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1971
THE INFLUENCE OF INDIVIDUALIZED COUNSELING
ON THE SCHOLASTIC SELF-CONCEPT
OF EARLY AND MIDDLE ADOLESCENTS

DISSERTATION
Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Charles Miniard Harris, B.A., M.A., B.D.

* * * * *

The Ohio State University
1970

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The cooperation of many individuals has made this study possible. I am deeply indebted to my adviser, Dr. Herman J. Peters for his counsel and professional assistance in the development of this study. My sincere appreciation is extended also to Dr. Robert R. Bargar and Dr. Robert E. Taylor who read the manuscript and made cogent suggestions.

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This study is dedicated to my wife and son, Rosetta and Kevin, who have patiently and faithfully supported me throughout this graduate program.
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CHAPTER I

THE PROBLEM

Introduction

Contemporary cultural expectations require adolescents to make an increasing number of significant decisions. However, the adolescent's experience and capacity for realistic goal-setting is at best rudimentary. Horrocks (1962) has made the following observation:

The point has been made again and again that adolescents are ordinary people who, because of their dependent status, their immaturity, and their lack of experience encounter special problems as they endeavor to cope with their environment. (p. 485)

One pressure for adolescents to make significant decisions concerning life goals and careers is an outgrowth of the search for talented youth and of efforts for maximum utilization of the nation's manpower. Herriott (1963) has said:

Human talent is our greatest resource. Its conservation and development should be, therefore, a primary
concern of everyone. When human talent is wasted, everyone is deprived, when it is rightly developed, everyone benefits. (p. 157)

Snygg and Combs (1949) have expressed a similar concern but with particular emphasis on individual behavior.

Our society has become so complex and its people so interdependent that the failure of one individual among thousands can disrupt the delicate balance of organization so that millions may suffer. The behavior of the individual is no longer the concern of his own little group. It concerns all of us. (p. 3)

Having passed from the Industrial Era into the Cybernetic Era, there are trends within our society which, if allowed to develop, would engender further dehumanization within the process and product of American education. This must not be allowed. Technological advancement and scientific endeavor must function to enhance the development of man, individually and collectively. When properly engaged, scientific endeavor can expand our understanding of the nature and development of adolescent behavior. Also, methodology can be improved for assisting adolescents, particularly secondary school students, as they endeavor to cope with their environment.

A major component of the adolescent environment is the school, that social organization which has been charged with the responsibility for transmitting those skills and understandings which are vital to meaningful participation in our culture. It is, therefore,
particularly appropriate that school counselors, as a profession, have committed themselves to assisting the individual in better understanding himself and his environment. Fitzgerald (1965) reported that over 90 per cent of the total membership of the American School Counselors Association (ASCA) approved a Statement of Policy that defined counseling as "an accepting, non-evaluative relationship in which (a pupil) is helped to better understand himself, the environment he perceives, and the relationship between these," its purpose being "that most pupils will enhance their personal development and self fulfillment by means of making intelligent decisions." (pp. 31-41) The significance of this commitment cannot be overestimated. One factor which is increasingly associated with success or failure is the individual's perception of himself and his environment, that is, his self-concept. (Snygg and Combs, 1949; Super, 1963) In this regard, Katz (1966) has aptly and concisely stated our present concern:

... if the role of education is to transmit the culture, an important role of guidance is to help the individual come to terms with the culture--that is, the choices he makes will indicate how he sees himself in the culture. (p. 4)

Purpose of the Study

In order for school counselors to more completely implement their commitment to the individual, it will be
necessary to know more about the nature and development of the individual's perception of his ability to perform in a school setting. Also, it will be necessary to improve our understanding and methodology for assisting the secondary school student in coping with his environment. In this regard, study practices and school attitudes have been investigated less widely than have other achievement-related factors. A review of research in this area by Raph (1966) reveals that factors such as personality, adjustment, peer attitudes, parental background, and socioeconomic aspects have received far more attention than have school and study.

The purpose of this study is to investigate the effect which short-term individualized counseling can have on the individual's perception of his ability to perform in an academic setting, that is, his scholastic self-concept. Concomitant effects, such as, improving grade point average, are not germane to this study.

Hypotheses

This investigation is concerned with the following: (1) the nature and measurement of scholastic self-concept, and (2) the effect of short-term individualized counseling, which focuses on study orientation, on scholastic self-concept. In
conceptualizing the study, certain assumptions were made which will, in the process of the study, be tested.

It is assumed that scholastic self-concept is a multifactor dimension of personality which consists of relatively independent factors. This assumption will be tested in the first hypothesis.

It is assumed that scholastic self-concept is related to but relatively independent of common measures of aptitude and achievement. This assumption will be tested in the second hypothesis.

It is assumed that scholastic self-concept will differ between early and middle adolescents. This assumption will be tested in the third hypothesis.

It is assumed that individualized counseling, which focuses on study orientation, will influence the scholastic self-concept of early and middle adolescents. This assumption will be tested in the fourth hypothesis.

It is assumed that the study orientation of early and middle adolescents will not differ significantly. This assumption will be tested in the fifth hypothesis.

It is assumed that the instrument, Study Orientation Survey, will provide valid and reliable measures of study orientation in early and middle adolescents. Accepting the face validity of the instrument, the assumption of reliability will be tested in the sixth hypothesis.
Therefore, it is hypothesized that:

1. Scholastic self-concept, in early and middle adolescents, is a multifactor dimension of personality which consists, at least, of the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy

2. Scholastic self-concept, in early and middle adolescents, is significantly related to the following variables:
   a. Study Orientation
      (1) Study Habits
      (2) School Attitudes
   b. Grade Point Average
   c. Intelligence Test Scores
   d. Sex

3. Scholastic self-concept, in early and middle adolescents, will differ significantly when grade level and sex are controlled on the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy
   d. Global Scholastic Self-concept

4. Short-term individualized counseling, which focuses on study orientation, will effect a significant difference in scholastic self-concept for early and middle adolescents as represented by the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy

5. Study orientation in early and middle adolescents will not differ significantly, on grade level and sex, for the following measures:
   a. Study Orientation
   b. School Attitudes
   c. Study Habits
6. The instrument, Study Orientation Survey, will provide reliable measures of study orientation for students in grades 7 and 11.

Definitions

Concepts central to the study are defined as they are to be used in the research design. Definitions are more fully developed in the review of literature in Chapter II and the discussion of methodology in Chapter III.

Scholastic Self Concept

Scholastic self-concept is an extension of the phenomenological approach to self theory and is defined as the individual's perception of his ability to perform academic tasks in a school setting. It is believed to consist of three factors which have been termed, certainty, attitude, and accuracy.

Goal Range

Goal range is a measure of the certainty which the individual perceives his ability to perform in an academic setting.

Goal Ratio

Goal ratio is a measure of the optimistic or pessimistic attitude with which the individual perceives his ability to perform in an academic setting.
Goal Attainment

Goal attainment is a measure of the accuracy with which the individual perceives his ability to perform in an academic setting.

Goal-Setting

Goal-setting explicitly formulates the result of choices, decisions, schemes, and plans that are designed to resolve, or at least to order and simplify in concrete fashion, the many conflicting possibilities of goals and actions available to the individual.

Study Orientation

Study Orientation consists of two general factors, school attitudes and study habits. School attitudes include attitudes about teachers in general and about school in general. Study habits include habits for the following areas: writing, study methods, reading methods, use of time, study environment, and tests.

Delimitations

This investigation necessarily delimited the study of self theory to a consideration of the individual's perception of his ability to perform academic tasks in a school setting, that is, scholastic self-concept. The rationale for this delimitation has, at least, two bases: (1) the average individual, in early and middle adolescence, spends the major portion of his
time in an academic setting, (2) contemporary cultural expectations require such individuals to make an increasing number of significant decisions related to life goals and careers.

The study was delimited to one senior high school and one junior high school in a Midwestern city. The senior high school is accredited by its state and by the North Central Association of Colleges and Secondary Schools. The junior high school is accredited by its state. In most cases, junior high schools are not formally accredited by the regional associations. (pp. v, 251) The schools are located in a city with a population of 14,000. The county has a population of 76,800, with 52.3 per cent being urban, 1.0 per cent being Negro, and 10.5 per cent being of foreign stock. For persons 25 years old and over, the median school years completed was 10.0, with 36.3 per cent completing high school or more. The median family income for 1960 was $5,406, with 19.1 per cent earning less than $3,000, and 9.1 per cent earning $10,000 or more. (pp. 292-293) For these reasons, generalizability of the findings from this study should be delimited to Midwestern, Caucasian, rural-urban populations of early and middle adolescents. The findings should not be generalized to predominantly ethnic, metropolitan inner-city, educationally- or economically-disadvantaged populations.
The study was also delimited to 219 students: 110 students in grade 7, and 109 students in grade 11. Experimental and control groups, of 30 students each, were randomly selected both for grade 7 and for grade 11.

The study was further delimited to one male counselor for grade 7 and one male counselor for grade 11. Both counselors were certificated, had earned a master's degree, and were employed as full-time counselors.

Theoretical Background

The theoretical framework for this study is the phenomenological approach to self theory espoused by Snygg and Combs (1949) and Heckhausen's (1967) theory of motivation. Snygg and Combs posit that the maintenance and enhancement of the self is the single most important task of existence. The essence of their theory evolves from an elaboration of the following triad: phenomenal field, phenomenal self, and self-concept.

We have stated that all behavior is a function of the phenomenal field. This phenomenal field we have described as the universe as it appears to the individual at any moment. Not all parts of the field, however, will be equally important in determining his behavior at any instant. Of particular importance in the motivation of behavior will be those parts of the phenomenal field perceived by him to be part or characteristic of himself. To refer to this important aspect of the total field we have used the term phenomenal self.
This term, however, includes many aspects of the phenomenal field, such as the individual's physical self and many relationships of self to physical objects and to the culture, which are only infrequently or weakly in figure at any moment. To delimit the portion of the phenomenal field with which we are dealing more specifically, to those elements most potently and frequently affecting behavior, we have used the more precise term self-concept. (pp. 111-112)

In relation to motivation, Snygg and Combs see the differentiation of goals by the individual as being uniquely effected by the organization of the phenomenal self. The extent to which one's goals are relevant to the culture and to one's capacities is an effect of the degree to which one's phenomenal self is realistic. Furthermore, the extent to which goals meet the basic need of maintaining and enhancing the phenomenal self is a primary determinant of the strength of the goals. "Thus, the individual's level of aspiration will be set at a plane which is possible to one with his abilities and characteristics." (p. 102)

Heckhausen (1967), in his theory of motivation, refines the concepts level of aspiration and goal-setting. Level of aspiration is defined as the absolute level of the goal pursued in performing a task. Goal-setting is defined as follows:

Goal-setting explicitly formulates the result of choices, decisions, schemes, and plans that are designed to resolve, or
at least to order and simplify in concrete fashion, the many conflicting possibilities of goals and actions available to the individual. (p. 84)

Although Heckhausen's primary concern was with the ontogenesis of achievement motivation, his refinement of the concept of goal-setting and his emphasis on the relation of the self to motivation are supportive to this study, as is the work of McClelland and Atkinson.

The McClelland-Atkinson tradition in the study of achievement phenomena consistently has been identified with a conception of achievement motivation that stresses task orientation and self-reward as opposed to social orientation and social reinforcement. (Flavell, 1969, p. 31)

In summary, the theoretical background of this study is Snygg and Combs' phenomenological approach to self theory. Heckhausen's theory of motivation provides the rationale for observing individual behavior through goal-setting.

Importance of the Study

The findings of this study should have utility at two levels: (1) theory building, and (2) counseling practice. Concerning theory building, this study should extend the phenomenological approach to self theory (Snygg and Combs, 1949) with implications for Heckhausen's (1967) approach to goal-setting. Specifically, the significance of this study lies in the possible explication of the nature and measurement of
scholastic self-concept in secondary school students as evidenced through classroom goal-setting behavior. Further significance may accrue by identifying developmental differences in the scholastic self-concept of early and middle adolescents.

In addition to the relevance which this study has for theory building, it also offers to provide a base for translating aspects of theory into counseling practice. When Schroder (1964) reviewed 60 books on secondary school counseling, she found suggestions of methods and techniques for implementation of the self-concept in the counseling process to be conspicuous by their absence. It is anticipated that this study will contribute to the functions of school counselors and to the content of counselor education (1) by providing a technique, for the objective measurement of scholastic self-concept, which is both compatible with and non-disruptive to the normal process of classroom instruction and appraisal; (2) by explicating the relation between scholastic self-concept and study orientation; and (3) by developing an instrument for appraising the study orientation of secondary school students. Data of this nature are especially needed if school counselors are to implement their professional commitment to assisting the individual in better understanding himself and his environment.
Organization of the Study

Chapter I has presented the introduction, purpose, hypotheses, definitions, delimitations, theoretical background, importance of the study and organization of the study. Chapter II will present a review and organization of relevant literature. Chapter III will present the procedures: setting, population, data collection, and analysis. Chapter IV will present the findings and a discussion of the findings. Chapter V will present the summary, conclusions, and recommendations for further research.
CHAPTER II

REVIEW OF LITERATURE

This chapter presents a literature review of writing and research which have significance for this investigation: (1) literature on goal-setting and self-concept, and (2) literature on study skills and counseling related to academic achievement.

Literature on Goal-Setting and Self-Concept

Personality theorists, such as, Freud, Allport, Sullivan, Snygg and Combs, Maslow, and Murray have traditionally assigned a significant role to motivation. Maslow (1954) posits a hierarchy of human needs which consists, from lowest to highest order, of physiological, safety, love, self-esteem, and self-actualization. (pp. 80-106) Murray (1939) elaborated twenty-eight psychogenic needs of which one is the concept of n-achievement, that is, the need for achievement. McClelland (1953) has extensively investigated this concept, n-achievement, which he defines as
"(1) competition with a standard of excellence, (2) unique accomplishment, and (3) long-term involvement." (p. 327) It is from the general concept of achievement motivation that Heckhausen (1967) has refined the specific concepts, level of aspiration and goal-setting. Level of aspiration is defined as the absolute level of the goal pursued in performing a task. Goal-setting is defined as follows:

Goal-setting explicitly formulates the results of choices, decisions, schemes, and plans that are designed to resolve, or at least to order and simplify in concrete fashion, the many conflicting possibilities of goals and actions available to the individual. (p. 84)

Heckhausen's concept of goal-setting, also labeled risk-taking, provides the conceptual basis for observing the individual's perception of his ability to perform in an academic environment, that is, scholastic self-concept. This section of the review of literature will report (1) on goal-setting behavior and (2) on goal-setting related to self-concept.

Goal-Setting Studies

Kausler and Trapp (1958) tested two hypotheses of goal-setting, derived from McClelland's studies on achievement motivation, in a learning situation. The hypotheses were as follows:
(1) Subjects with a high level of achievement motivation will have significantly higher Discrepancy Scores than subjects with a low level of achievement motivation. (2) The difference in Discrepancy Scores between high and low n-achievement groups will diminish with practice if the subjects are informed of their progress. (p. 577)

Eighty-three subjects were divided into high and low n-achievement groups based on the median score of the French Test of Insight. The Wechsler Digit-Symbol Test, given a month after the French test, was the learning task. The goal-setting consisted of asking each subject to estimate his performance score before each of five trials. The Subjects counted and recorded their actual scores after each trial. The mean of average Discrepancy Scores by subject for all five trials was greater for the high n-achievement group, but the over-all variance attributable to n-achievement was not significant. The two groups displayed a statistically significant difference in trend over the five trials. When a trial-by-trial analysis was made, the high n-achievement group had greater mean Discrepancy Scores on each trial; however, the difference between group means was statistically significant only on the first trial. It was concluded that both hypotheses were confirmed.

Atkinson, et al. (1960) studied the effects of individual differences in strength of achievement motive (1) on goal-setting inferred from choices which individuals make among tasks of varying difficulty and
preferences for imaginary bets equated for expected monetary value but differing in probability of winning.

The stimulus for this research is a risk-taking model which predicts that, when the motive to approach success is stronger than the motive to avoid failure, tasks with intermediate probabilities of success will be preferred. However, when the motive to avoid failure is stronger, intermediate risk will be avoided and tasks with very high or very low probabilities of success will be preferred. (p. 35)

Goal-setting was displayed in a game of shuffleboard in which 66 college men were allowed to shoot from any of 15 lines varying in distance from the target. Subjects high in n-achievement, as determined by the French Test of Insight, initially shot from the intermediate distances, 6 to 10 feet, significantly more often than did subjects low in n-achievement. However, when it became apparent that the probability of success was 50 percent greater by taking close shots, subjects high in n-achievement took more close shots than did subjects low in n-achievement. Similar findings were obtained for imagery bets differing in probability of winning. The results of the study are consistent with the theory of motivational determinants of risk-taking, and they constitute evidence of the possible effects of individual differences in strength of achievement motive on risk-taking in tasks requiring skill as well as in games of chance.
Smith and Wing (1961) studied the question of whether preference for the goal more difficult to attain is a generalized trait which increases in proportion to increasing age. The sex of the experimenter and the type of barrier were subsequent considerations. Using grades 2, 4, 6, and 8, boys, in groups of 20, were closely equated on intelligence and socioeconomic status and were randomly assigned to experimenters at each grade level. The goal-setting consisted of each subject making a choice between a goal difficult or easy to attain on each of four tasks. The barriers to the attainment of goals consisted of distance between the subject and the goal and of the number of pieces used to complete formboard and assembly tasks.

The percentage of boys choosing difficult goals under these experimental conditions increased from 32 percent at grade 2 to 55 percent at grade 4 but decreased to 39 percent and 31 percent at grades 6 and 8. No significant differences were found in preference for difficult goals between the individuals assigned to the male and female experimenter. The nature of the task and the type and strength of barrier used has a significant effect on choices of difficult goals. (p. 35)

The findings of the study do not support the primary hypothesis that preference for difficult goals is a generalized trait which increases in proportion to increasing age.
Slovic (1962) investigated the validity of the masculinity-boldness cultural stereotype by studying the effect of age and sex on risk-taking by children. The subjects were 1,047 children (735 boys and 312 girls), between the ages of 6 and 16, who volunteered to play the game for the chance of winning M&M candies. The risk-taking involved pulling ten switches while knowing that one of them would result in disaster. Disaster, in this case, was the loss of all M&M candies won up to that point and elimination from the game. The results supported the cultural stereotype: boys were bolder than girls. However, since more than twice as many boys as girls volunteered for the study, it is reasonable to expect that the magnitude of sex differences on the experimental task may have been reduced. Also, generalizations would be limited by the fact that only those children who were daring enough to volunteer participated in the experimental task.

Rim (1963) investigated the relation of n-achievement to risk-taking before and after group discussion and to shifts in risk-taking due to group discussion. The potential of n-achievement for distinguishing those who influence others to take greater risks and those who are influenced to take greater risks was also studied. Need achievement was
significantly related to risk-taking behavior, both
individually and in the group.

1. Subjects scoring high on NA (Need
Achievement) are riskier than others
in their initial scores.

2. Shifts in the risky direction are a
function of a group process, in which
Ss scoring high on NA shift relatively
little, and Ss scoring low on NA shift
more. The lowest NA scorers, who are
consequently the highest in "fear of
failure," become even more cautious
after group discussion.

3. A more detailed analysis of shift
patterns indicates Ss scoring high
on NA are the individuals doing the
influencing, and that Ss low on NA
are the influenced group members.
(p. 114)

It was concluded that personality traits may be useful in
predicting individual risk-taking behavior as well as the
interaction of group members.

Smith (1963), Hancock and Teevan (1964), and
DeCharms and Dave (1965) investigated a hypothesis,
derived from Atkinson's (1957) model for risk-taking,
which states that subjects in whom motivation for success
is stronger than motivation to avoid failure will have
greater preference for tasks of intermediate difficulty
than subjects in whom motivation to avoid failure is
stronger than motivation for success. The findings of
these studies are mixed and difficult to interpret. The
first study found that, due to situational influences, the
predicted relation between achievement-related motives and goal-setting occurred only when the subjects experienced relaxed conditions during the performance of the experimental task. The second study confirmed the hypothesis but noted that college students, the population under investigation, are both high on need for achievement and anxious about the possibility of failure. The third study found no relationships between the measures used by Atkinson, et al. and risk-taking behavior.

Goal-setting has been a fruitful concept in the study of achievement motivation. Although the anatomy of achievement motivation requires yet further study, research in this area has provided useful knowledge concerning the influence of variables, such as, level of achievement motivation, individual differences in achievement motivation, developmental patterns, cultural stereotypes, group participation, hope for success, and fear of failure. It is therefore reasonable to expect that the continued use of goal-setting, as a concept, will eventually facilitate our understanding of personality as a global entity. Until then, it seems both judicious and necessary to focus our investigations on the component dimensions of personality. Research, which will be presented now, illustrates the usefulness of the concept of goal-setting in the study of self-concept.
Studies Relating Goal-Setting and Self-Concept

Brownfain's (1952) stated purpose was:

... to develop an operational measure of the stability of the self-concept and to demonstrate that stability of the self-concept is a dimension of personality serviceable to the work of understanding and predicting behavior. (p. 606)

He was successful in both objectives. The findings supported the theoretical prediction that subjects with stable self-concepts are better adjusted than those with unstable self-concepts. Subjects with stable self-concepts have a higher level of self-esteem, are freer of inferiority feelings, are considered more popular by the group, see themselves as others do, know more people in the group, and show less evidence of compensatory behavior. However, it was Brownfain's success in developing an operational measure of the stability of the self-concept which has greater potential for facilitating our understanding of the nature and development of the self-concept. The technique, an adaptation of the self-rating method, is uniquely applicable in studying goal-setting behavior. Brownfain first elaborated on the procedure of asking subjects to rate themselves on a series of variables by asking his subjects to give three sets of ratings: first rating themselves as accurately as possible; then rating themselves again, this time giving
themselves the benefit of every doubt; and finally rating themselves without giving themselves the benefit of doubts. Brownfain has shown that discrepancy scores, based on these three ratings and actual performance, have an odd-even reliability as estimated by the Spearman-Brown of .93.

Steiner (1957) reports a study, of undergraduate psychology students, in which discrepancy scores of the sort employed by Brownfain are related to measures of goal-setting behavior. The study describes techniques for measuring two commonly neglected dimensions of self-perception. One technique yields a measure of uncertainty of self-perception. The other produces an index of pessimism of self-perception.

Persons with uncertain self perceptions were found to set goals which are high relative to their past performance, to expect their performance scores to vary considerably over time, and to be more likely than others to overestimate their future performance. There is also some indication that they are less certain than other persons that their announced goals are realistic. Persons who are pessimistic in their self-appraisals were found to make low and pessimistic estimates of their future performance, and to be intropunitive in their explanations of their performance. A measure approximating the index usually employed in studies of self-perception was also found to be related to goal-setting behavior. Persons whose self-appraisals are favorable are less certain than others that their announced goals are realistic. They tend also to set their
goals high relative to their past performance, and to avoid intropunitive explanations of their performance. (p. 354-355)

The results of Steiner's research indicates the value of continued research which links indexes of self-concept with measures of goal-setting behavior.

Cohen (1954) investigated goal-level setting by studying two variables, feelings of adequacy and self-acceptance, which were presumed to relate to the implicit factors determining goal-level setting. These were studied, with 50 patients selected from the medical and surgical wards of Duke Hospital, through data secured by the Rorschach. It was found that goal-level setting was not related to feelings of adequacy as defined in this study. However, a curvilinear relationship was discovered to exist between goal-level setting and self-acceptance. The results indicated that both very high goal setting and very low goal setting were related to self rejection. Also, only those who could accept themselves were able to use low positive goal setting.

Lepine modified the procedures used by Cohen in an effort to achieve clearer results. It was felt that measures of adequacy feelings and self-acceptance as obtained by judges' ratings based on Rorschach protocols might not be as meaningful as similar measures derived directly from the subjects themselves. Also, it was felt
that a measure based on a level of aspiration task may be more meaningful, if the task requires similar experiences of each subject, and if each subject has to face a comparison between his performance and the performance of his peers. The task was a code-deciphering procedure involving pre-arranged performance or goal-setting scores. The subjects were 30 hospitalized veterans who were between the ages of 20 to 40 years.

It was found that the more an individual tended to express feelings of adequacy, (1) the greater was the correspondence between his perceived and ideal self, and (2) the less dependent upon environmental evaluation of his past performance was his goal setting behavior, when environmental evaluation indicated sequential change in adequacy of performance. (p. 397)

These results do not agree with Cohen's findings of a curvilinear relationship between goal-level setting and self-acceptance. However, the findings do agree with Cohen's concerning no significant relationship between goal-level settings and expressed feelings of adequacy. It is difficult to further compare the two studies because of methodological differences.

Martire (1956) investigated the nature of differences in self-concept among four groups of Subjects classified according to strength and generality of achievement motivation. He also studied the relationships between goal-setting behavior and measures of both
self-concept and achievement motivation. Thematic apperception measures of achievement motivation were obtained for 53 male college students under both neutral and achievement-motivating conditions. Self-ideal and self measures were obtained by having the Subjects rank 26 traits according to their importance and, again, in terms of how characteristic each trait was of themselves. Wishful and realistic measures of goal-setting were obtained from a specific pencil and paper task. Martire found that Subjects having strong generalized achievement motivation, but who were presumed to be also anxious about failure when in a stressful achievement situation, reported significantly lower wishful and realistic measures of goal-setting for a specific task than did other Subjects. He also found that measures of self-concept and goal-setting were meaningfully related to projective measures of achievement motivation but were not readily related to each other.

Brookover, et al. (1962, 1965, 1967) has conducted the most comprehensive sociological studies of the relationship of self-concept and school achievement. Some of the findings from his longitudinal study of 463 students from grade 7 through 10 are as follows:

(1) Self-concept of ability is a significant factor in achievement at all levels, seventh through tenth grades.
Change or stability in self-concept of ability is associated with change or stability in achievement. The associated change in achievement is noted, however, only over longer periods of time.

The only consistent sex difference was that female responses showed a greater relationship between perceived parental and teacher evaluations and self-concept of ability than was the case for males.

Based on the findings of this research, Brookover, et al. concluded that self-concept of ability could serve as a functionally limiting factor of the student's academic achievement. Therefore, these findings confirmed a hypothesis by Brookover and Gottlieb (1964):

We postulate that the child acquires, by taking the role of the other, a perception of his own ability as a learner of the various types of skills and subjects which constitute the school curriculum. If the child perceives that he is unable to learn mathematics or some other area of behavior this self-concept of his ability becomes the functionally limiting factor of his school achievement.

The usefulness of the concept, goal-setting, in the study of self-concept is illustrated by the research which has been presented in this section. The introduction of operational measures of goal-setting and of self-concept has enabled increasing clarity and specificity of description for the complex variables which characterize these dimensions of personality. Because of this research, our knowledge of self-concept has been expanded in areas,
such as, stability, uncertainty, pessimism, feelings of adequacy, self acceptance, and the functionally limiting character of a negative self-concept. The relationship of goal-setting and self-concept is mixed, as reported in this review; however, it should be noted that no relationship was found when the research measure was a projective technique. Even though projective techniques have advanced beyond the introspection of Titchener (1903), who regarded introspection as the basic method of psychological science, these measures are greatly limited by the subjectiveness of their interpretation and by the assumptions which they require. Where operational measures have been employed, the findings indicate the value of continued research linking indexes of self-concept with measures of goal-setting behavior. Therefore, Heckhausen's concept of goal-setting and the operational measure, which Brownfain devised and Steiner refined, have been adopted for this investigation of the individual's perception of his ability to perform in an academic environment, that is, scholastic self-concept.

Literature on Study Skills and Counseling Related to Academic Achievement

The point has been made that cultural expectations and technological advances require increasing emphasis on cognitive skills. Accordingly, how-to-study programs have
been set up in many colleges; however, college students are a minority of the total student population. The United States Office of Education reports that for every ten children in grade 5, seven will get a high school diploma, four will continue their education, and only two will obtain a baccalaureate degree in four years of college. (Renetzky and Kaplan, 1969, p. 43) Hadley (1957) suggests the lack of adequate study skills as one reason for the high dropout rate.

Few students entering college experience academic success which is commensurate with their measurable ability. . . . I estimate conservatively that about ninety-five per cent of those entering college lack adequate study skills . . . . (p. 553)

Admittedly, the dropout problem is not so simple as to be completely solved by improving the individual's competency to study. Hoffman (1958) stated that if the child sees no need for an educational experience, because it is teacher-instigated and has no purpose evident to him, his study will not be effective. Likewise, Dickinson and Newbegin (1959) emphasized the effect which motivational level and the ability to organize time and effort toward a desired end have upon academic achievement.

The discrepancy between the individual's measured ability and his academic performance has occupied a major portion of the time and effort of counselors in schools and colleges. The present study recognizes the importance
of the problem and is an attempt to improve on past efforts (1) through more specific involvement of the individual, (2) through specific identification of those factors which are included in the global concept, study skills, and (3) through improved counseling methods and techniques. This section of the review of literature will report research on study skills and research on counseling related to academic achievement.

Research on Study Skills

The research on study skills evidences a variety of perspectives and methods. Three attempts to categorize the problems in this area were made by Traxler (1945), Tresselt and Richlin (1951), and Greaser (1960). Traxler recommends three approaches to study and suggests ways to cope with problems in each area. The first area is that of attitudes and volition, in which the teacher's task is to make the instruction interesting and to help the students to adjust to doing difficult mental work. The second is that of habit formation, in which the aim is for some system and independence in study. Individual guidance is recommended. The third area of skills and techniques is the most time consuming. The usefulness of how-to-study programs is recognized; however, it is recommended that assistance be individualized to a one-to-one counselor-student relationship which focuses on the specific courses being studied.
Tresselt and Richlin (1951) found three categories of student problems: ability to do college work; personality adjustment in school, in social situations, and at home; and study techniques. The study supported their hypothesis that since the category of study techniques involved the most learning, it would be the most amenable to change through training.

Creaser (1960), using factor analysis, arrived at five basic types of students. The anxious student is characterized by his deep concern about college and achievement. His most common trait is worry about his course work, to the extent that anxiety often interferes with his academic functioning. The diligent student is characterized by his earnestness, thoroughness, and time-consumption. He wants to learn, and learn well, but his problem is in how to spend less time doing it. The conflicted student lacks ability to concentrate on his studies. He has the most inefficient study methods of all. When trying to study, he becomes tense, nervous, and very easily distracted. In contrast, the sophisticated student is confident and enthusiastic toward college work and very interested in intellectual pursuits. He has very good study habits and does not have to rely on rote memory to replace comprehension. The unconcerned student neglects his studies and must cram just prior to examinations. He
is not committed to a college education and does not seem to care whether or not he succeeds in college.

DiMichael (1943) found that students of middle level mental ability benefited from a how-to-study program while brighter and duller students did not seem to profit from the experience. This finding is interesting in view of the volume of studies dealing with underachievement and overachievement.

O'Leary (1955) developed a Work Habits Rating Scale which he applied to 55 junior high school students designated as over- and underachievers selected from a total population of 442 pupils. An obtained correlation of .63 between the scale and the survey achievement test suggests that study patterns are predictive of a student's working up to his capacity.

As previously stated, the research on study skills evidences a variety of perspectives and methods. However, this multi-faceted approach has yielded a comparable array of information concerning the general lack of adequate study habits among students, the discrepancy between measured ability and performance, the need for individualized attention, the need for more specific identification of problem areas, the relation of study skills to personality traits, the benefits which students of middle-level mental ability derive from how-to-study
programs, and the predictive value of study patterns when related to ability.

Research on Counseling and Academic Achievement

Winborn and Schmidt (1962) sought to determine whether there was a significant difference in academic achievement between a selected group of students receiving short-term group counseling and a similar group of students receiving no counseling. The population consisted of 135 first-semester college students. The treatment consisted of relatively unstructured small-group counseling sessions lasting approximately one hour and conducted over a period of approximately two months. Criteria for treatment effectiveness were grade-point averages and performance on three selected scales of the California Psychological Inventory. When second semester grades were analyzed, the students who did not participate in the short-term group counseling program made significantly higher grade-point averages than did the participants in the counseling program. This indicated that short-term group counseling tended to produce a negative effect upon the academic achievement of potentially superior freshmen as reflected by their academic grades. Also, scores made on the three selected scales of the inventory, which were designed to measure variables assumed to be associated with achievement, did
not reflect any significant differences between students who participated in the short-term group counseling program and students who did not participate.

Brodel, et al. (1960) studied the effectiveness of group counseling for improving the mental health and academic performance of gifted underachieving adolescents. Twenty-nine ninth grade students, 20 boys and 9 girls, met for one class period twice each week for eight weeks. The study failed to produce evidence that group counseling will improve the academic performance of underachieving ninth grade students. The authors recommended further research:

... to determine if the replacement of negative attitudes by positive attitudes of acceptance of self and of others permits the underachiever to benefit from a remedial program specifically designed to help him improve his academic efficiency and his study skills. (p. 169)

Sheldon and Landsman (1950) investigated the utility of nondirective group therapy for college students in Academic Methods classes. The students attending these classes were those who through pretest or actual failure in academic work had demonstrated a lack of mastery of reading and study skills. The study consisted of 28 students divided into two groups. One group was conducted in a primarily nondirective manner while the other group was conducted in the traditional lecture-discussion manner. Prior to the study the groups did not
differ significantly with respect to scores on several psychological tests or on grade point averages. However, at the conclusion of the semester, the groups did differ significantly on grade point average in favor of the nondirective group.

Baymur and Patterson (1960) conducted an investigation of three methods of counseling underachieving high school students. The three methods used were individual counseling, group counseling, and what is designated as one-session motivational group counseling. The individual counseling was conducted in a client-centered manner with each student having from ten to twelve interviews. The group counseling attempted to use the client-centered approach but restricted discussion to academic problems. The one-session motivational group counseling consisted of informing the students that they were academic underachievers and of emphasizing the importance of good grades for further education and employment. A control group had no contact with the experimenter. Also, during the course of the experiment, deans and counselors limited discussion with the control group students to curriculum choices for the next year. The findings were reported according to positive changes in self-concept, improvement in reported study habits and attitudes, and increases in grade-point averages. The results are mixed for all three areas. Individual
counseling effected positive changes in self-concept; however, students receiving group counseling showed a decrease in adjustment, ranking lowest of the four groups. Neither individual nor group client-centered counseling effected significant improvement in reported study habits and attitudes. When analyzed separately, neither individual nor group counseling effected significant increases in grade-point averages. However, a t-test of the differences between the two counseled groups and the two non-counseled groups was significant, in favor of the counseled groups.

The research on counseling and achievement evidences a variety of methodologies and theoretical orientations. Because of this, a meaningful, integrated interpretation of the research findings is difficult. The immediate alternative is to view the findings for their present contributions. In that regard, research has provided empirical data concerning the relation of counseling to achievement, such as, the effect of non-directive group therapy and of short-term group counseling with college students, the effect of group counseling with high school students, and a comparison of the effectiveness of individual and group client-centered counseling (1) on positive changes in self-concept, (2) on improvement in reported study habits and attitudes, and (3) on increases in grade-point averages. It is this investigator's
observation that much of the research on counseling and study skills has tried either (1) to manipulate too many variables, or (2) to measure global variables which are by nature relatively stable and resistant to change. Accordingly, this investigation has attempted to achieve sufficient specificity of the major variables of concern and to sufficiently individualize processes in the counseling experience.

Summary

This chapter has presented a review of the literature and research in those areas which have logical, theoretical, or operational relevance for this study: goal-setting studies, studies relating goal-setting and self-concept, research on study skills, and research on counseling and academic achievement. Each area is concluded with a summary of its respective literature and research. The following chapter will present the methodology used in this study.
CHAPTER III
PROCEDURES

This chapter presents the procedures used in this study. Specific attention is addressed to a description of the setting of the study, the population, the collection of data, the statistical analysis of the data, and the summary.

Setting

This study was conducted in the junior and senior high schools of a Midwestern city which has a population of approximately 14,000. The senior high school is accredited by its state and by the North Central Association of Colleges and Secondary Schools. The junior high school is accredited by its state. In most cases, junior high schools are not formally accredited by the regional associations. (CCM Information Corporation, pp. v & 251) The county has a population of 76,800, with 52.3 per cent being urban, 1.0 per cent being Negro, and 10.5 per cent being of foreign stock. For persons 25 years old and over, the median school years completed was 10.0, with 36.3 per cent completing high school or more. The
median family income for 1960 was $5,406, with 19.1 per cent earning less than $3,000, and 9.1 per cent earning $10,000 or more. (Bureau of the Census, 1967, pp. 292-293) For these reasons, the findings of this study should be applicable to Midwestern, Caucasian, rural-urban populations. The findings may not be applicable to predominantly ethnic, metropolitan or inner-city, educationally- or economically disadvantaged populations.

Population

The population for this study was selected from grades 7 and 11 of the junior and senior high schools which were described in the setting. A selection criterion was that the students, at each grade level, must share a common course and a common instructor. Since the instructor would function as a member of the experimental team, this criterion was established to eliminate the confounding effects of multiple instructors. Other selection criteria were that the course must be one in which weekly tests were administered and that the tests must be objective, rather than essay, in form. The necessity for these criteria will be evident when the methods of data collection are presented. As a result of applying the above mentioned criteria, the population of the study consisted of 219 students: 110 students in
grade 7, and 109 students in grade 11. For each of these two sub-populations, experimental and control groups of 30 students each were randomly selected. Since the students in the experimental group, at each grade level, would be scheduled for individual counseling sessions with the grade-level counselor, the size of the experimental groups was delimited to be compatible with the counselor's weekly work load.

Data Collection

Dependent Variable

The dependent variable, in this study, was the student's perception of his ability to perform academic tasks in a school setting, that is, scholastic self-concept, as evidenced through goal-setting behavior. The technique for measuring goal-setting behavior consisted of the student selecting grades which represented expected (EG), optimistic (OG), and pessimistic (PG) perceptions of his performance on regular weekly tests. This technique yields three scores: Goal Range (GRe), Goal Ratio (GRo), and Goal Attainment (GA). Goal Range is a measure of the certainty with which the student perceives his ability. Goal Ratio is a measure of the optimistic or pessimistic attitude with which the student perceives his ability. Goal Attainment is a measure of the accuracy of the student's perception of his ability.
The formulas for obtaining the scores for Goal Range, Goal Ratio, and Goal Attainment follow:

\[
\begin{align*}
\text{GOAL RANGE} & \quad \text{GOAL RATIO} & \quad \text{GOAL ATTAINMENT} \\
G_{Re} &= OG - PG & G_{Ro} &= OG - EG & GA &= EG - AG \\
& & & \frac{EG - PG}{EG - PG} & \\
\text{OG} &= \text{Optimistic Grade} & \text{PG} &= \text{Pessimistic Grade} & \text{EG} &= \text{Expected Grade} \\
& & \text{AG} &= \text{Actual Grade}
\end{align*}
\]

TABLE 1

FORMULAS FOR DERIVING THE SCORES: GOAL RANGE, GOAL RATIO, AND GOAL ATTAINMENT

This technique, which relates discrepancy scores to measures of goal-setting behavior, was previously used by Brownfain (1952) and by Steiner (1957). Brownfain first elaborated on the procedure of asking subjects to rate themselves on a series of variables by asking his subjects to give three sets of ratings: first, rating themselves as accurately as possible; then rating themselves again, this time giving themselves the benefit of any doubts whatever; and finally rating themselves without giving themselves the benefit of doubts. Brownfain has shown that such discrepancy scores have an odd-even reliability of $.93$ as estimated by the Spearman-Brown formula.
Independent Variable

The independent variable, in this study, was the student's study orientation which consists of his school attitudes and study habits. School attitudes include attitudes about teachers in general and about school in general. Study habits include habits for the following areas: writing, study methods, reading methods, use of time, study environment, and tests.

The experimental treatment consisted of weekly individualized counseling sessions which focused on the improvement of school attitudes and study habits. The counseling extended over a 5-week period concurrently with the goal-setting data collection by the teachers. Counseling guides were provided to the counselors for counseling in each of the six areas of study habits. The content of the counseling sessions was based on the student's performance on the Study Orientation Survey which was administered approximately one month prior to beginning the 5-week sequence of counseling sessions.

Data collection for the independent variable was by means of the Study Orientation Survey. This instrument was developed specifically for this study and is designed to measure the school attitudes and study habits of students in grades 7 through 12. The instrument is similar in design to the Brown-Holtzman Survey of Study Habits and Attitudes. However, since the developmental
population for the Brown-Holtzman instrument was college freshman, it is not appropriate for studying the early and middle adolescent age range. Specific limitations for the Brown-Holtzman instrument, for this study, are the vocabulary and the level of readability, including the length of the items and the complexity of sentence construction. Accordingly, the Study Orientation Survey was written to be consistent with a grade 4 vocabulary and level of readability. This was accomplished by use of the Dale-Chall (1948) formula for predicting readability.

The Study Orientation Survey consists of 92 items which are designed to measure two main factors of study orientation: school attitudes and study habits. School Attitudes include two subscales: Teachers-In-General and School-In-General. Study Habits include six subscales: Writing, Study Methods, Reading Methods, Use of Time, Study Environment, and Tests. The school attitudes subscales consist of 16 items each. The study habits subscales consist of 10 items each. In order to avoid the problem of response set, the subscales were alternately arranged. Items then were randomly selected from each subscale.

Prior to administering the Study Orientation Survey, the following instructions were read:

This is a review of your study habits and attitudes (feelings). It is not a test. There are no "right" or "wrong" answers to
the statements you will read on the pages that follow. If you will honestly and thoughtfully answer each statement, you will learn much about your study habits and attitudes.

There are 92 statements. Please answer each statement by drawing a circle around the letter which stands for one of the following choices: Never (N), Sometimes (S), Often (O), Generally (G), Always (A). In the example below, the circle around the letter, G, means that the person generally enjoys studying.

I find studying enjoyable. N S O G A

To aid you in choosing your answer, the five choices are explained as follows:

N -- Never means from 0 to 15 per cent of the time
S -- Sometimes means from 16 to 35 per cent of the time
O -- Often means from 36 to 65 per cent of the time
G -- Generally means from 66 to 85 per cent of the time
A -- Always means from 86 to 100 per cent of the time

These choices are written at the top of each page to help you in selecting the proper answer. The proper answer is not what you "think" you should do or feel but what you are in the "habit" of doing and feeling.

Feel free to answer each statement honestly. Your answers will be treated as personal information. Please circle an answer for each statement.

Do Not Turn The Page Until You Are Told To Do So.

The Study Orientation Survey is scored by assigning a quantitative value to the student's qualitative response.
Item responses are made on a 5-point scale with values of 0 through 4. The following are representative items:

I am slow to ask a teacher to further explain a lesson that I do not understand.  N S O G A  
(4) (3) (2) (1) (0)

When I have time, I take a few minutes to check my answers before turning in a test.  N S O G A  
(0) (1) (2) (3) (4)

The qualitative responses of "N" or "almost never" for these two items would receive scores of opposite values. For the first item, "N" would be a desirable response and would receive a value of "4" since it would represent the expression of a healthy attitude. For the second item, "N" would not be a desirable response and would receive a value of "0" since it would represent a poor habit. Item responses with values of "0", "1", and "2" identify attitudes or habits for which the student may need counseling assistance.

Data Analysis

Following the collection of the data as described in the preceding section, the data were analyzed according to the purpose of the study. This section will present the research hypotheses with the respective statistical methods of analysis.
1. Scholastic self-concept, in early and middle adolescents, is a multifactor dimension of personality which consists, at least, of the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy

2. Scholastic self-concept, in early and middle adolescents, is significantly related to the following variables:
   a. Study Orientation
      (1) Study Habits
      (2) School Attitudes
   b. Grade Point Average
   c. Intelligence Test Scores
   d. Sex

For Hypotheses 1 and 2, the Pearson Product-Moment Correlation was used to test the hypothesized relationships of the specified variables. The formula used in computing this test of correlation is as follows: (Downie & Heath, 1965, p. 85)

\[
\rho = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{N \Sigma X^2 - (\Sigma X)^2 \cdot N \Sigma Y^2 - (\Sigma Y)^2}}
\]

Where
- \( N \) = number of pairs of scores
- \( X \) = the first variable
- \( Y \) = the second variable

3. Scholastic self-concept, in early and middle adolescents, will differ significantly when grade level and sex are controlled on the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy
   d. Global Scholastic Self-concept
Hypotheses 3a, 3b, and 3c were tested by a two-way analysis of variance. The formula for this analysis is as follows: (Snedecor, 1966, p. 296)

\[ X_{ij} = \mu + \alpha_i + \beta_j + \epsilon_{ij} \]

Where \( \mu \) = mean
\( \alpha_i \) = effect of sex
\( \beta_j \) = effect of grade level
\( \epsilon_{ij} \) = experimental error

Hypothesis 3d was tested by a discriminant analysis which is a formulation indicating how to combine a set of variables to give a total that will show the maximum difference or discriminative power between two groups. The formula used for this analysis is as follows: (Dixon, 1968, p. 191)
Where \( \lambda \) = coefficients of the discriminant function

\[ Z_{i\alpha} = \lambda_1 x_{i\alpha 1} + \lambda_2 x_{i\alpha 2} + \lambda_3 x_{i\alpha 3} \]

\( X_{i\alpha 1} \) = goal range

\( X_{i\alpha 2} \) = goal ratio

\( X_{i\alpha 3} \) = goal attainment

\( \alpha = 1, 2, \ldots, n \)

\( i = 1, 2 \)

4. Short-term individualized counseling, which focuses on study orientation, will effect a significant difference in scholastic self-concept for early and middle adolescents as represented by the following factors:

a. Certainty
b. Attitude
c. Accuracy

Hypotheses 4a, 4b, and 4c were tested by a three-way analysis of variance on the factors: Group (experimental and control), Time (incidents of data collection on the dependent variables), and Sex. The
program used for this analysis was the Analysis of Variance for Factorial Design, BMD 02V.

5. Study orientation in early and middle adolescents will not differ significantly, on grade level and sex, for the following measures:
   a. Study Orientation
   b. School Attitudes
   c. Study Habits

This hypothesis was tested by a two-way analysis of variance. The formula for this analysis is as follows: (Snedecor, Op. cit. p. 296)

\[ X_{ij} = \mu + \alpha_i + \beta_j + \alpha\beta_{ij} + \epsilon_{K(ij)} \]

Where

\( \mu \) = mean

\( \alpha_i \) = effect of sex

\( \beta_j \) = effect of grade level

\( \alpha\beta_{ij} \) = effect of interaction

\( \epsilon_{K(ij)} \) = experimental error
6. The instrument, Study Orientation Survey, will provide reliable measures of study orientation for students in grades 7 and 11. This hypothesis was tested by an intensive scale subtest item analysis which uses the Kuder-Richardson (Formula 8) test of reliability.

Summary

Chapter III presented a description of the procedures used in the study, including the setting, the population, the collection of data, and the statistical analysis of the data.

Experimental and control groups, of 30 students each, were randomly selected from pre-determined populations of students in grades 7 and 11 of a junior and senior high school in a Midwestern city. A 5-week sequence of individualized counseling sessions which focused on study orientation, the independent variable, was conducted concurrently with the weekly collection of data on the students' perception of their ability to perform academic tasks in a school setting, that is, scholastic self-concept, the dependent variable. The testing of hypothesized relationships between specified variables was conducted by a variety of correlational, inferential, and multivariate methods. Chapter IV will present the findings of this study.
CHAPTER IV

FINDINGS

The findings of the study are presented in the order in which the hypotheses were stated in Chapter I. Each hypothesis was tested statistically with the minimal level of acceptance being the .05 level of statistical significance.

1. Scholastic self-concept, in early and middle adolescents, is a multifactor dimension of personality which consists, at least, of the following factors:

   a. Certainty
   b. Attitude
   c. Accuracy

Using the Pearson Product-Moment Correlation, the independence of certainty, attitude and accuracy was tested by the following measures: Goal Range, Goal Ratio, and Goal Attainment, respectively. The Subjects for this hypothesis were 110 grade 7 students and 109 grade 11 students. The results of the analyses are presented in Table 2 for grade 7 students and in Table 3 for grade 11 students.
As evidenced by the findings in Table 2, the low correlations among certainty, attitude, and accuracy, as measured by goal range, goal ratio, and goal attainment, respectively, indicates that they are relatively independent of each other. If the correlation coefficients were squared, they would account for a minimal percentage of the total variance. Therefore, certainty, attitude, and accuracy are relatively distinct factors of scholastic self-concept in grade 7 students. Certainty and accuracy are positively correlated. Attitude is negatively correlated both with certainty and with accuracy. The negative correlation between certainty and attitude is statistically significant at the .05 level.

The findings reported in Table 2 indicate that grade 7 students, who are certain and accurate in their perception of their ability to perform academic tasks, tend to have a negative attitude concerning their ability to perform such tasks.
As evidenced by the findings in Table 3, the low correlations among certainty, attitude, and accuracy, as measured by goal range, goal ratio, and goal attainment, respectively, indicate that they are relatively independent of each other. Again, squaring the correlation coefficients would account for a minimal percentage of the total variance. Therefore, certainty, attitude, and accuracy are relatively distinct factors of scholastic self-concept for grade 11 students. Certainty and accuracy are positively correlated. Certainty is negatively correlated with attitude and, as with grade 7 students, is statistically significant at the .05 level. Unlike grade 7 students, attitude is positively correlated with accuracy for grade 11 students.

The findings reported in Table 3 indicate that, like grade 7 students, grade 11 students, who are certain in their perception of their ability to perform academic tasks, tend to have
a negative attitude concerning their ability to perform such tasks. However, unlike grade 7 students, grade 11 students, who are accurate in their perception of their ability to perform academic tasks, tend to have a positive attitude concerning their ability to perform such tasks.

When the data in Tables 2 and 3 are viewed collectively, it may be inferred that scholastic self-concept in early and middle adolescents consists, at least, of the following factors: Certainty, Attitude, and Accuracy. For both early and middle adolescents, students who are certain of their ability to perform academic tasks tend to be accurate also. Both early and middle adolescents tend to have negative attitudes associated with certainty. However, while early adolescents tend to have negative attitudes associated with accuracy, middle adolescents tend to have positive attitudes associated with accuracy.

2. Scholastic self-concept, in early and middle adolescents, is significantly related to the following variables:

   a. Study Orientation
      (1) Study Habits
      (2) School Attitudes
   b. Grade Point Average
   c. Intelligence Test Scores
   d. Sex

The Subjects for this hypothesis were 110 students in grade 7 and 109 students in grade 11. The findings are presented for grade 7 students in Table 4 and for grade 11 students in Table 5.
TABLE 4
PEARSON PRODUCT-MOMENT CORRELATION MATRIX FOR SCHOLASTIC SELF-CONCEPT
OF GRADE 7 STUDENTS AND VARIABLES INCLUDED IN HYPOTHESIS NUMBER 2

<table>
<thead>
<tr>
<th></th>
<th>Sex</th>
<th>I.Q.</th>
<th>G.P.A.</th>
<th>S.O.</th>
<th>S.H.</th>
<th>S.A.</th>
<th>GRe</th>
<th>GRo</th>
<th>GA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1.0000</td>
<td>0.0719</td>
<td>0.1510</td>
<td>0.1355</td>
<td>0.1487</td>
<td>-0.1405</td>
<td>0.1222</td>
<td>-0.0598</td>
<td></td>
</tr>
<tr>
<td>I.Q.</td>
<td></td>
<td>1.0000</td>
<td>0.6793*</td>
<td>0.3665*</td>
<td>0.8506*</td>
<td>-0.2233*</td>
<td>0.0497</td>
<td>-0.1215</td>
<td></td>
</tr>
<tr>
<td>G.P.A.</td>
<td></td>
<td></td>
<td>1.0000</td>
<td>0.9502*</td>
<td>0.2094*</td>
<td>0.2462*</td>
<td>-0.0243</td>
<td>-0.0660</td>
<td></td>
</tr>
<tr>
<td>S.O.</td>
<td></td>
<td></td>
<td></td>
<td>1.0000</td>
<td>-0.1953*</td>
<td>0.0342</td>
<td>0.0472</td>
<td>-0.0738</td>
<td></td>
</tr>
<tr>
<td>S.H.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0000</td>
<td>-0.1937*</td>
<td>0.1429</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.A.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0000</td>
<td>-0.1106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0000</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.
The findings reported in Table 4 indicate which of the hypothesized variables have a statistically significant relation to the three factors of scholastic self-concept in early adolescents: Certainty, Attitude, and Accuracy. The correlations are mostly negative since desirable scholastic self-concept scores are represented by low numbers; whereas, high numbers represent desirable scores for intelligence, grade point average, and study orientation. Certainty, as measured by range scores, is correlated significantly at the .05 level with intelligence scores, grade point average, study orientation, study habits, and school attitudes. Certainty is not significantly correlated with sex. Attitude, as measured by ratio scores, is not significantly correlated with any of the hypothesized variables.

The magnitude of the correlations reported in Table 4 indicates that certainty is relatively independent of intelligence or scholastic aptitude, grade point average or scholastic achievement, and study orientation or study habits and school attitudes. Likewise, the magnitude of the correlation between accuracy and grade point average is low enough to support an interpretation of independence between accuracy and grade point average or scholastic achievement.

The findings reported in Table 5 indicate which of the hypothesized variables have a statistically significant relation to the three factors of scholastic self-concept in
### TABLE 5

PEARSON PRODUCT-MOMENT CORRELATION MATRIX FOR SCHOLASTIC SELF-CONCEPT OF GRADE 11 STUDENTS AND VARIABLES INCLUDED IN HYPOTHESIS NUMBER 2

<table>
<thead>
<tr>
<th></th>
<th>Sex</th>
<th>I.Q.</th>
<th>G.P.A.</th>
<th>S.O.</th>
<th>S.H.</th>
<th>S.A.</th>
<th>GRe</th>
<th>GRo</th>
<th>GA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1.0000</td>
<td>-0.1133</td>
<td>0.1852</td>
<td>0.2291*</td>
<td>0.1811</td>
<td>0.1392</td>
<td>0.0095</td>
<td>0.0357</td>
<td>0.0659</td>
</tr>
<tr>
<td>I.Q.</td>
<td>1.0000</td>
<td>0.1059</td>
<td>0.0873</td>
<td>0.0704</td>
<td>0.0653</td>
<td>0.0984*</td>
<td>-0.0401</td>
<td>-0.0808</td>
<td></td>
</tr>
<tr>
<td>G.P.A.</td>
<td>1.0000</td>
<td>0.4097*</td>
<td>0.4261*</td>
<td>0.4220*</td>
<td>-0.0816</td>
<td>-0.2713*</td>
<td>-0.1357</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Orientation</td>
<td>1.0000</td>
<td>0.7751*</td>
<td>0.5950*</td>
<td>-0.1703</td>
<td>-0.1456</td>
<td>-0.2280*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Habits</td>
<td>1.0000</td>
<td>0.5723*</td>
<td>-0.2890*</td>
<td>-0.1632</td>
<td>-0.2624*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Attitudes</td>
<td>1.0000</td>
<td>-0.0237</td>
<td>-0.2827*</td>
<td>-0.2733*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal Range</td>
<td>1.0000</td>
<td>-0.2252*</td>
<td>0.0725</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal Ratio</td>
<td>1.0000</td>
<td>0.0738</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal Attainment</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.
middle adolescents: Certainty, Attitude, and Accuracy. Certainty, as measured by range scores, is correlated significantly at the .05 level with study habits only. In sharp contrast with early adolescents, certainty in middle adolescents is not significantly correlated with intelligence scores, grade point average, study orientation, school attitudes, nor with sex. Attitude, as measured by ratio scores, is correlated significantly at the .05 level with grade point average and school attitudes. Attitude is not significantly correlated with sex, intelligence scores, study orientation, or study habits. Accuracy, as measured by attainment scores, is correlated significantly at the .05 level with study orientation, study habits and school attitudes. Accuracy is not significantly correlated with intelligence scores, grade point average, or sex.

Again, the magnitude of the correlations among scholastic self-concept and the specified variables is low enough to indicate that certainty, attitude, and accuracy are relatively independent of scholastic aptitude or intelligence, scholastic achievement or grade point average, and study orientation or study habits and school attitudes.

When the findings in Tables 4 and 5 are viewed collectively, the interindependence of certainty, attitude, and accuracy for early and middle adolescents reported under the first hypothesis may be extended to intelligence
test scores or scholastic aptitude, grade point average or scholastic achievement, and study orientation or study habits and school attitudes.

3. Scholastic self-concept in early and middle adolescents will differ significantly when grade level and sex are controlled on the following factors:

   a. Certainty
   b. Attitude
   c. Accuracy
   d. Global Scholastic Self-concept

Hypotheses 3a, b, and c were tested by a two-way analysis of variance. The findings are reported in Tables 6 through 11. Hypothesis 3d was tested by a discriminant function analysis. The findings for hypothesis 3d are reported in Tables 12 and 13.

The Subjects for these hypotheses were 44 pairs of grade 7 and grade 11 males matched on grade point average and 21 pairs of grade 7 and grade 11 females also matched on grade point average. Grade point average was used as the matching criterion since the findings for the second hypothesis indicate that grade point average has a statistically significant relation to all three factors of scholastic self-concept: to certainty and accuracy for grade 7 students and to attitude for grade 11 students.
The findings reported in Table 6 indicate that a difference, which is significant at the .001 level, exists between the scholastic self-concept of grade 7 and grade 11 students. Further, significant differences exist for each of the three factors of scholastic self-concept: Certainty (.001), Attitude (.027), and Accuracy (.057). The nature of the difference is improvement in the scholastic self-concept of grade 11 students. Grade 11 students are more certain, more positive, and more accurate in perceiving their ability than grade 7 students.
TABLE 7
ANALYSIS OF VARIANCE AND TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION FOR COMPARING SCHOLASTIC SELF-CONCEPT ON SEX FOR SUBJECTS IN GRADE 7 AND GRADE 11

<table>
<thead>
<tr>
<th>Variables</th>
<th>F(1,126)</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>4.398</td>
<td>188.912</td>
<td>0.038</td>
</tr>
<tr>
<td>Attitude</td>
<td>1.001</td>
<td>5364.026</td>
<td>0.319</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.070</td>
<td>1.107</td>
<td>0.792</td>
</tr>
</tbody>
</table>

The findings reported in Table 7 indicate no significant difference between the scholastic self-concept of males and females in grades 7 and 11.

Since interaction was not programmed into this analysis, it is depicted for each factor of scholastic self-concept in Tables 8 through 11.

The degree of interaction in scholastic self-concept of males and females in grades 7 and 11, as shown in Tables 8 through 11, suggests the need for additional analysis. Accordingly, scholastic self-concept for males and females in grades 7 and 11 was further analyzed by a discriminant function analysis and reported under hypothesis 3d. A discriminant analysis is a formulation for combining a set of variables to give a total that will show the maximum difference between two groups.
TABLE 8
MEANS AND STANDARD DEVIATIONS FOR SCHOLASTIC SELF-CONCEPT
BY SEX AND GRADE LEVEL FOR STUDENTS IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Factors</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Grade</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 9
CERTAINTY, AS MEASURED BY GOAL RANGE, FOR
MALES AND FEMALES IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Grade 7</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 10
ATTITUDE, AS MEASURED BY GOAL RATIO, FOR MALES AND FEMALES IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Grade 7</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Males - - - -
Females _______

TABLE 11
ACCURACY, AS MEASURED BY GOAL ATTAINMENT, FOR MALES AND FEMALES IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Grade 7</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Males - - - -
Females _______
TABLE 12
DISCRIMINANT ANALYSIS OF SCHOLASTIC SELF-CONCEPT
FOR MALES IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean-Grade 7</th>
<th>Mean-Grade 11</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>19.63636</td>
<td>12.00000</td>
<td>7.63636</td>
</tr>
<tr>
<td>Attitude</td>
<td>56.20155</td>
<td>74.25000</td>
<td>-18.04545</td>
</tr>
<tr>
<td>Accuracy</td>
<td>5.29545</td>
<td>3.70455</td>
<td>1.59091</td>
</tr>
</tbody>
</table>

Discriminant Function Coefficients

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.00196</td>
<td>-0.00001</td>
<td>0.00066</td>
</tr>
</tbody>
</table>

F (3, 84) = 9.99868*

*Significant at the .001 level.

The findings reported in Table 12 indicate a significant difference, at the .001 level, in scholastic self-concept between males in grades 7 and 11. Grade 11 males are significantly more certain, more positive, and more accurate in perceiving their ability than grade 7 males. This finding is consistent with the findings presented for males in Tables 8 through 11.
TABLE 13
DISCRIMINANT ANALYSIS OF SCHOLASTIC SELF-CONCEPT FOR FEMALES IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean-Grade 7</th>
<th>Mean-Grade 11</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>14.33333</td>
<td>13.66667</td>
<td>0.66667</td>
</tr>
<tr>
<td>Attitude</td>
<td>54.76190</td>
<td>107.04762</td>
<td>-52.28571</td>
</tr>
<tr>
<td>Accuracy</td>
<td>4.05714</td>
<td>4.04762</td>
<td>0.00952</td>
</tr>
</tbody>
</table>

Discriminant Function Coefficients

\[ F (3,38)= 1.31278^* \]

\[ ^{*} \text{Not significant.} \]

The findings reported in Table 13 indicate no significant difference in scholastic self-concept between females in grades 7 and 11. This finding is consistent with the findings presented for females in Tables 8 through 11.

When the findings for hypotheses 3a, b, c, and d are viewed collectively, scholastic self-concept in early and middle adolescents differs significantly for males but not for females.

Middle adolescent males are significantly more certain and more accurate than early adolescent males in perceiving their ability to perform academic tasks in a school setting. However, middle adolescent males have a slightly less positive attitude than early adolescent males concerning their ability to perform such tasks.
Middle adolescent females are slightly more certain and more accurate than early adolescent females in perceiving their ability to perform academic tasks in a school setting. However, middle adolescent females are significantly less positive than early adolescent females in their attitude toward ability to perform such tasks.

When the three factors of scholastic self-concept are viewed collectively for early adolescents, females have a better scholastic self-concept than males. Early adolescent females are more certain, more positive, and more accurate than early adolescent males. However, by middle adolescence, this relation has been completely reversed. Middle adolescent males are more certain, more positive, and more accurate than middle adolescent females. The significant difference in scholastic self-concept between early and middle adolescents is, therefore, attributable to the significant improvement by males.

From early to middle adolescence, females evidence only slight changes in scholastic self-concept.

4. Short-term individualized counseling, which focuses on study orientation, will effect a significant difference in scholastic self-concept for early and middle adolescents as represented by the following factors:

a. Certainty
b. Attitude
c. Accuracy
The Subjects for this hypothesis were 60 students from grade 7 and 60 students from grade 11. The students were randomly selected for inclusion in experimental and control groups of 30 subjects each at both grade levels. The population was delimited to be consistent with the workload of the grade-level counselor.

The hypothesis was tested at each grade level by a three-way analysis of variance on the factors: (1) Groups (experimental and control), (2) Sex (male and female), and (3) Occasions (five incidents of data collection on the dependent variables). The analysis was on three dependent variables: Certainty, Attitude, and Accuracy as measured by range, ratio, and attainment scores, respectively. The complete factorial design consisted of 20 cells.

Tables 14 through 16 report the findings on this hypothesis for students in grade 7. The discussion will be according to the three factors: Groups, Sex, and Occasions.
TABLE 14
MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT BETWEEN EXPERIMENTAL AND CONTROL GROUPS OF STUDENTS IN GRADE 7

<table>
<thead>
<tr>
<th>Variables</th>
<th>F(1,270)</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>0.134</td>
<td>14.125</td>
<td>0.715</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.032</td>
<td>513.770</td>
<td>0.353</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.338</td>
<td>16.895</td>
<td>0.561</td>
</tr>
</tbody>
</table>

The findings reported in Table 14 indicate no significant difference in scholastic self-concept between experimental and control group subjects in grade 7. It may therefore be inferred that the treatment, short-term individualized counseling which focused on study orientation, did not significantly affect the scholastic self-concept of early adolescents.

TABLE 15
MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT BETWEEN MALE AND FEMALE STUDENTS IN GRADE 7

<table>
<thead>
<tr>
<th>Variables</th>
<th>F(1,270)</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>0.003</td>
<td>0.290</td>
<td>0.958</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.332</td>
<td>5297.211</td>
<td>0.565</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.000</td>
<td>0.010</td>
<td>0.989</td>
</tr>
</tbody>
</table>
The findings reported in Table 15 indicate no significant difference in scholastic self-concept between male and female subjects in grade 7. It may therefore be inferred that the treatment, short-term individualized counseling which focused on study orientation, did not differentially affect the scholastic self-concept of grade 7 males and females.

TABLE 16
MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT OVER FIVE OCCASIONS OF DATA COLLECTION FOR STUDENTS IN GRADE 7

<table>
<thead>
<tr>
<th>Roots</th>
<th>P</th>
<th>DPHYP</th>
<th>DFERR</th>
<th>P Less Than</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Through 3</td>
<td>8.100</td>
<td>12.000</td>
<td>709.353</td>
<td>0.001</td>
<td>0.477</td>
</tr>
<tr>
<td>2 Through 3</td>
<td>3.734</td>
<td>6.000</td>
<td>653.892</td>
<td>0.001</td>
<td>0.242</td>
</tr>
<tr>
<td>3 Through 3</td>
<td>2.935</td>
<td>2.000</td>
<td>538.000</td>
<td>0.054</td>
<td>0.147</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>$F(4,270)$</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>15.392</td>
<td>1627.424</td>
<td>0.001</td>
</tr>
<tr>
<td>Attitude</td>
<td>2.122</td>
<td>38623.125</td>
<td>0.049</td>
</tr>
<tr>
<td>Accuracy</td>
<td>11.868</td>
<td>592.932</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The findings reported in Table 16 indicate a significant difference in scholastic self-concept for early adolescents as measured over the five occasions of data collection. However, the previous finding of a lack of significant difference between experimental and control groups indicates that the difference over the five occasions of data collection is the effect of something other than the experimental treatment.
Table 17 reports the findings of a multivariate analysis of scholastic self-concept among experimental and control groups and the five occasions of data collection.

Table 17

MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDAS CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT AMONG EXPERIMENTAL AND CONTROL GROUPS AND THE FIVE OCCASIONS OF DATA COLLECTION FOR STUDENTS IN GRADE 7

<table>
<thead>
<tr>
<th>Roots</th>
<th>F</th>
<th>DFHYP</th>
<th>DFERR</th>
<th>P Less Than</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Through 3</td>
<td>0.634</td>
<td>12.000</td>
<td>709.353</td>
<td>0.814</td>
<td>0.123</td>
</tr>
<tr>
<td>2 Through 3</td>
<td>0.577</td>
<td>6.000</td>
<td>653.892</td>
<td>0.749</td>
<td>0.105</td>
</tr>
<tr>
<td>3 Through 3</td>
<td>0.241</td>
<td>2.000</td>
<td>538.000</td>
<td>0.786</td>
<td>0.042</td>
</tr>
</tbody>
</table>

The findings reported in Table 17 indicate no significant difference in scholastic self-concept when differences are tested among experimental and control groups and the five occasions of data collection. This finding supports the interpretation that the difference over the five occasions of data collection is the effect of something other than the experimental treatment.

When the findings reported in Tables 14 through 17 are viewed collectively, scholastic self-concept in early adolescents does not differ significantly between males and females. Further, scholastic self-concept in early adolescents was not significantly influenced by the experimental treatment, short-term individualized counseling
which focused on study orientation. Therefore, it may be inferred that scholastic self-concept is a relatively stable dimension of personality among early adolescents.

Tables 18 through 21 report the findings on this hypothesis for students in grade 11. The discussion will be according to the three factors: Groups, Sex, and Occasions.

**TABLE 18**

MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT BETWEEN EXPERIMENTAL AND CONTROL GROUPS OF STUDENTS IN GRADE 11

<table>
<thead>
<tr>
<th>Variables</th>
<th>F(1,270)</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>4.437</td>
<td>97.323</td>
<td>0.036</td>
</tr>
<tr>
<td>Attitude</td>
<td>1.061</td>
<td>3686.809</td>
<td>0.304</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.151</td>
<td>1.669</td>
<td>0.698</td>
</tr>
</tbody>
</table>

The findings reported in Table 18 indicate no significant difference in scholastic self-concept between experimental and control subjects in grade 11. It may therefore be inferred that the treatment, short-term individualized counseling which focused on study orientation, did not significantly influence the scholastic self-concept of middle adolescents.
TABLE 19

MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT BETWEEN MALE AND FEMALE STUDENTS IN GRADE 11

<table>
<thead>
<tr>
<th>Variables</th>
<th>F(1,270)</th>
<th>Mean Square</th>
<th>P Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty</td>
<td>3.252</td>
<td>71.329</td>
<td>0.072</td>
</tr>
<tr>
<td>Attitude</td>
<td>3.306</td>
<td>45.450.965</td>
<td>0.254</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.595</td>
<td>6.584</td>
<td>0.441</td>
</tr>
</tbody>
</table>

The findings reported in Table 19 indicate no significant difference in scholastic self-concept between male and female subjects in grade 11. Therefore, it may be inferred that the treatment, short-term individualized counseling which focused on study orientation, did not differentially affect the scholastic self-concept of grade 11 males and females.
The findings reported in Table 20 indicate a significant difference in scholastic self-concept in middle adolescents as measured over the five occasions of data collection. However, as with early adolescents, a previous finding of no significant difference in scholastic self-concept between experimental and control group subjects indicates that the difference over the five occasions of data collection is the effect of something other than the experimental treatment.

Table 21 reports the findings of a multivariate analysis of scholastic self-concept among experimental and control groups and the five occasions of data collection.
TABLE 21

MULTIVARIATE TESTS OF SIGNIFICANCE USING WILKS LAMBDA CRITERION TEST OF ROOTS FOR DIFFERENCES IN SCHOLASTIC SELF-CONCEPT AMONG EXPERIMENTAL AND CONTROL GROUPS AND THE FIVE OCCASIONS OF DATA COLLECTION FOR STUDENTS IN GRADE 11

<table>
<thead>
<tr>
<th>Roots</th>
<th>F</th>
<th>DF Hyp</th>
<th>DF Err</th>
<th>P Less Than</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Through 3</td>
<td>1.505</td>
<td>12.000</td>
<td>709.353</td>
<td>0.117</td>
<td>0.229</td>
</tr>
<tr>
<td>2 Through 3</td>
<td>0.565</td>
<td>6.000</td>
<td>653.892</td>
<td>0.758</td>
<td>0.097</td>
</tr>
<tr>
<td>3 Through 3</td>
<td>0.414</td>
<td>2.000</td>
<td>538.000</td>
<td>0.662</td>
<td>0.055</td>
</tr>
</tbody>
</table>

The findings reported in Table 21 indicate no significant difference in scholastic self-concept when differences are tested among experimental and control groups and the five occasions of data collection. Again, this finding supports the interpretation that the difference over the five occasions of data collection is the effect of something other than the experimental treatment.

When the findings reported in Tables 18 through 20 are viewed collectively, scholastic self-concept in middle adolescents does not differ significantly between males and females. Further, scholastic self-concept in middle adolescents was not significantly influenced by the experimental treatment, short-term individualized counseling which focused on study orientation. Therefore, it may be inferred that scholastic self-concept is a relatively stable dimension of personality among middle adolescents.
5. Study orientation in early and middle adolescents will not differ significantly, on grade level and sex, for the following measures:

   a. Study Orientation
   b. School Attitudes
   c. Study Habits

Hypothesis 5 was tested by a two-way analysis of variance which also tested for interaction. The Subjects were 42 males and 42 females in grade 7 and 42 males and 42 females in grade 11. Tables 22 through 24 report the findings on this hypothesis.

**TABLE 22**

**ANALYSIS OF VARIANCE FOR DIFFERENCES IN STUDY ORIENTATION BETWEEN SEXES AND GRADE LEVEL FOR STUDENTS IN GRADES 7 AND 11**

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>7624.8789</td>
<td>7624.8789</td>
<td>4.3335</td>
<td>.05</td>
</tr>
<tr>
<td>Grade</td>
<td>1</td>
<td>4422.8789</td>
<td>4422.8789</td>
<td>2.5137</td>
<td>NS</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>3.1211</td>
<td>3.1211</td>
<td>0.0018</td>
<td>NS</td>
</tr>
<tr>
<td>Error</td>
<td>164</td>
<td>288563.0000</td>
<td>1759.5303</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>300613.8789</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings reported in Table 22 indicate that, between males and females in grades 7 and 11, there is a difference in study orientation which is statistically significant at the .05 level. The nature of the difference is in a better study orientation for females than for males.
The study orientation of early and middle adolescents, as age groups, is not significantly different.

TABLE 23
ANALYSIS OF VARIANCE FOR DIFFERENCE IN SCHOOL ATTITUDES BETWEEN SEXES AND GRADE LEVELS FOR STUDENTS IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>840.8794</td>
<td>840.8794</td>
<td>2.7506</td>
<td>NS</td>
</tr>
<tr>
<td>Grade</td>
<td>1</td>
<td>2966.8794</td>
<td>2966.8794</td>
<td>9.7050</td>
<td>.01</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>6.1206</td>
<td>6.1206</td>
<td>0.0200</td>
<td>NS</td>
</tr>
<tr>
<td>Error</td>
<td>164</td>
<td>50136.0000</td>
<td>305.7073</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>53949.8794</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings reported in Table 23 indicate that between early and middle adolescents there is a difference in school attitudes which is statistically significant at the .01 level. The nature of the difference is in better school attitudes for grade 7 students than for grade 11 students. The school attitudes of males and females, within those age groups, are not significantly different.
TABLE 24
ANALYSIS OF VARIANCE FOR DIFFERENCES IN STUDY
HABITS BETWEEN SEXES AND GRADE LEVELS
FOR STUDENTS IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>3399.8569</td>
<td>3399.8569</td>
<td>4.1828</td>
<td>.05</td>
</tr>
<tr>
<td>Grade</td>
<td>1</td>
<td>144.8571</td>
<td>144.8571</td>
<td>0.1782</td>
<td>NS</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>6.1429</td>
<td>6.1429</td>
<td>0.0076</td>
<td>NS</td>
</tr>
<tr>
<td>Error</td>
<td>164</td>
<td>133301.0000</td>
<td>812.8108</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>133301.0000</td>
<td>812.8108</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings reported in Table 24 indicate that between males and females in grades 7 and 11 there is a difference in study habits which is statistically significant at the .05 level. The nature of the difference is in better study habits for females than for males. The study habits of early and middle adolescents, as age groups, are not significantly different.

When the findings reported in Tables 22 through 24 are viewed collectively, females score consistently higher than males, and early adolescents score consistently higher than middle adolescents. Therefore, the significant difference in school attitudes between early and middle adolescents is from higher to lower scores. Study habits also display a higher to lower pattern between early and middle adolescents; however, the difference is minimal. The significant difference in study habits is between males and females.
6. The instrument, Study Orientation Survey, will provide reliable measures of study orientation for students in grades 7 and 11.

Hypothesis 6 was tested on 110 grade 7 students and 109 grade 11 students. The hypothesis was tested by an intensive scale subtest item analysis which uses the Kuder-Richardson (Formula 8) test of reliability. The Kuder-Richardson reliability coefficient is a measure of internal or interitem consistency. Such reliability coefficients provide measures of equivalence, as in split-half methods, and of homogeneity. Homogeneity refers essentially to consistency of performance on all items within a test.

TABLE 25

MEANS, STANDARD DEVIATIONS, AND KUDER-RICHARDSON RELIABILITY COEFFICIENTS FOR THE STUDY ORIENTATION SURVEY WHEN ADMINISTERED TO STUDENTS IN GRADES 7 AND 11

<table>
<thead>
<tr>
<th></th>
<th>Grade 7</th>
<th></th>
<th>Grade 11</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>M 284.91</td>
<td>SD 29.43</td>
<td>M 278.98</td>
<td>SD 25.25</td>
</tr>
<tr>
<td>K-R R (Formula 8)</td>
<td>.867</td>
<td></td>
<td>K-R R (Formula 8)</td>
<td>.821</td>
</tr>
</tbody>
</table>

The findings reported in Table 25 show Kuder-Richardson reliability coefficients of .867 and of .821...
for the Study Orientation Survey when administered to students in grades 7 and 11, respectively. Correlation coefficients above .80 are generally regarded as strong. It may, therefore, be inferred that the Study Orientation Survey provides reliable measures of the study orientation of early and middle adolescents.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the effect which short-term individualized counseling would have on scholastic self-concept, that is, the individual's perception of his ability to perform academic tasks in a school setting. Central to the study were (1) an investigation of the nature and measurement of scholastic self-concept, and (2) the development of an instrument for assessing the study orientation, that is, school attitudes and study habits, of secondary school students. Study orientation comprised the content of the individualized counseling.

The population for this study consisted of 219 students: 110 students in grade 7, and 109 students in grade 11. A selection criterion was that the students, in each grade level, must share a common course and a common instructor. From the students in each grade level, experimental and control groups of 30 students each were randomly selected. Since the students in the experimental
group, in each grade level, would be scheduled for individual counseling sessions with the grade-level counselor, the size of the experimental groups was delimited to be compatible with the counselor's weekly work load. Data collection on scholastic self-concept, the dependent variable, was performed by the teachers in grades 7 and 11. Immediately prior to administering five regular weekly tests, the teachers obtained the students' perceptions of their expected, optimistic, and pessimistic performance on the tests. This technique for data collection yields three discrepancy scores: Goal Range (GRe), Goal Ratio (GRo), and Goal Attainment (GA). The formulas for deriving the scores are presented in Table 26.

**TABLE 26**

**FORMULAS FOR DERIVING THE SCORES: GOAL RANGE, GOAL RATIO, AND GOAL ATTAINMENT**

<table>
<thead>
<tr>
<th>GOAL RANGE</th>
<th>GOAL RATIO</th>
<th>GOAL ATTAINMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRe = OG - PG</td>
<td>GRo = OG - EG</td>
<td>GA = EG - AG</td>
</tr>
<tr>
<td>E[] - PG</td>
<td>E[] - PG</td>
<td>E[] - PG</td>
</tr>
</tbody>
</table>

OG = Optimistic Grade  
PG = Pessimistic Grade  
EG = Expected Grade  
AG = Actual Grade

Goal Range is a measure of the certainty with which the student perceives his ability. Goal Ratio is a measure
of the optimistic or pessimistic attitude with which the student perceives his ability. Goal Attainment is a measure of the accuracy of the student's perception of his ability.

Data collection on study orientation, the independent variable, was by the Study Orientation Survey. This instrument was developed specifically for this study and is designed to measure two main factors: school attitudes and study habits. The school attitudes scale include two subscales: Teachers-In-General and School-In-General. The study habits scale include six subscales: Writing, Study Methods, Reading Methods, Use of Time, Study Environment, and Tests. The school attitudes subscales consist of 16 items each. The study habits subscales consist of 10 items each. In order to avoid the problem of response set, the subscales were alternatively arranged. The test items were randomly selected from each subscale.

The Study Orientation Survey was administered approximately one month prior to beginning the experimental treatment. The experimental treatment was a 5-week sequence of individualized counseling sessions which were conducted concurrently with the data collection on the dependent variable, scholastic self-concept. The content of the counseling sessions was based on the student's performance on the Study Orientation Survey.
counselors were involved in two orientation sessions and were provided counseling guides for each of the six areas of study habits.

The findings of the study were obtained by a variety of correlational, inferential, and multivariate methods. The findings were presented in the order in which the hypotheses were stated in Chapter I.

1. Scholastic self-concept, in early and middle adolescents, is a multifactor dimension of personality which consists, at least, of the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy

A review of the findings indicates that hypothesis one should be accepted. The magnitude of the correlations among certainty, attitude, and accuracy is low enough to support their relative independence as factors of scholastic self-concept in early and middle adolescents.

2. Scholastic self-concept, in early and middle adolescents, is significantly related to the following variables:
   a. Study Orientation
      (1) Study Habits
      (2) Study Attitudes
   b. Grade Point Average
   c. Intelligence Test Scores
   d. Sex

Hypothesis two should be partially accepted. Scholastic self-concept in early and middle adolescents, in varying degrees, has statistically significant correlations with intelligence scores, grade point
average, study orientation, school attitudes, and study habits at the .05 level of significance. For early adolescents, certainty correlates with intelligence test scores, grade point average, and study orientation. Accuracy correlates with grade point average. For middle adolescents, attitude correlates with grade point average. Accuracy correlates with study orientation. Sex was not significantly correlated with any of the specified variables.

3. Scholastic self-concept, in early and middle adolescents, will differ significantly when grade level and sex are controlled on the following factors:
   a. Certainty
   b. Attitude
   c. Accuracy
   d. Global Scholastic Self-Concept

Hypothesis three should be partially accepted.

Between early and middle adolescents, scholastic self-concept differs significantly at the .001 level for males but not for females. Early adolescent females have a better scholastic self-concept than early adolescent males: females are more certain, more positive, and more accurate than males. However, by middle adolescence, this relation has been completely reversed. The significant difference in scholastic self-concept between early and middle adolescents is, therefore, attributable to the significant improvement by males. From early to middle adolescence, females evidence only slight changes in scholastic self-concept.
4. Short-term individualized counseling, which focuses on study orientation, will effect a significant difference in scholastic self-concept for early and middle adolescents as represented by the following factors:

a. Certainty
b. Attitude
c. Accuracy

Hypothesis four should be rejected. Short-term individualized counseling did not effect a significant difference in scholastic self-concept between experimental and control groups or between males and females for students in grades 7 and 11. A significant difference was found among the five occasions of data collection. However, a multivariate analysis among experimental groups, control groups and occasions of data collection suggests that the difference among the occasions of data collection is the effect of something other than the experimental treatment. One plausible explanation of the difference is the relation between the highest possible scores on the series of weekly tests and the discrepancy scores, goal range, goal ratio, and goal attainment, used to measure scholastic self-concept. The findings of hypothesis four indicate that scholastic self-concept is a relatively stable dimension of personality for both early and middle adolescents.
5. Study orientation in early and middle adolescents will not differ significantly, on grade level and sex, for the following measures:
   a. Study Orientation
   b. School Attitudes
   c. Study Habits

Hypothesis five should be partially accepted.

Between early and middle adolescent males and females, study orientation and study habits differ significantly at the .05 level but school attitudes do not. Between early and middle adolescents, school attitudes differ significantly at the .01 level but study orientation and study habits do not.

6. The instrument, Study Orientation Survey, will provide reliable measures of study orientation for students in grades 7 and 11.

Hypothesis six should be accepted. Kuder-Richardson (Formula 8) reliability coefficients of .867 and of .821 were obtained for the Study Orientation Survey when it was administered to students in grades 7 and 11, respectively. Since the Kuder-Richardson test of reliability provides a measure of equivalence, as in split-half methods, and of homogeneity, these findings substantially support the reliability of the Study Orientation Survey for measuring the study orientation of early and middle adolescents.
Conclusions

The conclusions derived from the analysis of the data are presented as they relate to the purpose and progress of the study. It is recognized that conclusions based on the findings of this research are primarily applicable to the population which was studied. Generalizations of the findings may be made to comparable populations. However, professional caution should be exercised in making generalizations of the findings to populations which might differ significantly from the population which was studied.

The findings of this study suggest the following conclusions:

1. Scholastic self-concept in early and middle adolescents is a dimension of personality which consists, at least, of three factors: Certainty, Attitude, and Accuracy. It is further concluded that the factors, certainty, attitude, and accuracy, are relatively independent and therefore can be studied empirically.

2. Scholastic self-concept is relatively independent of common measures of scholastic aptitude and achievement. Such independence justifies the use of scholastic self-concept in combination with common measures of scholastic aptitude and achievement when studying adolescents in a school setting.
3. There are developmental differences in scholastic self-concept between early and middle adolescent males. The nature of the differences is toward more certain, more positive, and more accurate perceptions of ability to perform academic tasks in a school setting.

4. Scholastic self-concept, during a particular period of development, such as, early or middle adolescence, is a relatively stable dimension of personality.

5. Middle adolescents have better school attitudes than early adolescents but no difference exists between the study habits of the two age groups. It is further concluded that females, in both early and middle adolescence, have better study habits than males.

6. The Study Orientation Survey provides reliable measures of study orientation for secondary school students.

Recommendations

The findings and conclusions of this study suggest the need for the following recommendations:

1. Scholastic self-concept should be investigated further on several dimensions: (1) The factors, certainty, attitude, and accuracy, should be studied for more definitive description. (2) Additional knowledge is needed concerning the relation of scholastic self-concept to other measures of aptitude and achievement.
(3) Developmental patterns of scholastic self-concept during adolescence require greater elaboration. (4) All of the above should be conducted with different and/or larger populations.

2. The utility of individualized counseling should be investigated on, at least, two dimensions: (1) in a replication of the present study over a longer period of time, and (2) as to its effectiveness in improving school attitudes and study habits.

3. The Study Orientation Survey should be administered to larger and different populations. The purpose would be to provide a data base for further analysis of validity and reliability, to establish norms, and to develop diagnostic scales.
APPENDIX A
Print your name on the 3x5 card which has just been passed to you.

Draw a circle around the grade you are in—each of you will circle number _____.

Print the date (month and day).

In a few minutes you will be taking a test over the material covered in the last few days. If you answer every question correctly, you can earn a total of _____ points.

On your 3x5 card there is a line marked "Expected Score." Being as accurate as you can, I want you to write on that line the number of points you expect to get right on this test. After writing your score, cover it with your hand. (Pause briefly.) Has everyone written the score you expect to earn?

Next, you have a line marked "Optimistic Score." Now, give yourself the benefit of every doubt. If everything goes very well for you, what is the highest score you might earn on this test? Remember, the highest possible score is _____ (Pause briefly.) Has everyone written the highest score which you might earn? Keep your scores covered.

Finally, you have a line marked "Pessimistic Score." This time, don't give yourself the benefit of any doubt. If everything goes wrong, what is the lowest score which you might earn on this test? Of course, the lowest possible score is zero. (Pause briefly.) Has everyone written the lowest score which you think you might earn on this test?

Turn your card over on your desk. As I walk by, hand it to me.
REPRESENTATIVE ITEMS FOR THE EIGHT SUBSCALES OF
THE STUDY ORIENTATION SURVEY

Teachers-In-General

1. My teachers make their subjects interesting and full of meaning to me.

18. When I am having trouble with my school work, I try to talk it over with the teacher.

School-In-General

20. I feel that I am studying subjects that are of little use to me.

69. I feel that the things taught in school are not preparing me to solve problems later on in life.

Writing

2. I give extra attention to neatness on written reports and other work to be turned in.

71. I have trouble getting started on written reports.

Study Methods

4. When I get behind in my school work through no fault of my own, I make it up without being reminded by the teacher.

81. I study a while and then quit--depending on the way I feel.

Reading Methods

27. After reading each lesson, I take a few minutes to review the important points.

50. I have trouble picking out important points of a reading lesson--points that later appear on tests.
Use of Time

30. I do not plan my studying. Most of my studying is done because the lesson will soon be due.

41. I use free time during the day to study so there will be less work for the evening.

Study Environment

32. I keep my place of study neat and orderly.

43. Noise, people coming in and out of my place of study, and other things bother me when I try to study.

Tests

33. I lose points on true-false and multiple-choice tests because I change my answers only to find out later that my first answer was right.

60. I look for important words in a test question to make sure that I understand it.
BIBLIOGRAPHY


