A COMPARATIVE STUDY OF SELF-CONCEPT OF ABILITY BETWEEN INSTITUTIONALIZED DELINQUENT BOYS AND NON-DELINQUENT BOYS ENROLLED IN PUBLIC SCHOOLS

Thesis for the Degree of Ph. D.

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David Livingstone Haarer

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ABSTRACT

A COMPARATIVE STUDY OF SELF-CONCEPT OF ABILITY BETWEEN INSTITUTIONALIZED DELINQUENT BOYS AND NON-DELINQUENT BOYS ENROLLED IN PUBLIC SCHOOLS

by David Livingstone Haarer

The purpose of this investigation was to make a systematic study of the relationships between self-concept of ability and classroom achievement among ninth-grade public school non-delinquent male students and ninth-grade institutionalized delinquent boys enrolled in an academic program. Further, a systematic comparison was made between the delinquent and non-delinquent students in those factors investigated relating to self-concept of ability and class room achievement.

The non-delinquent sample consisted of one-hundred ninth-grade male students in one Midwestern metropolitan school system. The delinquent sample consisted of one-hundred ninth-grade male students--fifty from a state training school and fifty from a private school for delinquent boys. The main research instrument was the Michigan State Self-Concept of Ability Scale developed by Brookover and others. Correlational analysis and t-tests were the main statistical techniques.

Basing the major thesis of this investigation on the phenomenological approach to learning, it was postulated that self-concept is established early in life in an interpersonal setting and modified by subsequent experience, and that the learner tends to evaluate himself as he perceives others to evaluate him, and finally, that a learner's self-concept of ability is a functionally limiting or facilitating factor in classroom achievement. It was also postulated that certain deviations characteristic of delinquents have delimiting effects on self-concept development. The major thesis was tested in the form of five specific hypotheses:

1. The mean self-concept of ability score of non-delinquent boys is higher than the mean self-concept of ability score of delinquent boys.

2. The self-concepts of ability of delinquent and non-delinquent male students are related to their achievement when intelligence is controlled.

3. The self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to the other and from their general self-concepts of ability.

4. The expectations of significant others as perceived by both delinquent and non-delinquent boys are positively related with the students' self-concepts as learners.

5. The expectations of significant others as perceived by delinquent male students differ significantly from the expectations of significant others as perceived by non-delinquent male students.

All of the hypotheses were found to be tenable.

The major results of this investigation may be summarized as follows:

1. Non-delinquent ninth-grade male students have more positive self-concepts of ability than delinquent ninth-grade students.
2. Self-concept of ability is significantly related to classroom achievement of delinquent and non-delinquent ninth-grade male students when the effect of measured intelligence is controlled.
3. Self-concept of ability is weighted higher than IQ as a predictor of achievement for both ninth-grade public school male students and ninth-grade institutionalized delinquent boys.
4. IQ alone is not a reliable predictor of classroom achievement for ninth-grade delinquent boys.
5. Self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to the other and from their general self-concepts of ability.

6. Expectations of significant others as perceived by both delinquent and non-delinquent boys are positively related with the students' self-concepts as learners and with their classroom achievement. These relationships tend to be greater for non-delinquent students.
7. The expectations of significant others as perceived by non-delinquent students are higher than expectations as perceived by delinquent students when parents, teachers, and peers are identified as significant others.
8. For delinquent students, the perceived expectations are consistently higher than the actual evaluations by significant teachers, houseparents, and counselors.

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1965

A COMPARATIVE STUDY OF SELF-CONCEPT OF ABILITY BETWEEN INSTITUTIONALIZED DELINQUENT BOYS AND NON-DELINQUENT BOYS ENROLLED IN PUBLIC SCHOOLS

By

David Livingstone Haarer

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TABLE OF CONTENTS

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LIST OF TABLES

Page

Page

LISTS OF APPENDICES

CHAPTER I

INTRODUCTION

General Statement of the Problem

In recent years there has been a growing interest in the role of self-concept as related to learning. Attempts have been made to study the learning process of a child through an understanding of his perceptual field. In the perceptual frame of reference, how the child perceives his life experiences, how things seem from his point of view, are considered important variables in the learning process.

The perceptual psychologists have a new approach to the problem of intelligence. Combs and other (2, 3, 12, 13) postulate that the capacity for intelligent behavior is dependent upon the state of the child's perceptual field. If the child's perceptions are rich, extensive, and readily available when he needs them, he is likely to behave in an efficient, effective, "intelligent" manner. If a person is threatened, if he is confronted with situations he is unable to cope with, his perceptions are hindered, narrowed, not readily available when he needs them and he is likely

to respond in "unintelligent" ways. Assuming that human capacities are functions of perceptions, it can be hypothesized that human capacities are not as limited as we have been inclined to think.

Attitudes toward self are acquired and developed in an interpersonal setting (15, 27, 41). A basic contribution of Mead (27) and Cooley (15) lay in their emphasis upon the influence of the responses of others in shaping self-conceptions. It is assumed that appropriateness of behavior and self perceptions are defined and formed through the internalization of the expectations of significant other such as parents, teachers, and peers (6, 16, 41). A person will tend to evaluate himself as he perceives others evaluate him. Sullivan has stated that "the self may be said to be made up of reflected appraisals." (41:10) Brookover (6) further postulates that the learner learns to do what he deems desirable or appropriate; that the learner's functional limits of his ability to learn are determined by his own conceptions of his abilities to learn as acquired in social interaction; and that the learner "learns what he believes significant others expect him to learn in the classroom and other situations." (6:86)

Granting the above, the implication for classroom learning is that the learner's self-concept of his learning ability is a functionally limiting or facilitating factor in maximum academic achievement and the child who has an

appropriate self-concept of learning ability learns more readily than the child who has an inappropriate self-concept. The above postulates assume that there is a casual relationship between self-concept and academic achievement, although the opposite may also be true, that is, high academic achievement may produce a more positive or appropriate self-concept of ability. Which of these variables serves as the primary determiner may be somewhat difficult to ascertain, except theoretically, at the present time. It is highly possible that they reinforce each other in a more or less continual cycle. Present research by the Bureau of Educational Research, Michigan State University, under the direction of Brookover and others should provide empirical evidence on the possibility of changing students' self-concepts of ability and thereby raising their levels of performance.

The perceptual approach to learning may have direct implications in the education of delinquent youth. One of the major differences between delinquents and non-delinquents is in the degree of school adjustment. Kvaraceus (23) lists some of the major deviations in school which are characteristic of the delinquent population:

Poor or failure marks
Repeater (retarded in grade)
Strong dislike and hostility for school
Truancy
Intent to leave school early
Vague or no educational-vocational goals
Motivational problem
Member of special class
Has attended many different schools
Destroys school material and property

Does not feel he "belongs" in classroom
Does not participate in volunteer extracurricular school activities
Seriously and persistently misbehaving in school.(23:367)

Assuming that a person's self-concept develops in an interpersonal setting and considering that delinquents characteristically have serious deviations in home, family, and neighborhood, it is no surprise that Kvaraceus lists as one of the characteristic deviations of delinquents as "low self-concept: a 'nothing' or 'less than nothing.'" (23:367)

Deviations, characteristic of delinquents, which may have a delimiting effect on self-concept development are summarized as:

Contradictory social norms in home and/or neighborhood
Identified with delinquent subculture
Atypical home structure (broken home)
Interpersonal relationships in home wanting
Economic stress, insecurity, and/or substandard economic conditions
Lack of moral conformity--spiritual values lacking; little or no nominal church contact
Criminality pattern
Culture conflicts
Deteriorated neighborhood residence
Discipline overstrict, punitive, erratic, lax
Lack of cohesiveness
Supervision by mother inadequate or unsuitable
Affection of parents indifferent or hostile." (23:367)

Basic to the problem of delinquency is an understanding of the delinquent's school failure, lack of interest in education, and early drop-out from school. If the phenomenological approach to learning is accepted, there needs to be an understanding of the delinquent's self-concept of ability and its relation to school achievement. Does the

delinquent's self-concept of ability differ significantly from the self-concept of ability of the non-delinquent, and if so, could this difference be an important variable in considering the differences in academic achievement and total school adjustment?

Specific Statement of the Problem

The specific purpose of this investigation is to extend and compliment the research currently in process by the Bureau of Educational Research at Michigan State University through (1) a systematic study of the relationship between self-concept of ability and classroom achievement among both ninth-grade non-delinquent boys enrolled in public schools and ninth-grade institutionalized delinquent boys enrolled in an academic program, and (2) a systematic descriptive comparison of the delinquent group with the non-delinquent group in those factors investigated relating to self-concept of ability and classroom achievement.

Research Hypotheses to be Tested

Hypothesis 1.--The mean self-concept of ability score of non-delinquent boys is higher than the mean self-concept of ability score of delinquent boys.

Hypothesis 2.--The self-concepts of ability of delinquent and non-delinquent male students are related to their achievement when intelligence is controlled.

Hypothesis 3.--The self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to the other and from their general self-concepts of ability.

Hypothesis 4.--The expectations of significant others as perceived by both delinquent and non-delinquent boys are positively related with the students' self-concepts as learners.

Hypothesis 5.--The expectations of significant others as perceived by delinquent male students differ significantly from the expectations of significant others as perceived by non-delinquent male students.

In addition to these five specific hypotheses, two specific questions were also investigated.

Question 1.--(a) Who are the relevant significant others to whom delinquent and non-delinquent boys relate themselves in examining their behavior as learners, and (b) do significant others differ for delinquent and non-delinquent boys?

Question 2.--Is there a discrepancy between how delinquent male students expect significant others to perceive their ability and how significant others actually perceive their ability?

Importance of the Investigation

Although the comparative aspect of this investigation is primarily descriptive, it is felt that it will reveal the types of research questions that may have definite implications in the educational planning of institutionalized delinquent boys. It is believed that this study will afford concrete applications for those administrators, teachers, and related personnel concerned directly with the education of institutionalized delinquent boys. For example, if the phenomenological approach to learning is accepted that (1) the learner's self-concept of his learning ability is a functionally limiting or facilitating factor in maximum academic achievement, and (2) a learner tends to evaluate himself as he perceives others see him, then it may be possible by working through appropriate significant others (such as counselors, houseparents, and teachers) to elevate the self-concept of academic ability of institutionalized delinquent boys and consequently raise their level of classroom achievement. It may prove beneficial to identify the significant others for particular children and to work through these significant others by concentrating on ways of building more positive self-concepts of ability for delinquent students.

Limitations of the Study

Generalizations of the findings of this investigation must be made with extreme caution and need to be restricted to the social conditions and subjects very similar to those tested in this study. The non-delinquent male sample is not necessarily typical of all ninth-grade public school students since selective measures tended to insure the probability of a non-delinquent male sample. Furthermore, the delinquent sample is not necessarily typical of all delinquents, since the sample was drawn from those ninth-grade delinquent boys enrolled in an academic program. This selective factor would tend to exclude mentally defective delinquents. All subjects were selected from one state in the Midwest. To generalize the findings of this study beyond these social conditions and the type of subjects selected could prove misleading.

Plan and Content of This Thesis

In this chapter the problem of the thesis has been introduced. Both general and specific statements of the problem have been presented. The major hypotheses and questions for consideration have been outlined. A brief discussion of the importance of the investigation was also made.

Chapter II contains a selective review of the relevant literature.

Chapter III deals with methodological procedures. Included in the chapter are: a brief description of the samples used in the investigation, the operational definition of terms and a description of the research instruments, a description of the statistics used to test the hypotheses, and a description of the method of comparative analysis.

Chapter IV deals with the analysis of the data. Comparative data are presented and statistical tests of the hypothesis are made. This chapter provides a comparison of the data obtained from the ninth-grade institutionalized boys with that obtained from ninth-grade boys enrolled in public schools.

In Chapter V the investigation is concluded. The research findings and theoretical implications are discussed.

CHAPTER II

A REVIEW OF THE LITERATURE

Self-Concept and Academic Achievement

The only known research specifically devoted to the study of students' self-concept as learners in relation to their academic achievement has been that conducted at Michigan State University under the direction of Payne, Farquhar, and Brookover. Payne and Farquhar (30, 31) working on the assumption that a student's self-concept is a functionally limiting and facilitating factor in academic achievement which interacts with motivation, devised a 119-item instrument (The Word Rating List) to measure academic self-concept. Their data indicated with a high degree of validity and reliability that it is possible to devise an objective, reliable, theory-derived measure of academic self-concept which discriminates significantly between underachieving and overachieving (high, low motivated) eleventh-grade high school students.

Brookover and others (8) developed a simple, reliable, eight-question fixed-alternative (Guttman-type) scale of self-concept of ability which correlated approximately .57 with grade point averages of public school seventh graders.

With IQ partialled out, self-concept of ability scores still correlated with school grades at .42 for boys and .39 for girls (8:72). A cooperative research project between the U. S. Office of Education, Department of Health, Education and Welfare and the Bureau of Educational Research at Michigan State University (7) will hopefully develop procedures designed to change the self-concepts of low achieving junior high school students and thence their level of achieving.

Other research, aimed more at a global self-concept rather than a self-concept of ability, has shown the relation of self-concept to scholastic performance. Two recent publications by the Association for Supervision and Curriculum Development (2, 3) emphasize the importance of self-perception as a variable in human learning. Combs and Snygg (12, 13) have emphasized the phenomenological field as the important variable in behavior. Learning, or behavior, is considered a function of perception. Wylie (43) reviewed several studies which provide some evidence of a relationship between self-concept and motivation to learn.

Reeder, (34) Manis, (25) Helper, (20, 21) Miyamoto and Dornbusch, (29) Kipnis, (22) Burke, (11) and Videbeck (42) have reported findings indicating that an individual's self-ratings are significantly correlated with the ratings of him made by his associates. These findings lend support

to the Mead-Cooley symbolic interactionist framework holding that the conception of the self is an organization of socially derived and symbolically represented self-identifications (27, 15). Reader (34) using the interactionist framework as a basis for his analysis, found with military groups a direct relationship between self-conception, the perceived generalized other, and the actual responses of others. In a study involving one hundred-one male students at the University of Illinois, Manis (25) found that the subjects' self-concepts were significantly influenced by their friends' opinions of them, particularly when they were perceived by these friends in a favorable light. Helper (21) found that correlations between parental evaluations and fifty-one eighth and ninth-grade students' self-evaluations tended to be small but consistently positive. Using one hundred ninty-five college students as subjects, Miyamoto and Dornbusch (29) found that the subjects' perceptions of the responses of others are positively related to self-conceptions. Using eighty-seven male students living together in a university dormitory, Kipnis (22) found that the subjects' self-concepts become more like the conceptions of their best friends. In an experimental study using forty-eight undergraduate students, Burke (11) found that self-concept and liking for others tended to be positively related with reactions from others. In Videbeck's (42) study with thirty students in an

introductory speech class, by experimentally varying the reactions of others and observing consequent changes, evidence was obtained to support the proposition that a person's organization of self attitudes are learned, and how reactions of others are perceived, play a significant role in the learning process.

Reeder, (35) using grade children, found that positive feelings about the self are significantly related with good academic achievement. Stevens (40) working with college students concluded that three dimensions of the self-concept (self-insight, self-acceptance, and salience of personality traits) are related to academic achievement.

In a doctoral thesis investigating the relationship between immature self-concept and certain educational disabilities, Bodwin (5) found a close association of immature self-concept with academic disability particularly in reading and arithmetic. His study further suggests that the more mature the self-concept the greater the facility in academic learning. His research group consisted of three hundred elementary students. One hundred had reading disabilities, one hundred had arithmetic disabilities and the remaining one hundred had no educational disabilities.

Bruck and Bodwin (10) conducted a pilot study investigating the relationship between self-concept and the presence or absence of underachievement. Sixty children with average

IQ and evenly divided by sex were grouped into two sections: thirty children had no learning difficulties; thirty were underachievers. The Self-Concept Scale of the Machover Draw-A-Person Test (ACS-DAP), a projective technique adopted and validated as a quantified measure of self-concept, was administered. The results indicated a positive and significant relationship between educational disability and immature self-concept. However, no cause and effect relationship between educational disability and immature self-concept was claimed.

Davidson and Lang, (16) working with 89 boys and 114 girls attending fourth, fifth, and sixth grades in a New York public school, found that children's perceptions of their teachers' feelings toward them related to self-perception, school achievement and behavior. In the study at Michigan State University, Brookover (9) had also found that a student's self-concept of ability is positively related to the image he perceives significant others hold of him when parents, teachers and peers are identified as significant others. Related to these studies is evidence provided by Staines (39) that teachers, in their role as significant others, have influenced positive changes in self-perceptions when there was a definite and consistent attempt to help children explore and build self-concepts.

Self-Concept and Delinquency

There is no known research dealing specifically with the self-concepts of delinquents as learners and the consequent relationship with achievement. However, there are several studies which have theoretical relevance to this investigation. In summarizing the studies of the Gluecks, Healy and Bronner, Kvaraceus, Merrill, Sheldon and others, and Wattenburg, Kvaraceus (23) has noted one of the significant characteristics of delinquents as "low self-concept: a 'nothing' or 'less than nothing.'"

Research conducted at Ohio State University by Reckless and others (32, 33, 18, 19, 24) has provided both theoretical and empirical evidence suggesting that a socially appropriate self-concept is "insulation" against delinquency. They propose that an appropriate or inappropriate self-concept is the basic component steering youth away from or propelling toward delinquency. They further postulate that this "insulation" is both reflected in and is a reflection of the definitions of significant others in the lives of the non-delinquents.

Balester, (4) in an experimental study of self-concept and juvenile delinquency, found significantly different self-concept scores between delinquents and non-delinquents. Using a Q sort (a personality inventory in which the subject sorts a considerable number of statements into piles that represent the degrees to which the

statements apply to him) he found that all individuals tend to have positive self-concept scores but the difference lay in relative positiveness, that is, maladjusted persons also had positive scores but of a lesser magnitude than adjusted persons. Deitch, (9) using the Tennessee Department of Mental Health Self-Concept Scale, likewise found that the self-concept scores significantly differentiated between delinquent and non-delinquent boys and that the magnitude of positive self-concept scores had some relationship to adjustment when delinquents were compared with non-delinquents.

Although delinquents as a group are underachievers it might be questioned whether their self-concepts of ability are realistic. In an experimental study, Amos (1) found that there was no difference between delinquent and non-delinquent boys in the accuracy with which they estimated their academic ability. Since the academic performance of delinquents is consistently lower than for non-delinquents, and if Amos' findings hold true for other populations, lower estimates of self-concept of ability might be predicted for delinquents than for non-delinquents.

An investigation by Selden (38) suggested that continued failure experiences, such as school failures, typically encountered by delinquents are related to less favorable self-evaluations and lowered aspirations. Delinquent boys were found to differ in the direction

expected on such self-structure variables as self-concept, self-ideal, concept of others, and self-satisfaction.

The studies reviewed above indicate the association of self-concept with performance and behavior. Although only two studies, the Payne and Farquhar, and Brookover studies, focused on the self-concept of ability as related to learning and academic achievement, other studies cited offer general support for the proposition that self-concept is related to academic performance and to the expectations of significant others.

CHAPTER III

METHODOLOGY

The Universe and Samples

The universe or population for the investigation consisted of ninth-grade male delinquent and non-delinquent students enrolled in an academic program in the urbanized and industrialized Midwest. Although the major focus of the analysis was intended to be upon the institutionalized delinquent boys in that universe, the hypotheses were tested using both delinquent and non-delinquent male subjects.

The non-delinquent male sample (N=100) was drawn at random from ninth-grade students in one Midwestern metropolitan school system meeting the criteria discussed below. This school system has a public school enrollment of approximately twenty-eight thousand. In order to be reasonably sure of a non-delinquent sample, most of these students met the criteria of having been in the school system for five years (i.e. since the fourth grade) and all had been enrolled in the system for at least two years. Students who did not have ninth-grade IQ scores available were excluded from the study. The California Test of Mental

Maturity, a group intelligence test, had been administered during the ninth grade.

The sample of ninth-grade institutionalized delinquent boys (N=100) was drawn from two sources. Fifty boys were selected from each of two residential institutions designed for the custody and treatment of delinquent boys. The first sample of fifty boys was selected from ninth-grade students enrolled in an academic program at a state training school located in the same metropolitan area as the non-delinquent sample. All ninth-grade students enrolled in an academic program at this institution and present during a given period at a given date were used as subjects. Fifty-one subjects were thus selected, but since one was called out for a visiting permit during the period of questionnaire administration, he was eliminated from the sample, leaving a N of 50.

The second sample of fifty delinquent boys was selected from all ninth-grade students enrolled in a private institution for delinquent boys located approximately fifty miles from the source of the other delinquent and non-delinquent samples. Since only forty-seven students were enrolled in the ninth grade at the private institution on the date selected, the first three new students to enroll in the ninth grade were also included as subjects, making the sample total N=50 to match the number selected from the state training school.

It was felt that neither of these institutions was alone representative of the institutionalized delinquent population and both had unique selective factors operating. The state training school tends to have delinquent boys as a last resort. That is, many of these boys have been in previous placement such as foster homes or private institutions, or they may tend to come from families of lower socio-economic areas where other provisions are less likely available. In contrast, the private institution used in this study tends to select delinquent boys who do not appear to need extensive and intensive psychiatric care and who show some promise of benefitting from the residential care offered at this institution. The private residential school tends to get more maladjusted boys from "better" homes, or from homes of higher socio-economic status. The average length of stay is somewhat longer at the private than at the state institution.

Operational Definitions of Terms and Research Instruments and Techniques

Self-Concept of Ability and/or Academic Self-Concept refers to the image or idea one has of himself in respect to his ability for academic achievement, and/or the evaluation of the learner's capability, as a learner, as expected from a certain person or group of persons. For the purpose of this study, the term was operationalized as the responses of a subject to the Michigan State Self-Concept

of Ability Scale,[1] a simple, reliable eight-question fixed-alternative scale (Guttman-type scale) with reproducibility of .95 for males and .96 for females as shown in a scalogram analysis made with 1,050 seventh-grade students. Reliability of the self-concept of ability scale determined by Hoyts' method was .82 for males and .77 for females. In validation studies on the same study group, predicted grade point average correlated with actual grade point average .70 for females and .71 for males. (9)

General Self-Concept of Ability is the same as the self-concept of ability as described above. This term is used in contrast to specific self-concept of ability defined below. It is operationally defined as the score obtained by the learner on the Michigan State Self-Concept of Ability Scale, an eight-question, fixed-alternative scale designed to measure the subjects' self-concepts of ability in academic endeavors.[2]

Specific Self-Concept of Ability and/or Self-Concept of Ability in Specific Subjects refers to the perception of ability within a given subject matter field or activity area. Operationally it is defined as the score obtained from the subjects' responses to the eight-item fixed-alternative self-concept of ability scale, asked with a change of reference to specific subject areas. For the non-delinquent

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[1]See Appendix B.

[2]See Appendix B.

sample, only reference to specific academic subjects was made, i.e., English, mathematics, social studies, and science.[3] In addition to dealing with the four specific academic subjects, the same scale was applied to the areas of shop courses and physical education activities for the delinquent samples.[4]

A Positive Self-Concept of Ability refers to those phenomenological perceptions of competance in general scholastic ability and/or in a given subject matter field and is operationally defined as a high score on the Michigan State Self-Concept of Ability Scale.

Intelligence for both delinquent and non-delinquent samples was operationalized as recent scores obtained on standardized intelligence tests. The entire non-delinquent sample had been administered the California Test of Mental Maturity during the ninth grade. The averages of verbal and non-verbal scores were utilized. Full scale scores obtained on a Wechsler Intelligence Scale for Children or a Wechsler Adult Intelligence Scale (for children age sixteen and older) were available for the delinquent samples.

Achievement, for the purposes of this investigation, was operationally defined as the average of a subject's school grades for the first semester of the ninth grade.

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[3]See Appendix B.

[4]See Appendix B.

The students' grades in the four basic subjects--English, mathematics, science, and social studies--were used in calculating this average (GPA). For the delinquent sample a second average was obtained by including non-academic courses in the calculation.

Perceived Expectations of Significant Others refers to the images a student perceives significant others hold of his ability. Operationally it refers to a subject's responses to a series of questions designed to elicit the subject's perceived expectations as he believes significant others evaluate him.[5] Pretests indicated that the persons used in this study (parents, favorite teachers, and best friends) are most frequently mentioned by students as being important in their lives. In addition to parents, favorite teachers, and best friends, delinquent boys indicated on a pretest that counselors and houseparents were also important in their lives and were therefore included in the study as significant others.

Significant Others' Perception of Student's Ability refers to the actual evaluation, made by other people important in the student's life, of his abilities. Operationally this refers to the responses of significant others on the Evaluation of Significant Others Scale, a scale specifically designed for this study to be used in conjunction

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[5]See Appendix C.

with the delinquent sample to see if there is a discrepancy between how delinquents expect significant others to perceive their abilities and how significant others actually perceive their abilities. The scale is a paraphrased version of the Self-Concept of Ability Scale. Teachers, houseparents, and counselors of the delinquent boys were administered this scale.[6]

Statistical Procedures

Several standard statistical techniques were utilized to analyze the data in this investigation. A one-tailed t-test, testing the difference of means, was used to test Hypothesis I.[7] The null hypothesis of no difference between population means (i.e., $\mu_1=\mu_2$) was tested.

Hypothesis 2 and 3 were tested through the use of correlational analysis. Both the zero order (r) Pearson product moment correlation coefficient and the first order partial ($r_{12.3}$) were utilized in these tests. The zero order correlation coefficients (r) were computed at the Michigan State University Computor Laboratory on the CDC 3600 using the CORE routine to calculate means, standard deviations and simple correlations.

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[6] See Appendix D.

[7] The formula for this test was:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_2^1}{N_1} + \frac{S_2^2}{N_2}}}$$

In order to determine whether the degrees of correlation were statistically and significantly different from zero, the t-test of significance was applied to correlation coefficients. The statistical procedure as outlined by McNemar (26:145-146) was employed.[8]

The partial correlation coefficient ($r_{12.3}$) indicates the degree of correlation between two variables which would exist provided variation in a third variable were controlled. The statistical procedure as given by McNemar (26:165-167) was employed to compute the partial correlation.[9]

To test Hypothesis 3 both correlational analysis and t-tests were employed. The t-test technique was used to test Hypothesis 5. In considering further questions raised in Chapter I, expectation and count, t-tests, or correlation analysis were employed depending upon the nature of the question.

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[8]The following formula was used to determine the standard error:

$$\sigma_r = \frac{1}{\sqrt{N-1}}$$

The obtained r was then divided by this standard error to secure an χ/σ value with which to enter the normal probability table. If $\frac{r}{\sigma_r}$ is greater than 2.58 (.01 level of significance) we can conclude with a fairly high degree of sureness that the true or universe value of r is likely to be greater than zero. A $\frac{r}{\sigma_r}$ greater than 1.96 is significant at the .05 level.

[9]Formula used in computing partial correlation coefficients:

$$r_{12.3} = \frac{r_{12} - r_{13}\, r_{23}}{\sqrt{1-r_{12}^2}\sqrt{1 - r_{23}^2}}$$

A major phase of this study called for a systematic comparison of the results obtained from the two major samples investigated and in some instances between the two delinquent sub-samples. The two statistical techniques utilized in this comparative analysis were: one, a technique discussed by McNemar (26:147-148) to test for significant differences between obtained correlation coefficients,[10] and two, the t-test, as described above, to test for the significant difference between means.

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[10]This test utilizes an r to z transformation for handling sampling errors for r. In obtaining the standard error of the difference between the two r's, both r's are transformed into z's, and the standard error of the difference between the two z's is obtained by:

$$\sigma_{z_1 - z_2} = \sqrt{\frac{1}{N_1 - 3} + \frac{1}{N_2 - 3}}$$

The value of $z = \frac{z_1 - z_2}{\sigma_{z_1 - z_2}}$ was looked up in the normal probability table.

CHAPTER IV

RESEARCH FINDINGS

Tests of the Hypotheses

The presentation of the statistical analysis below is based on data obtained from the three samples described in Chapter III: one hundred ninth-grade male, non-delinquent, public school students in a Midwestern urban-industrialized social setting, fifty ninth-grade students in a state training school for delinquent boys, and fifty ninth-grade students in a private residential school for delinquent boys.

Hypothesis (1).--The mean self-concept of ability score of non-delinquent boys is higher than the mean self-concept of ability score of delinquent boys.

A one-tailed t-test, testing the difference of means, was used to test Hypothesis 1. Table 1 lists the obtained means, standard deviations, "t's," and probability of difference between the delinquent and non-delinquent mean scores for self-concept of ability.

The evidence presented in Table 1 indicates that the proposed hypothesis is tenable, that non-delinquent

TABLE 1.--Mean Self-Concept of Ability Scores, Standard Deviation, and *t*-Tests with Probability of Difference Between Delinquent and Non-Delinquent Ninth-Grade Male Students

Delinquent Groups	Mean	S. D.	Non-Delinquent Group N=100 Mean	S. D.	t	Probability of differences
Private (N=50)	26.32	5.29	28.77	4.91	-2.75	.005
State (N=50)	27.88	4.45	28.77	4.91	-1.11	.14
Total (N=100)	27.10	4.93	28.77	4.91	-2.42	.01

male students in a public school setting tend to have more positive self-concepts of academic ability than institutionalized delinquent boys. Stated otherwise, the evidence seems to indicate that institutionalized delinquent boys have a lower perception of competence in general scholastic ability than public school non-delinquent boys. For the two groups of delinquent boys investigated, the probability of difference is greater between non-delinquent boys and delinquent boys from the private institution than delinquent boys from the state training school. This may be because all boys at the private institution have an academically oriented program, whereas, the academic program at the state training institution is stressed less. Thus boys from the latter institution who are enrolled primarily in an academic program may have a spuriously high self-concept of academic ability when comparing themselves with other boys in the institution who are not enrolled in an academic program.

Hypothesis (2).--The self-concepts of ability of delinquent and non-delinquent male students are related to their achievement when intelligence is controlled.

This hypothesis was tested through the use of correlational analysis. Both the zero order (r) Pearson product moment correlation coefficient and the first order partial ($r_{12.3}$) were utilized in testing this hypothesis. Simple

correlation coefficients were obtained between grade point average (GPA) and intelligence (IQ), between GPA and general self-concept of ability scores (S-C), and between S-C and IQ for each of the samples investigated. Likewise, partial correlations were obtained between GPA and IQ with S-C controlled, between GPA and S-C with IQ controlled, and between S-C and IQ with GPA controlled. The relevant coefficients of correlation are presented in Table 2 with and without the effect of the third variable controlled. Of particular significance to the testing of this hypothesis are the significant correlations between S-C and GPA, with and without the effect of IQ controlled. Data presented in Table 2 shows that even with the effect of IQ controlled the correlation coefficients between S-C and GPA, for all samples investigated, are positive and significant. The correlation coefficients between S-C and GPA with IQ controlled are .42 for delinquent boys from the private institution, .34 for delinquent boys from the state training school, .39 for the total delinquent sample and .63 for the non-delinquent public school sample. The data obtained from each of the samples lends support to the second hypothesis that the self-concepts of ability of both delinquent and non-delinquent boys is positively related to classroom achievement when the effects of IQ are controlled.

TABLE 2.--Coefficients of Correlation Between Academic Grade Point Average (GPA), Measured Intelligence (IQ), and Self-Concept of Ability (S-C) for Delinquent and Non-Delinquent Male Students#

Group	Variables Correlated	Correlation Coefficients: No Variable Controlled	Third Variable Controlled	
Delinquent - Private (N=50)				
	GPA - IQ	.24	S-C	.14
	GPA - S-C	.45*	IQ	.42*
	S-C - IQ	.26	GPA	.17
Delinquent - State (N=50)				
	GPA - IQ	.01	S-C	-.04
	GPA - S-C	.33*	IQ	.34*
	S-C - IQ	.16	GPA	.17
Delinquent - Total (N=100)				
	GPA - IQ	.14	S-C	.07
	GPA - S-C	.41*	IQ	.39*
	S-C - IQ	.19	GPA	.14
Non-Delinquent (N=100)	GPA - IQ	.58*	S-C	.23*
	GPA - S-C	.75*	IQ	.63*
	S-C - IQ	.57*	GPA	.24*

#The multiple correlation coefficients ($r_{1.23}$) among GPA, IQ, and S-C were .77 for the non-delinquent sample, .42 for the total delinquent sample, .34 for the state training school delinquent sample, and .47 for the private institution delinquent sample.

*$P < .05$ for the test that r and $r_{12.3}=0$.

Of further significance, upon examination of Table 2, are the low correlations between GPA and IQ with the effect of S-C controlled, and the low correlations between S-C and IQ when GPA is partialled out. For both delinquent samples and the total delinquent group, these obtained correlations are not significantly different from zero. Even in the case of the non-delinquent sample, these correlation coefficients are low when compared with the correlation coefficient of .63 between GPA and S-C with the effect of IQ partialled out. These findings are congruent with the findings of Brookover (9:38) and Morse (28:38) and give further evidence that the self-concept of ability scale measures a different variable than the IQ measures and that self-concept is an independent predictor of classroom achievement when measured by grade point average. In the case of the delinquent samples, IQ was not a good predictor of GPA. When self-concept was partialled out the relationship between IQ and GPA was practically nil and not significantly different from zero.

Comparison of the partial correlation coefficients between IQ and GPA (with the effect of S-C controlled) with the multiple correlation of IQ and S-C with GPA, indicates that the correlation increases from .07 to .42 for the total delinquent sample, and from .23 to .77 for the non-delinquent sample. The multiple correlations reported have beta weights of .06 for IQ and .41 for self-concept of

ability among the total delinquent sample and .22 for IQ and .62 for self-concept among the non-delinquent sample. Thus self-concept of ability is weighted higher than IQ as a predictor of achievement for both ninth-grade public school male students and ninth-grade institutionalized delinquent boys. These findings are consistent with those reported by Morse (28:39) in his similar comparison of Negro and Caucasian subjects.

The correlations between specific self-concept of ability in school subjects and grades in each subject, with and without the effect of IQ partialled out, are shown in Table 3. With the one exception of the correlation coefficient obtained between specific self-concept of ability in science and science grade, for the delinquent samply only, the correlations between specific self-concepts and corresponding grades in each subject are significant with and without the effect of IQ controlled. Other than the exception noted, the data presented in Table 3 is comparable to the data in Table 2 and lends further support to the hypothesis that self-concept is related to classroom achievement when intelligence, as measured by standard IQ tests, is controlled.

Table 4 gives a further breakdown of correlation coefficients between specific self-concepts of ability and grades in corresponding subjects, with and without the effect of IQ controlled, for both sub-samples of the

TABLE 3.--Correlation Coefficients, with and without IQ Controlled, Between General Self-Concept of Ability and GPA; and Between Self-Concept of Ability in Specific Subjects and Grades in Each Subject for Ninth-Grade Institutionalized Delinquent Boys and Ninth-Grade Public School Non-Delinquent Boys.

Variables Correlated	Correlation Coefficients			
	Without IQ Controlled		With IQ Controlled	
	Delinq. N=100	Non-Delinq. N=100	Delinq. N=100	Non-Delinq. N=100
General S-C & Total GPA	.41*	.75*	.39*	.63*
Math. S-C & Math. Grade	.35*	.38*	.35*	.30*
English S-C & English Grade	.23*	.49*	.22*	.35*
Soc. St. S-C & Soc. St. Grade	.33*	.62*	.31*	.49*
Science S-C & Science Grade	.10	.57*	.08	.43*
Shop S-C & Shop Grade	.24*		.24*	
Phy. Ed. S-C & Phy. Ed. Grade	.38*		.35*	

* $P < .05$ for the test that r and $r_{12.3}=0$.

TABLE 4.--Correlation Coefficients, with and without IQ Controlled, Between General Self-Concept of Ability and Total GPA; and Between Self-Concept of Ability in Specific Subjects and Grades in Each Subject for Ninth-Grade Delinquent Boys from a Private Institution and a State Training School

Variables Correlated	Correlation Coefficients			
	Without IQ Controlled		With IQ Controlled	
	Private N=50	State N=50	Private N=50	State N=50
General S-C & Total GPA	.45*	.33*	.42*	.34*
Math. S-C & Math. Grade	.35*	.36*	.32*	.36*
English S-C & English Grade	.42*	.04	.37*	.04
Soc. St. S-C & Soc. St. Grade	.42*	.32*	.40*	.32*
Science S-C & Science Grade	.19	.11	.18	.08
Shop S-C & Shop Grade	.34*	.22	.33*	.21
Phy. E. S-C & Phy. Ed. Grade	.42*	.33*	.35*	.34*

* $P < .05$ for the test and r and $r_{12.3}=0$.

delinquent group. The patterning of the correlation coefficients for the two delinquent groups is essentially the same with the exception of the discrepancy noted between the two groups on the coefficients of correlation between English self-concept of ability and English grade. These correlations for the delinquent group from the private institution were .42 without IQ controlled and .37 with IQ controlled; correlations for the state training school group, with and without IQ controlled, were both .04.

Other than the isolated exceptions noted above concerning correlation coefficients between specific self-concepts of ability and corresponding subject grades, the data presented in Tables 2, 3, and 4 supports Hypothesis 2, that the self-concepts of ability of public school non-delinquent and institutionalized delinquent male students are significantly related to their classroom achievement, as measured by grade point average, when intelligence is controlled. From the evidence collected it appears that self-concept of ability is a significant and possible independent factor effecting the school achievement of ninth-grade, male non-delinquent public school students and ninth-grade, male, institutionalized delinquent students.

Hypothesis (3).--The self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to

the other and from their general self-concepts of ability.

The purpose of this hypothesis was to determine whether students' self-concepts of ability to achieve in specific school subjects vary from one subject to the other and differ from their general self-concepts of ability. Although differences were postulated to exist for individuals and not for groups as a whole, there were some significant differences between mean general self-concept scores and mean specific self-concept scores, as well as some signigicant differences between several mean specific self-concept scores, for both the delinquent and non-delinquent boys. These differences are shown in Table 5. For the delinquent group the mean specific self-concept of academic ability scores did not differ significantly from the mean general self-concept of ability score. However, the mean self-concept of ability scores for shop courses and physical education activities were significantly higher than the mean general self-concept of ability score and significantly higher than any of the mean specific academic self-concept scores. Apparently, delinquent boys have higher self-concepts of ability in the areas of shop courses and physical education activities than they have in academic courses. For the non-delinquent group, only the mean general self-concept of ability score in English was significantly different than the mean general self-concept of ability score. The mean English self-concept of ability

TABLE 5.--Mean Self-Concept of Ability Scores in all Subjects and for Each of the Given School Subjects for Instutionalized Delinquent and Public School Non-Delinquent Male, Ninth-Grade Students. (The Higher the Self-Concept Score, the More Positive the Self-Concept. Range Possible, 8-40.)

Subject	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
All Subjects #	26.32	27.88	27.10	28.77
Mathematics	26.06	28.06	27.06	29.58
English	26.38	27.78	27.08	27.23*
Social Studies	26.56	26.10	25.83	27.60
Science	25.88	27.66	26.77	28.98
Shop Courses	27.50	30.10	28.80*	
Physical Education	28.78*	32.74*	30.76*	

Mean general self-concept of ability, not mean specific self-concept of ability score.

*Significantly different from the mean score for all subjects--two tailed t-test ($p < .05$).

score was significantly lower than the mean mathematics and science self-concept of ability scores, as well as lower than the mean general self-concept of ability score. The lower means in English and social studies corroborates the findings reported by Brookover (9: 43-44) and lends support to his thinking that cultural factors may be involved, i.e, mathematics and science may be more culturally defined as masculine than are English and social studies.

The coefficients of correlation between general and specific self-concepts of ability, and between the various combinations of specific self-concepts of ability are shown in Table 6. While the correlations between general and specific academic self-concepts of ability, and correlations between some of the specific academic self-concepts of ability are expectedly high, they are significantly lower than the reliability coefficients for the self-concept measure. (See Chapter III, p. 18) In studying the various correlations in Table 6 in reference to the delinquent samples, it is noted that the correlation coefficients between the following listed variables are either low, negative, and/or not significantly different from zero: all variables correlated with self-concepts of ability in shop courses and physical education for the total delinquent sample, and all specific self-concepts of

TABLE 6.--Correlation Coefficients Between General Self-Concept of Ability and Specific Self-Concepts of Ability, and Between the Various Specific Self-Concepts of Ability for Delinquent and Non-Delinquent Males

Variables Correlated	Correlation Coefficients			
	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
General S-C & S-C Math.	.75	.48	.60	.68
General S-C & S-C English	.68	.35	.55	.64
General S-C & S-C Soc. St.	.78	.46	.63	.67
General S-C & S-C Science	.69	.34	.56	.71
General S-C & S-C Shop Courses	.01	.29	.17	
General S-C & S-C Physical Ed.	-.13	.14	.04	
S-C Math. & S-C English	.49	-.20	.14	.44
S-C Math. & S-C Soc. St.	.56	.02	.26	.38
S-C Math. & S-C Science	.53	.25	.38	.53
S-C Math. & S-C Shop Courses	-.05	.16	.10	
S-C Math. & S-C Phy. Ed.	-.30	-.10	-.13	
S-C English & S-C Soc. St.	.75	.05	.43	.48
S-C English & S-C Science	.54	.16	.39	.49
S-C English & S-C Shop Courses	-.02	-.11	-.04	
S-C English & S-C Phy. Ed.	.03	-,03	.03	
S-C Soc. St. & S-C Science	.52	.23	.39	.47
S-C Soc. St. & S-C Shop Courses	.00	.41	.21	
S-C Soc. St. & S-C Physical Ed.	.11	.12	.12	
S-C Science & S-C Shop Courses	.04	.03	.06	
S-C Science & S-C Phy. Ed.	-.04	.02	.03	
S-C Shop Courses & S-C Phy. Ed.	.36	.06	.26	

ability correlated with the self-concepts of ability in English and mathematics for the state training school delinquent sample. The data presented in Table 6 suggests that the specific self-concept of ability scales measure different variables than the general self-concept of ability scale measures, and that each of the various specific self-concept of ability scales measure different variables.

To gain further support for Hypothesis 3, coefficients of correlation were obtained between general S-C and general achievement (GPA) and specific subjects S-C and GPA. These correlations appear in Table 7. If the general S-C of ability scale is functionally different from the specific self-concept of ability scales, then general S-C should prove to be a better predictor of general achievement than specific S-C. For each of the samples listed on Table 7, the correlation coefficients between general S-C and total GPA are of greater magnitude than the corresponding correlation coefficients between specific S-C and total GPA. This trend lends further support for Hypothesis 3.

On the basis of the data provided in Tables 5, 6, and 7, it is concluded that Hypothesis 3 is tenable, signifying that the self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to the other and from their general self-concepts of ability.

TABLE 7.--Coefficients of Correlation Between General Self-Concept and General Achievement (GPA) and Specific Subject Self-Concept and GPA for Institutionalized Delinquent and Public School Non-Delinquent Ninth-Grade Male Students

Variables Correlated	Correlation Coefficients			
	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
General S-C & Total GPA	.45*	.33*	.41*	.75*
Math. S-C & Total GPA	.35*	.22	.28*	.47*#
English S-C & Total GPA	.23	.24	.24*	.47*#
Social St. S-C & Total GPA	.41*	.18	.32*	.58*#
Science S-C & Total GPA	.27	.09*	.22	.56*#
Shop S-C & Total GPA	-.16#	.26	.02#	
Physical Ed. S-C & Total GPA	-.15#	-.08*	-.09#	

* $P < .05$ for the test that $r=0$.

#Significantly less than the coefficient of correlation between general S-C and GPA--one-tailed test for difference between r's.

Hypothesis (4).--The expectations of significant others as perceived by both delinquent and non-delinquent boys are positively related with the students' self-concepts as learners.

The theoretical basis for this hypothesis was discussed in Chapter I. A basic assumption is that attitudes toward self are acquired and developed in an interpersonal setting and the appropriateness of behavior and self perceptions are defined and formed through the internalization of the expectations of significant others such as parents, teachers, and peers. This frame of reference holds that a person will tend to evaluate himself as he perceives others evaluate him. Hypothesis 4 affords a test for this point of view. It hypothesizes that the students' self-concepts of ability are positively correlated with the images they perceive significant other persons to hold of them.

The hypothesis was tested by means of correlational analysis. Three approaches were used. First, the expectations of significant others as perceived by delinquent and non-delinquent ninth-grade male students were correlated with the students' self-concepts as learners. These correlation coefficients, found in Table 8, are all significantly and positively correlated. Second, coefficients of correlation between students' specific self-concepts of ability

TABLE 8.--Coefficients of Correlation Between Students' General Self-Concept of Ability and the Images they Perceive Significant Others to Hold of Their Abilities for Both Delinquent and Non-Delinquent Male Ninth-Grade Students

Students' Perception of:	Correlation with General Self-Concept			
	Delinquent			Non Delinquent
	Private N=50	State N=50	Total N=100	N=100
Parents' Images	.63	.57	.61*	.76*
Peers' Images	.82	.60	.73	.67
Teachers' Images	.71	.65	.69	.71
Total of Parents', Peers', & Teachers' Images	.83	.74	.80	.81
Houseparents' Images	.50	.40	.47	
Counselors' Images	.74	.63	.68	
Total of Teachers', Houseparents', & Counselors' Images	.77	.68	.73	

All correlations are significantly different from 0 at the .01 level of significance.

*Difference is significant at .05 level of significance (correlation coefficients between students' perception of parents' images and general self-concept of ability--a comparison between delinquent and non-delinquent students).

and the images they perceive their parents hold of their abilities in these subjects were also all significantly and positively correlated. These correlations, for both delinquent and non-delinquent male ninth-grade students, are listed in Table 9. Third, Table 10 presents the coefficients of correlation between the students' academic grade point averages and the images they perceive significant persons (parents, peers, teachers) to hold of their abilities. Again, it is noted that the obtained correlations are positively correlated for both the delinquent and non-delinquent students.

The data presented in Tables 8, 9, and 10 and the tests for Hypothesis 4 have demonstrated that this hypothesis is tenable. The tenability of this hypothesis suggests that the expectations of significant others as perceived by delinquent and non-delinquent ninth-grade male students influence the students' self-concepts as learners and consequently influence the students' academic performance in school.

Hypothesis (5).--The expectations of significant others as perceived by delinquent male students differ significantly from the expectations of significant others as perceived by non-delinquent male students.

TABLE 9.--Coefficients of Correlation Between Students' Self-Concept of Ability in Specific School Subjects and the Images They Perceive Their Parents to Hold of Their Abilities in These Subjects for Delinquent and Non-Delinquent Ninth-Grade Students.

	Delinquent			Non-Delinquent
Subject	Private N=50	State N=50	Total N=100	N=100
Arithmetic	.63*	.79*	.71*	.63*
English	.59*	.29*	.47*	.57*
Social Studies	.66*	.52*	.59*	.62*
Science	.47*	.39*	.44*	.77*
Shop Courses	.61*	.80*	.69*	
Physical Education	.70*	.31*	.49*	

*P< .05 for the test that r=0.

TABLE 10.--Coefficients of Correlation Between the Students' Grade Point Averages (GPA) and the Images They Perceive Significant Others to Hold of Their Abilities for Delinquent and Non-Delinquent Ninth-Grade Male Students.

Students' Perception of	Correlations with GPA			
	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
Parents' Images	.20	.33*	.25*	.68*
Teachers' Images	.46*	.41*	.45*	.62*
Peers' Images	.44*	.18	.35*	.56*
Composite of Parents', Peers', & Teachers' Images	.43*	.38*	.42*	.70*

* $P < .05$ for the test that $r=0$.

A two-tailed t-test, testing the difference of means, was used to test Hypothesis 5. Table 11 lists the obtained means, standard deviations, "t's," and probability of difference between the delinquent and non-delinquent mean scores for perceived images of ability. The evidence presented in Table 11 indicates that the proposed hypothesis is tenable, that the mean scores differ significantly between perceived expectations of significant others of delinquent male ninth-grade students and perceived expectations of non-delinquent male ninth-grade students. For each of the significant others (parents, best friends, and teacher) and composite of these, the expectations of significant others as perceived by non-delinquent students were significantly higher than the expectations of significant others as perceived by delinquent students.

Other Relevant Results

In addition to the hypotheses tested, several questions were raised in Chapter I concerning the relevant variables in this study. The first questions were in regard to who are the significant others to whom delinquent and non-delinquent boys relate and do significant others differ for delinquent and non-delinquent boys. The second question concerned itself with the delinquent samples only. The essence of the question was to see if there was a discrepancy between how delinquents expect significant others to perceive their abilities and how these significant

TABLE 11.--Difference in Delinquent and Non-Delinquent Male Ninth-Grade Students' Mean Perceived Images of Ability Scores Held by Three Significant others*

Significant Others	Mean Perceived Image Scores					
	Delinquent N=100		Non-Delinquent N=100			
	Mean	S.D.	Mean	S.D.	t	Probability of Difference
Parents	18.57	3.77	19.91	3.77	-2.53	.02
Best Friend	17.67	3.62	18.67	3.38	-2.00	.05
Teacher	18.25	4.17	19.56	3.38	-2.24	.05
Composite of Three	54.49	9.80	58.04	9.37	-2.61	.01

*Total Possible range of scores for individual significant other is from 5 to 25; for composite 15 to 75.

others actually perceived their abilities. These questions are considered in the following pages.

Identification of significant others.--Two open-ended questionnaires were used to gain the names of individuals who were significant others. (See Appendix A) In the first questionnaire, students were asked to list the names of the people whom they felt were important in their lives; in the second questionnaire, students were instructed to indicate people whom they felt were concerned about how well they did in school. No specifications were given as to the number or type of individuals to be listed. Responses to these questionnaires are categorized and summarized by percentage of responses to each category in Tables 12 and 13.

The responses of the delinquent and non-delinquent students to these questionnaires indicate that parents are named more often than any other persons both as important in their lives and concerned with their school work. Peers and relatives (both adult and age-level) were also frequently mentioned as being important in the lives of both delinquent and non-delinquent students. Non-delinquents mentioned teachers as being important in their lives significantly more often than did delinquents. Because of the delinquents' common feelings against school and authority this difference is not surprising. Delinquents mentioned teachers both within and outside the institution although reference was made more frequently to

TABLE 12.--Percentage of Students Naming at Least one Person from Each of the Following Categories as Being "Important in Their Lives." (General Significant Others)

General Significant Others	Percentage			
	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
Peers, Same Sex	26	14	20	50
Peers, Opposite Sex	32	54	43	15
Peers, Either Sex	48	62	55	52
Parents or Guardians	84	96	90	92
Teachers	30	8	19	37
Other Academic Personnel	8	2	5	10
Adult Relatives	24	46	35	38
Age-level Relatives	48	90	69	62
Other Local Adults	28	28	28	19
Houseparents	16	12	14	*
Counselor	36	32	34	#
Other Institutional Personnel	42	0	21	*
Nonclassifiable	14	4	9	21

* Not applicable to the non-delinquent sample.

Included with other academic personnel.

TABLE 13.--Percentage of Students Naming at Least One Person from Each of the Following Categories as Being Concerned with "How Well They do in School." (Academic Significant Others)

Academic Significant Others	Percentage			
	Delinquent			Non-Delinquent
	Private N=50	State N=50	Total N=100	N=100
Peers, Same Sex	6	2	4	7
Peers, Opposite Sex	12	34	23	7
Peers, Either Sex	16	34	23	12
Parents or Guardians	82	96	89	97
Teachers	40	42	41	51
Other Academic Personnel	26	18	22	23
Adult Relatives	16	38	27	39
Age-Level Relatives	20	50	35	26
Other Local Adults	24	32	28	10
Houseparents	26	2	14	*
Counselor	32	44	38	#
Other Institutional Personnel	36	4	20	*
Nonclassifiable	8	10	9	32

*Not applicable to the non-delinquent sample.

#Included with other academic personnel.

teachers within the institution. Another significant difference between delinquent and non-delinquent students in regards to general significant others was in their mentioning of peers. Although the percentage response for "either peer" was approximately the same for delinquents (52%) and non-delinquents (55%), delinquents mentioned opposite sex peers significantly more often than same sex peers, whereas non-delinquents mentioned same sex peers significantly more often than opposite sex peers. This difference may be accounted for by the factor of institutionalization of the delinquent boys in an all male setting. A complete absence of association with peers of the opposite sex while at the institution may create an exaggerated craving for girls by the delinquent boys. It may also be that delinquent boys, coming from a social environment more acceptant of promiscious behavior, are more promiscious sexually than non-delinquent boys. Another factor which may account for some of the differences is the fact that the delinquent mean age (15.6) is slightly higher than the non-delinquent mean age (15.2). Houseparents and counselors were also listed by delinquents as people important in their lives. One notable difference between the two delinquent sub-samples, in regards to people important in their lives, was in direct reference to institutional personnel other than academic personnel, houseparents, and counselors. None of the delinquent boys from the state

training school mentioned other institutional personnel as being important in their lives, whereas 42 percent of the delinquent boys from the private institution made such reference. This may be accounted for in part by the emphasis of a more intimate involvement between staff and students at the private institution.

Several changes are noted in the pattern of responses when students responded in relation to people being concerned with how well they do in school. (See Table 13) Teachers were mentioned more frequently than when asked to respond to people who were important in their lives. The increase in response to teachers was especially notable for delinquent boys. Peers and age-level relatives were mentioned far less frequently by both delinquent and non-delinquent boys. For the delinquent sample, opposite sex peers were still listed more frequently than peers of the same sex. For the delinquent group, counselors were listed about as frequently as teachers as persons who are concerned how well they (the students) do in school. There was a tendency for delinquent boys from the private school to list institutional personnel as being concerned how well they do in school more often than did delinquent boys from the state training school.

Comparison Between Expected and Actual Perception of Delinquent Students' Abilities.--The delinquent students were asked to respond to questions designed to elicit their

perceived expectations as they believed significant teachers, houseparents, and counselors evaluate them. The teachers, houseparents, and counselors referred to by the delinquent boys were administered the Evaluation of Significant Others Scale, a paraphrased version of the Self-Concept of Ability Scale. (See Appendix D) The mean scores of perceived and actual evaluations are found in Table 14. A comparison of the means indicates that there is a significant discrepancy between how delinquents expect significant others to perceive their abilities and how significant other actually perceive their abilities. The perceived expectations are consistently higher than the actual evaluations by significant teachers, houseparents, and counselors. This may be due in part to the emphasis of the staff in convincing the delinquent students they can succeed, but in reality the degree of expected success may be considered far less than the impression given to the students. The emphasis by the staff is to have the students gain more positive self respects. Because of this positive attitude displayed toward the students, they may tend to get a spuriously high impression of how significant others actually perceive their abilities.

This problem was also approached through correlational analysis. In Table 15 the correlation coefficients between the students' general self-concepts of ability and the perceived evaluation of teachers, houseparents, and counselors

TABLE 14.--Difference in Mean Perceived Images of Ability Held by Three Significant Others and Actual Perception of Students' Abilities by Three Significant Others for Institutionalized Delinquent Male Ninth-Grade Students*

	Private (N=50)			State (N=50)			Total Delinquent (N=100)		
Significant Others	Perceived Mean	Actual Mean	Prob. of Diff.	Perceived Mean	Actual Mean	Prob. of Diff.	Perceived Mean	Actual Mean	Prob. of Diff.
Teacher	18.64	14.84	.001	17.86	16.06	.10	18.25	15.45	.001
Houseparent	16.98	14.08	.001	16.32	15.02	.20	16.65	14.55	.001
Counselor	18.06	12.36	.001	18.36	15.08	.001	18.21	13.72	.001
Composite of Three	53.68	41.28	.001	52.54	46.16	.01	53.11	43.72	.001

*Total possible range of scores for individual significant others is 5 to 25; for composite 15 to 75.

TABLE 15.--Coefficients of Correlation Between Students' General Self-Concept of Ability and the Perceived Evaluation of Teachers, Houseparents, and Counselors; and the Coefficients of Correlation Between General Self-Concept and Actual Evaluation by Teachers, Houseparents, and Counselors for Institutionalized Delinquent, Male, Ninth-Grade Students

Perceived Evaluation of:	Correlation with General Self-Concept			Actual Evaluation of:	Correlation with General Self-Concept		
	Private N=50	State N=50	Total N=100		Private N=50	State N=50	Total N=100
Teachers	.71	.65	.69[1]	Teachers	.55	.36	.44[1]
Houseparents	.50	.40	.47[2]	Houseparents	.18	-.02	.08[2]
Counselors	.74	.63	.68[3]	Counselors	.24	.08	.12[3]
Composite of above	.77	.68	.73[4]	Composite of above	.41	.19	.28[4]

[1]Probability of difference .01

[2]Probability of difference .01

[3]Probability of difference .0001

[4]Probability of difference .0001

are compared with the correlation coefficients between general self-concept and actual evaluation by teachers, houseparents, and counselors. The significant differences between the correlation coefficients give further evidence of a discrepancy between perceived and actual evaluations of academic abilities.

Table 16 gives the correlation coefficients between perceived evaluations of teachers, houseparents, and counselors, and actual evaluations of teachers, houseparents and counselors for the delinquent samples. Although several of these correlations are significantly different from zero, the obtained correlations are significantly lower than the correlation coefficients between perceived evaluations and general self-concept, giving further evidence that there is a discrepancy between how delinquents expect significant others to perceive their abilities and how significant others actually perceive their abilities.

Comparative Analysis

A major phase of this investigation called for a systematic comparison of the data obtained from the delinquent and non-delinquent samples investigated. The two statistical techniques employed were: one, the t-test, as discussed in Chapter III, to test for the significant difference between means, and two, a "Z" transformation test to test for significant differences between obtained

TABLE 16.--Coefficients of Correlation Between Perceived Evaluations of Teachers, Houseparents, and Counselors, and Actual Evaluations by Teachers, Houseparents, and Counselors for Institutionalized Delinquent, Male, Ninth-Grade Students

Significant Others	Correlation Between Perceived and Actual Evaluation		
	Private N=50	State N=50	Total N=100
Teachers	.46*	.33*	.40*
Houseparents	.12	.07	.09
Counselors	.31*	.21	.28*
Composite of above	.35*	.22	.29*

*P < .05 for the test that r=0.

correlation coefficients. (See discussion in Chapter III.) The null hypothesis tested states that the two populations are equal.

Differences Between the Delinquent and Non-Delinquent Mean Scores for the Major Variables.--Table 17 reports a summary of the obtained means, standard deviations, and t-tests between the delinquent and non-delinquent mean scores for the major variables of this study. No statistical comparison was made of mean grade scores. Table 17 shows that except for three variables, the non-delinquent mean scores, as predicted, were all significantly greater than the delinquent mean scores. On one variable, age, the delinquent group, as expected, had the highest mean score. The average age of the delinquent group was 15.62 as compared with 15.19 for the non-delinquent group. On two variables there were no significant differences in the mean scores between the two groups: the Specific Self-Concept in English scale scores and Perceived Image of Parents in English scores. Earlier in this chapter were discussed possible reasons for the comparative low self-concept of ability in English scores for the non-delinquent population. Table 5 had indicated that the mean self-concept of ability in English score was significantly lower than the mean general self-concept of ability score for the non-delinquent group. This difference was not indicated for the delinquent sample.

TABLE 17.--Means, Standard Deviations, and t-tests Between Scores for all Major Variables for the Institutionalized Delinquent and Public School Non-Delinquent, Male, Ninth-Grade Students

Variables	Delinquent N=100 Mean	S.D.	Non-Delinquent N=100 Mean	S.D.	t
Self-Concept - General	27.10	4.93	28.77	4.91	-2.42*
Self-Concept - Math	27.06	6.73	29.58	5.80	-3.65*
Self-Concept - English	27.08	6.39	27.23	5.79	
Self-Concept - Social Studies	25.83	6.38	27.60	6.22	-1.99*
Self-Concept - Science	26.77	6.53	28.98	6.88	-2.33*
Perceived Image of Parents	18.57	3.77	19.91	3.77	-2.53*
Perceived Image of Parents in Math.	4.21	.95	4.47	.73	-2.17*
Perceived Image of Parents in English	4.11	.99	4.11	.86	
Perceived Image of Parents in Social Studies	3.94	.99	4.32	.87	-2.88*
Perceived Image of Parents in Science	4.06	.91	4.39	.84	-2.66*
Perceived Image of Best Friend	17.67	3.62	18.67	3.38	-2.00*
Perceived Image of Teacher	18.25	4.17	19.46	3.38	-2.24*
Sum of Perceived Images of Parents, Best Friend, & Teacher	54.49	9.80	58.04	9.37	-2.61*
Socio-Economic Index	21.69	15.74	43.83	21.83	-8.26*
IQ	100.13	10.39	103.94	12.72	-2.32*
Age	15.62	.97	15.19	.44	4.06*#

*Difference is significant .05.

#The delinquent mean is greater.

Differences Between the Delinquent and Non-Delinquent Correlated Data.--Table 18 shows the comparative coefficients of correlation for the crucial variables for the delinquent and the non-delinquent students. (To note all combinations of correlation coefficients see the correlation matrices of major variables for the various samples in Appendix E.) The information in Table 18 indicates that for slightly over half of the variables correlated the coefficients of correlation for the non-delinquent group were significantly greater than those for the delinquent sample. No coefficients of correlation were significantly greater for the delinquent group. Nearly half of the combinations of correlated variables were not statistically significant although the correlation coefficients tended to be greater for the non-delinquent group. The relative differences observed indicate a greater degree of relationship between the relevant variables for the non-delinquent population.

The coefficients of correlation were significantly greater for the non-delinquent group for the following variables correlated with general self-concept of ability: academic GPA, each specific subject GPA, IQ, socio-economic index and parents' images. Except for the relationship between general self-concept of ability and socio-economic index, the above have been discussed earlier in this chapter. The information in Table 17 indicated that the

TABLE 18.--Comparative Coefficients of Correlation and Z-Tests for the Non-Delinquent and Delinquent Students*

Variables Correlated	Non-Delinquent N=100 r_1	Delinquent N=100 r_2	z
General S-C - GPA	.75	.41	3.84**
General S-C - IQ	.57	.19	3.26**
General S-C - Age	-.27	-.06	1.55
General S-C - Socio-Economic Index	.34	-.08	3.10**
General S-C - Math. S-C	.68	.60	.97
General S-C - English S-C	.64	.55	1.00
General S-C - Social Studies S-C	.67	.63	.61
General S-C - Science S-C	.71	.56	1.81
General S-C - Math. Grade	.51	.07	3.52**
General S-C - English Grade	.64	.37	2.64**
General S-C - Social Studies Grade	.65	.30	3.33**
General S-C - Science Grade	.60	.24	3.20**
General S-C - Parents' Images	.76	.61	2.07**
General S-C - Teachers' Images	.71	.69	.29
General S-C - Peers' Images	.67	.73	- .86
General S-C - Composite Parents', Teachers' & Peers' Images	.81	.80	.20
Math. S-C - Math. Grade	.38	.35	.24
English S-C - English Grade	.49	.23	2.16**
Social Studies S-C - Social Studies Grade	.62	.33	2.73**
Science S-C - Science Grade	.57	.10	3.91**
GPA - IQ	.58	.14	3.73**
GPA - Age	-.29	-.20	.69
GPA - Socio-Economic Index	.30	-.18	3.49**
GPA - Parents' Images	.68	.25	4.09**

TABLE 18.--(Continued)

Variables Correlated	Non-Delinquent N=100 r_1	Delinquent N=100 r_2	z
GPA - Teachers' Images	.62	.45	1.71
GPA - Peers' Images	.56	.35	1.86
GPA - Composite, Parents', Teachers', & Peers' Images	.70	.42	2.99**
GPA - Math. S-C	.47	.28	1.59
GPA - English S-C	.47	.24	1.89
GPA - Social Studies S-C	.58	.32	2.36**
GPA - Science S-C	.56	.22	2.92**
IQ - Age	-.27	-.26	.09
IQ - Socio-Economic Index	.25	.10	1.11

* $z_1 - z_2 = .14$; Critical value $= \pm 1.96$.

** Difference is significant $p < .05$.

socio-economic index, as determined by Duncan's 1959 Socio-Economic Index, is significantly higher, as expected, for the non-delinquent group. Variation within the non-delinquent sample in respect to socio-economic index is considerably greater than within the delinquent group, indicating that the non-delinquent group is more heterogeneous in socio-economic status. Likewise, the mean socio-economic index of delinquent boys from the private institution was higher and variation was greater than for the boys from the state institution. Table 18 indicates that the correlation coefficients between S-C and socio-economic index are .34 for the non-delinquent sample and -.08 for the delinquent group indicating that there is no significant relationship between socio-economic status and self-concept for the delinquent students. A similar relationship, which is significantly greater for the non-delinquent group, is noted between GPA and socio-economic index. Correlations between GPA and socio-economic index are .30 for the non-delinquent students and -.18 for delinquent students. Again a slight positive correlation is indicated for the more heterogeneous non-delinquent group, but the relationship between GPA and socio-economic index for the more homogeneous institutionalized delinquent group is not statistically significant.

The coefficients of correlation were significantly greater for the non-delinquent group for the following variables correlated with GPA: general self-concept, IQ, socio-economic index, parents' images, composite of parents', teachers', and peers' images, social studies self-concept, and science self-concept. Each of the correlations between the specific subject self-concept of ability scores and corresponding subject grade was significantly greater for the non-delinquent students. Most of these relationships have been discussed earlier in this chapter.

When correlations between GPA and the images that students perceive significant others to hold of their abilities are compared, only the relationships between GPA and perceived parents' images are significantly greater for the non-delinquent students; these correlations are .68 for non-delinquents and .25 for delinquents. There were no significant differences between the two groups when GPA was correlated with the images the students perceive teachers or peers to hold of their abilities.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary of Research Objectives

The purpose of this investigation was to make a systematic study of the relationships between self-concept of ability and classroom achievement among ninth-grade public school non-delinquent male students and ninth-grade institutionalized delinquent boys enrolled in an academic program. Further, a systematic comparison was to be made between the delinquent and non-delinquent students in those factors investigated relating to self-concept of ability and classroom achievement.

The non-delinquent sample (N=100) was drawn at random from ninth-grade male students, in one Midwestern metropolitan school system, who met the criteria of having been in the school system at least two years and for whom ninth-grade IQ scores were available. The sample of ninth-grade institutionalized delinquent boys (N=100) was drawn from two sources. Fifty ninth-grade students were selected from each of two institutions designed for the custody and treatment of delinquent boys. One of these was a state institution located in the same metropolitan

area as the non-delinquent sample; the second was a private institution located within fifty miles of the other samples selected.

Summary of Research Findings

Basing the major thesis of this investigation on the phenomenological approach to learning, it was postulated that self-concept is established early in life in an interpersonal setting and modified by subsequent experience, and that the learner tends to evaluate himself as he perceives others to evaluate him, and finally, that a learner's self-concept of ability is a functionally limiting or facilitating factor in classroom achievement. It was also postulated that certain deviations characteristic of delinquents have delimiting effects on self-concept development. The major thesis was tested in the form of five specific hypotheses. All were found to be tenable.

The major results of this investigation may be summarized as follows:

1. Non-delinquent, public school, ninth-grade male students have significantly higher mean self-concept of ability scores than ninth-grade institutionalized delinquent male students. Stated otherwise, non-delinquent students have more positive self-concepts of ability than delinquent boys.

2. Self-concept of ability is significantly related to classroom achievement of delinquent and non-delinquent ninth-grade male students. The correlation coefficients are .41 for delinquents and .74 for non-delinquents.
3. Self-concept of ability is significantly related to classroom achievement of delinquent and non-delinquent ninth-grade male students when the effect of intelligence is controlled. The coefficients of correlation, with measured intelligence partialled out, are .39 for delinquents and .63 for non-delinquents.
4. Self-concept of ability is weighted higher than IQ as a predictor of achievement for both ninth-grade public school male students and ninth-grade institutionalized delinquent boys. The multiple correlation coefficients (.42 for the delinquents and .77 for the non-delinquents) have beta weights of .06 for IQ and .41 for self-concept of ability for delinquents, and .22 for IQ and .62 for self-concept for non-delinquents.
5. IQ alone is not a reliable predictor of classroom achievement for male delinquent ninth-grade students enrolled in an academic program. The correlations between IQ and grade point average without and with the effect of self-concept of

ability partialled out are .14 and .04 respectively. Neither of the correlation coefficients are significantly different from zero.

6. The hypothesis that the self-concepts of ability in specific school subjects of delinquent and non-delinquent boys vary from one subject to the other and from their general self-concepts of ability is tenable.

7. The non-academic (shop courses and physical education activities) self-concept of ability scales measure different variables than the general self-concept of ability scale or the specific academic self-concept of ability scales for the delinquent students. The mean self-concept of ability scores for shop courses and physical education were both significantly higher than any of the mean specific academic self-concept of ability scores or the mean general self-concept of ability score. None of the obtained correlation coefficients between self-concept in shop courses or physical education activities and self-concepts in specific academic subjects or general self-concept of ability were significantly different from zero.

8. The hypothesis that the expectations of significant others as perceived by both delinquent and non-delinquent boys are positively related with the students' self-concepts as learners is supported when parents, teachers and peers are identified as significant others.
9. The relationship between students' general self-concepts of ability and the images they perceive their parents to hold of their abilities is significantly greater among the non-delinquent students than among the delinquent students. The obtained coefficients of correlation are .76 for non-delinquents and .61 for delinquents. No significant differences were noted between students' general self-concepts of ability and the images they perceive teachers and peers to hold of their abilities for delinquent and non-delinquent students. In respect to teachers' images the correlations are .71 for non-delinquents and .69 for delinquents. In respect to peers' images the correlations are .67 for non-delinquents and .73 for delinquents.
10. Classroom achievement is positively correlated with the images students perceive significant others to hold of their abilities.

11. The correlations between students' classroom achievement and the images they perceive their parents, teachers, and peers to hold of their abilities are higher for the non-delinquent students than for the delinquent students. The most significant difference is in respect to parents' images. The obtained coefficients between grade point average and parents' images are .68 for non-delinquents and .25 for delinquents. The correlations between GPA and teachers' images are .62 for non-delinquents and .45 for delinquents. The correlations between GPA and peers' images are .56 for non-delinquents and .35 for delinquents.
12. The hypothesis that the expectations of significant others as perceived by delinquent male students differ significantly from the expectations of significant others as perceived by non-delinquent male students is supported when parents, teachers and peers are identified as significant others. The mean perceived image scores are all significantly higher for the non-delinquent students.
13. Both similarities and differences are noted between delinquent and non-delinquent students in their listing of significant others. Parents

were named by nearly all students as being "important in their lives" and concerned with "how well they do in school." Peers, relatives, and teachers were frequently mentioned. The delinquent students also mentioned counselors, houseparents and other institutional personnel. Non-delinquents mentioned teachers as being more important in their lives significantly more often than did delinquents. Delinquents mentioned opposite sex peers significantly more often than same sex peers, whereas non-delinquents mentioned same sex peers significantly more often than opposite sex peers.

14. There is a significant discrepancy between how delinquents expect significant others to perceive their abilities and how significant others actually perceive their abilities. The perceived expectations are consistently higher than the actual evaluations by significant teachers, houseparents, and counselors.
15. The mean family socio-economic index for the non-delinquent students is significantly higher than for delinquent students.
16. The relationship between self-concept and socio-economic index is significantly positive for non-delinquent students, whereas this relationship

is not significant for delinquent students. The obtained correlations are .34 for non-delinquents and -.08 for delinquents.

17. The relationship between GPA and socio-economic index is significantly positive for non-delinquent students, whereas this relationship is not significant for delinquent students. The obtained correlations are .30 for non-delinquents and -.18 for delinquents.
18. The relationship between IQ and socio-economic index is slightly positive for both delinquent and non-delinquent samples. The obtained correlations are .25 for non-delinquents and .10 for delinquents.

Implications of Research Findings

The evidence presented in this investigation has given further support to the following theoretical notations basic to this study:

1. The capacity for intelligent behavior is a function of perceptions.
2. How a student perceives his life experiences, how things seem from his point of view rather than how they seem from the outsider's point of view, are considered important variables in the learning process.

3. A person will tend to evaluate himself as he perceives others evaluate him.
4. The learner's self-concept of his learning ability is a functionally limiting or facilitating factor in classroom achievement.
5. Chronic threatening experiences encountered by delinquents hinder and narrow perceptions and consequently delimit the effect of self-concept development and school achievement.

It is believed that this study affords concrete applications for the education of junior high and possibly high school students, and may provide special guidelines for administrators, teachers, and related personnel concerned directly with the education of institutionalized boys. Although the study proved meaningful for groups as a whole, it is believed, because of the variations indicated, that individuals rather than groups should be emphasized. Appropriate courses of action can be outlined when the staff analyzes the self-concept of ability for the individual student and identifies significant others in this student's life. Emphasis could be on building a more positive self-concept through the facilitating effect of significant others in contrast to relying upon the face value of an IQ score and planning programs in relation to such a score. The evidence presented in this investigation suggests that human capacities are not as limited as so

often assumed when IQ scores alone are considered. It has been demonstrated that IQ is not a reliable predictor of classroom achievement among delinquent students enrolled in an academic program. The correlation coefficients for the delinquent students between IQ (ranging between 73 and 125) and grade point averages are .14 without self-concept controlled and .07 with the effect of self-concept partialled out. Neither of these correlations are statistically significant. In contrast to these low correlations, the coefficients of correlation between self-concept of ability and classroom achievement for the delinquent students are .41 without IQ partialled out and .39 with the effect of IQ controlled. These results would suggest a need for much greater discretion in the use and interpretation of standardized intelligence tests.

Since it is postulated that self-concept of ability is formulated in an interpersonal setting and subject to modification, and since it is postulated that the learner tends to evaluate himself as he perceives others evaluate him, it follows that it should be feasible to elevate the self-concept of the delinquent student and consequently raise his level of academic achievement by working through appropriate others.

The delinquent who has his perceptions narrowed and distorted characteristically reacts against dominating adults and meaningless activity set up by adults. He

strikes out against domination with anti-social behavior. He has resisted adult concepts, adult power, order and control. A vicious circle of resistance and counter-resistance has developed. Within the institution, by working through appropriate others, steps can be taken to break this vicious circle. The school can find areas of success and encourage the feelings of realistic self-confidence; the teacher can be consistently interested and supportive; the counselor can give the counselee a sense that his counselor has time for him, has faith in him and will give attention to some of the anxieties that plague him as well as free his capabilities for realistic and more positive perceptions; houseparents, by exercising "power with" rather than "power over," will demonstrate faith in their boy and provide him with activities which will offer him responsibilities and enlarge his social abilities and perceptions. These approaches could possibly produce changes in the delinquent's self-concept of ability and consequently change his level of classroom achievement.

Implications for Further Research

This investigation has given support to the propositions that the learner tends to evaluate himself as he perceives others evaluate him, that the learner's self-concept of his learning ability is a functionally limiting or facilitating factor in classroom achievement, and that

non-delinquent, male, ninth-grade students have more positive self-concepts of ability than institutionalized delinquent, male, ninth-grade students.

A most likely sequel to this study is to investigate the possibility of changing students' self-concepts of ability and thereby raise their level of performance. Brookover and his associates at Michigan State University are presently conducting such an investigation in a public school setting. A worthwhile counterpart to this investigation would be a similar approach at an institution for delinquent boys, concentrating on working through appropriate others at the institution.

Other questions which might be investigated more thoroughly are: To what extent does academic achievement reinforce the learners' self-concept of ability? What is the nature of the self-concept of ability and consequent relation to achievement for socially and emotionally malajusted learners in a public school setting? Can results obtained in this study be generalized to delinquent girls? How do "others" become more meaningful in the student's life? What would be the effects of enrolling institutionalized delinquent students only in those areas where they have positive self-concepts of ability and extending enrollment only as positive self-concepts are generalized to new areas of study? What is the relationship between self-concept of ability and institutional and

post-institutional adjustment? What effects do socio-economic factors have on self-concept development? What role does self-concept of ability have in changing socio-economic status?

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APPENDIX A

QUESTIONNAIRES TO IDENTIFY SIGNIFICANT OTHERS

1. General Significant Others
2. Academic Significant Others

There are many people who are important in our lives. In the space below, list the Names of the people who you feel are important in your life. Please indicate who each person is.

NAMES	WHO IS THIS PERSON?

If you finish before the time limit, please sit quietly. Do not turn the page.

There are many people who are concerned about how well young people do in school. In the space below, list the NAMES of the people you feel are concerned about how well you do in school. Please indicate who each person is.

NAMES	WHO IS THIS PERSON?

If you finish before the time limit, please sit quietly. Do not turn the page.

APPENDIX B

SELF-CONCEPT OF ABILITY SCALES

1. Self-Concept of Ability Scale--General
2. Self-Concept of Ability Scale--Specific Subjects

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?

   a. I am the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am poorest

2. How do you rate yourself in school ability compared with those in your class at school?

   a. I am among the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am among the poorest

3. Where do you think you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

4. Do you think you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. no

5. Where do you think you would rank in your class in college?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

Go on to the next page

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

    a. very likely
    b. somewhat likely
    c. not sure either way
    d. unlikely
    e. most unlikely

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

    a. My work is excellent
    b. My work is good
    c. My work is average
    d. My work is below average
    e. My work is much below average

8. What kind of grades do you think you are capable of getting?

    a. mostly A's
    b. mostly B's
    c. mostly C's
    d. mostly D's
    e. mostly E's

Go on to the next page

Now we would like you to again answer some of the same questions, but this time about four different subjects plus shop courses and physical education activities which you are now taking or have taken in the past.

Put an "X" in the box under the heading which best answers the question. Answer for all four subjects, shop courses and physical education. (You will have one "X" on each line.)

1. How do you rate your ability in the following school subjects compared with your close friends?

	I am the poorest	I am below average	I am average	I am above average	I am the best
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

2. How do you rate your ability in the following school subjects compared with those in your class at school?

	I am among the poorest	I am below average	I am average	I am above average	I am among the best
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

Go on to the next page

3. Where do you think you would rank in your high school graduating class in the following subjects?

	among the poorest	below average	average	above average	the best
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

4. Do you think you have the ability to do college work in the following subjects?

	No	probably not	not sure either way	yes, probably	yes, definitely
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

Go on to the next page

5. Where do you think you would rank in your college class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

6. How likely do you think it is that you could complete advanced work beyond college in the following subjects?

	most unlikely	unlikely	not sure either way	somewhat likely	very likely
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

Go on to the next page

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is in the following school subjects?

	my work is much below average	my work is below average	my work is average	my work is good	my work is excellent
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

8. What kind of grades do you think you are capable of getting in the following subjects?

	Mostly E's	mostly D's	mostly C's	mostly B's	mostly A's
Mathematics					
English (Reading)					
Social Studies					
Science					
Shop Courses					
Physical Education Activities					

NOTE: The questionnaire for the public school students did not include non-academic (shop and physical education) courses.

Go on to the next page

APPENDIX C

PERCEIVED EXPECTATION OF SIGNIFICANT OTHERS SCALES

1. Parents
2. Best Friend
3. Teacher
4. Houseparents
5. Counselor

Please answer the following questions as you think your Parents would answer them. If you are not living with your parents answer for the family with whom you are living. If you are presently in an institution, answer for the family with whom you are living while not in the institution.

Circle the letter in front of the statement that best answers each question.

1. How do you think your PARENTS would rate your school ability compared with other students your age?

   a. Among the best
   b. Above average
   c. Average
   d. Below average
   e. Among the poorest

2. Where do you think your PARENTS would say you would rank in your class in high school?

   a. Among the best
   b. Above average
   c. Average
   d. Below average
   e. Among the poorest

3. Do you think that your PARENTS would say you have the ability to complete college?

   a. Yes, definitely
   b. Yes, probably
   c. Not sure either way
   d. Probably not
   e. Definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your PARENTS would say it is that you could complete such advanced work.?

   a. Very likely
   b. Somewhat likely
   c. Not sure either way
   d. Somewhat unlikely
   e. Very unlikely

Go on to the next page

5. What kind of grades do you think your PARENTS would say you are capable of getting in general?

   a. Mostly A's
   b. Mostly B's
   c. Mostly C's
   d. Mostly D's
   e. Mostly E's

6. How far do you think your PARENTS expect you to go in school?

   a. They expect me to quit as soon as I can
   b. They expect me to go to high school for a while
   c. They expect me to graduate from high school
   d. They expect me to go to secretarial or trade school
   e. They expect me to go to college for a while
   f. They expect me to graduate from college
   g. They expect me to do graduate work beyond college

7. In general, would your PARENTS say you are doing as well in school as you are capable of doing?

   a. Yes, definitely
   b. Yes, probably
   c. Not sure either way
   d. Probably not
   e. Definitely not

8. What grade do you think your PARENTS would say you are capable of getting in Mathematics?

   a. A
   b. B
   c. C
   d. D
   e. E

9. What grade do you think your PARENTS would say you are capable of getting in English (Reading)?

   a. A
   b. B
   c. C
   d. D
   e. E

Go on to the next page

10. What grade do you think your PARENTS would say you are capable of getting in Social Studies?

    a. A
    b. B
    c. C
    d. D
    e. E

11. What grade do you think your Parents would say you are capable of getting in Science?

    a. A
    b. B
    c. C
    d. D
    e. E

12. What grade do you think your PARENTS would say you are capable of getting in Shop Courses?

    a. A
    b. B
    c. C
    d. D
    e. E

13. What grade do you think your PARENTS would say you are capable of getting in Physical Education Activities?

    a. A
    b. B
    c. C
    d. D
    e. E

Go on to the next page

Think about your closest friend at school.

What is this friend's name?_____

What grade is this friend in?_____

Now answer the following questions as you think this FRIEND would answer them.

Circle the letter in front of the statement that best answers each question.

1. How do you think this FRIEND would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this FRIEND would say you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this FRIEND would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this FRIEND would say it is that you could complete such advanced word?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very likely

Go on to the next page

5. What kind of grades do you think this FRIEND would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

6. How far do you think this FRIEND expects you to go in school?

   a. He (she) expects me to quit as soon as I can
   b. He (she) expects me to go to high school for a while
   c. He (she) expects me to graduate from high school
   d. He (she) expects me to go to secretarial or trade school
   e. He (she) expects me to go to college for a while
   f. He (she) expects me to graduate from college
   g. He (she) expects me to do graduate work beyond college

Go on to the next page

Think about your favorite teacher--the one you like best; the one you feel is most concerned about your school work.

What is this teacher's name? _____

What subject (s) do you have this teacher for? _____

Now answer the following questions as you think this TEACHER would answer them.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this TEACHER would say you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this TEACHER would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

Go on to the next page

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

5. What kind of grades do you think this TEACHER would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. Mostly E's

6. How far do you think this TEACHER expects you to go in school?

   a. He (she) expects me to quit as soon as I can
   b. He (she) expects me to go to high school for a while
   c. He (she) expects me graduate from high school
   d. He (she) expects me to go to secretarial or trade school
   e. He (she) expects me to go to college for a while
   f. He (she) expects me to graduate from college

7. In general, would this TEACHER say you are doing as well as you are capable of doing?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

Go on to the next page

Please answer the following questions as you think your present cottage or houseparents would answer them.

Name of houseparent(s) referred to_____

Circle the letter in front of the statement which best answers each question.

1. How do you think this HOUSEPARENT(S) would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this HOUSEPARENT(S) would say you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this HOUSEPARENT(S) would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this HOUSEPARENT(S) would say if is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

Go on to the next page

5. What kind of grades do you think this HOUSEPARENT(S) would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

6. How far do you think this HOUSEPARENT(S) expects you to go in school?

   a. He (she) expects me to quit as soon as I can
   b. He (she) expects me to go to high school for a while
   c. He (she) expects me to graduate from high school
   d. He (she) expects me to go to secretarial or trade school
   e. He (she) expects me to go to college for a while
   f. He (she) expects me to graduate from college
   g. He (she) expects me to do graduate work beyond college

7. In general, would this HOUSEPARENT(S) say you are doing as well as you are capable of doing?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

Go on to the next page

Please answer the following questions as you think your present counselor would answer them.

Name of present counselor_____

Circle the letter in front of the statement which best answers each question.

1. How do you think your COUNSELOR would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think your COUNSELOR would say you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that your COUNSELOR would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your COUNSELOR would say it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

Go on to the next page

5. What kind of grades do you think your COUNSELOR would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

6. How far do you think your COUNSELOR expects you to go in school?

   a. He (she) expects me to quit as soon as I can
   b. He (she) expects me to go to high school for a while
   c. He (she) expects me to graduate from high school
   d. He (she) expects me to go to secretarial or trade school
   e. He (she) expects me to go to college for a while
   f. He (she) expects me to graduate from college
   g. He (she) expects me to do graduate work beyond college

7. In general, would your COUNSELOR say you are doing as well as you are capable of doing?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

APPENDIX D

EVALUATION OF SIGNIFICANT OTHERS SCALE

Circle the letter in front of the statement which best answers each question in rating the following student:

---

1. How would you rate this student's school ability compared with other students his age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this student would rank in his class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think this student would have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this student could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

Continued on next page

5. What kind of grades do you think this student is capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

6. How far do you think this student will go in school?

   a. He will quit as soon as he can
   b. He will go to high school for a while
   c. He will graduate from high school
   d. He will go to secretarial or trade school
   e. He will go to college for a while
   f. He will graduate from college
   g. He will do graduate work beyond college

7. In general, would you say this student is doing as well as he is capable of doing?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

APPENDIX E

CORRELATION MATRICES OF MAJOR VARIABLES

1. State Training School Delinquent Sample
2. Private Institution Delinquent Sample
3. Total Delinquent Sample
4. Non-Delinquent Sample

	1 Socio-Economic Index (Duncan Scale)	2 Self-Concept--General	3 Self-Concept--Math.	4 Self-Concept--English	5 Self-Concept--Social Studies	6 Self-Concept--Science	7 Self-Concept--Shop Courses	8 Self-Concept--Physical Education	9 Perceived Evaluation of Parents	10 Perceived Evaluation of Parents in Math.	11 Perceived Evaluation of Parents in English	12 Perceived Evaluation of Parents in Social Studies	13 Perceived Evaluation of Parents in Science	14 Perceived Evaluation of Parents in Shop Courses	15 Perceived Evaluation of Parents in Physical Education	16 Perceived Evaluation of Best Friend	17 Perceived Evaluation of Teacher	18 Teacher's Perception of Student's Ability	19 Perceived Evaluation of Houseparent	20 Houseparent's Perception of Student's Ability	21 Perceived Evaluation of Counselor	22 Counselor's Perception of Student's Ability	23 Composite Perceived Eval. of Parents, Best Friend & Teacher	24 Composite Perceived Eval of Teacher, H.parents, & Counselor	25 Composite Teach's, H.parents' & Counselor's Perc.of Stud's. Abil.	26 IQ	27 Average Math. Grade	28 Average English Grade	29 Average Social Studies Grade	30 Average Science Grade	31 Average Shop Grade	32 Average Physical Education Grade	33 Average Academic Grade (GPA)	34 Average Grade for All Subjects	35 Achievement Test Average	36 Hall Adjustment Score	37 School Adjustment Score	38 Average Adjustment Score	39 Months in Institution	40 Age	
1	-	01	-11	02	-01	19	-15	03	04	-03	02	-08	10	03	06	15	11	-04	-15	00	05	48	12	00	20	14	-08	-05	12	02	-07	-13	-17	-21	16	00	-06	-09	-13	-04	1
2		-	48	35	46	34	29	14	57	22	22	39	32	31	20	60	65	36	40	-02	63	08	74	68	19	16	04	28	38	20	-01	-05	33	17	02	-04	13	06	-15	-19	2
3			-	-20	02	25	16	-10	61	79	10	27	39	26	15	34	47	21	19	-23	32	-03	58	40	-04	05	36	15	-01	10	11	-20	22	09	-12	-15	-07	-18	-03	-17	3
4				-	05	16	-11	-03	-05	-34	29	-25	-15	-22	-19	20	33	16	13	-10	28	-14	20	30	-05	-01	-09	04	37	25	03	-29	24	14	01	-06	10	-03	-04	-15	4
5					-	23	41	12	16	-29	-17	52	-06	28	-17	39	35	18	25	10	36	02	37	39	15	03	03	30	32	-05	-34	36	18	10	08	25	30	32	-09	17	5
6						-	03	02	20	03	08	04	39	04	-06	36	46	07	28	13	33	13	41	43	17	10	09	04	19	11	00	-21	09	-01	-01	-01	-14	-08	-20	-15	6
7							-	06	29	09	22	60	28	80	12	17	36	16	18	15	42	12	34	39	21	10	05	23	-03	27	22	32	26	23	-01	-01	25	09	15	-07	7
8								-	-04	-17	07	-09	-02	01	31	05	-04	-07	-01	-05	06	20	-01	00	03	-08	04	12	03	-04	-20	33	-08	06	-07	-24	-22	-13	23	13	8
9									-	62	24	42	43	45	32	43	52	06	26	-04	37	18	79	47	09	02	11	34	04	31	27	-06	33	22	-14	-13	03	-09	08	-07	9
10										-	33	33	55	38	46	16	18	03	01	-34	08	-02	39	11	-18	-05	23	09	-23	09	23	-19	06	-08	-26	-19	-04	-21	-01	-11	10
11											-	42	54	51	58	-01	04	19	-14	-10	01	12	11	-04	09	06	-12	38	-05	30	17	-02	11	-05	-07	04	-02	02	06	-17	11
12												-	52	78	44	25	20	20	10	09	22	19	36	21	23	16	01	42	01	08	01	31	12	-03	01	20	18	25	-11	13	12
13													-	53	46	24	23	22	09	07	27	35	36	24	31	20	18	06	-10	20	29	-22	05	-14	03	-02	-09	-06	-01	-07	13
14														-	50	17	20	16	01	08	28	18	33	19	20	05	-05	39	-04	28	19	29	14	02	-08	-01	14	01	11	-04	14
15															-	-01	-08	-11	-20	00	-11	09	09	-16	-01	-07	-03	38	-13	00	05	13	03	-07	-21	-21	-16	-21	-09	-01	15
16																-	58	24	50	03	61	23	82	68	24	15	19	12	37	17	07	-12	18	06	02	-09	-01	04	-13	04	16
17																	-	33	38	-08	61	10	85	82	16	12	19	08	18	30	28	-12	41	29	00	-09	12	01	-15	-07	17
18																		-	15	-05	26	27	26	30	58	44	11	09	24	12	05	02	16	10	33	17	07	27	-02	01	18
19																			-	07	55	11	46	79	15	08	16	06	-09	-10	31	-04	-01	07	03	18	07	31	-16	06	19
20																				-	03	36	-04	00	68	37	01	03	10	14	-02	18	16	20	37	08	04	16	-03	-24	20
21																					-	21	65	86	24	06	21	03	17	12	21	-10	30	22	-03	-05	19	13	-13	-04	21
22																						-	21	17	78	66	01	-01	07	19	12	09	-06	-01	55	11	00	26	-10	09	22
23																							-	80	20	12	20	22	24	31	25	-12	38	23	-05	-13	06	-02	-09	-04	23
24																								-	22	11	22	07	10	13	32	-11	28	23	00	02	15	18	-18	-02	24
25																									-	71	06	06	20	22	06	15	13	15	61	18	06	33	-07	-08	25
26																										-	-04	01	29	28	06	08	02	04	75	13	-03	25	-07	03	26
27																											-	11	-17	-11	00	-22	34	17	-10	12	-05	-02	-01	00	27
28																												-	14	17	-03	34	51	40	-18	21	00	18	-07	-03	28
29																													-	40	-26	06	05	-03	27	-11	-02	-03	12	-09	29
30																														-	34	17	28	22	13	-14	12	-07	26	-20	30
31																															-	-09	16	29	01	-12	-05	-13	09	-13	31
32																																-	05	29	-02	16	27	38	09	29	32
33																																	-	86	-20	04	26	00	-16	-23	33
34																																		-	-14	01	25	06	-06	-18	34
35																																			-	10	-09	16	16	01	35
36																																				-	35	72	-19	21	36
37																																					-	59	-37	-10	37
38																																						-	-30	14	38
39																																							-	01	39
40																																								-	40

CORRELATION MATRIX OF MAJOR VARIABLES*

State Training School Delinquent Sample (N=50)

*Decimals omitted

	1 Socio-Economic Index (Duncan Scale)	2 Self-Concept--General	3 Self-Concept--Math.	4 Self-Concept--English	5 Self-Concept--Social Studies	6 Self-Concept--Science	7 Self-Concept--Shop Courses	8 Self-Concept--Physical Education	9 Perceived Evaluation of Parents	10 Perceived Evaluation of Parents in Math.	11 Perceived Evaluation of Parents in English	12 Perceived Evaluation of Parents in Social Studies	13 Perceived Evaluation of Parents in Science	14 Perceived Evaluation of Parents in Shop Courses	15 Perceived Evaluation of Parents in Physical Education	16 Perceived Evaluation of Best Friend	17 Perceived Evaluation of Teacher	18 Teacher's Perception of Student's Ability	19 Perceived Evaluation of Houseparent	20 Houseparent's Perception of Student's Ability	21 Perceived Evaluation of Counselor	22 Counselor's Perception of Student's Ability	23 Composite Perceived Eval. of Parents, Best Friend & Teacher	24 Composite Perceived Eval. of Teacher, H.parents, & Counselor	25 Composite Teach's, H.parents' & Counselor's Perc. of Stud's. Abil.	26 IQ	27 Average Math. Grade	28 Average English Grade	29 Average Social Studies Grade	30 Average Science Grade	31 Average Shop Grade	32 Average Physical Education Grade	33 Average Academic Grade (GPA)	34 Average Grade for All Subjects	35 Achievement Test Average (WRAT) ave. of read., arith., spell.	36 Number of Times Truant	37 Months in Institution	38 Age	
1	-	-09	-10	09	-03	02	09	13	10	-01	01	-05	-03	-07	04	-18	-23	-10	11	26	07	07	-13	-04	09	03	-28	-03	-05	-10	00	-20	-16	-15	02	14	-02	-16	1
2	-	75	68	78	69	01	-13	63	46	57	52	51	-02	-10	82	71	55	50	18	74	24	83	77	41	27	11	47	38	41	09	-04	45	44	34	-26	-01	-09	2
3	-	49	56	53	-05	-30	52	63	40	39	29	-15	-20	75	60	65	33	22	64	34	72	62	51	37	35	26	12	37	01	-19	35	29	34	-16	-12	-25	3
4	-	75	54	-02	03	63	24	59	51	32	-13	-13	68	59	34	39	17	68	18	73	65	29	35	-23	42	27	21	08	-20	23	20	44	-14	-03	-16	4
5	-	52	00	11	63	34	59	66	43	-01	02	69	60	40	37	18	63	19	74	63	32	26	-02	49	42	33	13	-01	41	38	39	-23	-02	-14	5
6	-	04	-04	30	20	25	33	47	06	-02	61	49	20	34	01	46	07	54	51	12	11	00	25	28	19	-01	-10	27	25	06	-41	12	-07	6
7	-	36	04	06	-05	-06	11	61	07	-02	01	-15	09	06	05	-20	01	06	-13	-15	-16	-18	04	-14	34	15	-16	01	-07	14	15	-07	7
8	-	-07	-02	-02	06	10	24	70	-16	-06	-34	13	-08	-12	-31	-11	-02	-32	-33	-19	-11	-01	-16	10	42	-15	04	-14	04	33	16	8
9	-	58	75	68	54	01	-07	61	48	36	29	04	75	29	80	59	30	31	05	28	17	23	02	-05	20	17	26	-03	-03	-26	9
10	-	54	57	54	06	11	43	39	38	25	08	55	18	53	46	27	09	30	15	-04	26	-18	07	17	18	09	-13	-03	-17	10
11	-	79	67	-03	00	50	51	36	37	09	68	21	68	61	28	29	-07	48	17	27	-03	02	24	21	34	-09	-07	-14	11
12	-	70	14	12	49	51	29	32	05	61	07	65	57	17	19	-04	29	20	27	04	09	21	18	21	-28	-01	-14	12
13	-	21	19	43	44	10	30	-07	54	04	54	50	03	-02	07	30	21	36	-08	18	28	27	05	-20	12	-09	13
14	-	28	-08	15	-14	05	-17	08	-27	04	11	-25	-27	-13	-23	-03	-12	36	27	-16	-04	-20	-04	-08	-09	14
15	-	-13	02	-24	18	-07	-08	-27	-06	05	-26	-40	02	-06	-05	-07	-11	40	-05	07	-27	02	25	18	15
16	-	76	47	41	09	73	22	91	75	33	32	11	41	37	43	13	-11	44	41	23	-33	05	-13	16
17	-	46	53	10	68	20	88	88	32	29	17	42	28	53	23	07	46	47	26	-28	03	-22	17
18	-	24	37	45	41	50	46	75	34	43	56	38	49	06	05	59	55	58	-22	-27	-34	18
19	-	12	53	02	48	80	16	06	-05	30	25	38	21	30	28	36	19	-19	25	-01	19
20	-	23	52	09	17	78	42	14	42	35	39	00	-03	41	39	48	07	-19	-36	20
21	-	31	83	86	42	36	00	44	20	43	03	03	34	30	34	-12	02	-26	21
22	-	27	21	84	67	37	36	26	31	-27	-18	40	29	39	-07	-25	-49	22
23	-	87	37	36	13	43	31	47	15	-03	43	41	29	-25	02	-24	23
24	-	35	28	06	46	29	53	19	15	43	45	31	-24	12	-20	24
25	-	62	40	56	41	50	-10	-08	59	51	61	-10	-30	-51	25
26	-	15	23	16	21	-05	-28	24	14	47	-23	-24	-48	26
27	-	12	31	48	-15	25	62	57	19	-15	00	-31	27
28	-	51	58	00	05	73	66	52	-14	-10	-18	28
29	-	54	22	24	80	79	29	-42	14	-22	29
30	-	19	18	85	80	54	-26	-04	-28	30
31	-	-04	11	20	09	-12	-05	02	31
32	-	23	41	-05	-17	36	04	32
33	-	94	48	-33	01	-30	33
34	-	38	-32	10	-23	34
35	-	-08	-38	-35	35
36	-	-14	10	36
37	-	46	37
38	-	38

CORRELATION MATRIX OF MAJOR VARIABLES*

Private Institution Delinquent Sample (N=50)

*Decimals omitted.

	1 Socio-Economic Index (Duncan Scale)	2 Self-Concept--General	3 Self-Concept--Math.	4 Self-Concept--English	5 Self-Concept--Social Studies	6 Self-Concept-Science	7 Self-Concept--Shop Courses	8 Self-Concept--Physical Education	9 Perceived Evaluation of Parents	10 Perceived Evaluation of Parents in Math.	11 Perceived Evaluation of Parents in English	12 Perceived Evaluation of Parents in Social Studies	13 Perceived Evaluation of Parents in Science	14 Perceived Evaluation of Parents in Shop Courses	15 Perceived Evaluation of Parents in Physical Education	16 Perceived Evaluation of Best Friend	17 Perceived Evaluation of Teacher	18 Teacher's Perception of Student's Ability	19 Perceived Evaluation of Houseparent	20 Houseparent's Perception of Student's Ability	21 Perceived Evaluation of Counselor	22 Counselor's Perception of Student's Ability	23 Composite Perceived Eval. of Parents, Best Friend & Teacher	24 Composite Perceived Eval. of Teacher, H.parents, & Counselor	25 Composite Teach's, H.parents' & Counselor's Perc. of Stud's. Abil.	26 IQ	27 Average Math. Grade	28 Average English Grade	29 Average Social Studies Grade	30 Average Science Grade	31 Average Shop Grade	32 Average Physical Education Grade	33 Average Academic Grade (GPA)	34 Average Grade for All Subjects	35 Achievement Test Average (WRAT) Ave. of read., arith., spell.	36 Months in Institution	37 Age	
1	-	-08	-12	04	-03	06	-05	03	05	-01	-01	-05	02	00	03	-06	-13	-05	00	18	07	24	-06	-03	17	10	-17	-03	09	01	-01	-19	-18	-18	04	-01	-17	1
2		-	60	55	63	56	17	04	61	32	44	45	42	15	07	73	69	44	47	08	68	12	80	73	28	19	07	37	30	24	02	-03	41	35	24	-10	-06	2
3			-	14	26	38	10	-13	56	71	25	31	35	12	04	52	52	39	26	-03	45	11	63	49	20	17	35	18	-01	15	05	-17	28	20	14	-10	-12	3
4				-	43	39	-04	03	36	-06	47	15	11	-18	-14	48	49	25	29	04	52	03	53	52	14	17	-16	23	25	19	04	-22	24	18	30	-06	-09	4
5					-	39	21	12	42	00	25	39	19	16	-08	55	49	29	32	13	51	11	58	53	23	15	01	39	33	10	-14	14	32	28	27	-06	04	5
6						-	06	03	27	10	19	19	44	04	-03	51	48	13	32	04	40	04	50	48	09	08	04	14	17	10	-02	-13	22	18	05	-05	-04	6
7							-	26	18	06	10	28	20	69	12	08	17	-04	15	08	19	-12	17	20	-04	-06	-05	03	-06	05	24	23	02	10	-02	10	02	7
8								-	-02	-11	05	-02	05	08	49	-05	-02	-26	10	-09	-06	-20	-03	01	-25	-25	-09	-01	-09	-16	-09	38	-09	07	-07	20	25	8
9									-	58	54	55	49	23	14	54	50	23	28	-01	60	20	80	55	19	16	07	30	06	22	13	-04	25	19	13	-01	-10	9
10										-	42	43	54	27	32	28	27	21	13	-13	32	10	44	29	08	02	26	12	-12	17	07	-05	11	06	-07	-01	-14	10
11											-	61	61	26	31	29	34	27	18	00	42	13	46	37	18	17	-10	42	02	25	06	01	20	13	20	-04	-09	11
12												-	61	52	30	37	38	25	22	07	44	12	51	41	19	18	-01	36	10	16	03	18	17	10	12	-05	00	12
13													-	39	34	34	35	14	21	-01	42	13	46	39	12	07	13	17	03	25	12	01	19	12	05	04	-05	13
14														-	41	06	15	03	02	-02	17	-02	18	14	00	-07	-08	16	-01	16	25	26	-02	-02	-13	04	-08	14
15															-	-06	-02	-18	00	-04	-09	-14	03	-04	-16	-23	02	19	-13	-05	-02	26	-01	02	-21	04	10	15
16																-	69	36	44	05	67	19	87	72	27	23	15	26	32	26	09	-10	35	29	16	-04	02	16
17																	-	40	48	02	65	13	87	86	24	21	17	27	18	36	23	01	45	43	19	-06	-10	17
18																		-	19	21	39	39	39	39	70	39	28	35	34	32	07	03	44	39	47	-13	-22	18
19																			-	09	53	02	48	79	13	06	04	18	06	11	24	18	19	27	15	06	05	19
20																				-	16	47	03	10	73	41	08	24	25	27	00	04	31	30	42	-09	-32	20
21																					-	28	76	86	36	25	09	26	19	27	11	-02	32	27	22	-03	-16	21
22																						-	20	17	83	67	22	21	26	30	-06	-11	24	17	38	-11	-33	22
23																							-	84	27	24	15	32	22	34	18	-05	42	36	19	-05	-09	23
24																								-	29	20	12	29	17	30	23	07	39	39	22	-01	-08	24
25																									-	65	25	35	37	39	00	-02	43	38	56	-14	-38	25
26																										-	06	13	26	27	02	-14	14	09	53	-12	-26	26
27																											-	12	06	13	-05	03	47	38	06	01	-14	27
28																												-	31	35	-01	17	61	53	23	-07	-11	28
29																													-	50	-02	13	43	39	21	20	-26	29
30																														-	30	14	52	47	29	17	-30	30
31																															-	-07	11	21	04	05	-11	31
32																																-	18	38	-03	23	16	32
33																																	-	92	30	-06	-20	33
34																																		-	25	02	-14	34
35																																			-	-20	-12	35
36																																				-	10	36
37																																					-	37

CORRELATION MATRIX OF MAJOR VARIABLES*

Total Delinquent Sample (N=100)

*Decimals omitted.

CORRELATION MATRIX OF MAJOR VARIABLES*

Non-Delinquent Sample (N = 100)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Self-Concept--General		-	68	64	67	71	76	56	46	46	53	67	81	34	51	64	65	36	26	75	57	-27
2	Self-Concept--Math.		2		44	38	53	53	63	19	22	32	55	60	24	38	39	36	18	15	47	39	-15
3	Self-Concept--English			3		48	49	53	31	57	32	30	52	57	25	19	49	43	38	12	47	43	-20
4	Self-Concept--Social Studies				4		47	51	21	32	62	36	42	57	24	41	39	62	39	39	58	45	-16
5	Self-Concept--Science					5		60	45	46	32	77	56	67	36	37	46	50	57	24	56	51	-19
6	Perceived Evaluation of Parents						6		51	50	51	56	70	92	31	40	65	60	47	24	68	56	-18
7	Perceived Evaluation of Parents in Math							7		46	43	49	38	49	32	36	36	28	35	05	40	38	-25
8	Perceived Evaluation of Parents in English								8		61	62	33	48	38	36	34	27	25	10	35	39	-11
9	Perceived Evaluation of Parents in Social Studies									9		53	31	51	36	30	36	43	24	28	43	49	-16
10	Perceived Evaluation of Parents in Science										10		45	59	38	34	36	50	42	25	49	41	-15
11	Perceived Evaluation of Best Friend											11		87	21	29	49	52	51	27	56	40	-18
12	Perceived Evaluation of Teacher												12		63	46	51	57	42	14	62	46	-12
13	Composite Perceived Evaluation of Parents, Best Friend & Teacher													13		88	28	62	52	25	70	54	-18
14	Socio-Economic Index(Duncan Scale, 1959)														14		30	21	26	13	30	25	-13
15	Average Math. Grade															15		16	35	25	74	29	-19
16	Average English Grade																46	61	46	24	83	55	-35
17	Average Social Studies Grade																	17	58	46	85	55	-18
18	Average Science Grade																		18	34	67	49	-43
19	9th Grade Total Reading Score																			19	40	35	-09
20	Average Academic Grade (GPA)																				20	58	-29
21	IQ																					21	-27
22	Age																						22

*Decimals omitted.

ROOM USE ONLY

JUN 30 1986

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