purpose of the Study

The major purpose of this study is to determine if there is a significant relationship between the Goodenough-Harris Draw-A-Person (DAP) Test and the Coopersmith Self-Esteem Inventory (SEI) for the populations studied in this investigation in 1976 and 1977. A secondary purpose is to compare the Wechsler Intelligence Scale for Children (WISC) IQ scores to DAP IQ scores of primary and secondary EMR subjects in 1976 and 1977. The final purpose is to determine if there is a significant relationship between DAP IQ scores of primary and secondary EMR subjects in 1976 to DAP IQ scores in 1977, and SEI scores of the subjects in 1976 to SEI scores in 1977.

In summarizing Chapter 1, it was determined that educators believe that self-perception should receive more

attention since research findings indicate a positive relationship between self-concept and academic achievement. The Goodenough-Harris Draw-A-Person Test was theorized to be effective as a projective test; on the basis of this assumption, its possible ability to serve as a self-perception instrument was speculated. A list of hypotheses will be included at the end of Chapter 1. Chapter 2 will present the assumptions, limitations, and definitions of the current investigation.

The twelve hypotheses tested are stated in the null form and read as follows:

H₁: There will be no significant relationship between WISC IQ scores of primary EMR pupils in 1976 and DAP IQ scores of primary EMR pupils in 1976.

H₂: There will be no significant relationship between WISC IQ scores of primary EMR pupils in 1977 and DAP IQ scores of primary EMR pupils in 1977.

H₃: There will be no significant relationship between WISC IQ scores of secondary EMR pupils in 1976 and DAP IQ scores of secondary EMR pupils in 1976.

H₄: There will be no significant relationship between WISC IQ scores of secondary EMR pupils in 1977 and DAP IQ scores of secondary EMR pupils in 1977.

H₅: There will be no significant relationship between SEI scores of primary EMR pupils in 1976 and DAP IQ scores of primary EMR pupils in 1976.

H_6 : There will be no significant relationship between SEI scores of primary EMR pupils in 1977 and DAP IQ scores of primary EMR pupils in 1977.

H_7 : There will be no significant relationship between SEI scores of secondary EMR pupils in 1976 and DAP IQ scores of secondary EMR pupils in 1976.

H_8 : There will be no significant relationship between SEI scores of secondary EMR pupils in 1977 and DAP IQ scores of secondary EMR pupils in 1977.

H_9 : There will be no significant difference between DAP IQ scores of primary EMR pupils in 1976 and DAP IQ scores of secondary EMR pupils in 1976.

H_{10} : There will be no significant difference between DAP IQ scores of primary EMR pupils in 1977 and DAP IQ scores of secondary EMR pupils in 1977.

H_{11} : There will be no significant difference between SEI scores of primary EMR pupils in 1976 and SEI scores of secondary EMR pupils in 1976.

H_{12} : There will be no significant difference between SEI scores of primary EMR pupils in 1977 and SEI scores of secondary EMR pupils in 1977.

Chapter 2

ASSUMPTIONS, LIMITATIONS, AND DEFINITIONS

Assumptions Underlying the Problem

Three assumptions examined in the present investigation are:

1. It is assumed that primary EMR subjects will display better self-perception than their secondary EMR counterparts.
2. Another assumption postulates that there will be a positive correlation with WISC IQ scores and DAP IQ scores of primary and secondary EMR subjects.
3. The final assumption is that there will be a positive relationship between the DAP and SEI for primary and secondary EMR pupils in 1976 and 1977.

Limitations of the Study

The following limitations will be taken into consideration:

1. An N of 16 indicates a definite limitation for empirical research, and it was impossible to allow for a control group and an experimental group over the one year period necessary for the present investigation.
2. Generalizations in this study should be made with caution since this study will take place in only one rural school district near Bakersfield.

3. The Goodenough-Harris Draw-A-Person Test will be the only instrument employed to assess IQ through self-drawings.

4. The Coopersmith Self-Esteem Inventory will be the only instrument employed to assess self-esteem.

Definitions

The following terms will be used in the present study:

1. Self: One is believed to possess an awareness of self at an early age, when reference is made to the pronouns of the first person singular, 'I,' 'Me,' 'Mine,' or 'Myself.'

2. Self-concept: Refers to the way an individual perceives himself and his behavior, and his opinion of how others view him.

3. Self-esteem: The individual's satisfaction with the self-concept.

4. Self-perception: The perception and awareness the individual has of himself.

5. Special education: The most commonly stated goal of special education programs is to meet the needs of exceptional children whose needs cannot be adequately met in regular programs.

6. Regular class placement: Provides an education for "normal" children without serious cognitive or affective problems.

7. Mainstreaming: Provides the least restrictive environment for pupils when possible. Currently, school systems are attempting to place previously assigned educable mentally retarded pupils back into regular class placement.

8. Educable mentally retarded (EMR): Refers to subaverage general intellectual functioning as indicated by two standard deviations below the mean of 100 on the Wechsler Intelligence Scale for Children and the Stanford Binet.

9. Segregation: Self-contained special classroom settings where EMR pupils will not be in contact with "normal" children in regular classes during academic instruction.

10. Integration: An attempt to provide EMR pupils exposure with "normal" peers in regular classes for part of a school day during academic instruction.

11. The Wechsler Intelligence Scale for Children (WISC): This instrument will be employed in the present study to assess intelligence (IQ).

12. The Goodenough-Harris Draw-A-Person Test (DAP): This instrument will be employed in the present study to assess IQ through self-drawings.

13. The Coopersmith Self-Esteem Inventory (SEI): This instrument will be employed in the present study to assess self-esteem.

In Chapter 3, the various self-prefixed terms employed to identify or describe some facet of the self will

be discussed. Chapter 3 will also focus on the review of literature relative to self-perception and the Goodenough-Harris Draw-A-Person Test.

Chapter 3

REVIEW OF LITERATURE

Self-Prefixed Terms

The "self" has been investigated for centuries. St. Augustine, 354-430, was among the first to investigate this phenomenon. Other pioneers of self-theory include James (1890), Cooley (1902), and Mead (1934). Contemporary self-theorists include Raimy (1943), Rogers (1951), Jersild (1952), and Coopersmith (1959). Cooley (1902) stated that one is believed to possess an awareness of "self" at an early age, when reference is made to the pronouns of the first person singular, 'I,' 'Me,' 'Mine,' or 'Myself' (p. 168). This suggested that the "self" must be developed early in childhood (Wylie, 1961; Perkins, 1975).

There are several definitions of self-concept available in the literature. Rogers (1947) referred to self-concept as ". . . the sum total of all the characteristics a person attributes to himself, and the positive and negative values he attaches to these characteristics" (p. 146). From the sampling of self-concept definitions, some congruence between descriptions was uncovered by Calhoun, Kurfiss, and Warren in 1976. After reviewing several definitions, they defined self-concept as ". . . the way an

individual perceives himself and his behavior, and his opinion of how others view him" (p. 132).

According to Jersild (1952), shortly after the child has realized that he is an individual existing separately from objects in the environment, he learns from experiences encountered through social interactions with significant others, what he can and cannot do. The amount of success encountered through these early experiences will determine how positive the self-concept will be.

Currently, self-perception has been investigated by many researchers from such interdisciplinary areas of education, sociology, and psychology. Much of the research has revealed very little regarding its cause-effect relationship in the school setting. Research pertaining to self-prefixed terms includes: self-actualization (Goldstein, 1940); self-consistency (Lecky, 1945); self-identity (Erickson, 1959); and self-perception (Heindenreich, 1970).

Yamamoto (1972) recognized the problem with self-terms and stated, "As you will undoubtedly note, the contributors are essentially of a mind in their overall orientation to the subject of self-concept. However, it cannot be expected that they all agree in the precise usage of words in their respective chapters" (p. 24). Because of the voluminous studies regarding aspects of the "self," definitions have appeared to change with every author. To avoid any confusion regarding self-prefixed terms used in the present study, all terms will be synonymous with self-esteem.

From the various definitions of self-esteem, it is evident that the key word that must be acknowledged is "satisfaction." Allport (1961) wrote, "Pride is one common synonym of self-esteem, self-love another" (p. 120). Rosenberg (1965), after extensive research on self-esteem suggested: "Self-esteem is a positive or negative attitude toward a particular object, namely, the self" (p. 30). Elder (1968) defined self-esteem as: "Feelings of personal worth . . . influenced by performance, abilities, appearance, and judgments of significant others" (p. 258). Therefore, self-esteem refers to the individual's satisfaction with his self-concept (Calhoun, Kurfiss, & Warren, 1976, p. 132). Satisfaction is an important element when reference is being made to the degree of esteem one holds of himself.

Self-Esteem and Class Placement

Recently, the trend in special education is for "mainstreaming" educable mentally retarded (EMR) pupils from special classes into regular classes. Great controversy exists in the educational field as to how special class placement might influence self-concept. Many educators believe that isolating a child from his normal peers may increase his feelings of alienation, inadequacy, and negative self-worth. Studies have indicated that mainstreaming is more advantageous for enhancing cognitive and affective performance of EMR pupils (Cruickshank, 1958; Bradfield et al., 1973). A study by Bradfield et al. (1973) found

that learning handicapped pupils and non-handicapped pupils in the integrated setting improved as much if not more, than did their controls in academic skills, social behavior, and attitude change. Some researchers claim that by leaving EMR pupils in regular classrooms increases their chances of failure and peer comparison. This is partly due to the demands placed on academic performance, and this is believed to increase one's negative self-concept.

Budoff (1972), in his study of EMR pupils, found that pupils who entered special classes at an older age displayed a poor opinion of themselves, a great deal of depression, and a fear of being rejected by others. Meyerowitz (1967) suggested that when given official recognition by segregation, mentally retarded pupils develop distinct negative self-concepts. Since a child who is placed in a special class later in life has to face reality with a clear concept of EMR, Meyerowitz (1967) predicted that the mentally retarded child who is placed in a special class early in his academic life will develop a more positive self-concept than a child who is placed in a special class later in life. Mayer (1966), in a similar study, supported early class placement for EMR pupils to enhance self-concept.

The effects of special class placement on the self-concept, social adjustment, and reading of slow learners was investigated by Backer in 1965. He indicated that slow learners in special classrooms tend to display better self-concepts than their counterparts in regular classrooms. He

also found that social adjustment of slow learners in special classes will be more positive than that of slow learners in regular classes. Schurr and Brookover (1971) attribute significant improvement in self-concept to the lack of peer comparison once EMR children are placed in special classes. This study found that when EMR students were unable to compare themselves in terms of academic achievement with their "normal" peers, self-worth and positive self-concept increased. Other studies have reported mixed results when investigating special class placement (Goldberg, 1971; Vacc, 1972). Further ambivalence toward effectiveness of ability grouping was shown by Thurstone (1966) from evaluations of EMR children in special and regular class placement. They found better social and physical progress in the special class and better academic achievement in the regular class.

Self-Esteem and Academic Achievement

The literature also indicates that as academic performance increases, self-concept tends to increase and vice-versa. According to Combs and Syngg (1949):

. . . the level of school achievement is significantly related to the student's self-perception of his ability. This self-concept of ability is a product of the expectations which the individual perceives others to hold of him (p. 59).

In other words, a person's self-concept, which is influenced by those around him, affects his level of school achievement. Brookover et al. (1964) supported this contention and sug-

gested that self-concept is an important variable in determining a person's intelligence quotient since biological and genetic IQ cannot be identified completely. According to Brookover et al., a student's self-concept is dependent upon the images and expectations which others have of him, and his own conception of his ability as an achiever.

It appears that there is a reciprocal relationship between positive self-concept and school success (Brookover, Thomas, and Patterson, 1964; Dyson, 1967; Felkner, 1970). Brookover et al. (1964) has shown that discrepancies in the level of self-esteem and school achievement appear at an early age in elementary school and increase as children grow older. One might inquire as to why self-esteem tends to decrease in some pupils with age. Academic, social, and emotional differences become more obvious to the student as he matures, and the feelings of lessened self-worth increase. As the disadvantaged child becomes older, he becomes more aware of the attitudes and behavior of the teachers and more advantaged peers toward him. It may well be the same for children who have emotional problems and learning disabilities. As EMR pupils grow older, they realize that they are different from their peers and the gap between grade level and academic achievement increases to magnify feelings of difference.

Overall, the research presents a persistent and significant picture of the relationship between self-concept and academic achievement for boys and girls. The correlation

tended to be larger for boys than for girls. Campbell (1965) and Bledsoe (1967) found that the use of self-concept inventories indicates a stronger relationship between self-concept and academic achievement for boys than that for girls, primarily in underachievement. These reports indicate that underachieving males seem to have lower self-perceptions than underachieving females. Other studies support this relationship between self-concept and achievement for boys and girls (Wylie, 1961; Shaw & Alves, 1963; Ringness, 1965; Purkey, 1970).

Self-acceptance has also been found to be significantly related to positive self-concept (Gowan, 1960). This relationship tends to vary with low and high achievers. Successful students view themselves with a better perspective than underachievers. Some studies suggest that nonachievers facing repeated failure hold unflattering views about themselves which result in lower self-concepts (Goldberg, 1960; Combs, 1963). It appears that children experiencing failure in school concomitantly experience lower self-perception. This loss is augmented with age as pupils become more aware of the opinion others hold of them. Teachers, especially primary teachers, should create a self-enhancing environment in the classroom. This may produce a learning environment which is positive, caring, supportive, and growth promoting. Moreover, this atmosphere would instill better self-perception. Activities which can be used to increase self-perception are presented in the book, 100 Ways to Enhance

Self-Concept in the Classroom by Canfield and Wells in 1976.

Here, successful activities are provided for teachers and parents who are interested with helping children develop a true sense of themselves as lovable and capable human beings.

According to Canfield and Wells (1976):

Perhaps the most important activity is to create an environment of mutual support and caring. Growth can be optimized in a supportive environment that contains little dissonance. Students must recognize that they are valued and will receive affection and support. Without the critical environmental dimension of trust, caring, and openness, the teacher's efforts to enhance pupils' sense of self-esteem will be seriously limited (p. 5).

Self-Esteem and Self-Drawings

Drawing is one activity used frequently in most EMR classrooms. Many times these drawings reflect the feelings, fears, or desires pupils may be experiencing. Often pupils use drawings vicariously to escape social pressures. Drawings also serve to show how pupils perceive themselves; most drawing tests are used primarily to assess intelligence, perhaps one might infer self-perception from self-drawings. Unfortunately, there is a paucity of research relative to self-perception and drawing tests. While the two are vastly different, one could speculate that as self-esteem increases, students will tend to illustrate themselves accordingly. In other words, as pupils gain better self-attitudes, they tend to express their good feelings about themselves through self-drawings. Thus, due to this increase in self-perception, pupils tend to see themselves in a different perspective.

They have become aware of body image and see themselves more complete, in terms of the Gestalt sense.

Schilder (1935) gave both physiological and psycho-analytical evidence for the person's self-concept being represented in one's body image. He included examples such as seeing one's image in a mirror and noting reactions of others to one's appearance and behavior. For instance, when someone draws a person, he may reflect many of his own impressions he has in relation to his body. Combs and Snygg (1949) discussed the significance of the world as perceived contrasted with "objective reality." It is the world as it is presented to the psychological self, sometimes called the phenomenological world. They feel that it is this world that has psychological meaning. According to Harris (1963):

The analysis of drawings could have great importance if human figure drawing can be considered the self-image, consciously or unconsciously projected. Distortions in the drawing may be literal or symbolic representations of inadequacies or distortions in the artist's self-image (p. 43).

Machover's Draw-A-Person technique (1949) and Buck's House-Tree-Person Test (1948), are similar drawing procedures as is the Goodenough-Harris Draw-A-Person Test (1963).

Machover's hypothesis stated that one's self-image is projected into his drawing of a human figure. She stated:

The drawing of a person, in involving a projection of the body image, provides a natural vehicle for the expression of one's body needs and conflicts. Successful drawing interpretation has proceeded on the hypothesis that the human figure drawn is related to the individual who is drawing the same intimacy characterizing that individual (p. 5).

Buck (1948) discussed the fact that one's self-image is projected through human figure drawing and suggested that the drawing of a tree is a projection of the self's adjustment to the natural world, and the drawing of a house, its adjustment to the human or social world (p. 151-159).

The literature directly regarding self-perception and the Goodenough-Harris Draw-A-Person Test has been limited and no studies existed at the time of this writing. Only a few studies were available that related to the present investigation and these were primarily contradictory. Prytula and Thompson (1973) analyzed emotional indicators in human figure drawings as related to self-esteem. The primary purpose was to investigate the hypothesis concerning the size of the figures drawn and self-esteem. It was expected that low self-esteem would be associated with constricted figure drawings and high self-esteem with expansive figure drawings. The results do not offer consistent support for the body-image hypothesis as related to self-esteem. Prytula and Leigh (1972) concluded that the inconsistency of expansiveness in drawings by high self-esteem subjects and lack of significant differences in size for the self-figures drawn by high and low self-esteem subjects, made size a questionable indicator of self-esteem in figure drawings. Swensen (1968) further stressed the lack of reliability in figure size in drawing human figures. Kinget (1952) pointed out:

The specific value of the self-portraits lies in the subject's feelings and attitudes. As a portrayal of the inner self, the concept of self-portrayal may be extended far beyond the literal point (p. 55).

Summary

In summary it is evident that self-terms have been used in the literature to identify or describe some facet of the "self." However, self-concept and self-esteem remain the most popular of all self-prefixed terms. It has also been shown that researchers have recognized that several definitions exist for self-terms and that they are almost impossible to differentiate (Coopersmith, 1959; Wylie, 1961).

Chapter 3 also depicts the available literature relative to self-perception and the Goodenough-Harris Draw-A-Person Test. However, there is little research in this area. Therefore, several related studies regarding drawing tests and self-perception were reviewed. It was apparent that others had the same views pertaining to the use of drawing tests as a measure of self-perception. Since the literature was minimal, similar investigations were reviewed referring to other variables. It appears that the school setting plays a major factor in providing cognitive and affective experiences that influence a child's overall self-concept. Teachers and parents should provide activities to enhance self-perception.

One's total self-concept seems to be related to one's academic self-concept. In turn, academic ability is inter-related to self-concept. Children seem to learn that which

they believe is relevant to the stability of their self-concept and the expectations others have of them. Research further adds that a positive self-concept enhances the probability of school success. Children who lack positive self-concepts seem to lack sufficient self-reinforcing mechanisms and generally achieve less academically than their more confident classmates. Academic failure appears to lower one's self-esteem and hence, self-concept. As EMR pupils grow older, the strength of the significance between self-concept and academic achievement increases. The research shows that older students who fail in school have significantly lower self-concepts than their younger peers. Finally, boys seem to be more affected by failure and success than girls.

Ambiguity exists in the educational research as to whether or not special class placement of educable mentally retarded pupils is the best method of improving their learning and behavior problems. Educators agree that the child's self-concept is an important factor in improving his achievement and attitude. Some educators feel that by isolating EMR pupils into special classes increases their feelings of negative self-worth and deprives them of the contact they need with "normal" peers. Other educators report that, due to the lack of peer comparison and class size, special classes could best affect the EMR pupil's self-concept and feelings of self-worth.

Chapter 4 will present the methods and procedures employed in the present study.

Chapter 4

METHODS OF THE STUDY

Subjects

Sixteen primary and sixteen secondary EMR pupils ages 6 to 12, were selected to participate in the present study. All subjects are Anglo-American and Mexican-American from a rural community just outside of Bakersfield, California. This particular group was selected on the basis of the following criteria. First, these pupils are at an age where the self-esteem has adequate stability. Second, these pupils are able to evaluate their own self-attitudes. Finally, these pupils include all of the EMR pupils in the school selected for the study.

The initial testing took place in 1976. Due to the absenteeism during the second administration of the DAP and SEI a year later, some of the test results were unavailable. Therefore, in order to make equal groups, the (N) was reduced to 8 subjects from the primary EMR class and 8 subjects from the secondary EMR class. The primary group consisted of 5 boys and 3 girls, the secondary group 4 boys and 4 girls.

Instruments

The Wechsler Intelligence Scale for Children (WISC) and the Stanford-Binet are two major instruments used nation-

ally for assessing intelligence. In the present study, the WISC was selected by the school psychologist. The WISC has excellent reliability and validity. The reliability for all twelve subtests range from .89 to .96. The WISC has been used extensively in research from interdisciplinary areas of education, psychology, and sociology (Walker & Gross, 1970; Burnes, 1971; Oakland, King, White, & Eckman, 1971).

The WISC includes the following areas to be examined: General Information, General Comprehension, Arithmetic, Similarities, Vocabulary, Digit Span, Picture Completion, Picture Arrangement, Block Design, Object Assembly, Coding, and Mazes. The Intelligence Quotients are derived from 5 Verbal and 5 Performance tests. The Verbal Score is calculated by adding the five Scaled Scores of the five tests which have been administered. The Performance Score is the sum of the five Performance Scaled Scores. The Full Scale Score is the sum of the Verbal Score and the Performance Score and this is what determines the IQ. By using the tables available in the WISC manual, the examiner is able to convert the Verbal, Performance, and Full Scale Scores into Intelligence Quotients.

The Goodenough-Harris Draw-A-Person (DAP) Test was initially developed by Goodenough in 1926. She suggested that children of the same chronological age vary widely in their performance on this test, and that a significant correlation exists between grade placement and test scores.

Goodenough developed the first scale by selecting IQ drawings at random from the work of children in beginning and advanced kindergartens, and in beginning and advanced halves of each of the first four elementary grades. These 100 drawings were selected from a collection of 4,000 obtained from many kindergartens and elementary grades in an eastern city. She noted changes in children's drawings with increasing age and increasing intellectual development. Goodenough indicated that the original reliability and validity had a test-retest value of over .90.

Studies which reveal positive correlation between DAP and other IQ tests include: Havighurst and Janke (1944) using the Stanford-Binet; Ansbacher (1952) using the Thurstone Primary Mental Ability Test; Ellis (1953) and Hanvik (1953) using the WISC. Much of the research stresses the correlation between the scale of the Goodenough with the Stanford-Binet Scale (Yepsen, 1929; McElwee, 1932; Williams, 1935).

In the early 1960's, Harris made revisions of Goodenough's drawing test and established the current reliability and validity values; the range from the high 80's to the low 90's. Subjects included more than 300 urban and rural children in Minnesota and Wisconsin. They were tested at each grade level, from kindergarten through ninth grade. Harris (1963) made the following contributions to Goodenough's original drawing test:

This revision of the drawing test attempted to include adolescent years and to develop an alternate form to the Man Scale by deriving an analogous point scale for the figure of a woman. The second objective was successful, although the first was not. A drawing of the "self" was included as a potential third form, a possible avenue for studying the emerging self-concept, and a possibility for a valid projective device for the study of the affect and interest than impersonal figures (p. 8).

The original scale by Goodenough (1926) was initially employed to assess intellectual ability; however, the revised version by Harris (1963) has been used to study pupils with hearing handicaps and suspected neurological deficiencies, personality and adjustment problems, delinquency, and character defects. After a comprehensive review of the literature, Harris (1963) concluded:

When children are assigned the task of drawing the "self," they approach the task representatively and realistically. Patients with neurological damage reveal their impairment in drawings but through gross malformations and simplifications rather than in any special or exotic fashion. Such distortions appear in their general self-image pictures (p. 67).

The Goodenough-Harris Draw-A-Person Test may be administered to children individually or in groups using basically the same directions. Preschool children should be examined individually. Kindergarten and primary grade children may successfully be examined in groups if an assistant is present to help the children who have difficulty following directions. Each child should be provided with a pencil and a test booklet and crayons should not be used. Specific and detailed directions are available in the test manual. For the first drawing, the student is

asked to draw a picture of a man. In the second drawing, the student is asked to draw a picture of a woman. The student is asked to draw a picture of himself for the third drawing. Points are given for all body parts included in the drawing that correspond with the score sheet (see Appendix C for Scoring Sheet). The IQ is determined by dividing the mental age by the chronological age.

Due to the popularity of the Coopersmith Self-Esteem Inventory (SEI) (1967), this instrument was selected to measure self-esteem in the present investigation (Coopersmith, 1967; Zirkel & Moses, 1971; Bohan, 1973). Coopersmith (1967) administered the SEI to a group of 87 fifth and sixth graders in Connecticut, 44 boys (mean 81.3, SD 12.2) and 43 girls (mean 83.3, SD 16.7), and to a larger group of children attending public schools in Connecticut. For these 1,748 subjects the mean for males was 70.1, SD 13.8, for females a mean of 72.2, SD 12.8. For a fifth grade subset of the first sample (N=30), the test-retest reliability after 5 weeks was .88. For a subset of the larger population (N=56), the test-retest reliability after a three year interval was .70. This instrument has shown considerable construct validity in a series of studies by Coopersmith. Coopersmith's research establishes several specific antecedents and behavioral consequents of high, medium, and low self-esteem in children. This scale correlates with laboratory behavior and projective evidence.

The SEI is a self-inventory consisting of 58 items in which the student must respond to as either "Like Me" or "Unlike Me." It is designed specifically for children between the ages of eight to ten, and is divided into 5 subsets to assess self-esteem: (1) General--self; (2) Social--self--peers; (3) Home--parents; (4) School--academic; and (5) Lie scale. When all items are tallied excluding the lie scale, the overall score will yield a global self-esteem evaluation. Each correct item is worth two points, yielding a maximum of 100 points.

Procedures

In order to identify the educable mentally retarded pupils, all pupils were assessed in 1975 prior to the present investigation with the WISC. Due to the cost of psychological assessments, it was impossible to re-evaluate these subjects with a current WISC. During March of 1976 and again in 1977, both primary and secondary EMR pupils were individually assessed by this investigator on the Cooper-smith Self-Esteem Inventory (SEI) and the Goodenough-Harris Draw-A-Person Test (DAP). Instructions were read orally to individual pupils because of their low intelligence and related inability to comprehend instructional procedures. All subjects were assessed in a quiet corner in their own classroom. Information relative to sex, age, race, place of birth, and ethnic group membership was supplied by the examiner; the names of the pupils were not used.

The major purpose of this study is to determine if there is a significant relationship between the DAP and SEI of primary and secondary EMR subjects for 1976 and 1977. A secondary purpose is to compare the WISC IQ scores to DAP IQ scores of primary and secondary EMR subjects in 1976 and 1977. A final purpose is to determine if there is a significant relationship between DAP IQ scores of primary and secondary EMR subjects in 1976 to DAP IQ scores in 1977, and SEI scores of these subjects in 1976 to SEI scores in 1977. After data collection, the results will be analyzed statistically for the purpose of testing the hypotheses. The Pearson Product Moment Correlation will be computed to determine the relationship of the WISC and the DAP, and the DAP with the SEI. The t -test will be used to compare primary subjects with secondary subjects in self-esteem and intelligence in 1976 and 1977.

Summary

Two groups of EMR subjects were selected to participate in the present study. The subjects were from a rural community and included 8 primary subjects and 8 secondary subjects. The instruments used were the WISC to assess IQ, the SEI to assess self-esteem, and the DAP to assess intelligence through self-drawings.

Statistically for the purpose of testing the hypotheses, the Pearson Product Moment method will be used to compute the correlations; t -tests will be employed to test the difference between mean test scores.

Chapter 5 will present the results and conclusions of the current investigation.

Chapter 5

RESULTS AND CONCLUSIONS

The analysis of the results will be presented in the following order. The results of the Pearson Product Moment Correlations, the hypotheses, one through eight, are presented in Table 1. The results of the t-tests employed to analyze the difference between mean test scores for hypotheses nine through twelve, appear in Table 3.

The results section is followed by a discussion section which provides an explanatory overview of the analysis of the results. Chapter 5 includes a presentation of the conclusions and implications of the study.

Results

The Pearson Product-Moment Correlations, computed to test hypotheses one through eight, appear in Table 1. All hypotheses were stated in the null form and the .05 level was set as the required value for a correlation to be statistically significant. A significant correlation serves to reject the null hypothesis which predicts no relationship between the measured variables.

Hypothesis 1 stated that there will be no significant relationship between WISC IQ scores and DAP IQ scores of primary EMR subjects in 1976. The correlation was not significant, $r = -.27$, $p < .05$, therefore the null hypothesis was supported.

Table 1

Intercorrelations among WISC IQ, DAP IQ, AND SEI Scores of
Primary and Secondary EMR Subjects for 1976 and 1977

Group	Tests	Year	Correlation
Primary	WISC IQ vs. DAP IQ	1976	-.27
Primary	WISC IQ vs. DAP IQ	1977	.44
Primary	DAP IQ vs. SEI	1976	.01
Primary	DAP IQ vs. SEI	1977	.46
Secondary	WISC IQ vs. DAP IQ	1976	.40
Secondary	WISC IQ vs. DAP IQ	1977	-.05
Secondary	DAP IQ vs. SEI	1976	.67*
Secondary	DAP IQ vs. SEI	1977	.63*

*A correlation of .47 is required for significance at the .05 level with N=16.

Hypothesis 2 stated that there will be no significant relationship between WISC IQ scores and DAP IQ scores of primary EMR subjects in 1977. The null hypothesis is accepted because of the nonsignificant correlation, $r = .44$, $p < .05$.

Hypothesis 3 stated that there will be no significant relationship between WISC IQ scores and DAP IQ scores of secondary EMR subjects in 1976. The correlation is not significant ($r = .40$, $p < .05$) and again the null hypothesis is accepted.

Hypothesis 4 stated that there will be no significant relationship between WISC IQ scores and DAP IQ scores of

secondary EMR subjects in 1977. Interestingly enough, the correlation is negative; however, it is not significant, $r = -.05$, $p < .05$, so the null hypothesis was accepted.

Hypothesis 5 stated that there will be no significant relationship between SEI scores and DAP IQ scores of primary EMR subjects in 1976. Since the correlation is non-significant ($r = .01$, $p < .05$), the null hypothesis is accepted.

No significant relationship was found for Hypothesis 6 ($r = .46$, $p < .05$) between SEI scores and DAP IQ scores of primary EMR subjects in 1977. Therefore, the null hypothesis is accepted.

A significant relationship exists at the .05 level, $r = .67$, $p < .05$, between SEI scores and DAP IQ scores of secondary EMR pupils in 1976; consequently, Hypothesis 7 is rejected. The correlation for 1977 is very similar in size with a significant relationship at the .05 level, $r = .63$, $p < .05$, and Hypothesis 8 is rejected.

The reliability coefficients, computed as test-retest measures between 1976 and 1977 test scores, range from moderate to high: Primary DAP 1976 vs. Primary DAP 1977, $r = .71$; Primary SEI 1976 vs. Primary SEI 1977, $r = .82$; Secondary DAP 1976 vs. Secondary DAP in 1977, $r = .57$; and, Secondary SEI 1976 vs. Secondary SEI 1977, $r = .88$.

The t -test was computed to test Hypotheses 9 through 12. All of these hypotheses were stated in the null form.

The .05 level was set as the required value for a t -value to be statistically significant. A significant t -value serves to reject the null hypothesis which predicts no significant difference between the mean scores.

Table 2 contains descriptive statistics with mean values for chronological age and WISC IQ scores in 1976 and 1977.

Table 2
Mean Values for CA and WISC IQ Scores for Primary and Secondary
EMR Subjects in 1976 and 1977

Class	N	Males	Females	CA	WISC
<u>1976</u>					
Primary	8	5	3	9.14	67.2
Secondary	8	4	4	11.3	65.0
<u>1977</u>					
Primary	8	5	3	10.14	62.2
Secondary	8	4	4	12.3	65.0

According to the descriptive statistics presented in Table 2, both primary and secondary EMR subjects have similar WISC mean IQ scores. The mean for primary EMR subjects in 1976 on WISC IQ scores was 67 while secondary EMR subjects showed a mean of 65.

When testing Hypothesis 9 through 12, t -tests were employed to determine the difference between mean test

scores: primary and secondary subjects were compared on SEI and DAP IQ in 1976 and 1977. The results in Table 3 indicated no significant differences for Hypotheses 9, 11, and 12. However, there was a significant difference found for Hypothesis 10 between primary and secondary EMR groups on DAP scores in 1977, $t = 2.490$, $p < .05$. Therefore, considering these four hypotheses, only Hypothesis 10 is rejected.

Table 3

Means, Standard Deviations and t-Values for Primary and Secondary EMR Pupils on DAP and SEI Scores in 1976 and 1977.

Group	Year	Test	Mean	SD	t
Primary	1976	DAP	64.1	7.93	0.563
Secondary	1976	DAP	62.0	14.60	
Primary	1977	DAP	82.2	6.01	2.490*
Secondary	1977	DAP	72.2	10.10	
Primary	1976	SEI	56.0	10.50	-1.170
Secondary	1976	SEI	63.5	8.55	
Primary	1977	SEI	71.20	8.74	0.00
Secondary	1977	SEI	71.20	13.20	
Primary	1976	WISC	67.2	5.33	7.36
Secondary	1976	WISC	64.6	8.55	

*A t-value of 2.131 is required for significance at the .05 level with $N=16$.

Although it was not the purpose of the investigation to examine DAP and SEI scores for primary and secondary EMR subjects between 1976 and 1977, the results were interesting and included in Table 4.

Table 4

Means, Standard Deviations and t-Values for Within Group Changes Between 1976 and 1977 in Scores for Primary and Secondary EMR Subjects on DAP and SEI

Group	Year	Test	Mean	SD	t
Primary	1976	DAP	64.1	7.93	5.75*
Primary	1977	DAP	82.2	6.01	
Secondary	1976	DAP	62.0	14.60	3.28*
Secondary	1977	DAP	72.2	10.10	
Primary	1976	SEI	56.0	10.50	7.14*
Primary	1977	SEI	71.20	8.74	
Secondary	1976	SEI	63.5	8.55	3.19*
Secondary	1977	SEI	71.20	13.20	

*A t -value of 2.365 is required for significance of the .05 level with $N=8$.

When inspecting the results in Table 4, significant t -values were found within groups between 1976 and 1977 in scores for primary and secondary EMR subjects on the DAP and SEI. Significant t -values of 5.75, $p < .05$ was found between 1976 and 1977 on the DAP, and 7.14, $p < .05$ on the SEI for the primary EMR subjects. Significant t -values were also found between 1976 and 1977 for the secondary EMR subjects with a 5.75, $p < .05$ on the DAP, and a 3.19, $p < .05$ on the SEI.

Discussion

The present study attempted to determine the relationship between primary and secondary EMR subjects in 1976 and 1977 on WISC IQ scores and DAP IQ scores (Hypotheses 1

through 4). It is speculated that the reasons Hypotheses 1 through 4 were accepted may be due to the 1975 WISC scores, as compared to the recent DAP assessment in 1976 and 1977. During this one year interval, subjects may have increased in intellectual ability.

The present study further attempted to determine if the DAP is significantly correlated with the SEI for primary and secondary EMR subjects in 1976 and 1977 (Hypotheses 5 through 8). Although Hypotheses 5 and 6 were accepted, Hypotheses 7 and 8 were rejected. Both primary and secondary EMR subjects in 1976 indicated a significant correlation between intelligence as measured by self-drawings on the DAP, and self-esteem as measured by the SEI. This merely suggests that those subjects with higher self-esteem tended to score higher on the DAP. These findings support the theory that self-esteem and self-drawings are significantly correlated, as theorized by the following researchers: Goodenough (1926), Schilder (1935), Buck (1948), Combs and Snygg (1949), Machover (1949), Kinget (1952) and Harris (1963). These professionals believe that self-perception may be inferred from children's self-drawings.

Another major purpose of this study was to test the difference between mean test scores (Hypotheses 9 through 12). While Hypotheses 9, 11, and 12 were supported by the results, there was a significant difference between DAP IQ scores of primary and secondary EMR subjects in 1977 for

for Hypothesis 10. This finding may have resulted from both groups sharing similar instructional activities designed to enhance self-perception. It is possible that this increase in self-perception fostered the increase on the DAP since the correlations between SEI and DAP are significant. As self-esteem increases, students tend to illustrate themselves accordingly. In other words, as pupils gain better self-attitudes, they tend to express their good feelings through self-drawings. They see themselves more in a Gestalt sense. This theory is further supported by the significant inter-correlations of the DAP and SEI for primary and secondary EMR subjects.

It is important to note that the low correlations in Table 1 are not due to unreliability since the reliability coefficients obtained from the students' performance on the tests ranged from moderately high to very high.

It is interesting to determine if significant changes occurred in DAP IQ and SEI scores for primary and secondary EMR subjects between the one year interval.

The primary EMR subjects displayed a significantly larger mean gain between 1976 and 1977 on the DAP than the secondary EMR subjects. It is speculated that this significantly larger mean gain was due in part to the successes primary EMR subjects were experiencing in their perspective cognitive and affective program since their arrival to the EMR classroom. Primary EMR pupils also displayed a positive view of self.

The primary EMR subjects also displayed a significantly larger mean gain in the one year interval in self-esteem than the secondary EMR subjects. This supports the assumption that the primary EMR subjects would display better self-perception than their secondary counterparts. Investigators support the theory that self-esteem decreases with age (Meyerowitz, 1963; Mayer, 1966; Budoff, 1972). While the secondary EMR subjects gained in self-esteem between 1976 and 1977, the primary EMR subjects gains were significantly greater in self-esteem as assessed by the SEI during the same period. Although the secondary EMR subjects did not show as much gain in mean scores between 1976 and 1977 on the SEI and DAP as the primary EMR subjects, their gain was nevertheless significant.

The current trend in special education is to place EMR pupils back into regular classrooms (Dunn, 1968; Christoplos, 1973). This investigation found that EMR classrooms with individualized academic programs and activities to enhance self-perception can significantly aid in increasing IQ and self-esteem as measured by the DAP and SEI.

It is interesting to note that the subjects in the present study were all integrated into regular classrooms for either math, art, social studies, or physical education for part of the day. This would suggest that integration for EMR pupils, whenever possible, may be beneficial for increasing positive self-esteem.

Conclusions

The following conclusions have been drawn from the results of the present investigation. No attempt should be made to generalize the results of this investigation beyond the population that was examined.

1. Through self-drawings, the child is attempting to portray his own image, with perceptions encountered from direct inspection, mirror image, and comments from significant others. Self-drawing involves a projection of the body image and expresses one's body needs and conflicts and is a direct projection of the self.

2. Individualized academic programs and activities for enhancing self-perception should be implemented in all EMR classrooms.

3. Integration into regular classrooms, whenever possible, will help increase positive self-esteem of EMR pupils.

4. Intellectual assessments are costly and time consuming; however, efforts should be made to provide frequent follow-up evaluation of all mentally handicapped pupils to make certain that they are properly placed.

Implications for Future Research

The present study is an attempt to explore available empirical research on the relationship between self-drawings and self-esteem, namely the SEI and DAP. It is recommended that further studies be conducted to examine the relation-

ship between self-drawings and self-esteem. All tests should be administered individually, any may be costly and time consuming. However, with so little evidence of universal symbols, it is necessary to observe the procedures and behavior sequences and especially verbal behavior as it relates to the self-drawing. The projective hypothesis as it applies to human figure drawings has never been adequately or consistently formulated, and evaluations of such drawings have for the most part been exceedingly limited. Harris (1963) believes that the more rigorous the conditions of experimentation, the lower the validity of human figure drawing as a measure of affect and personality. However, in the present investigation with controlled variables and matching of samples, there appears to be a significant correlation between self-esteem and self-drawings.

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APPENDIX A

COOPERSMITH SELF-ESTEEM INVENTORY

SELF-ESTEEM INVENTORY

Ethnic Group _____ Age _____ Sex _____

Date _____ Grade _____

Place of Birth _____

Please mark each statement in the following way:

If the statement describes how you usually feel, put a check in the column "LIKE ME." If the statement does not describe how you usually feel, put a check in the column "UNLIKE ME."

There are no right or wrong answers.

	LIKE ME	UNLIKE ME
Example: I'm a hard worker. _____		
1. I spend a lot of time day-dreaming. _____		
2. I'm pretty sure of myself. _____		
3. I often wish I were someone else. _____		
4. I am easy to like. _____		
5. My parents and I have a lot of fun together. _____		
6. I never worry about anything. _____		
7. I find it very hard to talk in front of the class. _____		
8. I wish I were younger. _____		
9. There are lots of things about myself I'd change if I could. _____		
10. I can make up my mind without too much trouble. _____		
11. I'm a lot of fun to be with. _____		

	LIKE ME	UNLIKE ME
12. I get upset easily at home. _____		
13. I always do the right thing. _____		
14. I'm proud of my school work. _____		
15. Someone always has to tell me what to do. _____		
16. It takes me a long time to get used to anything new. _____		
17. I'm often sorry for the things I do. _____		
18. I'm popular with kids my own age. _____		
19. My parents usually consider my feelings. _____		
20. I'm never unhappy. _____		
21. I'm doing the best work that I can. _____		
22. I give in very easily. _____		
23. I can usually take care of myself. _____		
24. I'm pretty happy. _____		
25. I would rather play with children younger than I am. _____		
26. My parents expect too much of me. _____		
27. I like everyone I know. _____		
28. I like to be called on in class. _____		
29. I understand myself. _____		
30. It's pretty tough to be me. _____		
31. Things are all mixed up in my life. _____		
32. Kids usually follow my ideas. _____		
33. No one pays much attention to me at home. _____		
34. I never get scolded. _____		

LIKE ME UNLIKE ME

	LIKE ME	UNLIKE ME
35. I'm not doing as well in school as I'd like to. _____		
36. I can make up my mind and stick to it. _____		
37. I don't really like being a boy - girl. _____		
38. I have a low opinion of myself. _____		
39. I don't like to be with other people. _____		
40. There are many times when I'd like to leave home. _____		
41. I'm never shy. _____		
42. I often feel upset in school. _____		
43. I often feel ashamed of myself. _____		
44. I'm not as nice looking as most people. _____		
45. If I have something to say, I usually say it. _____		
46. Kids pick on me very often. _____		
47. My parents understand me. _____		
48. I always tell the turth. _____		
49. My teacher makes me feel I'm not good enough. _____		
50. I don't care what happens to me. _____		
51. I'm a failure. _____		
52. I get upset easily when I'm scolded. _____		
53. Most people are better liked than I am. _____		
54. I usually feel as though my parents are pushing me. _____		
55. I always know what to say to people. _____		
56. I often get discouraged in school. _____		
57. Things usually don't bother me. _____		
58. I can't be depended on. _____		

APPENDIX B

GOODENOUGH-HARRIS DRAWING TEST

Goodenough-Harris Drawing Test

By Florence L. Goodenough and Dale B. Harris

Name _____ Boy _____ Girl _____

School _____ Date of Drawing _____

Grade _____ Age _____ Birth Date _____

Father's Occupation _____

Examiner's Notes

Summary

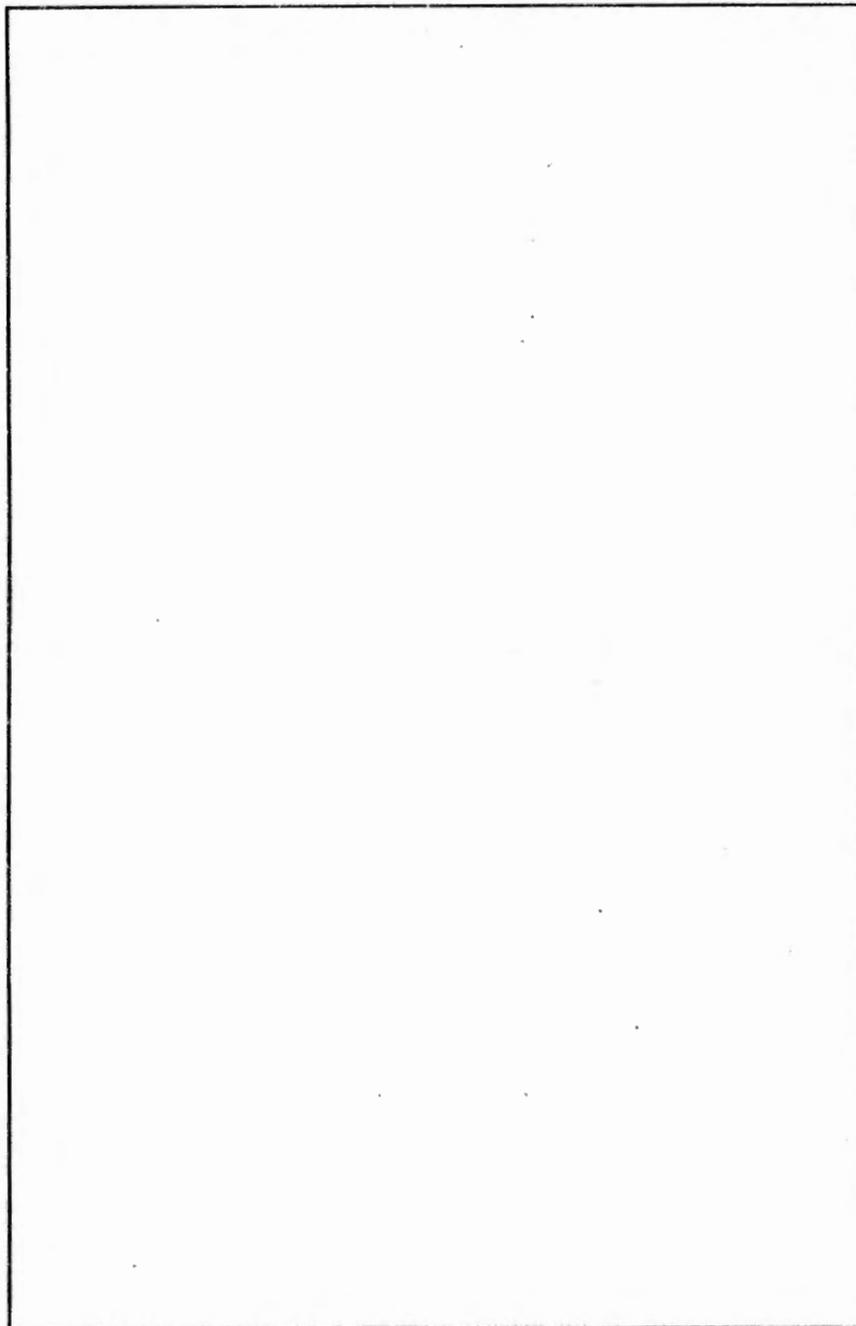
	Raw Score	Standard Score	Percentile Rank
Point Scale			
Man _____			
Woman _____			
Average _____			
Self _____			
Quality Scale			
Man _____			
Woman _____			
Average _____			

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Make Your First Drawing Here

Draw a picture of a man. Make the very best picture you can. Be sure to make the whole man, not just his head and shoulders.



- 1. _____ 41. _____
- 2. _____ 42. _____
- 3. _____ 43. _____
- 4. _____ 44. _____
- 5. _____ 45. _____

- 6. _____ 46. _____
- 7. _____ 47. _____
- 8. _____ 48. _____
- 9. _____ 49. _____
- 10. _____ 50. _____

- 11. _____ 51. _____
- 12. _____ 52. _____
- 13. _____ 53. _____
- 14. _____ 54. _____
- 15. _____ 55. _____

- 16. _____ 56. _____
- 17. _____ 57. _____
- 18. _____ 58. _____
- 19. _____ 59. _____
- 20. _____ 60. _____

- 21. _____ 61. _____
- 22. _____ 62. _____
- 23. _____ 63. _____
- 24. _____ 64. _____
- 25. _____ 65. _____

- 26. _____ 66. _____
- 27. _____ 67. _____
- 28. _____ 68. _____
- 29. _____ 69. _____
- 30. _____ 70. _____

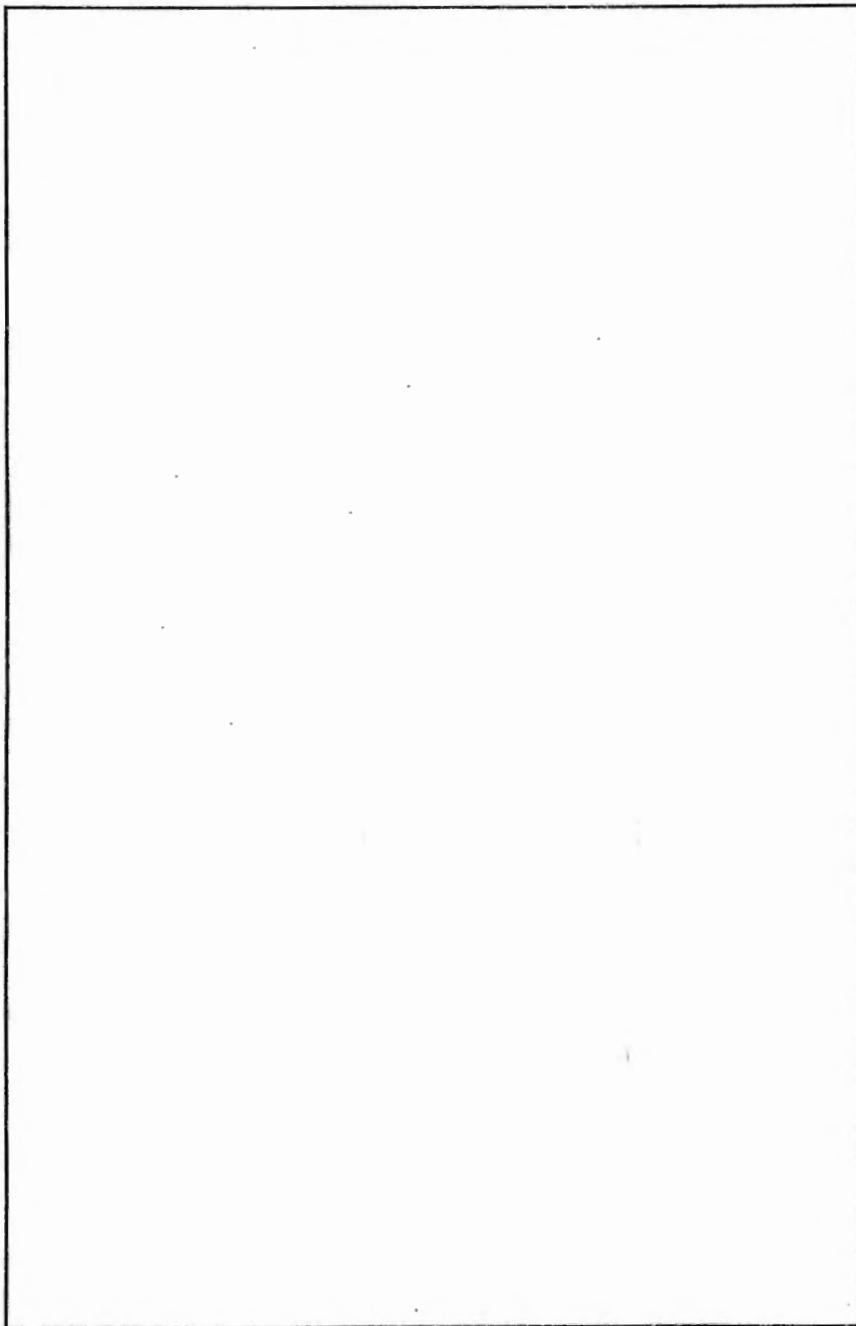
- 31. _____ 71. _____
- 32. _____ 72. _____
- 33. _____ 73. _____
- 34. _____
- 35. _____

- 36. _____
- 37. _____
- 38. _____
- 39. _____
- 40. _____

Raw Score _____

Make Your Second Drawing Here

Draw a picture of a woman. Make the very best picture you can. Be sure to make the whole woman, not just her head and shoulders.



1. ___ 41. ___

2. ___ 42. ___

3. ___ 43. ___

4. ___ 44. ___

5. ___ 45. ___

6. ___ 46. ___

7. ___ 47. ___

8. ___ 48. ___

9. ___ 49. ___

10. ___ 50. ___

11. ___ 51. ___

12. ___ 52. ___

13. ___ 53. ___

14. ___ 54. ___

15. ___ 55. ___

16. ___ 56. ___

17. ___ 57. ___

18. ___ 58. ___

19. ___ 59. ___

20. ___ 60. ___

21. ___ 61. ___

22. ___ 62. ___

23. ___ 63. ___

24. ___ 64. ___

25. ___ 65. ___

26. ___ 66. ___

27. ___ 67. ___

28. ___ 68. ___

29. ___ 69. ___

30. ___ 70. ___

31. ___ 71. ___

32. ___

33. ___

34. ___

35. ___

36. ___

37. ___

38. ___

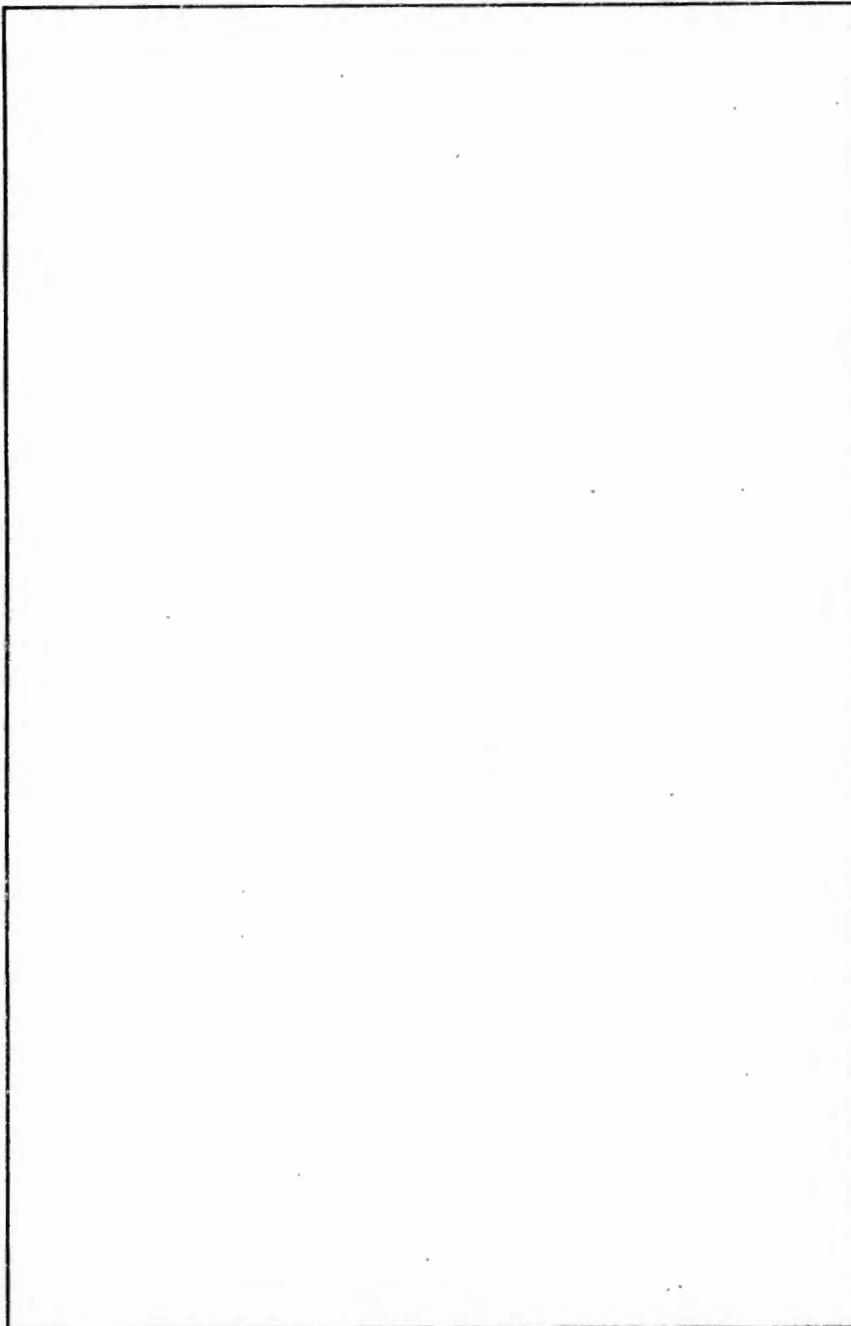
39. ___

40. ___

Raw Score _____

Make Your Third Drawing Here

Draw a picture of yourself. Make the very best picture you can. Be sure to make your whole self, not just your head and shoulders.



- 1. _____ 41. _____
- 2. _____ 42. _____
- 3. _____ 43. _____
- 4. _____ 44. _____
- 5. _____ 45. _____

- 6. _____ 46. _____
- 7. _____ 47. _____
- 8. _____ 48. _____
- 9. _____ 49. _____
- 10. _____ 50. _____

- 11. _____ 51. _____
- 12. _____ 52. _____
- 13. _____ 53. _____
- 14. _____ 54. _____
- 15. _____ 55. _____

- 16. _____ 56. _____
- 17. _____ 57. _____
- 18. _____ 58. _____
- 19. _____ 59. _____
- 20. _____ 60. _____

- 21. _____ 61. _____
- 22. _____ 62. _____
- 23. _____ 63. _____
- 24. _____ 64. _____
- 25. _____ 65. _____

- 26. _____ 66. _____
- 27. _____ 67. _____
- 28. _____ 68. _____
- 29. _____ 69. _____
- 30. _____ 70. _____

- 31. _____ 71. _____
- 32. _____ 72. _____
- 33. _____ 73. _____
- 34. _____
- 35. _____

- 36. _____
- 37. _____
- 38. _____
- 39. _____
- 40. _____

Raw Score _____

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APPENDIX C

THE GOODENOUGH-HARRIS DRAWING TEST: SCORING LIST
AND LIST OF EQUIVALENT MENTAL AGES

GOODENOUGH DRAW - A - MAN TEST

NAME _____ Raw Score _____ H.A. _____

Scoring List

- | | |
|--|--|
| 1. ___ Head present | 11a ___ Arm jointed; angled |
| 2. ___ Legs present | 11b ___ Leg jointed, hip or knee |
| 3. ___ Arms present | 12a ___ Head proportion; cf. trunk |
| 4a ___ Trunk | 12b ___ Arms prop., cf. trunk; as long but not to knee |
| 4b ___ Trunk length | 12c ___ Legs proportion, cf. trunk; as long as, but not twice |
| 4c ___ Shoulders shown | 12d ___ Feet proportion; longer than they are high |
| 5a ___ Arms and legs attached | 12e ___ Arms, legs, 2 dimensions |
| 5b ___ Arms, legs, att. correctly | 13 ___ Heel shown: must be precise |
| 6a ___ Neck shown | 14a ___ Coordination of lines, A: all lines well-drawn, clear |
| 6b ___ Neck continuous | 14b ___ Coordination of lines, B: superior control; no loose ends, every line needed, c. |
| 7a ___ Eyes | 14c ___ Outline of head: superior to circle or plain oval |
| 7b ___ Nose | 14d ___ Trunk outline: tapers toward waist, correctly proportioned |
| 7c ___ Mouth | 14e ___ Arms and legs outline: same as trunk, tapered toward extremes |
| 7d ___ Nose, mouth: 2 dimensions | 14f ___ Features coordinated, face: eyes nose, mouth 2 dimensions |
| 7e ___ Nostrils | 15a ___ Ears, any old kind |
| 8a ___ Hair | 15b ___ Ears correct: size, shape, place |
| 8b ___ Hair better, not transparent | 16a ___ Eyebrows or eyelashes |
| 9a ___ Any clothing article | 16b ___ Pupils in eyes (both, if shown) |
| 9b ___ 2 clothing, non-transpar. | 16c ___ Eye proportion correct |
| 9c ___ No transparencies; sleeves and trousers shown | 16d ___ Eye glance shown |
| 9d ___ 4 articles of clothing | 17a ___ Chin and forehead space correct |
| 9e ___ Complete costume or outfit | 17b ___ Projected chin indicated |
| 10a ___ Any fingers | 18a ___ Profile |
| 10b ___ 5 fingers | 18b ___ Better profile |
| 10c ___ Fingers, 2 dimensions | |
| 10d ___ Opposed thumb | |
| 10e ___ Hand shown, sep. from arm | |

For general purposes only, See MEASUREMENT OF INTELLIGENCE BY DRAWINGS

GOODENOUGH DRAW-A-MAN TEST

EQUIVALENT MENTAL AGES

<u>PTS.</u>	<u>M.A.</u>	<u>PTS.</u>	<u>M.A.</u>	<u>PTS.</u>	<u>M.A.</u>
0	3-0	16	7-0	31	10-9
1	3-3	17	7-3	32	11-0
2	3-6	18	7-6	33	11-3
3	3-9	19	7-9	34	11-6
4	4-0	20	8-0	35	11-9
5	4-3	21	8-3	36	12-0
6	4-6	22	8-6	37	12-3
7	4-9	23	8-9	38	12-6
8	5-0	24	9-0	39	12-9
9	5-3	25	9-3	40	13-0
10	5-6	26	9-6	41 OR OVER	
11	5-9	27	9-9		13-0
12	6-0	28	10-0		
13	6-3	29	10-3		
14	6-6	30	10-6		
15	6-9				

TO SCORE: $\frac{\text{M.A. (100)}}{\text{C.A.}} = \text{IQ}$

USE THIS SHEET WITH GOODENOUGH SCORING LIST