A COMPARISON OF HIGH SCHOOL DROPOUTS AND RETAINERS ON CAREER CHOICE COMPETENCIES

by

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# TABLE OF CONTENTS

LIST OF TABLES.................. xi
LIST OF FIGURES.................. xii

Chapter Page

1. INTRODUCTION............... 1
   PROBLEM AREA................. 7
       The Problem ............... 9
   Purpose of the Study ......... 9
   Hypotheses.................. 10
       Significance of the Study 11
   DEFINITION OF TERMS.......... 13
   BASIC ASSUMPTIONS............ 17
   LIMITATIONS.................. 18
   CHAPTER SUMMARY.............. 19

2. REVIEW OF THE LITERATURE AND
   THEORETICAL FRAMEWORK ....... 20
   THEORETICAL FRAMEWORK ...... 20
       Theories of Career Development 20
       Model of Career Maturity Based on
           Theories of Career Development 25
   RELATED LITERATURE.......... 27
       Studies on Dropouts Related to the
           Measurement of Career Maturity 27
       Other Studies Related to the
           Measurement of Career Maturity 29
       Literature Related to Instrumentation
           for Measuring Career Maturity 37
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. RESEARCH DESIGN AND METHODOLOGY</td>
<td>49</td>
</tr>
<tr>
<td>DESCRIPTION OF SITE</td>
<td>49</td>
</tr>
<tr>
<td>POPULATION AND SAMPLE</td>
<td>51</td>
</tr>
<tr>
<td>THE RESEARCH INSTRUMENT</td>
<td>52</td>
</tr>
<tr>
<td>THE VARIABLES</td>
<td>53</td>
</tr>
<tr>
<td>Dependent Variables</td>
<td>53</td>
</tr>
<tr>
<td>Independent Variables</td>
<td>54</td>
</tr>
<tr>
<td>Controlled Variables</td>
<td>54</td>
</tr>
<tr>
<td>HYPOTHESES</td>
<td>54</td>
</tr>
<tr>
<td>COLLECTION OF DATA</td>
<td>55</td>
</tr>
<tr>
<td>ANALYSIS OF DATA</td>
<td>57</td>
</tr>
<tr>
<td>CHAPTER SUMMARY</td>
<td>58</td>
</tr>
<tr>
<td>4. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA</td>
<td>60</td>
</tr>
<tr>
<td>CHARACTERISTICS OF SUBJECTS</td>
<td>60</td>
</tr>
<tr>
<td>DATA ANALYSIS</td>
<td>64</td>
</tr>
<tr>
<td>CHAPTER SUMMARY</td>
<td>80</td>
</tr>
<tr>
<td>5. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>82</td>
</tr>
<tr>
<td>SUMMARY OF THE STUDY</td>
<td>82</td>
</tr>
<tr>
<td>Background of the Problem</td>
<td>82</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>83</td>
</tr>
<tr>
<td>Selection of the Population</td>
<td>83</td>
</tr>
<tr>
<td>Procedures for Collection and Treatment of the Data</td>
<td>84</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>FINDINGS</td>
<td>86</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>90</td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>94</td>
</tr>
<tr>
<td>LITERATURE CITED</td>
<td>98</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>105</td>
</tr>
<tr>
<td>A. Letters of Request to Cabell County</td>
<td>106</td>
</tr>
<tr>
<td>B. Letters of Approval from Cabell County</td>
<td>110</td>
</tr>
<tr>
<td>VITA</td>
<td>114</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Distribution of Dropouts by Grade Level.</td>
<td>62</td>
</tr>
<tr>
<td>II. Distribution of Dropouts by Curriculum</td>
<td>63</td>
</tr>
<tr>
<td>III. Mean Scores for Dropouts and Retainers on Career Choice Competencies.</td>
<td>65</td>
</tr>
<tr>
<td>IV. Multivariate (MANOVA) Test of Significance for Groups, Grade Level, and Curriculum Choice on Combined Group Mean Scores.</td>
<td>66</td>
</tr>
<tr>
<td>V. Differences and Simultaneous Confidence Intervals for Dropouts and Retainers on Career Choice Competencies.</td>
<td>71</td>
</tr>
<tr>
<td>VI. Differences and Confidence Intervals for Tenth and Eleventh Grade Dropouts and Retainers on Self Appraisal and Problem Solving Competencies.</td>
<td>74</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>A Theoretical Model for the Study of Career Maturity.</td>
</tr>
<tr>
<td>2.</td>
<td>Graphical Illustration of Data Collection and Analysis.</td>
</tr>
<tr>
<td>3.</td>
<td>Group Mean Scores on Self Appraisal by Grade Level for Dropouts and Retainers.</td>
</tr>
<tr>
<td>4.</td>
<td>Group Mean Scores on Occupational Information by Grade Level for Dropouts and Retainers.</td>
</tr>
<tr>
<td>5.</td>
<td>Group Mean Scores on Goal Selection by Grade Level for Dropouts and Retainers.</td>
</tr>
<tr>
<td>6.</td>
<td>Group Mean Scores on Planning by Grade Level for Dropouts and Retainers.</td>
</tr>
<tr>
<td>7.</td>
<td>Group Mean Scores on Problem Solving by Grade Level for Dropouts and Retainers.</td>
</tr>
</tbody>
</table>
Chapter 1

INTRODUCTION

A characteristic of modern American society is an increasing emphasis on the value of education. This is evidenced by the fact that at the turn of the century only 10 percent of the young people were earning a high school diploma as contrasted with 60 percent in 1959. The U.S. Office of Education (1971) reported that 77 percent of eighteen year olds graduated from high school in 1969 and estimated that 88.8 percent will graduate in 1979. These figures illustrate the reduction in the percentage of students who do not complete high school. However, these percentages tend to be misleading unless the rapid growth in the number of the youth population since 1900 is also taken into account. The U.S. Office of Education (1971) reported that although 60 percent of the youth who started kindergarten in 1946 graduated in 1959, the remainder who did not complete high school that same year numbered about 900,000. And, although it was anticipated that 70 percent would earn diplomas in another decade, by 1965 the number of dropouts had grown to nearly 1,300,000 annually. It is estimated by the U.S. Office of Education (1971) that
88.8 percent of all eighteen year olds will have a high school diploma in 1979; however, that still leaves 11.2 percent who will not graduate from high school.

The number of dropouts is significant, but there are at least two other trends which enhance the complexity and seriousness of this problem: urbanization of the population, and the growing technical nature of work. In 1900, over 60 percent of the population of the United States lived in rural areas; however, only 10 percent were found in rural areas in 1960. This trend illustrates that the farm is no longer the major place of work for the young person. As the population has shifted to non-rural areas, the urbanization of the population has been accompanied by a need for skilled workers in our technological society. In a 1972 manpower report by the Department of Labor, no increase was projected in the percentage of unskilled employment opportunities. Therefore, young people must leave school with salable skills if they are to compete in modern society.

With respect to the dropout and sources of employment, it was further stated in the Department of Labor report:

Job finding difficulties are compounded for those out of school youth who failed to complete high school. In October, 1971, the unemployment rate for school dropouts aged 16 to 19 was 23 percent, while for graduates it was 14 percent. Whereas 90 percent of male high school graduates were in the labor force, this was true of only 80 percent of the boys who had dropped out. And
of the young men aged 16 to 21 employed in October, 1969, only half of those without high school diplomas were earning $2 or more an hour, compared with 7 out of 10 of those with a high school education (and no college).

The importance of high school graduation is also reflected in the occupational status of youth aged 16 to 21. The proportion of young people who find their way into clerical and, to a lesser extent, other white-collar occupations is much higher among high school graduates than among dropouts (1972:82).

A limitation facing the high school dropout is the lowering of financial potential for a lifetime of employment. A study of the education and lifetime earnings for men by Miller (1965) revealed a potential of $247,000 for a high school graduate, $212,000 for a man completing no more than eleventh grade, and $184,000 for a man who completed no more than eighth grade. A national news release by Professor Levin of Stanford University dated May 28, 1972, stated that 3,200,000 men will lose a total of $237 billion dollars in lifetime income because they did not graduate from high school.

Another limitation facing those not graduating from high school is the curtailment in ability to function as a contributing citizen. In a study by Cerevantes and Husted (1966) using the Thematic Apperception Test and in-depth interviews to investigate, analyze, and elaborate upon the social background and personality characteristics of three hundred youth who had dropped out of school, it was reported:
1. The incidence of delinquency is ten times greater among dropouts than high school graduates.

2. The incidence of sensate vocabulary, violence, hostility, aggression, tragedy, strife, drunkenness, cheating, and suicide is greater among dropouts.

3. Hostility against authority or adult controls of all types—home authority, civil authority, intellectual authority, and occupational authority is greater among dropouts.

4. The norms and values of dropouts are usually nonparentally approved peer controls.

5. Human relations are characteristically brittle, haphazard, and exploitative for the dropout.

6. Gratitude is unusual among dropouts.

In summarizing their study, Cerevantes and Husted stated, "The hostility which is the dropout's defense against the world's depreciation of his position seems destined to become intensified as the two worlds—the dropout's and the graduate's become more estranged" (p. 46).

The dropout is a serious problem mainly because of the following factors as listed by Greene (1966):

1. Although the proportion of dropouts is decreasing, a greater number of young people are leaving school today.

2. Our present and developing economy requires a greater degree of skill than was previously required of the labor force.

3. The age at which a person enters the labor force is rising.

4. Too great an experience of frustration and failure deprives the student of the incentive to succeed.
5. The dropout may become a candidate for every program of social welfare throughout his life.

6. The dropout represents a major educational and social failure.

In studies related to the effects of leaving high school prior to graduation, it is appropriate to conclude that the dropout is faced with a lack of employment opportunities, a lowering of financial potential, and the potential for developing negative psychological characteristics.

Since it can be concluded that leaving school prior to graduation can have detrimental consequences for the person, it is important to determine factors which cause one to drop out of school before graduation. From studies by Tatum (1967) and Pucel (1969), it appears that the lack of career choice competencies may be a causal factor in the dropout problem.

Tatum (1967) investigated the educational-vocational decisions of senior retainers and dropouts in the Colorado Springs public schools. He found that the majority of senior dropouts had chosen the general curriculum and that most of the curricular choices by the dropouts were unrealistic and did not emphasize long-range goals or vocational preparation. It was concluded that the curriculum in which they were enrolled seemed ill-suited to the needs of those seniors who left school. Tatum also found that counselor contact with students was greater in high school than in the
ninth grade, and the focus in high school interviews was program and educational planning. It was suggested that the goals of counseling programs placed little emphasis on self-understanding and career exploration, two factors which are crucial to career maturity. Tatum also found that the dropout displayed poor decision-making behavior, another important factor in reaching career maturity.

Based on the belief that students who lack career maturity often select inappropriate curricula and to determine if students are counseled into the most suitable vocational curriculums, Pucel (1969) used data from Project MINI-SCORE (Minnesota Student Characteristics and Occupationally Related Education) and submitted the data to the Centour method of analysis. The Centour method of analysis is a system whereby the characteristics of successful workers in various occupations are compared to the characteristics of individual students who are enrolled in corresponding occupational courses. Pucel found that graduates in six vocational curriculum areas were counseled correctly approximately 60 to 70 percent of the time in the curriculum areas in which they were enrolled. However, when showing how dropouts from the six curriculum areas were counseled, Pucel found that more than half of the dropouts received a higher centour score in a curriculum area other than the one in which they were enrolled and eventually dropped. In other words, based on centour scores, a majority of the dropouts
were enrolled in inappropriate vocational programs. The findings of Pucel indicated a lack of career maturity in vocational students who had dropped out of school. His findings indicated a need for more occupational information for students so that they may make more realistic career selections and ultimately enjoy success in their educational endeavors.

PROBLEM AREA

Educators in Cabell County, West Virginia, have been seeking to ensure that students selecting a vocational curriculum graduate from high school with salable skills in a definable occupational area. However, there are a sizable number of students who are leaving the public school system prior to becoming eligible to enter a vocational program or are dropping out before completing a program. Vocational education is traditionally included in the senior high school program of studies and therefore is taught during the school years experiencing the highest dropout rate.

In a 1975 study from the West Virginia State Department of Education, the following data on dropouts in Cabell County for 1973-74 was reported:

1. The total number of dropouts for the second year 1973-74 was 263. Of these dropouts 60 percent were in a general program of studies, 14 percent were in the elective
vocational programs and 13 percent in college preparatory programs. Program choice was not reported for 13 percent of the dropouts.

2. Of the 263 dropouts, 154 were male and 109 female.

3. Only two of the total number of dropouts were Negro.

4. Of the total number of dropouts, 57 percent never participated in extracurricular activities and 32 percent seldom participated. Data on extracurricular activities were not reported for 11 percent of the dropouts.

5. The months with the highest number of exit for the dropouts was September, followed by January, October, February, and March.

6. Of the dropouts, 49 percent were age 16, 29 percent age 17, and 19 percent age 18 or over. Age was not reported for 3 percent of the dropouts.

7. Grades ten and eleven were the grades with the highest number of exits; grade ten with 20 percent, and grade eleven 27 percent.

8. Dislike of the school experience was the reason most often given for dropping out, 48 percent; followed by academic difficulty, 18 percent; and marriage, 11 percent. The reason for dropping out was unknown for 22 percent of the cases, and the reason was not reported for 1 percent of the cases. The percentages given on reasons for dropping out of school were for the combined population of male and female. Percentages are quite different for the female population in Cabell County alone. Females listed marriage in 23 percent of the cases as their reason for dropping out of school. Males listed marriage as the reason for dropping out in only 1.3 percent of the cases. Females listed academic difficulty as the reason for dropping out in only 6 percent of the cases as compared with 16 percent for males.
The data from the West Virginia State Department of Education for Cabell County, West Virginia, are congruent with studies by Cerevantes and Husted (1966), Greene (1966), Brumfield (1967), Anderson (1968), Malec (1968), Gerstein (1971), and Slaughter (1967). The only inconsistency in the data for Cabell County and that for other studies is in the number of Negro students who dropped out. This is explained by the small percentage of Negro students in the Cabell County school system.

The Problem

There is a sizable number of students who are leaving the public school system prior to graduation. These students are leaving without salable skills. The empirical data suggests that these students will be faced with a lack of employment opportunities and a lowering of financial potential and may have the potential to develop negative psychological characteristics. From these considerations grew the practical problem to which this study was addressed, that of learning as much as possible about the school dropout and using this knowledge to reduce the problem.

Purpose of the Study

The purpose of the study was to determine the extent to which differences exist in career choice competencies
(career maturity) of high school dropouts and retainers in Cabell County, West Virginia.

Hypotheses

The central research question from which hypotheses were developed to guide the collection and analysis of the data was: Do significant differences exist in the career choice competencies (career maturity) of high school dropouts and retainers in Cabell County, West Virginia?

The null hypothesis was: When two variables curriculum choice and grade level are statistically controlled, significant differences do not exist between dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity.

The sub-hypotheses were: When two variables curriculum choice and grade level are statistically controlled, significant differences do not exist between dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity on the following career choice competencies:

Sub-Hypothesis I: Self Appraisal
Sub-Hypothesis II: Occupational Information
Sub-Hypothesis III: Goal Selection
Sub-Hypothesis IV: Planning
Sub-Hypothesis V: Problem Solving

Significance of the Study

A young person might have chosen to enter the world of work prior to completing high school in 1900 without serious consequence; however, the same decision 75 years later may cause a person who fails to graduate from high school to be faced with a lack of employment opportunities and thus remain financially disadvantaged throughout the lifetime of work. These results are accompanied by negative psychological characteristics which keep the dropout from being able to function as a contributing citizen.

This study was addressed to learning more about the school dropout and adding to the body of knowledge which may be used to reduce the problem. As American society continues to demonstrate concern for those who leave school early, educators and students of human behavior must give increasing attention to the early identification of potential dropouts and the application of remedial measures.

To date, much has been accomplished in the area of describing the dropout. Both large and small school systems have conducted studies of those who have failed to graduate from high school and have identified demographic traits or characteristics typical of a large number of these young people. Unfortunately, the results of these studies have
only brought the problem to the attention of the local community; they have not provided clues as to possible remedial action. To illustrate, it is consistently true that dropouts are over-age for the grade in which they are enrolled just prior to leaving school. However, this knowledge of itself offers little assistance as to how the problem might be solved.

Another type of investigation has dealt with socio- logical and psychological factors related to the dropout, including the determination of intelligence test scores and the socio-economic status of the family. These studies have shown that more than half of the dropouts have measured intelligence in the normal or above range and that a vast majority come from economically-deprived homes; however, these findings do not provide methods for remediation of the dropout problems.

Recently, attention has turned to the more subtle, difficult-to-measure aspects of the question. Items such as motivation, vocational maturity, and aspiration levels are becoming the core of investigations which focus on non-graduates. The current study focused on career maturity, or career choice competencies, of retainers and dropouts. Hopefully, the study has improved understanding of the dropout and moved educators closer to preventing young people from leaving school prior to graduation.
DEFINITION OF TERMS

For the purpose of this study, the following operational definitions of terms are given:

**Retainers**--refers to male students in grades 10 and 11 enrolled in vocational and general curriculums at the beginning of the school year, September 1, 1975, who remained in school until the closing date of the data collection phase of this study, April 1, 1976.

**Dropouts**--refers to male students in grades 10 and 11 enrolled in vocational and general curriculums at the beginning of the school year, September 1, 1975, and who dropped out of school between October 1, 1975, and April 1, 1976. For purposes of this study, a dropout consisted of any white, male subject who had reached his sixteenth birthday and left school for any reason other than transferring to another school. Also, it included any white male who had been dismissed for excessive truancy or poor behavior during the data collection time period.

**Vocational Curriculum**--refers to an elective, half-day program of study designed to provide students with salable skills in industrial carpentry, auto mechanics, drafting, radio and television electronics, air conditioning, graphic arts and printing, industrial electricity, machine trades, welding, service station management and mechanics, clerical occupations, bookkeeping and accounting, stenographic,
secretarial occupations, cooperative office occupations, distributive education, and cooperative trades and industry occupations. In addition to the vocational program of study, the student completes the academic requirements listed under the general curriculum.

**General Curriculum**—refers to a full-day program of studies which does not require courses designated as college preparatory. The recommended curriculum consists of two units in English, including basic English and basic reading; one unit in math which may include general math, career math, vocational math, or basic algebra; and one unit in biology.

**College Preparatory Curriculum**—refers to a full-day program of study for those students who are preparing for college. The recommended curriculum consists of five units in English, including advanced literature; two units in math, including advanced math; two or more units in biology, including laboratories; and two units in a foreign language.

**Career Maturity Inventory (CMI)**—refers to an instrument designed to measure the maturity of attitudes and competencies necessary for realistic career decision making. Part I of the CMI is an attitude scale which elicits feelings and subjective reactions to work. Part II is a competence test which measures the cognitive variables involved in choosing an occupation. Part II of the CMI was used for this study. The CMI developed by J. O. Crites in 1965 was originally called the Vocational Development Inventory.
Since 1970, the instrument has been continually revised as a result of additional research and is now called the Career Maturity Inventory. The inventory is published by McGraw Hill Book Company.

**Career Choice Competencies**--refers to five competency areas as measured in Part II of the Career Maturity Inventory: self appraisal, occupational information, goal selection, planning and problem solving.

**Self Appraisal Competency**--refers to the individual's perceptions of his or her attitudes, interest, and personality characteristics. According to Super's theory, these perceptions become clearer, more accurate, and are more highly integrated near the end of adolescence. The expectation is that more vocationally-mature individuals will have thought more about their vocational assets and liabilities and will have greater self knowledge (Crites, 1974:329).

**Occupational Information Competency**--refers to the competency of knowing about occupations and the requirements for success in occupations. As individuals mature, they should gather more information about jobs and occupations. Consequently, scores on this competency should differentiate the more from the less vocationally mature (Crites, 1974:329).

**Goal Selection Competency**--refers to the competency which enables the individual to relate personal knowledge of self with personal knowledge about work. Parsons (1909)
refers to this as "true reasoning" in the process of career development maturity and regards the competency as one of the hallmarks of maturity.

Planning Competency--refers to the competency which enables the individual to think about means necessary to attain a desired end. Planning is the ability to sequence steps toward a career. There are four facets of planning: (1) time spent in planning activities, (2) specificity of planning, (3) relevance of means to ends in planning, and (4) the ordering of steps in planning. Generally, it is the latter which is referred to in contemporary career development theory, and it is this aspect of planning which the CMI measures (Crites, 1973:27).

Problem Solving Competency--refers to the competency of being able to cope with problems which arise in the process of decision making. The more career maturity possessed by the adolescent, the more able the person is to solve these problems in a creative and integrative way; one which is personally satisfying and socially acceptable (Crites, 1973:28).

Career Maturity--Donald Super defines career maturity by two measures:

Vocational Maturity I focuses on life stages and is indicated by the actual life stage of an individual in relation to his expected life stage (based on chronological age). Vocational Maturity II focuses on developmental tasks or competencies and is
represented by the behavior of the individual in handling the developmental tasks with which he is actually coping (Super, 1957:62).

This study was addressed to Super's Vocational Maturity II measure. Career maturity and vocational maturity are synonymous. Earlier studies and writers used the term vocational maturity. Recently the term career maturity has been coined in keeping with the career education movement.

BASIC ASSUMPTIONS

In conducting this study, certain basic assumptions were made to establish a credible basis for use of the data in supporting conclusions reached from the research. These assumptions were:

1. Subjects completing the CMI responded in a manner which accurately reflected their career maturity.

2. The subjects were representative of the initial population of male high school students in grades 10 and 11 in Cabell County, West Virginia.

3. A typical high school population, normally distributed in the factors measured, was tested by the most efficient standardized instrument.

4. Since all populations are samples of a larger population, a comparison was assumed appropriate between a population and a sample.
5. Studies show that achievement level, ability level, and socio-economic status are moderately related to career maturity. Studies further show that the majority of dropouts come from economically-deprived homes and are low in achievement, with about half measuring in the normal or above range of intelligence. It is assumed that the dropouts in this study fit this description, although these variables were not identified nor treated.

LIMITATIONS OF THE STUDY

The following limitations apply to this study:

1. Data collection for this study was limited to male retainers and dropouts from the high schools in the Cabell County, West Virginia, public school system: Barboursville High School, Huntington High School, Huntington East High School, and Milton High School.

2. Data collection for dropouts was limited to the months identified in the literature as being the months with the highest number of exits. Data was collected from the dropouts by their respective counselors through exit interviews from October 1, 1975, to April 1, 1976.

3. Subjects included in the sample were limited to males in grades 10 and 11, aged 16 to 18. A review of the
literature indicated that these were the grades from which most students dropped out.

4. Negroes were not included in the sample due to the negligible number of the race in Cabell County. In the majority of studies on dropouts, the percentage of Negro population is considerably higher than for Caucasian. In the dropout data for Cabell County for the school year 1973-74, the total number of dropouts were 263, and of that number only two were Negro.

5. Students enrolled in college preparatory curriculums were not included in the study. The number dropping out from this curriculum was negligible.

CHAPTER SUMMARY

This study was designed to determine if there is a difference between tenth and eleventh grade, white, male dropouts and retainers in Cabell County, West Virginia, on career choice competencies as measured by Crites' Career Maturity Inventory. Throughout this chapter, the problem area, purpose, and significance of the study were given, terms were defined, and basic assumptions and limitations were specified.
Chapter 2

THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

Do differences exist in the competency to make career choices between male dropout and retainers, grades 10 and 11, age 16 to 18? The research effort was stimulated by this question plus concepts from the field of vocational psychology.

Theories of career development were reviewed in this chapter to establish the theoretical framework for this study. Studies related to measuring career maturity were reviewed as well as a review of instrumentation for the measurement of career maturity.

THEORETICAL FRAMEWORK

Theories of Career Development

There exists a rather extensive theoretical basis on the process of career development. Osipow (1968) has devoted an entire book to the examination of current theories of career development. These theories may be organized into the following categories:

1. Trait factor approaches--these attempt to match individual abilities and interests with comparable trait requirements of
occupations. The idea here is to identify and implement the best fit between the individual and the demand characteristic of his employment.

2. Social systems approaches--these might be summarized by the words: accident and reality. The idea of these approaches is that events beyond the control of the individual have a significant effect on his career choice.

3. Self-concept approaches--in this approach the idea is that the self concept becomes defined as the individual ages and that people develop images of their occupational world against which to compare their self concepts. In good choices, the individual actively attempts to implement his self-concept.

4. Personality and career approaches--these views describe the career development process in terms of psychological constructs such as needs, values, and interests.

Chronologically, the first theory of career development is that of Ginzberg, Ginzberg, Axelrad, and Herma (1951). Essentially, Ginzberg and his associates created a theory which asserted that vocational choice is an irreversible process which occurs in clearly-defined periods and which requires the individual to compromise between his values and his potential. Three major periods of development were postulated and called the Fantasy, the Tentative, and the Realistic periods. The Fantasy period was not emphasized by Ginzberg and his group because it concerned childhood vocational interest which seemed to be fairly arbitrary and unrealistic. The Fantasy period was viewed as birth to 11 years of age and viewed as essentially non-vocational.
This view is not widely held today and is not in harmony with the conceptual framework of this study. The contribution of the Ginzberg theory is in its emphasis on the developmental nature of the career decision process. One very important shortcoming of the Ginzberg approach is in the assumption that vocational development ceases after the initial implementation of a career choice; it is now accepted that important career development activities occur throughout one's lifetime.

Another early writer dealing with career development theory was Anne Roe. Studies by Roe (1957) and Roe and Siegelman (1964) also emphasized development, but in a different way than the Ginzberg group. Roe was concerned with the effects of early childhood experiences on the development of the personality, and in particular, the development of needs within people and the effect of various needs on the individual's orientation toward or away from interpersonal activities. It was Roe's contention that early experiences influence an individual's orientation to the interpersonal world around him in a way that leads him to move toward or away from people. Roe has developed an occupational classification system which allows her to predict the nature of a chosen occupation based on a person's orientation toward people.

Another theorist was Donald Super. Super has taken several important ideas about human behavior and assembled
them in a manner that has particular applicability to career development. Super has postulated that over a period of years an individual attempts to implement his self-concept through his work. He further asserted that to the degree that the individual's self-concept may be expressed in the occupation he selected, he will have greater or lesser vocational satisfaction and effectiveness. Super also elaborated on the developmental steps that Ginzberg considered important in vocational development (1963). Super had little to say in his theory about the earlier years in school (K-7), a period which is recognized as significant in laying the groundwork for the possession of the attitudes and skills necessary for successful completion of these developmental tasks later (Osipow, 1970). Super's overall approach to career development reemphasized the importance of thinking in terms of career patterns in vocational development as opposed to "one-shot" career decisions made relatively early in life.

Another significant theorist was John Holland whose efforts have taken the shape of postulating six types of individuals and six corresponding work environments. Holland's theory allows us to make some fairly accurate predictions as to which type of person will fit into a particular occupational environment. This is a matter of concern to educators developing programs of training (Osipow, 1970).
In addition to the theories of career development, it is important to pay attention to the social system or situational approach to career development as examined by Osipow (1968). This approach is primarily concerned with factors important to career development that lie outside of the individual. Some call this the accident or chance theory, but it is concerned with factors over which the individual has no direct control such as social class membership, sex, race, and state of the economy. In another paper, Osipow (1969) points out that while it is important to understand the theories of career development from a psychological point of view, it is also important that social systems are considered when programs are designed.

Osipow (1968) concluded that of all the theories he reviewed, it appears that Super's theory is the most adequate. Osipow stated:

As a conceptual model, Super's theory seems to be the most highly developed and advanced. This is reflected in its explicitness, its fairly high degree of empirical support, and its substantially larger number of applications to human affairs (p. 233).

In summarizing the theories, what do they tell about vocational development? First, they seem to reveal that there is something systematic about career development, although it may be culturally defined. Second, the theories reinforce the idea that preferences come about in a
developmental manner, which can be facilitated by particular tasks. Third, the theories suggest that while career preferences move in a narrowing direction, they are broad, relatively undifferentiated, and rather changeable during adolescence. Finally, the theoretically-based data indicates that a good technology exists which permits predictions to be made about vocational environments that might be suitable to individuals.

Model of Career Maturity Based on Theories of Career Development

Contrary to some cross-sectional views of career choice in the past which were nondevelopmental and dedicated to matching men to jobs, the measurement of career maturity draws on the concept of occupational choice as a process which progresses through distinguishable periods. The measurement of career maturity draws directly from the theories of Ginzberg, Ginzberg, Axelrad, and Herma (1951) and Super (1957). To Ginzberg's et.al. theory, Super added the concept of career maturity and hypothesized the vocational maturity dimensions. To facilitate the understanding of Super's maturity dimensions, Crites (1965) developed a research model (Page 26, Figure 1) for exploring vocational development on four distinct dimensions. The four dimensions are consistency of career choices, realism of career choices, competencies to make career choices, and career choice attitudes.
Figure 1

A Theoretical Model for the Study of Career Maturity
Crite's model has been used extensively to test hypotheses stemming from career development theory. Among these are such propositions as "vocational development is a specific aspect of general development," (Crites & Semler, 1967); "vocational choice attitudes mature as the individual develops," (Crites, 1965); and "vocational maturity is related to vocational adjustment" (Super, 1957).

This study was concerned with the third dimension of the model, career choice competencies.

RELATED LITERATURE

Studies on Dropouts Related to the Measurement of Career Maturity

Of the 79 dissertations reviewed by Jablonsky from 1965 to 1973 on dropouts, none measured the dropout on career maturity although several studies do have implications which point to a lack of career maturity for dropouts.

Hickman (1966) used matched pairs of retainers and dropouts in his study. Students were matched according to age, sex, intelligence scores, parental education level, and continuous attendance in the same schools since grade five. One of his findings which is relevant to this study is that the dropouts exhibited a high degree of uncertainty regarding future educational and work plans. This finding reinforces the belief that dropouts lack career maturity.
Boyles (1967) compared 300 dropouts and retainers on selected psycho-social variables to determine if any significant differences existed in the two groups. Boyles found that the dropouts had lower achievement motivation on the scales measuring orientation toward work in terms of organizing time, making changes, and deferring gratification. This study points to an inability in the dropout to see the relevance of school toward preparation for a career.

Phifer (1971) conducted a study to determine if there were significant differences in personality traits and professed problems of students identified as potential dropouts and those identified as non-potential dropouts. The potential dropout exhibited a lack of self-insight while the non-potential dropout exhibited a high degree of self-insight.

Holmes (1972) constructed an instrument to identify potential dropouts. A factor analysis of the 49 items on the instrument found that five factors accounted for 79 percent of the common variance between potential dropouts and retainers. The factor with implications for this study was the lack of goal orientation. The potential dropout lacked goal orientation. Goal orientation and goal-setting ability is another characteristic which makes up career maturity.
The studies measuring or describing the dropout have the following implications for understanding the dropout and the construct of career maturity:

1. Hickman (1966) found that dropouts exhibited a high degree of uncertainty regarding future educational and work plans.

2. Boyles (1967) found dropouts had low achievement motivation, did not organize time properly, did not change easily, and could not defer gratification.

3. Phifer (1971) found that dropouts exhibited a lack of self-insight.

4. Holmes (1972) found dropouts lacked goal orientation.

5. Pucel (1969) found that a majority of the dropouts in his study were enrolled in inappropriate vocational curriculums.

6. Tatum (1967) found dropouts lacked long-range goals, their curriculum choices were unrealistic, and they exhibited poor decision-making behavior. Tatum also found that guidance programs placed little emphasis on self-understanding and career exploration.

Other Studies Related to the Measurement of Career Maturity

In a review of the literature, one study which directly related a measurement of career maturity to successful and unsuccessful students was located. Kapes (1971) conducted a longitudinal study using 16 student characteristics for 488 boys in the ninth grade, including a measure of career maturity, to try and predict curriculum choice and success in the tenth grade. Of the 16 characteristic
variables used in the study, the construct of career maturity along with certain other variables, contained most of the information necessary to discriminate between successful and unsuccessful vocational and academic students. Kapes found that enrollment in a vocational versus an academic curriculum is not as easily predicted as is success in either curriculum.

A standardization study by John Crites for his Vocational Development Inventory (VDI) in 1962 using 3,000 students in grades 6 through 12 in Cedar Rapids, Iowa, revealed the following information which is relevant to this study:

1. Verbal vocational behaviors are monotonically related to both age and grade. The correlation of vocational maturity with age was .38 and with grade .46.

2. There was no significant difference in male and female responses.

3. There was no significant difference in responses by students in different schools from high and low rent districts.

4. The average vocational measure of the entire sample was approximately the eighth grade.

Crites (1969) more recently reported the results of five years of additional research with the Vocational Development Inventory which yielded much new information. Conclusions from these new studies are relevant to this study and include the following:
1. Within grade differences are smaller than between grade differences.

2. Students in the more vocationally-oriented courses score as less mature on the VDI than do their counterparts.

3. VDI scores are moderately positively correlated with intelligence or scholastic aptitude.

4. Maturity of vocational attitude is one dimension of a construct of adolescent general adjustment.

Gribbons and Lohnes (1968) reported the results of studies using their eight Readiness for Vocational Planning scales which they have interpreted as vocational maturity measures. When the Readiness for Vocational Planning scores were compared between eighth and tenth grades, significant changes were observed. They also found that students in the college preparatory group scored consistently higher on the scale than other school curriculum groups.

In three studies which compared vocational education and non-vocational education students, the vocational students generally were found to score less mature on the vocational maturity measure. Bathory (1967) compared ninth grade students in vocational and academic curriculums and found that academic students scored significantly higher on the attitude scale of the Vocational Development Inventory (VDI). Holloway (1967) used the VDI in comparing 119 students enrolled in cooperative education with an equal number of non-vocational students. His results supported
previous findings that vocational education students score below non-vocational students on vocational maturity as measured by the Vocational Development Inventory. Dutt (1968) conducted a large cross-sectional study investigating vocational maturity with over 1,200 eighth and ninth graders in a large school system. His findings concur with other studies indicating that vocational-technical education students scored lower than academic students on the attitude scale Vocational Development Inventory.

Impellitteri and others (1969) examined the relationship between intelligence, curriculum choice, college aspiration, and sex and the dependent variable vocational maturity as measured by the Vocational Development Inventory. The sample was composed of 970 male and female ninth grade students from a large school system. Intelligence, sex, and college aspirations were found to be statistically significant predictors of the vocational maturity scores. Those who were more intelligent, aspired to college, and female scored higher on the Vocational Development Inventory. The partial regression coefficient for curriculum choice (vocational versus nonvocational) was not significant. This study does not support the findings of Bathroy (1967), Halloway (1967), and Dutt (1968) who found the curriculum choice to be a predictor of scores on vocational maturity.

Several studies reviewed have implications for the importance and sequence of self appraisal in measuring
career maturity. Self appraisal is one of the five competencies to be measured by the Career Maturity Inventory.

Hershenson (1968) suggested that vocational development may be conceptualized as occurring in a series of sequential life stages. Individuals at different levels of emotional maturity manifest discriminable patterns of vocational development. Evidence of the existence of discriminable stages of vocational development exists. However, prior studies had not dealt with the sequence of the stages. Hershenson and Langhauer (1973) undertook a study to test the formulation that self-differentiation precedes competence, which in turn precedes independence in vocational development. In other words, the individual must have a view of himself before he can determine his strengths and limitations, and he must have this ability before he can make rational decisions concerning a career. For all 222 adult subjects in Hershenson's and Langbauer's study, the average self-differentiation rating exceeded competence, which exceeded independence. Hershenson concluded that self-appraisal does precede competence and independence in vocational development.

In a study by Wigent (1973) using 300 college students as subjects, it was found that decision-making ability was
higher among those students who were able to appraise themselves and had high self-concepts.

Tierney and Herman (1971) conducted an investigation to determine the effect of age, grade level, school program, sex, and social class on the ability to make self-estimates. Their subjects were 1,300 tenth and eleventh grade students in various curriculums. While there was considerable variability in self-estimate ability, the results of the study indicated that none of the variables had any significant influence on the self-estimate ability. The negation of age as a significant contributor to self-estimate ability is consistent with studies by Bartlett (1968), Crites (1969), and Hall (1963), which failed to find any differences in the vocational maturity of subjects on the basis of age. The results of this study tend to indicate that self-estimate ability, like vocational maturity, is not a function of age within this age range. Tierney and Herman's (1971) subjects, 1,300 students, had access to adequate counseling (ratio 1:330) but were weak in the area of self-estimate ability in regard to interests and work values. This study suggests that the ability to make accurate self-estimates is an individual skill that may not be uniformly or developmentally acquired in a regular curriculum. The study also indicates that self-estimate accuracy of interests and work values was generally poor for the sample.
Recognizing the importance of career maturity, a few schools are implementing curricula to develop personal and vocational development; however, little research has been done to test the value of such programs. Graff and Beggs (1971) conducted research to test the effectiveness of a high school psychology course in promoting personal and vocational development. One-hundred-ten junior students who were enrolled in the psychology course were the experimental group and 99 juniors from study halls were the control group. Criterion measures consisted of the Personal Orientation Inventory and the Vocational Maturity Scale. In addition to pre and post data, a three-month follow-up was included. The findings suggest that the students in the psychology course showed more positive mental health and more vocational maturity than students in the control group. The investigators conducted a follow-up study eight months after the completion of the course and found that the change in the experimental group continued in the expected direction after eight months. Graff and Beggs concluded that the results of the study suggest that further research should be conducted in a more generalized population and with other teaching methods and materials. The investigators also noted that there is almost complete absence of standard procedures designed to measure psychological growth for high school students and that additional measures of vocational maturity and adjustment need to be used to determine
the need for educators to implement materials which will be effective in educating students personally and vocationally.

The preceding studies cited were thus found to have implications for this study or aided in conceptualizing the construct of career maturity as follows:

1. Based on Crites (1962 and 1969) and Gribbons and Lohnes (1968), the researcher should include grade level as a variable and control for its influence.

2. Based on Crites (1969), Bathroy (1967), Gribbons and Lohnes (1968), Holloway (1967), and Dutt (1968), the researcher should include curriculum choice as a variable and control for its influence.

3. Based on Crites (1969) study, reading level could influence scores on a measure of career maturity. The CMI is written at a sixth grade level as determined by the Dale-Chall Formula.

4. Studies by McCalister (1973) and Kapes (1971) found achievement levels to be one predictor of vocational maturity along with several other variables.


6. A study by Tierney and Herman (1971) found no relationship between social class and self-estimate ability. Crites (1962) found no differences in career maturity scores between students from high and low rent districts.

7. Based on Tierney and Herman (1971), Hershenson and Langbauer (1973), and Wigent (1973), the following is revealed regarding self appraisal and its relationship to career
maturity: (1) The variables of sex, age, curriculum choice, and social class had no significant influence on self-estimate ability. (2) The self-concept, or ability to appraise self, is highly significant to making career decisions. (3) Vocational development may be conceptualized as occurring in sequential life stages. Self-differentiation precedes competence, which in turn precedes independence.

8. The study by Graff and Beggs (1974) supports the effectiveness of a curriculum in individual and human development in promoting vocational development.

Literature Related to Instrumentation for Measuring Career Maturity

According to Westbrook and Mastie (1973), there are presently three instruments constructed to provide objective measures of various hypothesized vocational maturity variables. Several years ago, Crites constructed the Vocational Development Inventory (VDI) which has been part of a programmatic research effort. More recently Super, Bohn, Forrest, Jordaan, Lindeman, and Thompson (1971), devised the Career Development Inventory (CDI), and Westbrook (1973), constructed the Cognitive Vocational Maturity Test (CVMT).

The first instrument reviewed is the Vocational Development Inventory by John O. Crites. This instrument is now called the Career Maturity Inventory (CMI) and is published by the McGraw-Hill Book Company. Over ten years of research have gone into the development of the CMI. The
Career Maturity Inventory (CMI) is composed of Part I, an attitude scale, and Part II, a competence test. The CMI was designed to measure the maturity of attitudes and competencies necessary for realistic career decision making. Part II of the CMI has five subtests which measure five career choice competencies. It is Part II that was used for purposes of this study.

Crites (1973) describes the five subtests and the rationale for the subtests for Part II of the CMI as follows: Part I of the competence test was designed to measure self appraisal or knowledge of one's self. To know one's self is considered to be crucial to mature career development. Traditionally, in vocational counseling practice and research, self appraisal has been assessed by comparing an individual's self-estimated scores on tests with obtained scores. More recently, semi-structured interviews have been used to make the same comparison. According to Crites, both of these procedures have several disadvantages: they require extensive psychometric data, such as aptitude and interest scores, and they utilize difference scores, which have dubious reliability. Crites designed a standardized, paper-and-pencil measure of self appraisal. Part I of the competence test is based on the assumption that individuals who can accurately appraise career-relevant capabilities of others
are good self appraisers. Items were written in which the stems described the psychosocial characteristics of a young person in the later years of adolescence. Content for these stems was drawn from actual counseling cases. In accurately appraising the career-relevant capabilities of others, a measure of self appraisal is determined for the individual completing the CMI.

Part II of the competence test is the Occupational Information subtest. Complementary to self appraisal as a basic competency in career decision making is knowledge of the world of work.

Much as the individual learns more about himself as he grows older, he also gathers more information about jobs and occupations. Accuracy and extent of job knowledge should differentiate the more from the less vocationally mature (Crites, 1973:24).

Despite the importance attached to occupational information in the practice of vocational counseling, there were no standardized measures of occupational information (Buros, 1961). The Occupational Information subtest was constructed to fill this need. Several criteria were considered for deriving item content for the occupational information subtest. A two-way occupational scheme based on Roe's Field and Level classification was developed and only occupations that comprised 75 percent of the labor force were included. For each of the occupations in the revised Roe system, a brief job description
based on the work and the worker trait requirement as given in the Dictionary of Occupational Titles was written for a hypothetical individual. These vignettes of a worker constitute the stems for the items in the Occupational Information subtest. The task for the individual taking the test is to determine what the occupation is, given five alternatives.

Part III of the competence test is the Goal Selection subtest. This component of career choice competencies is what Parsons (1909) called "true reasoning" in the process of career decision making and what developmental psychologists have regarded as one of the hallmarks of maturity.

The more vocationally mature person not only has greater knowledge about self and work but relates one to the other. He has thought about his capabilities and how they relate to the demands and requirements of a job. He attempts to 'bridge the gap' between himself and the world of work, to achieve a 'synthesis,' of the major factors involved in occupational choice (Crites, 1964:329).

The Goal Selection subtest was developed to assess the ability to relate self to work. The rationale underlying the design of this subtest is that goal selection competency can best be assessed by having individuals choose an occupation from a representative sampling of hypothetical persons whose personal and demographic attributes are enumerated and described. Item stems are composite descriptions of
the characteristics and backgrounds of former clients in vocational counseling who were engaged in the process of making career decisions.

Part IV of the competence test is the Planning subtest. Once a goal has been selected, the next chronological step in the sequence of career decision making is planning how the goal is to be achieved. This concept refers to:

... the tendency of the individual to think about the means which are necessary to attain a desired end. As the individual becomes more vocationally mature, he should relate means to ends more frequently . . . . (Crites, 1964:328).

The importance of planning as a dimension of career maturity has been established by the findings of the Career Pattern Study of ninth grade boys (Super and Overstreet, 1960). Crites delineated the facets of planning as time spent in planning, the specificity of planning, the relevance of means to ends in planning, and the ordering of steps in planning. Contemporary career development theory generally refers to the ordering of steps in planning, and this facet is measured in the Planning subtest by Crites. To develop an item format for this subtest, the Flanagan Aptitude Classification Test (FACT) was taken as a prototype. In brief, this test presents the examinee with a series of scrambled steps which must be arranged in proper order so that a
task will be accomplished. In the CMI Planning subtest, the stem gives the career goal of a hypothetical individual and a set of unordered steps necessary to attain it.

Part V of the Competence test is the Problem Solving subtest. In the course of career development during adolescence, problems arise in the process of decision making with which the young person must learn to cope. One mark of career maturity is how well an individual can solve the problems occurring in the career developmental tasks. The format for the items in this subtest is the same as for the other parts of the competence test; the stem is a description of a hypothetical individual and the answer alternatives are different responses to a task which is posed for the individual. Subject matter for the stems was extrapolated from the counseling case summaries of the career decision-making problems expressed by high school and college students in vocational counseling.

Items for the CMI were written for a sixth-grade reading level as calculated by the Dale-Chall Formula. Each part of the competence test contains 20 items which differentiate between grade levels in several independent samples of subjects. A series of trend analyses insured selection only of items which are monotonic functions of grade.

Internal consistency coefficients estimates for the competence test using the Kuder-Richardson Formula 20 values were calculated for each grade level of the standardization
sample. The mean coefficient was 174; the five parts of the test are relatively homogeneous sets of items. The one year, test-retest reliability was .71 using 1,648 subjects in grades 6 through 12. The reliability was sufficiently high to establish measurement of the variables being quantified but low enough to allow for maturational variance.

Further validation of the competence test is being done at the present time. The existing validation data are useful in judging the instrument as a measure of one dimension of the model of career maturity. The deliberate conceptual deduction of the competence test supports the test's substantive validity as a measure of relevant variables in contemporary career development theory.

Evidence on the relationship of the parts of the competence test to grade not only validates the prediction from their content that such career behaviors mature with time, but it also supports their criterion-related validity. "One necessary criterion for any measure of a developmental variable is that it bear a systematic relationship to time" (Crites, 1964). This condition was built into the competence test by selecting only items which were monotonic functions of grade, and it is further substantiated by an analysis of the percentage overlap in score distributions of the subtests from grade to grade (Crites, 1973). The percentages of
overlap range from 33 percent to 56 percent, with the median being approximately 43 percent. All but three of the percentages are less than 50 percent, indicating that the differentiation between grades is relatively good as compared with other measuring instruments (Crites, 1964).

The construct which the parts of the competence test were designed to measure is the career choice competencies dimension in the model of career maturity. The variables which comprise this dimension are interrelated, the correlations ranging between the .40s and .60s. It follows, therefore, that if the parts are valid measures of this construct, they should be intercorrelated to approximately the same extent. To test this expectation, the product-moment correlations among the subtests were obtained. The correlations ranged from .25 to .73 with a mean of .54, which is the approximate theoretical expectation (Crites, 1973).

The second of the three instruments described by Westbrook and Mastie (1973) is the Career Development Inventory developed by Super in 1971. In addition to a total score which represents an overall measure of vocational maturity as defined by the individual scales of Super and Forest, it also yields specific scores on three factors labeled Planning Orientation, Resources for Exploration, and Information and Decision Making. The instrument
contains 91 items with 33 of the items related to Planning Orientation, 28 items on Resources for Exploration, and 30 items on Information and Decision Making.

The norms for the Career Development Inventory are based on a sample of 400 male and female tenth graders in Genessee County, Michigan, representative of the nearly 10,000 tenth graders in the public schools in the county. Test-retest reliability estimates over a two- to four-week period were obtained for 82 male and female tenth graders. Reliability coefficients ranged from .71 for Information and Decision Making to .87 for the total score. Coefficients of stability over a six-month period obtained from a large sample of pupils yielded coefficients in the low .60s for Resources for Exploration, the high .60s for Information and Decision Making, and the low .70s for Planning Orientation and total score. Super and Forest present limited information on construct validity. The CDI has two basic strengths. First, the scores on all CDI scales are highly correlated with Gribbons and Lohnes' Readiness for Career Planning scale. Second, the mean scores on the CDI increase significantly and substantially across grade levels, an important characteristic of developmental variables. In Crite's CMI, the subject is asked if he believes certain statements; in the CDI, the subject is asked to report how much thinking and planning has been given to making certain choices, how much
information is known about the preferred occupation, and the extent to which various sources of information would be used if they were available.

The final instrument reviewed by Westbrook and Mastie (1973) is the Cognitive Vocational Maturity Test (CVMT) which was designed by Westbrook. This instrument was designed to measure career knowledges and abilities within six areas of vocational maturity. The six areas were: (a) Fields of Work, (b) Job Selection, (c) Work Conditions, (d) Education Required, (e) Attributes Required, and (f) Duties. Specifications for each of the six areas were designed to ensure a representative coverage of occupations in eight interest fields. For each of the first five areas, 48 occupations were selected by sampling six occupations each from eight interest fields. The sixth area, Duties, contained a total of 72 occupations, nine each from the eight interest fields. For each of the total 312 areas X interest field X occupational focal points, multiple-choice items were constructed. These 312 items were reviewed for technical strength, subject matter accuracy, and for editorial precision. Surviving the review process were 238 items that constituted the item-analysis research form administered to pupils.

The final form of the CVMT was administered to a total standardization sample of 7,367 North Carolina public
school students enrolled in a statewide career exploration program in grades six through nine. Kuder-Richardson reliability coefficients were determined for each grade separately on each of the six subtests. They ranged from a low of .67 for Job Selection to a high of .91 for Duties. Only six of the 24 coefficients were below .80. Criterion-related validity data, based on a sample of 249 ninth graders, revealed that pupils whose vocational choice was in their field of interest and at the appropriate aptitude level attained significantly higher mean scores on all CVMT subtests than pupils whose vocational choice was neither in their field of interest nor at the appropriate aptitude level. Correlations between the CVMT subtests and the California Test of Mental Maturity for the sample of 249 ninth graders ranged from .53 for Work Conditions to .69 for Duties.

The CVMT is an objective measure of six important areas of cognitive vocational maturity. However, only one study of 249 ninth graders has been made of the criterion-related validity of the instrument, and the relatively high intercorrelations of the subtests (.60s and .70s) raise the question as to the uniqueness of the subtests.

Each of the three instruments reviewed measures some aspect of vocational maturity. They differ substantially in areas covered, item content, and methods of development.
All three have strengths which make them particularly suitable for some purposes, and all three have limitations that might be remedied through further research. According to Westbrook and Mastie (1973), more research studies are needed to relate these three vocational maturity measures to a variety of vocational adjustment indicators.

The researcher chose the CMI for this study because the reliability and validity were better established.
Chapter 3

RESEARCH DESIGN AND METHODOLOGY

In Chapter 1, an introduction to the study and problem were presented in addition to a definition of terms, assumptions, and limitations of the study. The content of Chapter 2 consisted of the theoretical framework and a review of the related literature. In this chapter, a description of the study site, population, the research instrument, dependent, independent, and statistically controlled variables, procedures for collection of the data, and methods of data analysis were included.

DESCRIPTION OF SITE

Every community has features which distinguish it from all others. A description of the site will aid the reader's interpretation of the findings to other groups or communities.

According to the 1970 Census of Population, Cabell County with a population of 106,918 is the second largest county in the State of West Virginia. The three cities making up Cabell County are Huntington, the largest city
in West Virginia, with a population of 84,315; Barboursville, population 2,279; and Milton, population 1,597. The approximate area of Cabell County is 261 square miles. The county fronts the Ohio River for 25 miles.

In Cabell County there are four high schools, 11 junior high schools, 39 elementary schools, and one special school for grades 7-12 which is ungraded. The four high schools are accredited by the North Central Association. Enrollment in the schools for 1974-75 was 4,515 in senior high; 5,308 in junior high; 9,419 in elementary; and 1,313 in kindergarten. There were 181 students enrolled in special education.

The total school budget for 1974-75 was $20,491,609. The per pupil expenditure for 1974-75 was $940. Pupil-teacher ratio for Cabell County schools is 18:1.

There are eight private schools in Cabell County, all church affiliated. Also located in Cabell County is Marshall University, a state-supported institution offering associate, baccalaureate, and master's degrees. Marshall University has recently added a community college, and plans have been approved for a medical school. Enrollment for Marshall University in 1975 was 8,840 on-campus students and 485 off-campus students.

There are 12 large manufacturers in Cabell County, employing approximately 13,000 people. In addition, many people work for the railroads or in educational institutions.
Cabell County may be characterized as a moderately large American community and highly oriented toward education and cultural enrichment, according to a 1974 report entitled *Cabell County*, published by the League of Women Voters from the Huntington area.

**POPULATION AND SAMPLE**

The purpose of the study was to determine the extent to which significant differences existed in the career choice competencies (career maturity) among dropout and retainers in Cabell County, West Virginia.

The target population consisted of 16- to 18-year-old white male students, in grades 10 and 11 in Cabell County, West Virginia, who were enrolled in four area high schools: Milton High School, Huntington High School, Huntington East High School, and Barboursville High School. Any student fitting this description who dropped out of school from October 1, 1975, to April 1, 1976, was asked to participate in the study.

The dropout sample for the data collection period of the study was 113. Six dropouts did not participate in the study. The dropout sample was largely composed of students in the tenth grade. Sixty-two percent of the dropouts were in the tenth grade, and 38 percent were in
the eleventh grade. The majority of dropouts were enrolled in the general curriculum; 69 percent as compared to 39 percent in the vocational curriculum.

A table of random numbers (Ary, Jacobs, and Razavieh, 1972:366) was used to select a random sample of male retainers from grades 10 and 11 in vocational and general curriculums from the four high schools.

Of the total number of dropouts, 44 percent dropped out of Huntington East High School; 34 percent dropped out of Barboursville High School; 12 percent dropped out of Huntington High School; and 10 percent dropped out of Milton High School.

The total number of male students in Cabell County, West Virginia, in grades 10 and 11 for 1975-76 was 1,606. The population of male students who dropped out of school between October 1, 1975, and April 1, 1976, made up 7.1 percent of the total number of males enrolled in grades 10 and 11 in Cabell County.

THE RESEARCH INSTRUMENT

The Career Maturity Inventory (CMI) developed by Crites was selected as the instrument to be utilized in testing the hypotheses of this study. The CMI is the product of 12 years of research. Originally referred to as the Vocational Development Inventory, Crites renamed
the instrument to emphasize career education as a parallel to career development. Crites wished to avoid the specialized meaning associated with "vocational" by substituting "career" and to use the term "maturity" to suggest progressive change which accompanies emerging career awareness, exploration, and decision making (Hansen, 1973).

The CMI is composed of Part I, an attitude scale, and Part II, a competence test. The CMI was designed to measure the maturity of attitudes and competencies necessary for realistic career decision making. Part II of the CMI, the competence test which measures cognitive variables, was used for this study.

Part II of the Career Maturity Inventory (CMI) is made up of five subtests which measure five career choice competencies: self appraisal, occupational information, goal selection, planning, and problem solving. Each subtest was composed of 20 items which used a multiple-choice format and five possible answers for each item.

The reliability and validity of the CMI and the rationale for each subtest were described in Chapter 2.

THE VARIABLES

Dependent Variables

The five measures on the subtests of the Career Maturity Inventory, self appraisal, occupational information,
planning, goal selection, and problem solving, were the dependent variables under investigation.

**Independent Variables**

The two groups of students were the independent variables investigated. These two groups were dropout and retainer male students, age 16 to 18, in grades 10 and 11.

**Controlled Variables**

As a result of a review of the literature related to the measurement of career maturity, it was evident that factors such as grade level, curriculum choice, and reading ability might influence the measurement of career maturity. Multivariate Analysis of Variance was used to test the differences between the groups on the dependent variables, controlling for grade level and curriculum choice through the use of a randomized-block design. Reading ability was controlled by administering the CMI individually and providing reading assistance when needed.

**Hypotheses**

The research question investigated in this study was tested by the following null hypothesis:

When the variables curriculum choice and grade level are statistically controlled, significant differences will not exist between retainers and dropouts in grades 10 and 11 in terms of their career maturity.
The sub-hypotheses were:

When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainers and dropouts in grades 10 and 11 in terms of their career maturity on the following career choice competencies:

Sub-Hypothesis I: Self Appraisal
Sub-Hypothesis II: Occupational Information
Sub-Hypothesis III: Goal Selection
Sub-Hypothesis IV: Planning
Sub-Hypothesis V: Problem Solving

The hypotheses of the study were tested at an alpha level of .05.

COLLECTION OF DATA

Prior to data collection, permission was obtained from the Superintendent of Schools in Cabell County to conduct the study. The Assistant Superintendent and Director of Guidance agreed to cooperate in the collection of the data. Copies of the correspondence are found in Appendices A and B.

The researcher held individual conferences with the guidance counselors and principals of the four high schools. The principals granted permission to proceed with the study, and counselors agreed to cooperate in the collection of the data.
Tests, answer sheets, and pencils were made available to the guidance counselors October 1, 1975. Discussions were held and suggestions exchanged on the administration of the test between the counselors and the researcher. The decision was made to administer the CMI individually to dropouts and retainers to assist any student with reading difficulties. Counselors agreed that some of the dropouts might not be willing to complete the test due to their negative attitudes, but they expressed the opinion that this number would be small in relation to the total number of dropouts.

Beginning October 1, 1975, the respective counselors began administering the Career Maturity Inventory in the form of an exit interview. Beginning January 1, 1976, the researcher analyzed the dropout sample, numbering 78, to determine the composition of the dropout sample by grade level and curriculum choice. The CMI was then administered individually to 78 retainers in the same proportion as the dropout sample. The counselors continued to administer the CMI individually to the dropouts through exit interviews from January 1, 1976, until April 1, 1976. The number for the dropout sample increased by 29 for a total sample of 107. The researcher administered the CMI individually to retainers each week from January 1, 1976, until April 1, 1976, in the same numbers and proportions as the dropout sample.
ANALYSIS OF THE DATA

Answer sheets completed by students were checked for completeness and hand scored each week during the data collection phase of the study. Lists were provided to the respective counselors with scores for each student on the five career choice competencies.

Scores from the answer sheets on each dependent variable were punched on data processing cards at the end of the data collection phase. The cards were checked for accuracy. Data analysis was conducted using the Virginia Polytechnic Institute and State University Computer facilities. The Multivariate Analysis of Variance Program (MANOVA) used for this study was developed by Clyde Computing Service, Box 166, Coconut Grove Station, Miami, Florida. The Statistical Package for the Social Sciences (SPSS), Version 6.01, used for this study was developed by the National Opinion Research Center, Norman H. Nie, University of Chicago.

Multivariate Analysis of Variance was used to test the differences between the groups, dropouts and retainers, on the five competency areas with respect to the mean ratings of the two groups while controlling for the variables, grade level and curriculum. The Statistical Package for the Social Sciences was used to derive breakdown tables for the interaction effects of the data.
The purpose of MANOVA is to determine whether statistically significant differences exist between two or more groups based upon the groups' members' scores on a set of dependent variables. This is done by the use of test hypotheses concerning homogeneity of group variances and the differences among group mean vectors (centroids) (Amick and Walberg, 1975).

A graphical illustration of the data collection and analysis is presented through Figure 2, Page 59.

CHAPTER SUMMARY

The design, methods, and techniques for the study are presented in this chapter. The chapter included: a description of the study site; the research instrument; dependent, independent, and statistically controlled variables; procedures for collection of the data; and methods of data analysis.
Figure 2

Graphical Illustration of Data Collection and Analysis
Chapter 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Through this study, a comparison was made between white male high school dropouts and retainers, in grades 10 and 11, in Cabell County, West Virginia, to determine the extent to which significant differences existed in the career choice competencies (career maturity). The analysis and interpretation of data collected to make comparisons is presented in this chapter. The chapter is divided into two sections: the characteristics of the subjects and a discussion of the data analysis. In addition, the results of hypotheses testing are presented through the discussion of multivariate tests of significance and group mean scores on five career choice competencies as measured by the Career Maturity Inventory.

CHARACTERISTICS OF SUBJECTS

This study compared the career maturity of 107 white male dropouts in grades 10 and 11 in Cabell County, West Virginia, with a randomly selected sample of male retainers. The number of male dropouts in Cabell County schools from October 1, 1975, to April 1, 1976, was 113. Only six dropouts did not participate in the study.
Subjects were classified according to whether they were in a general or vocational curriculum and whether they were in the tenth or eleventh grade.

A distribution of the dropouts by grade is presented in Table I. The dropout sample was largely composed of students in the tenth grade; 62 percent (n=66) of the subjects were classified in this category. Thirty-eight percent (n=41) of the dropout sample were in the eleventh grade.

A distribution of the dropouts by curriculum choice is presented in Table II. The dropout sample was largely composed of students from the general curriculum; 64 percent (n=68) of the subjects were classified in this category. Thirty-six percent (n=39) of the dropout sample were in the vocational curriculum.

A randomly-selected sample of male retainers was used for this study. The random selection was made from grades 10 and 11 and included students in the general and vocational curriculums. From this random sample, the retainer sample was matched to the dropout group by grade level and curriculum choice.
TABLE I

DISTRIBUTION OF DROPOUTS BY GRADE LEVEL

<table>
<thead>
<tr>
<th>Grade</th>
<th>Subjects</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>66</td>
<td>62</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>107</td>
<td>100</td>
</tr>
</tbody>
</table>
### TABLE II
DISTRIBUTION OF DROPOUTS BY CURRICULUM

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Subjects</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td></td>
<td>68</td>
<td>64</td>
</tr>
<tr>
<td>Vocational</td>
<td></td>
<td>39</td>
<td>36</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>107</td>
<td>100</td>
</tr>
</tbody>
</table>
Scores were obtained from the dropout and retainer groups on five career choice competencies: self appraisal, occupational information, goal selection, planning, and problem solving. Mean scores are presented in Table III for both dropouts and retainers on the five career choice competencies. As indicated in the table, the mean scores for retainers were higher for dropouts on all five subtests measuring career choice competencies.

Multivariate Analysis of Variance (MANOVA), using a randomized-block design, was performed on the combined mean scores for the dropout and retainer groups for five career choice competencies.

Based on a review of the literature which indicated that grade level and curriculum choice may influence scores on a measure of career maturity, the researcher included these two variables and controlled for their interaction. Thus, the following hypothesis was generated:

When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between male dropouts and retainers in grades 10 and 11 in Cabell County, West Virginia, on a measure of career maturity.

In Table IV, the F statistic, the degrees of freedom, and the significance level for the interaction effects of group, grade level, and curriculum choice on the combined
### TABLE III

MEAN SCORES FOR DROPOUTS AND RETAINERS ON CAREER CHOICE COMPETENCIES

<table>
<thead>
<tr>
<th>Subtests</th>
<th>Retainers (n=107)</th>
<th>Dropouts (n=107)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Scores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Appraisal</td>
<td>14.252</td>
<td>11.626</td>
</tr>
<tr>
<td>Knowledge of Occupations</td>
<td>16.664</td>
<td>14.748</td>
</tr>
<tr>
<td>Goal Selection</td>
<td>13.607</td>
<td>11.215</td>
</tr>
<tr>
<td>Planning</td>
<td>14.430</td>
<td>11.028</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>11.673</td>
<td>8.290</td>
</tr>
</tbody>
</table>

*Table shows mean scores for self appraisal, knowledge of occupations, goal selection, planning, and problem solving for retainers and dropouts.*
TABLE IV
MULTIVARIATE (MANOVA) TESTS OF SIGNIFICANCE FOR GROUPS, GRADE LEVEL, AND CURRICULUM CHOICE ON COMBINED GROUP MEAN SCORES

<table>
<thead>
<tr>
<th>Interaction</th>
<th>DFHYP</th>
<th>DFERR</th>
<th>F Statistic</th>
<th>p. &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>5</td>
<td>202</td>
<td>32.595</td>
<td>.001*</td>
</tr>
<tr>
<td>Grade Level</td>
<td>5</td>
<td>202</td>
<td>4.793</td>
<td>.001*</td>
</tr>
<tr>
<td>Curriculum Choice</td>
<td>5</td>
<td>202</td>
<td>29.937</td>
<td>.001*</td>
</tr>
<tr>
<td>Group x Grade Level</td>
<td>5</td>
<td>202</td>
<td>2.320</td>
<td>.045*</td>
</tr>
<tr>
<td>Group x Curriculum</td>
<td>5</td>
<td>202</td>
<td>0.578</td>
<td>.717</td>
</tr>
<tr>
<td>Curriculum x Grade Level</td>
<td>5</td>
<td>202</td>
<td>1.368</td>
<td>.238</td>
</tr>
<tr>
<td>Group x Grade Level x Curriculum Choice</td>
<td>5</td>
<td>202</td>
<td>2.866</td>
<td>.016*</td>
</tr>
</tbody>
</table>

*Significant at the .05 alpha level
group mean scores for the five career choice competencies are presented.

On the first order interaction, the F statistic for group (dropout or retainer) on the combined scores for the career choice competencies for each group was 32.595 and was statistically significant (p < .001). Thus, there were significant differences between dropouts and retainers on a measure of career maturity.

The F statistic on the interaction for grade level (10 or 11) on the combined scores for each group on the career choice competencies was 4.793 and was statistically significant (p < .001). Thus, there were significant differences between students enrolled in the tenth and eleventh grade on a measure of career maturity.

The F statistic on the interaction for curriculum choice (general or vocational) on the combined scores for each group on five career choice competencies was 29.937 and was statistically significant (p < .001). Thus, there were significant differences between students enrolled in the vocational and general curriculum on a measure of career maturity.

On the second order interactions, the MANOVA yielded an F statistic for group (dropouts or retainer) by curriculum choice (general or vocational) on the combined scores for each group on the five career choice competencies of 0.0578 and was not significant (p < .717). Thus, the second
order interaction, group by curriculum choice, did not significantly effect scores on a measure of career maturity.

The F statistic on the interaction for curriculum choice (general or vocational) by grade level (10 or 11) on the combined scores for each group on five career choice competencies was 1.368 and was not statistically significant ($p < .238$). Thus, the second order interaction curriculum choice by grade level did not significantly effect a measure of career maturity.

The second order interaction for group (dropout or retainer) by grade level (10 or 11) on the combined scores for each group on five career choice competencies was 2.320 and was statistically significant ($p < .045$). Thus, the second order interaction group by grade level did significantly effect a measure of career maturity.

On the third order interactions, when combining the interaction effects of group (dropout or retainer) by grade level (10 or 11) by curriculum choice (general or vocational) on the combined scores on five career choice competencies, the F statistic was 2.866 and was statistically significant ($p < .016$). Thus, even though the second order interactions for curriculum choice by group and curriculum choice by grade level were not significant, curriculum choice became significant when combined with grade level in the third order interaction.
Based on the multivariate test of significance (Table IV) which yielded statistically significant differences in group (dropouts and retainers) at the .001 alpha level, Hypothesis I was not accepted.

Since the researcher was interested not only in the differences in the combined mean scores between dropouts and retainers for the five career choice competencies (career maturity) but also in the scales contributing to these differences, the following five null sub-hypotheses were tested:

**Sub-Hypothesis I:** When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their self-appraisal competency.

**Sub-Hypothesis II:** When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their occupational information competency.

**Sub-Hypothesis III:** When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their goal selection competency.
Sub-Hypothesis IV: When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their planning competency.

Sub-Hypothesis V: When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their problem solving competency.

To test the five sub-hypotheses, simultaneous confidence intervals were computed (Table V). When the confidence intervals did not span point zero, the differences were statistically significant ($p < .05$), (Ferguson, 1976: 150-151).

As indicated in Table V, the difference between the group mean scores for dropouts and retainers on self appraisal competency was 2.626. The confidence interval as calculated did not span point zero; therefore, the self appraisal competency did contribute to significant differences between dropouts and retainers. Sub-hypothesis I was rejected.

The difference between the group mean scores for dropouts and retainers on occupational information competency was 1.916. The confidence interval as calculated did not span point zero; therefore, the occupational information
TABLE V
DIFFERENCES AND SIMULTANEOUS CONFIDENCE INTERVALS FOR DROPOUTS AND RETAINERS ON CAREER CHOICE COMPETENCIES

<table>
<thead>
<tr>
<th>Competencies</th>
<th>Mean Scores for Retainers</th>
<th>Mean Scores for Dropouts</th>
<th>Differences</th>
<th>Confidence Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Appraisal</td>
<td>14.252</td>
<td>11.626</td>
<td>2.626</td>
<td>(1.542, 3.710)*</td>
</tr>
<tr>
<td>Occupational Information</td>
<td>16.664</td>
<td>14.748</td>
<td>1.916</td>
<td>(.9258, 2.906)*</td>
</tr>
<tr>
<td>Goal Selection</td>
<td>13.607</td>
<td>11.215</td>
<td>2.392</td>
<td>(1.245, 3.538)*</td>
</tr>
<tr>
<td>Planning</td>
<td>14.430</td>
<td>11.028</td>
<td>3.402</td>
<td>(2.011, 4.792)*</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>11.673</td>
<td>8.290</td>
<td>3.383</td>
<td>(2.214, 4.641)*</td>
</tr>
</tbody>
</table>

*Significant at the .05 alpha level
competency did contribute to significant differences between dropouts and retainers. Sub-hypothesis II was rejected.

The difference between the group mean scores for dropouts and retainers on goal selection competency was 2.392. The confidence interval as calculated did not span point zero; therefore, the goal selection competency did contribute to significant differences between dropouts and retainers. Sub-hypothesis III was rejected.

The differences between the group mean scores for dropouts and retainers on planning competency was 3.402. The confidence interval as calculated did not span point zero; therefore, the planning competency did contribute to significant differences between dropouts and retainers. Sub-hypothesis IV was rejected.

The difference between the group mean scores for dropouts and retainers on the problem solving competency was 3.383. The confidence interval as calculated did not span point zero; therefore, the problem solving competency did contribute to significant differences between dropouts and retainers. Sub-hypothesis V was rejected.

In Table IV, it can be observed that there was one statistically significant second order interaction. This interaction was group (dropout or retainer) by grade level (10 or 11). To determine which of the five competencies discriminated between dropout and retainers by grade level,
the researcher inspected the univariate test of significance and the within cells correlations. The inspection of the data indicated that self appraisal and problem solving were the competencies contributing to the differences between dropouts and retainers by grade level.

Confidence intervals were calculated to verify the significance of the two variables, self appraisal and problem solving, in contributing to the differences between dropouts and retainers by grade level. As indicated in Table VI, the confidence intervals did not span point zero; therefore, the variables self appraisal and problem solving were statistically significant in contributing to differences between dropouts and retainers by grade level.

The Statistical Package for the Social Sciences (SPSS) was used to derive breakdown tables for the interaction effects for group scores by grade level and curriculum choice. Figures 3 through 7 graphically show the second order interaction between the group mean scores on five career choice competencies and grade level.

In Figures 3 and 7, it can be verified further that the self appraisal and problem solving competencies discriminate between dropouts and retainers by grade level. On these two graphs, the lines depart significantly from parallel. For the three competencies: occupational information, goal selection, and planning, the lines do not depart significantly. In Figure 6 the lines intersect as
## TABLE VI
DIFFERENCES AND CONFIDENCE INTERVALS FOR TENTH AND ELEVENTH
GRADE DROPouts AND RETAINERS ON SELF APPRAISAL
AND PROBLEM SOLVING COMPETENCIES

<table>
<thead>
<tr>
<th>Competency</th>
<th>Grade</th>
<th>Mean Scores</th>
<th>Differences</th>
<th>Confidence Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Retainer</td>
<td>Dropout</td>
<td></td>
</tr>
<tr>
<td>Self Appraisal</td>
<td>10</td>
<td>14.252</td>
<td>11.626</td>
<td>2.626 (1.3535, 3.8985)*</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>15.268</td>
<td>11.707</td>
<td>3.561 (1.9197, 5.2023)*</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>10</td>
<td>11.673</td>
<td>8.290</td>
<td>3.383 (1.9062, 4.8598)*</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>12.854</td>
<td>8.463</td>
<td>4.391 (2.4861, 6.2959)*</td>
</tr>
</tbody>
</table>

*Significant at the .05 alpha level
Figure 3

Group Mean Scores on Self Appraisal by Grade Level for Dropouts and Retainers
Figure 4

Group Mean Scores on Occupational Information by Grade Level for Dropouts and Retainers
Figure 5

Group Mean Scores on Goal Selection by Grade Level for Dropouts and Retainers
Figure 6

Group Mean Scores on Planning by Grade Level for Dropouts and Retainers
Figure 7

Group Mean Scores on Problem Solving by Grade Level for Dropouts and Retainers
a result of dropouts regressing on their scores on the subtest measuring planning competency from the tenth to the eleventh grade.

Since the second order interactions, group (dropout or retainer) by curriculum choice (vocational or general), and grade level (10 or 11) by curriculum choice (vocational or general) were not significant, curriculum choice by grade is not presented graphically.

CHAPTER SUMMARY

The career choice competencies (career maturity) of male high school dropouts and retainers in grades 10 and 11 in Cabell County, West Virginia, were compared through this study. The data analysis and interpretation were presented in this chapter. The chapter was divided into two sections which included a discussion of the characteristics of the subjects and a data analysis. Results of hypothesis testing were presented through the discussion of group mean scores on the five career choice competencies and multivariate tests of significance.

Multivariate Analysis of Variance was used to test the equality of mean scores among two groups, dropouts and retainers. The following null hypothesis was tested:

When the variables curriculum choice and grade level are statistically controlled,
significant differences do not exist between retainer and dropout male students, in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity.

The following null sub-hypotheses were tested:

When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity on the following career choice competencies:

Sub-Hypothesis I: Self Appraisal
Sub-Hypothesis II: Occupational Information
Sub-Hypothesis II: Goal Selection
Sub-Hypothesis IV: Planning
Sub-Hypothesis V: Problem Solving

The null hypothesis and sub-hypotheses were rejected at the .05 alpha level.
Chapter 5

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter begins with a summary of the study including the background of the problem, the purpose of the study, selection of the population, and the procedures utilized in data collection and analysis. Secondly, findings of the study are reported. Conclusions of the study are presented based on the findings. Finally, recommendations for utilizing this study and development of further research are cited.

SUMMARY OF THE STUDY

Background of the Problem

Increased emphasis is being focused on the school dropout problem in the United States. The reason for this increased emphasis according to Greene (1966) is due mainly to the following factors: (1) although the percentage of dropouts is decreasing, a greater number of students are leaving school; (2) our technological economy requires a greater degree of skill; (3) the age at which an individual enters the labor force is rising; (4) the experience of
failure and frustration deprives the student of the incentive to succeed; (5) the dropout may become a candidate for every program of social welfare throughout life; (6) the dropout represents a major educational and social failure.

The student who leaves school may be inadequately prepared to assume a work role and thus remain financially disadvantaged throughout the lifetime of work. These results may be accompanied by negative psychological characteristics.

Many studies to date have described the characteristics of the dropout; however, the studies have not provided clues as to possible remedial action.

Through this study, the career maturity of dropouts and retainers were compared in an effort to improve understanding of the dropout and to provide a basis for remedial measures.

Purpose of the Study

The purpose of the study was to determine the extent to which differences exist in the career choice competencies (career maturity) of male high school dropouts and retainers in Cabell County, West Virginia.

Selection of Population

Male high school students in grades 10 and 11 in four high schools in Cabell County, West Virginia, comprised
the target population. Data was collected from students who dropped out of school between October 1, 1975, and April 1, 1976. A total of 113 students dropped out; of which 107 agreed to participate in the study. A table of random numbers (Ary, Jacobs, and Razavieh, 1972:366) was used to select a sample of male retainers in the four high schools. The retainer sample was then matched to the dropout sample by grade level and curriculum choice. The total sample was 214.

Procedures for Collection and Treatment of the Data

The competence test, Part II, of the Career Maturity Inventory (CMI) by John O. Crites was used for the collection of data in this study. Five career choice competencies were measured by the competence test.

Tests and answer sheets were distributed to eight counselors in the four high schools in Cabell County, West Virginia, on October 1, 1975. Data were collected on site in Cabell County, West Virginia, by the respective guidance counselors in the four high schools from October 1, 1975, through April 1, 1976. Counselors administered the CMI individually to students who dropped out of school as part of the interview process during the six-month data collection phase of the study. Three months after the data collection began, the researcher analyzed the dropout sample (n=78) to
determine the composition of the sample according to grade level and curriculum choice.

By using a table of random numbers, the researcher selected a sample of retainers in grades 10 and 11 in the general and vocational curriculum. The retainer sample was matched to the dropout sample by grade level and curriculum choice. The CMI was then administered to the retainers (n=78) by the researcher. Each week during the last three months of the data collection phase of the study, retainers were matched in number by grade level and curriculum choice and tested on the CMI by the researcher. Data were obtained for 107 dropouts and 107 retainers.

MANOVA was used to test the differences between mean scores for dropouts and retainers on five career choice competencies, while controlling for the interaction effects of curriculum choice and grade level.

The following null hypothesis was formulated and tested:

When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity.

Five null sub-hypotheses were also formulated and tested:

When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between
retainer and dropout male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity on the following career choice competencies:

- Sub-Hypothesis I: Self Appraisal
- Sub-Hypothesis II: Occupational Information
- Sub-Hypothesis III: Goal Selection
- Sub-Hypothesis IV: Planning
- Sub-Hypothesis V: Problem Solving

FINDINGS OF THE STUDY

The findings of the study are reported in this section as derived from the analysis:

1. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly in terms of their mean scores on career maturity as measured by the Career Maturity Inventory. Furthermore:
   a. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly in terms of their mean scores on a measure of self appraisal competency.
   b. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly in terms of their mean scores on a measure of occupational information.
   c. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly
in terms of their mean scores on a measure of goal selection competency.

d. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly in terms of their mean scores on a measure of planning competency.

e. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, differ significantly in terms of their mean scores on a measure of problem solving competency.

2. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, scored lowest on the problem solving competency.

3. Mean scores on self appraisal competency, occupational information competency, goal selection competency, planning competency, and problem solving competency increased from the tenth grade to the eleventh grade for retainers.

4. Mean scores on self appraisal competency, occupational information competency, goal selection competency, and the problem solving competency increased from the tenth grade to the eleventh grade for dropouts. The mean score decreased from the tenth to eleventh grade on the planning competency for dropouts.
5. The first order interaction effect for group (dropout or retainer) on the combined group mean scores was significant. Therefore, groups differed significantly on the linear combination of scores measuring career maturity.

6. The first order interaction effect for grade level (10 or 11), on the combined group mean scores was significant. Therefore, students in grades 10 and 11 scored significantly different on the linear combination of scores measuring career maturity.

7. The first order interaction effect for curriculum choice (vocational or general) on the combined group mean scores was significant. Therefore, students enrolled in the vocational curriculum scored significantly different than students enrolled in the general curriculum on the linear combination of scores measuring career maturity.

8. The interaction effect of group (dropout and retainer) by grade level (10 or 11) had a significant effect on the combined mean scores on career choice competencies. Thus, the second order interaction group by grade level had a significant effect on a measure of career maturity. Therefore, dropouts and retainers scored significantly different in grades 10 and 11.
9. No significant differences were found in the second order interaction effects for group (dropout or retainer) by curriculum choice. Thus, the second order interaction, group by curriculum choice, did not significantly effect a measure of career maturity. Therefore, dropouts and retainers enrolled in vocational programs did not score significantly different from dropouts and retainers enrolled in the general programs.

10. No significant differences were found in the second order interaction effects for curriculum choice (vocational or general) by grade level (10 or 11). Therefore dropouts and retainers in the vocational curriculum did not score significantly different from dropouts and retainers in the general curriculum between grades 10 and 11.

11. In the third order interaction, group by grade level by curriculum choice, there were significant differences on the combined scores. Thus, even though the second order interaction for curriculum choice by group and curriculum choice by grade level were not significant, curriculum choice became significant when combined with grade level in the third order interaction.

12. The dropout sample (n=107) was composed of 62 percent from the tenth grade and 38 percent from the eleventh grade.
13. The dropout sample (n=107) was composed of 68 students in the general curriculum (64 percent) and 39 students in the vocational curriculum (36 percent).

14. An analysis of the dropout sample three months after data collection began found less than eight percent of the dropouts from the college preparatory curriculum.

15. In administering the Career Maturity Inventory to 107 retainer students, the researcher found few students who needed reading assistance. Counselors reported the dropouts who had low reading ability needed some assistance however, most of the tenth and eleventh grade dropouts were able to read and understand the CMI.

CONCLUSIONS

Examination of the findings summarized in this chapter and reference to the literature provided the basis for the following conclusions:

1. It can be concluded that dropouts possess fewer competencies to make career choices than retainers based on scores on the five career choice competency measures of the CMI. The conclusion is supportive of studies conducted by Phifer (1971), Hickman (1966), Boyles (1967), Holmes (1972), and Tatum (1967).
2. It can be concluded that as grade level increases, scores on a measure of career maturity increase. Thus, grade level has a linear relationship to a measure of career maturity and supports studies by Crites (1962), Crites (1969), and Gribbons and Lohnes (1968).

3. The effect that curriculum choice has on student scores on a measure of career maturity was significant in the first order interaction. Studies by Crites (1969), Bathroy (1967), and Holloway (1967) were in agreement with this finding. Crites, Bathroy, and Holloway found significant differences between the career maturity of vocational and nonvocational students. Their subjects for the non-vocational sample included not only students enrolled in the general curriculum, but also those students enrolled in the college preparatory curriculum. This study did not include college preparatory students. The researcher concluded that this may account for the lack of significance between curriculum choice and career maturity for this study in the second order interactions.

4. If general development can be defined as maturation of a student's attitudes and motivation, the researcher concluded that career maturity is a specific aspect of general development. As general development occurs, attitudes and motives mature and students see the
relevance of school and remain there until graduation. If students remain in school, their career maturity increases as evidenced by the findings of this study. This conclusion supports research by Crites and Selmer (1967) stemming from career development theory that vocational maturity (career maturity) is a specific aspect of general development.

5. Retainers in this study scored significantly higher than dropouts on a measure of career maturity. This finding supports the conclusion that career maturity is related to staying in school. The higher the student scores on a measure of career maturity, the more prone they are to stay in school and prepare for a vocation. This conclusion is supported by Super (1957) who found that career maturity was related to vocational adjustment. Vocational adjustment is defined as selection of a realistic occupation based on one's ability and working to achieve the skills needed for entry into that occupation.

6. It can be concluded that percentages of dropouts are highest from the tenth grade. The percentage from the tenth grade for the dropouts in this study was 62 percent. Exits are next highest in the eleventh grade. The percentage from the eleventh grade for this study was 38 percent. The conclusion is supportive of studies by: Cerevantes and Husted (1966), Greene (1966), Brumfield (1967),
Anderson (1968), Malec (1968), Gerstein (1971), and Slaughter (1967).

8. It can be concluded that the percentage of students who enroll in college preparatory curriculums in high school and subsequently drop out of school is negligible in comparison to those who drop out of general and vocational curriculums. An analysis of the dropout sample for this study after three months of data collection found only eight percent of those dropping out who had been enrolled in college preparatory curriculums. The conclusion is supportive of the following studies: Cerevantes and Husted (1966), Greene (1966) Brumfield (1967), Anderson (1968), Gerstein (1971), and Slaughter (1967).

9. It can be concluded from the scores by subjects on the occupational information subtest for this study that both dropouts and retainers are receiving occupational information either through their in-school or out-of-school education and exposure to occupational information. The highest scores attainable on the subtest measuring occupational information is 20. The retainers' group mean scores was 16.6, and the dropouts' mean score was 14.7. To apply this occupational information, it is further concluded that students need additional competencies to make realistic career choices. This conclusion is supportive of a study
by Herschenson and Langauer (1971).

10. It can be concluded, based on individual administration of the CMI to 107 dropouts and 107 retainers in Cabell County, West Virginia, that the CMI is written at an appropriate reading level to be administered to students in grades as low as the sixth grade. Many students in this study, especially the dropouts, had reading levels as low as the sixth grade. However, they were able to read the CMI without assistance. Crites (1973) reported that the CMI was written on a sixth grade reading level as calculated by the Dale-Chall Formula.

RECOMMENDATIONS

Based on the findings and procedures of this research, the following recommendations are suggested for further research:

1. This study should be replicated in other school systems within West Virginia and other states to add further validity to the research procedure, methodology, and instrument.

2. A modification in the collection of data is recommended for a study of career maturity dealing with dropout students. As a longitudinal study, specific grades or an entire student body could be tested on career maturity,
and a comparison made the succeeding year on the career maturity between those students who remained in school and those who dropped out.

3. A research effort should be directed to determine appropriate curriculum for promoting individual psychological growth and development and standard procedures for measuring psychological growth of students.

Based on the findings of this research the following recommendations are suggested with respect to the remediation of the dropout problem:

1. Guidance, career counseling, and placement personnel should consider utilizing scores on the competency areas from this and other research as an information base when they are counseling individuals concerning a career to determine what are the substantive service needs of young people for career education and development that are currently not being fulfilled.

2. Educators should consider administering the CMI to all sixth grade students in a school system to determine their weak areas regarding career maturity and to determine the need for implementing materials which could be effective in educating students personally and vocationally. By providing a measure of career maturity prior to junior high, educators would have data on which to determine
the need for (1) improving counseling practices, and
(2) implementing curriculum designed to aid students in
selecting a curriculum choice in the ninth grade.

3. There is a need for educators to recognize the
importance of the self appraisal competency for students
in making realistic career choices. Dropouts in this study
scored low on the self appraisal competency as compared
to the retainers. Hershenson and Langbauer (1971) con-
cluded from their study of 222 adults that self appraisal
ability precedes the competence and independence to select
goals, plan, and solve problems as they relate to making
career decisions. This conclusion is further supported by
Phifer (1971).

4. There is a need for educators to recognize the
importance of the problem solving competency in making
realistic career choices. The dropouts in this study scored
lower on the problem solving competency than the other four
competencies: self appraisal, occupational information,
planning, and goal selection. This conclusion is supportive
of the following studies: Tatum (1967), Hickman (1966),
and Wigent (1973).

5. Educators should investigate some of the recent
models for career guidance and placement centers. Gysbers
(1974) has proposed a model which includes modules for
teaching problem solving and decision-making skills within
the framework of a guidance and placement center.

6. A study of career advising and counseling practices for students identified as potential dropouts should be made.

As America moves in the direction of increased levels of education for all, more and more must be learned about those students with ability to succeed who fail to challenge that ability by persisting in school. This study has attempted to add further dimensions in understanding the dropout student. Future studies may build on the simple beginnings represented here to identify areas which tend to thwart school persistence and discover action programs which will provide remedial measures to the dropout problem.
LITERATURE CITED
LITERATURE CITED


Kapes, J.R. The Relationship Between Selected Characteristics of Ninth Grade Boys and Curriculum Selection and Success in Tenth Grade. The Pennsylvania State University, VDS No. 2, 1971.


APPENDIX A

LETTERS OF REQUEST TO CABELL COUNTY
Mr. William H. Langdon  
Superintendent  
Cabell County Board of Education  
620 20th Street  
Huntington, West Virginia 25702

Dear Mr. Langdon:

I am currently pursuing the Ed. D. in Vocational Education at Virginia Polytechnic Institute and State University. The dissertation topic which I have selected involves a study of student characteristics to determine the effectiveness of vocational maturity in diagnosing the potential dropout. In addition, I would need some data from the cumulative folders of the students' records.

The participants for this study will be selected through a random sampling of students in grade ten and eleven in Cabell County. I would like to obtain your approval to include the students at Huntington East, Huntington, Milton and Barboursville High Schools and the Career Center. Data will be collected by myself and the guidance counselors in the five schools through a standardized instrument designed to measure occupational maturity.

All data will be held in strict confidence and will not be used for any purpose other than this study. Names of individuals involved will not be used in the dissertation.

The results of the study should provide information regarding the diagnosis of potential dropouts and show any differences in the characteristics studied for students enrolled in the different programs.

I would like for you to reply if your give your approval to the collection of this data. Will you please notify the building principals and the Director of Guidance of your approval of the collection of the data for this study.

Thank you for your attention to this matter and for your assistance in the study.

Sincerely yours,

Barbara Pendleton  
Doctoral Candidate

Authorized by: Richard Lynch, Program Director  
Distributive Education  
Division of Vocational and Technical Education
Mr. Bob Griffis  
Assistant Superintendent  
Cabell County Board of Education  
620 20th Street  
Huntington, West Virginia 25702  

Dear Mr. Griffis:

This letter is in response to our telephone conversation today regarding a collection of student data in Cabell County for a study on characteristics of the dropouts in Cabell County. I have requested permission from Mr. Langdon, Superintendent, for the collection of the data.

All data will be held in strict confidence and will not be used for any purpose other than this study. Names of individuals involved will not be used in the dissertation.

The results of the study should provide information regarding the diagnosis of potential dropouts and show any differences in the characteristics studied for students enrolled in the different programs.

I would like your permission to work with Mrs. DeHart, Director of Guidance in Cabell County, in determining the number of dropouts in grades ten and eleven in previous years and related information which is on record.

Thank you for your attention to this matter and for your assistance in the study.

Sincerely yours,

Barbara Pendleton  
Doctoral Candidate  

Authorized by: Richard Lynch, Program Director  
Distributive Education  
Division of Vocational and Technical Education
Mrs. Anita DeHart  
Director of Guidance  
Cabell County Board of Education  
620 20th Street  
Huntington, West Virginia 25702

Dear Ms. DeHart:

I am currently pursuing the Ed. D. in Vocational Education at Virginia Polytechnic Institute and State University. The dissertation topic which I have selected involves a study of students, retainers and dropouts, in Cabell County. Enclosed you will find a letter to Mr. William Langdon, Superintendent, which explains the study and also his letter giving his approval to the collection of the data.

There are two problems in the study regarding the dropout students. First, it becomes difficult to locate and test the students after they have left the school system and secondly, there is the possibility that if a student drops out that his vocational career maturity may become unstable over time. Both of these problems could be eliminated if the guidance counselors in the five schools would administer the standardized instrument in the form of an exit interview for the dropouts.

I am presently determining which standardized instrument is to be used for the study. The instrument will measure occupational maturity and will be easily understood and simple to administer.

I would need some information such as grade point average and days absent from the cumulative records for all students studied. Will you please enlist the support of the guidance counselors in these schools in administering the two instruments from approximately October 1 until April 1.

Thank you for your cooperation and assistance with the study.

Sincerely yours,

Barbara Pendleton  
Doctoral Candidate

Authorized by: Richard Lynch, Program Director  
Distributive Education  
Division of Vocational and Technical Education
APPENDIX B

LETTERS OF APPROVAL FROM CABELL COUNTY
Ms. Barbara Pendleton  
Division of Vocational-Technical Education  
Virginia Polytechnic Institute and State University  
Blacksburg, Virginia  24061  

Dear Ms. Pendleton:  

You are granted permission to conduct your study on dropouts in the Cabell County School System. Mrs. Anita Dehart will be working with the counselors in the four high schools and I shall notify the building principals of your study.

I request any information derived from your study which may benefit for improvement of our programs.

Sincerely,

William H. Langdon  
Superintendent
Dear Ms. Pendleton:

You are granted my permission to work with Mrs. Anita Dellart, Director of Guidance, in determining the number of dropouts in grades ten and eleven and in relating other information to the study.

I request from you any information, conclusions, or recommendations derived from your total study which may be of benefit for improvement of our program.

Sincerely,

Robert V. Griffis
Assistant Superintendent

cc: Richard Lynch
September 25, 1975

Dr. Richard Lynch, Program Director
Distributive Education
Division of Vocational and Technical Education
Virginia Polytechnic Institute & State University
Blacksburg, VA 24061

RE: Barbara Pendleton
Doctoral Candidate

Dear Dr. Lynch:

The writer and guidance counselors in the Cabell County Public School System will cooperate and assist Ms. Barbara Pendleton in the study regarding dropout students. The study is in pursuance by Ms. Pendleton of the Ed. D. in Vocational Education at Virginia Polytechnic Institute and State University.

Sincerely,

Anita C. DoBart
Director of Guidance Services

ACD:vrb

cc: Charlene Moore
Career Center
The vita has been removed from the scanned document
A COMPARISON OF HIGH SCHOOL DROPOUTS AND RETAINERS ON CAREER CHOICE COMPETENCIES

by

Barbara Ann Pendleton

(ABSTRACT)

The purpose of the study was to determine the extent to which differences existed in the career choice competencies (career maturity) of white male high school dropouts and retainers in the 10th and 11th grades in Cabell County, West Virginia. Dropouts and retainers were compared on the following career choice competencies as measured by the Career Maturity Inventory (CMI): (1) self appraisal, (2) occupational information, (3) goal selection, (4) planning, and (5) problem solving.

The following null hypothesis was tested:
When the variables curriculum choice and grade level are statistically controlled, significant differences do not exist between dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia in terms of their career maturity.

The following null sub-hypotheses were tested:
When the variables curriculum choice and grade level are statistically controlled
significant differences do not exist between dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia, in terms of their career maturity on the following career choice competencies:

Sub-Hypothesis I: Self Appraisal
Sub-Hypothesis II: Occupational Information
Sub-Hypothesis III: Goal Selection
Sub-Hypothesis IV: Planning
Sub-Hypothesis V: Problem Solving

A total of 107 white male high school students in grades 10 and 11 who dropped out of the Cabell County, West Virginia public schools from October 1, 1975 through March 31, 1976 comprised the dropout sample. A randomly-selected sample of retainers were matched by curriculum choice and grade level to the dropouts for a total participating in the study of 214. Data were collected on site by administering the CMI individually to dropouts and retainers.

Multivariate Analysis of Variance was used to test the equality of mean scores among two groups, dropouts and retainers. All hypotheses were tested and rejected at the .05 alpha level.

On the basis of the MANOVA the findings were:

1. Dropout and retainer male students in grades 10 and 11 in Cabell County, West Virginia differ
significantly in terms of their mean scores on career maturity. Furthermore, dropouts and retainers differ significantly in terms of their mean scores on self appraisal, occupational information, planning, goal selection, and problem solving competencies.

2. Dropout and retainer male students in Cabell County scored lowest on the problem solving competency.

3. A linear relationship existed between grade level and scores on the CMI.

4. The first order interaction effect of grade level and curriculum choice was significant on the linear combination of scores for dropouts and retainers. The second order interaction effect of grade level by group was significant on a measure of career maturity. The second order interaction of curriculum choice by group and curriculum choice by grade level was not significant on a measure of career maturity. The third order interaction effect of grade level by curriculum choice by group was significant on a measure of career maturity.

On the basis of the MANOVA the following conclusions were drawn:

1. Dropouts possess fewer competencies to make career choices than retainers.

2. As grade level increases, scores on a measure of career maturity increase.
3. Career maturity is a specific aspect of general development.

4. Percentages of dropouts are highest in the tenth grade and from the general curriculum. Percentages of students dropping out of the college preparatory curriculum in high school are negligible compared to students dropping out of general and vocational curriculums.

Recommendations were made for utilization of the results of the study in the remediation of the dropout problem.