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The differential effects of three life career development courses on the self-concept and career maturity of college underclassmen

James Stewart Huntington-Meath
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**THE DIFFERENTIAL EFFECTS OF THREE LIFE CAREER DEVELOPMENT
COURSES ON THE SELF-CONCEPT AND CAREER MATURITY OF
COLLEGE UNDERCLASSMEN**

The College of William and Mary in Virginia

Ed.D. 1981

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THE DIFFERENTIAL EFFECTS OF THREE LIFE
CAREER DEVELOPMENT COURSES ON THE
SELF-CONCEPT AND CAREER
MATURITY OF COLLEGE
UNDERCLASSMEN

A Dissertation
Presented to
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The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
James Stewart Huntington-Meath

August 1981

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Dedication

This report is dedicated to Lynn whose support has been stalwart and whose patience has been endless.

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How to live. How to get the most life. As if you were to teach the young hunter how to entrap his game. How to extract its honey from the flower of the world. That is my every-day business.

--Henry David Thoreau

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Chapter 1

Introduction

Automated machinery has altered the relationship between education, technology, and work. The new machines perform tasks formerly restricted to people, displacing workers whose functions can be more economically replaced by a machine. The impact of technological change is forcing many workers to seek occupations which demand higher levels of cognitive and manual skills. Venn (1964) explores the effects of these changes on blue- and white-collar workers:

Within the blue collar ranks, only the skilled and highly skilled craftsmen are expected to maintain their proportion in the labor market and in recent years the biggest employment gains within the white collar area have been made by the most highly educated and skilled workers the occupations that will grow are those demanding higher levels of education and skill development [p. 8].

The recent demand for increased cognitive and skilled abilities has altered the relationship of technology, education, and work. The educational system has been slow to adjust to the changing needs of workers in a post industrial society.

The new technology has removed the margin for educational error. Historically, the number and kinds of jobs available to the uneducated and undereducated permitted schools and

colleges "a margin for error" in planning educational programs and providing educational opportunities. Today, however, the inability of a technological society to make full use of uneducated individuals, narrows the margin to the point where the repercussions of each educational failure can be felt throughout the society [Venn, 1964, p. 158].

American liberal arts colleges have been reluctant to take into account the objectives of career education within a liberal education. Current practices in 4-year colleges do not appear to be meeting student career needs. Walters and Saddlemire (1979), in a review of recent studies of career-planning needs of college students enrolled in liberal arts programs, found that:

1. Graduates were complaining that they had chosen the wrong majors.
2. Graduates felt more emphasis should be placed on career preparation in a liberal education.
3. Students felt they lacked the self and career knowledge necessary to make clear career decisions.

A national survey conducted by Roth, Prediger, and Noeth (1974) revealed that 75% of those soon to enter college expect to receive career-planning assistance. These student concerns represent a demand for career education courses to supplement the liberal arts curriculum.

A response to students' demand for more career-oriented instruction came in the development of career-education courses for liberal arts students. Instead of teaching students a particular

mental discipline, these courses were designed to help students learn the relationship between self-appraisal and career choice. The premise supporting this method of instruction was the more one values himself, the more likely he will make a mature-career decision. Super (1957) stated:"In choosing an occupation one is in effect choosing a means of implementing a self-concept [p. 196]." Super's premise led career educators to study the relationship between self-worth and career-decision making.

Barrett and Tinsley (1977) in a review of research examining the moderating effect of self-esteem upon choice of major, an important career decision for college undergraduates, found that:

1. High self-esteem students more frequently committed themselves to a college major.
2. Students with high self-esteem were more certain about their choice of majors.
3. High self-esteem students, as a group, tended to frequently select more satisfying majors than low self-esteem students (p. 301).

These findings suggest the value of research examining the effects of career education on self and on career choices.

In their review of the literature, Perovich and Mierzwa (1980) demonstrated the need for evaluating career-oriented programs in higher education that were designed to have a positive effect on vocational maturity and on self-esteem of college juniors. Yet, no research has examined how different treatments affect college

underclassmen with different measurements of self-worth. Wells and Marwell (1976) describe three different types of self-regard based on theoretical differences in the measurement of self-worth, i.e., self-esteem, self-acceptance, and social competence. If self-esteem does moderate the vocational implementation of self-concept, then treatments designed to increase these types of self-worth should have a differential effect on an individual's career development.

Hansen and Tennyson (1975) define career development: "as a life-long process of self-development, with work (paid or volunteer) being viewed as the mechanism for self-clarification [p. 641]." Career education is then viewed as the promotion, i.e., teaching, counseling, or facilitating, of that self-exploratory process. Career-education activities are designed so that the learning process is inductive. A student learns through the experiencing of work in different situations. Given the need for career education, the following methods are proposed for the enhancement of career development.

Group counseling methods have been used to structure a person's career development. The Life Career Development System (LCDS) designed by Walz, Benjamin, Church, Davidson, Miller, Mintz, and Smith (1974) incorporates research on effective group-counseling techniques from the files of the Educational Resource Information Center (ERIC). The group counseling techniques that compose the LCDS have been widely used in career-education programs. Research supporting

the effectiveness of these strategies is described in Chapter 2. The LCDS is designed to help individuals experience improved self-esteem through an increased appreciation of a person's role in the world of work.

The basic goal of the LCDS is personal empowerment. Personal empowerment is the process which develops individual insights and enables the person to take charge of his life. A key assumption to personal empowerment is the idea that one can control his life by his actions. Another way of describing this concept is intentionality. Ivey and Alschuler (1973) picture it as a process in which an individual can foresee his alternatives, make decisions, and attain his goal. Personal empowerment incorporates an individual's ability to develop a positive self-image and his ability to make appropriate career choices. Walz (1974) considers the concept as essential to the understanding of life-career development:

More specifically, the LCDS builds upon the principle that career development should be concerned with the development of the total individual and encompass education, occupation, and leisure time. Career decisions and plans are in reality, life decisions and plans; the two should not be considered separately, but as an integrated developmental sequence involving the goals, values, plans and decisions of the individuals now and in the future [p. 5].

Johnson (1976) in his investigation of the effects of the LCDS on community-college students operationalized Walz and Benjamin's

(1974) construct of personal empowerment with four variables--self-concept, vocational maturity, independent/responsible behavior, and a process orientation to planning. Like Kaufman (1978), Ehresman and Vincent (1976) and Johnson (1976) did not find an effective measuring process for personal empowerment. They either narrowed or broadened the focus of the investigation without sufficiently achieving the outcome. They did not study the three different types of self-esteem that comprise self-concept; nor did they focus on the secondary effects of sex type, race, and college class as factors influencing an individual's self-evaluation in career development. Esposito (1975), Garza (1978), Mcloughlin (1979), Farmer (1978), Thomas and Carpenter (1976), and Smith (1976) found evidence that demographic factors influence differences in self-esteem and corresponding motivation to seek employment. While, evidence for the effects of college class is harder to obtain, Hamm (1978), Droessler (1977), and Kneflekamp and Slepitz (1976) used freshman and sophomore students in their evaluations of the qualitative changes in personality and career development associated with career-education programs. These studies suggest the intervening effect of sex type, racial background, and college experience on personal empowerment.

Another focus for research in the study of personal empowerment is the differential effect of the modules that compose the LCDS. Would different combinations of these modules provide for more effective career education?

Statement of Problem

A research problem which emerges out of the need for effective career education is: What are the differential effects of three life-career-development courses designed to enhance the personal empowerment of freshmen and sophomores at a liberal-arts college?

The answers to this problem question will be examined in this study through the following subquestions: What criteria can be used to evaluate personal empowerment? Do outside factors such as sex type, race, and college class account for significant differences in the criterion measures? Do certain methods of career education produce differences in student-outcome measures of personal empowerment? Does one type of career-education course account for more significant differences in criterion measures of personal empowerment than another?

To answer these questions, the present study was designed to compare the effects of three life-career-development courses on the self-esteem, self-acceptance, locus of control in decision making (social competence), career-attitude maturity, vocational-information-seeking behavior, and the process orientation to planning of a select group of college undergraduates. The methodology for the study will be summarized and explained in detail in Chapter 3.

Approximately 40 subjects will randomly select three treatment groups and one control group. The three life-career-development courses will be an affective-life-career-development course, a cognitive-life-career-development course, and a behavioral-life-career-

development course.

Theoretical Rationale

The concepts introduced by the selected treatments and measuring instruments are derived from broader, more refined vocational theories. The researcher plans to synthesize elements of more developed theories to provide a suitable rationale for personal empowerment. Significant propositions of the work of Hoppock (1976), Super (1953), and Krumboltz (1974) will be analyzed. The following four assumptions represent common themes derived from the work of the three theorists.

1. Self-perceptions are composed of feelings, thoughts, and behaviors.

2. An individual's vocational development is related to his implementation of self-concept.

3. The implementation of an individual's self-concept is influenced by his level of self-worth.

4. An individual's vocational maturity is an indication of his experience in acquiring appropriate vocational attitudes and behaviors.

Each theory will be briefly presented, then analyzed in terms of the four themes, followed by a discussion of its distinctive aspects.

Hoppock's (1976) Theory of Occupational Choice and Career Development is an eclectic theory based on the work of many vocational theorists, e.g., Roe, Holland, and Super. Hoppock calls his theory a set of speculations; his 10 points form the central portion of his assumptions:

1. Occupations are chosen to meet needs.
2. The occupation that we choose is the one that we believe will best meet the needs that most concern us.
3. Needs may be intellectually perceived, or they may be only vaguely felt as attractions which draw up in certain directions. In either case, they may influence choices.
4. Career development begins when we first become aware that an occupation can help to meet our needs.
5. Career development progresses and occupational choice improves as we become better able to anticipate how well a prospective occupation will meet our needs. Our capacity thus to anticipate depends upon our knowledge of ourselves, our knowledge of occupations, and our ability to think clearly.
6. Information about ourselves affects occupational choice by helping us to recognize what we want and what we have to offer.
7. Information about occupations affects occupational choice by helping us to recognize what we want and what we have to offer in exchange.
8. Job satisfaction depends upon the extent to which the job that we hold meets the needs that we feel it should meet. The degree of satisfaction is determined by the ratio between what we have and what we want.
9. Satisfaction can result from a job that meets our needs

today, or from a job that promises to meet them in the future, or from a job that we think will help us to get the job we want.

10. Occupational choice is always subject to change when we believe that a change will better meet our needs [pp. 91-92].

Hoppock (1976) recognizes the importance of needs (feelings), awareness (thoughts), and choices (behaviors) in self-perception; although he feels that conscious choice is not always required--a person may make the right decision unconsciously. He states that an individual's vocational development progresses as an individual develops the ability to anticipate how occupations will meet his needs (implementation of self-concept). He emphasizes the importance of self-knowledge (self-worth) as well as occupational information in making wise occupational choices. A person's vocational maturity is determined by his ability to anticipate the need value of an occupational choice (appropriate attitudes and behaviors).

Hoppock (1976) equates need fulfillment with self-development. He defines values as an ordering of needs. In this system a preferred need would be a value. His theory explains an individual's illogical choice of career as a result of an emotional force. When a young person chooses an occupation for which he is obviously not fit, he is announcing that this job promises to fulfill some important emotional need. Furthermore, he feels that a person's needs for an occupation do not always have to be complex; they can be relatively simple.

Super's (1953) Development Self-Concept Theory of Vocational Behavior is based in part on the theoretical work of Rogers (1951), Bordin (1943), and Buehler (1933). Super's theory is based on the influences of three areas of psychological theory--a developmental orientation, a self-concept approach, and a differential psychology paradigm. He presented his theory in 10 propositions which cover three theoretical areas:

1. People differ in their abilities, interests, and personalities.
2. They are qualified by virtue of these characteristics, each for a number of occupations.
3. Each of these occupations requires a characteristic pattern of abilities, interests, and personality traits with tolerance wide enough, however, to allow both some variety of occupations for each individual and some variety of individuals in each occupation.
4. Vocational preferences and competencies, the situations in which people live and work, and hence their self-concepts, change with time and experience (although self-concepts are generally fairly stable from late adolescence until late maturity), making choice and adjustment a continuous process.
5. This process may be summarized in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline; these stages may in turn be subdivided into (a) the fantasy, tentative and realistic phases

of the exploratory stage, and (b) the trial and stable phases of the establishment stage.

6. The nature of the career pattern (that is, the occupational level attained and the sequence, frequency, and duration of trial and stable jobs) is determined by the individual's parental socioeconomic level, mental ability, and personality characteristics and by the opportunities to which he is exposed.

7. Development through life stages can be guided, partly by facilitating the process of maturation of abilities and interests, and partly by aiding in reality testing and in the development of the self-concept.

8. The process of vocational development is essentially that of developing and implementing a self-concept: it is a compromise process in which the self-concept is a product of the interaction of inherited aptitudes, neural and endocrine makeup, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.

9. The process of compromise between individual and social factors, between self-concept and reality, is one of role playing, whether the role is played in fantasy, in the counseling interview, or in real-life activities such as school classes, clubs, part-time work, and entry jobs.

10. Work satisfactions and life-satisfactions depend upon

the extent to which the individual finds adequate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a role in which his growth and exploratory experience have led him to consider congenial and appropriate [pp. 189-190].

Super (1953) acknowledges that a person's self-concept (self-perception) is composed of his attitudes (feelings and thoughts) and behaviors. He formulated the proposition that an individual's self-development (implementation of self-concept) is related to his vocational development. The assumption that an individual's level of self-regard will affect his self-development was added to the Theory in Super, Starishvesky, Matlin, and Jordaan's (1963) work on the meta dimensions of self-concept. An individual demonstrates his vocational maturity through the acquisition of attitudes and behaviors suitable to the development tasks associated with his life stage of vocational development (appropriate experience).

Super's (1953) approach to self/career development can be characterized as a compromise process. He is concerned with the discrepancy between personal-role conceptions and vocational-role conceptions. The more an individual can adjust his view of himself to that of society's, the better he will feel about himself and his vocational choices.

Krumboltz's (1974) Social Learning Theory of Career Decision Making is based in part on the theoretical contributions of Skinner

(1971), Rotter (1973), Bandura and Walters (1963), and Dollard and Miller (1941). The theory offers a behaviorist approach in attempting to answer a specific question with a methodological process. The question is: Why do people select occupations/training at certain ages in their development? Krumboltz believes the answer will differ from individual-to-individual and postulates a system, in lieu of a theory, for explaining individual choice.

The system is composed of two factors, environmental and psychological. The environmental factors include the following subsets: genetic endowment and special abilities; and environmental conditions and events (these factors influence the individual but are generally beyond his control). The first subset pertains to race, sex, physical characteristics, intelligence, music and art abilities, and muscular coordination. While the second subset--environmental conditions and events--covers the number and nature of job and training opportunities, social policies and procedures for selecting trainees/workers, rate of return for various occupations--labor, natural, technological, social educational, family, and neighborhood structures.

The psychological factors are composed of two subsets--learning experiences and task-approach skills. There are two types of learning experiences identified--instrumental and associative--; four types of task-approach skills are specified--problem solving, performance standards and values, work habits, and perceptual and cognitive processes (Krumboltz, 1974, pp. 16-20).

Krumboltz (1974) recognizes the importance of psychological factors in altering an individual's processes and skills (thoughts, feelings, and behaviors). He believes that a person learns how to make self-observation generalizations (implementation of self-concept) through a complex-social-interaction process involving environmental and psychological factors. A person's self-observation generalizations are influenced by the self-thoughts, feelings, and actions of the individual (self-worth). A person's vocational maturity is equal to his learning experiences and task-approach skills (appropriate experiences).

Krumboltz's (1974) system is based on a theoretical proposition that the environment operates on the individual. Mitchell (1974) analyzed and synthesized literature related to the social-learning theory of career decision making. Krumboltz's system is designed to chart an individual's vocational development in terms of four major psychological and environmental factors.

Krumboltz's (1974) theory contrasts with Hoppock's (1976) and Super's (1953) in stressing the interaction of psychological and environmental factors in the analysis of behavior. Hoppock's theory emphasizes an individual's drive to higher levels of need satisfaction. Super attests to the process of adjusting one's expectations to the social norms; while Krumboltz maintains that an individual's behavior can only be understood in the context of his perceptions in relation to a social world. The three theories provide general justification for the suppositions of self-perception, vocational

development, self-worth, and vocational maturity; however, they differ in their support for the theoretical assumptions of the three life-career-development courses.

Hoppock's (1976) theory provides specific justification for the Affective Life Career Development Course as a method for enhancing personal empowerment. Hoppock saw need satisfaction as the primary factor in self/career development. Super (1953) and Krumboltz (1974) did not share this emphasis.

Super (1953) thought that it was the process of compromise between an individual's expectations and those of the working world that was a primary factor in self/career development. His theory provides a particular rationale for the Cognitive Life Career Development Course as a method of fostering personal empowerment.

Krumboltz (1974) responded that the primary factor in self/career development was a complex interaction between an individual's attitudes, behaviors, and the external environment. His theory/system provided a theoretical/methodological approach which coincided with the techniques used in the Behavioral Life Career Development Course for structuring personal empowerment.

Hypotheses

These 10 hypotheses are stated in the null form.

Hypothesis 1

Upon completion of the treatments, there will be no significant difference between the four groups in self-esteem.

Hypothesis 2

Upon completion of the treatments, there will be no significant difference between the four groups in self-acceptance.

Hypothesis 3

Upon completion of the treatments, there will be no significant difference between the four groups in locus of control in decision making.

Hypothesis 4

Upon completion of the treatments, there will be no significant difference between the four groups in career-attitude maturity.

Hypothesis 5

Upon completion of the treatments, there will be no significant difference in vocational-information-seeking behavior.

Hypothesis 6

Upon completion of the treatments, there will be no significant difference between the four groups in a process orientation to planning.

Hypothesis 7

Upon completion of the treatments, there will be no significant correlation between self-esteem, self-acceptance, locus of control in decision making, career-attitude maturity, vocational-information-seeking behavior, and a process orientation to planning.

Hypothesis 8

Upon completion of the treatments, there will be no significant difference between freshmen and sophomores in self-esteem,

self-acceptance, locus of control in decision making, career-attitude maturity, vocational-information-seeking behavior, and a process orientation to planning.

Hypothesis 9

Upon completion of the treatments, there will be no significant difference between white and black students in self-esteem, self-acceptance, locus of control in decision-making, career-attitude maturity, vocational-information-seeking behavior, and a process orientation to planning.

Hypothesis 10

Upon completion of the treatments, there will be no significant difference between male and female students in self-esteem, self-acceptance, locus of control in decision making, career-attitude maturity, vocational-information-seeking behavior, and a process orientation to planning.

Definition of Select Terms

For adequate comprehension of the concepts used to evaluate these hypotheses essential terms were defined.

Career-attitude Maturity

This concept is an age (or grade) related variable describing a person's attitudes or beliefs toward work or a career. Career-attitude maturity will be operationally defined by scores on the Attitude Scale of the Career Maturity Inventory.

Personal Empowerment

Walz and Benjamin (1974) have originated this concept:

Personal empowerment enables individuals to develop the insights and competencies necessary for them to take charge of their lives, to control what occurs rather than to be controlled, to act on the belief that they can manage their own career development by their planning, decision-making, and to possess the basic mastery which enables from where they have come to where their head and soul would lead them [p. 59].

To conceptualize personal empowerment, the present study defines insights in terms of self-concept and competencies in terms of vocational maturity. The researcher has found no evidence to directly substantiate this assumption; however, the four theoretical propositions that combine the work of Hoppock (1976), Super (1953) and Krumboltz (1974) support this definition.

Process Orientation to

Planning

The cognitive competency to make mature-career decisions is described in Crites' (1974) Career Maturity Model. The five components defining this process are: self-knowledge, knowledge of job options, goal selection, planning, and problem solving. A process orientation to planning will be operationally determined by judges' content analysis of written essays on the Process Orientation to Planning Indicator.

Self-acceptance

An individual's cognitive balance between his real self-image and his ideal self-image is a ratio which determines his level of

self-consistency. For the purpose of this study, self-acceptance will be operationalized by an individual's discrepancy between his real self-image score and his ideal self-image score on a coefficient of correspondence on the Adjective Check List.

Self-concept/Self-worth

A person's self-concept refers to the attitudes (feelings, thoughts, and actions) a person has toward himself. These attitudes are measured in terms of a person's self-worth. Wells and Marwell (1976), as previously stated, denote three types of self-worth--self-esteem, self-acceptance, and social competence (locus of control)--which are specified by the theoretical approach and method of measurement. This study operationalizes these three measures of self-concept using Hoppock's (1976), Super's (1953) and Krumboltz's (1974) theoretical approach, and two distinct methodological assumptions.

Self-esteem

An individual's feelings or attitudes about himself are an indication of a person's self-affection. The concept is operationalized by the measures of Positive-Self-Regard, Self-definition and Certainty of Perception on the Tennessee Self-Concept Scale

Social Competence (Locus of Control)

An individual's generalized expectancy of his ability to control reinforcement is an equation which weighs his expectancies of success in terms of his past performances. Locus of control in decision making will be operationalized for this study by scores on the Career Development Responsibility Scale.

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Vocational Maturity/orCareer Maturity

Crites (1961) defines this concept by rate and degree. A person's rate refers to his level of vocational maturity in relation to his age group; while degree relates to an individual's vocational development in comparison with the oldest individual's behaviors in that age group. Super (1963) specified certain behaviors and attitudes that were associated with the developmental tasks of adolescents. He distinguished two central tasks for adolescents' awareness of the need to crystallize and awareness of the need to specify. Otherwise, the coping behaviors and attitudes necessary for accomplishing the developmental tasks of the Crystallization stage (14 to 18 years of age) and the Specification stage (18 to 21 years of age) were similar:

Use of resources, awareness of factors to consider, awareness of contingencies which may effect goals, formulation of a generalized preference, consistency of preference, possession of information concerning the preferred occupation, planning for the preferred occupation, wisdom of the vocational preference [Osipow, 1973, p. 138].

Super (1974) believed that an adolescent's ability to demonstrate these coping behaviors and attitudes was a measure of his vocational maturity. There will be three variables of career maturity investigated--career-attitude maturity, vocational-information-seeking behavior, and a process orientation to planning.

Vocational Information

Seeking Behavior

These behaviors can be cognitions, as well as psycho-motor responses, aimed at acquiring occupational information, or seeking assistance in career decision making. The concept will be operationally defined by the variety of responses on the Vocational Information Seeking Behavior Check List.

Statement of Ethical Standards

This researcher will conduct the present investigation using the ethical principles presented by the American Personnel and Guidance Association (1976). The conduct of research with human subjects requires special attention to the rights and safety of participants. The following considerations will be followed in protecting the subjects' privacy and in ensuring the subjects' health.

1. Subjects will be assured their right to informed consent. The difference between participating in the course and participating in the experiment will be explained.
2. Participants in the experiment will be on a volunteer basis and a decision not to participate will in no way affect the person's status as a student, his course evaluation, or his right to enroll in the present or future life-career-development courses.
3. Data collected in the experiment will be confidential and will not affect this person's status as a student or his course evaluation.
4. Confidentiality will be maintained throughout the

experiment, which includes subsequent release or publication of test results.

5. Subjects may withdraw from the experiment at anytime with no repercussion to them.

6. Subjects will be informed as to the complete nature of the evaluation process upon completion of the experiment.

Plan of Presentation

In the present chapter, this researcher has included an introduction, statement of the problem, theoretical rationale, definition of select terms, and statement of ethical standards. The format for Chapter 2 will consist of a review of the literature. Research studies supporting the treatment methods and criteria for effectiveness will be analyzed.

In Chapter 3, the methodology for the study will be presented. This investigator will describe the sample, the subjects' environment, the evaluative procedures, the instruments used, the treatment process, the data collection procedure, and the techniques of statistical analysis. The results of the study will be stated in Chapter 4. The research findings will be examined in relation to the given hypotheses. The study will be summarized in Chapter 5. Conclusions will be reviewed, limitations of the experiment will be explained, and a discussion of the implications and recommendations the investigation has for future research will be presented.

Chapter 2

Review of the Literature

Introduction

In the present chapter, research related to the problem is examined. The organization of the chapter consists of five sections focusing on the question of personal empowerment. In section 1, research on the Life Career Development System (LCDS) is reviewed as a treatment method. In section 2, secondary factors that influence the treatment process are examined--sex, race, and college class. The literature review of section 3 covers three methods of evaluating self-concept--self-esteem, self-acceptance, and locus of control. Similarly, in section 4 career maturity is investigated in terms of three outcome variables--career-attitude maturity, a process orientation to planning, and vocational-information-seeking behavior. Section 5, on career-development treatments, is composed of three subsections--affective career-counseling treatments, cognitive-career-counseling treatments, and behavioral-career-counseling treatments. Conclusions from the five sections are summarized at the end of the chapter.

The Life Career Development System

as a Treatment Variable

Research conducted with the LCDS has been limited to a small number of studies. The LCDS as an instructional treatment of

adolescents and college students is reviewed in three studies.

Johnson (1976) observed in his review of the literature that previous reports concerning the effectiveness of the LCDS had been positive. The first six modules of the LCDS were administered as an academic course for community-college students. The research design was a compromise experimental group-control group-design with pre- and post-testing, using pretest scores and age as covariates. He operationalized the construct of personal empowerment by identifying four variables--self-concept, vocational maturity, independent/responsible behavior, and a process orientation to planning. There were four instruments used to measure the dependent variables--the Tennessee Self-Concept Scale, the Career Maturity Inventory, the Adjective Check List, and a descriptive essay of an individual's process orientation to planning. The results of his study were inconclusive. Johnson concluded that the inability to demonstrate significant differences between the treatment and control group on the outcome variables was due to inadequate control of the subject's motivation, e.g., the psychology class, which served as a control group, may have had different motives in their self-selection than the experimental group.

A second outcome study of the LCDS was by Ehresman and Vincent (1976). They chose a posttest-only design to study the effectiveness of the treatment on 9th graders. There were four measures of career maturity used--vocational attitude maturity, self-awareness, occupational information, and goal selection. A measurement of students'

feelings toward their school was also included as an outcome variable. The authors reduced the size of the LCDS groups from 35 to 16 subjects, by random selection. The consultants, Walz and Benjamin, suggested that the optimum number for successful facilitation was 16. The LCDS groups did not show significant results on either the measures of career maturity or the index of school sentiment. The treatment of the LCDS was prematurely terminated due to negative student response after completion of four modules. The authors offered the following explanations for the insignificant findings:

1. the random selection of participants,
2. fatigue due to the class being scheduled at the end of the day,
3. students being penalized by losing their only study hall period, and
4. inadequate facilitation.

These two experimental studies of the LCDS point out two difficulties in conducting field research with the program. First, the length of the entire program, 60 hours, is problematic to schedule into a school semester. Second, the construct of personal empowerment needs to be more adequately defined. Ehresman and Vincent's (1976) study showed that a posttest-only research design can be used to avoid a third problem, the potential sensitizing effect of pre-testing.

In the third study, Kaufman (1978) evaluated the effectiveness of one module of the LCDS, "Setting Goals." The goal-setting

criteria were specificity, achievability, measurability and meaningfulness. She devised a criterion-referenced test for a pre- and post-test study. The results indicated that community-college students could learn goal-setting skills when participating in a 7-week application of the LCDS "Goal Setting" module.

Kaufman's (1978) study differed from the other two in its specificity. Her study examined one component of the LCDS, the module "Setting Goals." She overcame the time constraint of the LCDS, by only administering part of the system. She did not define the construct of personal empowerment, yet, the focus of her study included concepts which came under that construct. The concepts she used as criterion measures of goal setting represent competencies that are useful in career decision making. She developed a local instrument for evaluating the effectiveness of the treatment variable.

Kaufman (1978), like Johnson (1976) sought to measure the effectiveness of the LCDS by incorporating a pre-post-test design to evaluate the change in subjects' responses. Like Ehresman and Vincent (1976), she did not evaluate the effect of the treatment variable on self-concept measures. Unlike Johnson's or Ehresman and Vincent's studies of the LCDS, Kaufman's was effective.

The three outcome studies did not completely address the problem of the current study. They all used parts of the LCDS as treatments and offered particular contributions to the measurement of personal empowerment. Yet, they did not address the problems of

modifying the LCDS to enhance the personal empowerment of college underclassmen, nor did they consider the complexity of measuring self-concept development.

Summary

A summary of the foregoing consists of:

1. The LCDS can be used to evaluate the personal empowerment of subjects' responses.
2. The LCDS is a lengthy treatment which can be adapted to the criteria of particular investigations.
3. A posttest-only research design is a useful method for examining the effectiveness of the LCDS as a treatment variable.
4. The evaluation of personal empowerment needs to be more clearly related to the treatment variables to enhance this construct.

Secondary Factors

There were three secondary factors that influenced self-concept and career development--sex, race, and college class. Research that isolates these factors as treatment variables is described.

Sex

There were four studies reviewed that described the effects of sex on personality and career development. These studies show how sex can inhibit the personal empowerment of women.

Esposito (1975) in a comprehensive investigation studied the relationship of motive to avoid success and the following demographic and career variables--sex, race; and socioeconomic status (SES),

congruency, consistency, and differentiation of occupational choice; and occupational daydreams and their educational level. The subjects were 221 freshman college students. Socioeconomic status was measured on Hamburger's Revised Occupational Scale. Motive to avoid success was determined from written responses to the Thematic Aptitude Test. Holland's "Self-Directed Search," an individualized career-counseling program, was used to determine the five career variables. Sex, race, and socioeconomic differences were analyzed through a series of two-way analyses of variance. A Pearson's coefficient of correlation was used to analyze the relationship between motive to avoid success and the variables--consistency, congruency, and differentiation. Chi square tests were computed to determine the association between high- and low-motive to avoid success and the choice of Traditional or Pioneer occupations (from Hamburger's "Revised Occupational Scale") for white females as well as between motive to avoid success and occupational daydreams and their educational level for each sex-race group.

The results are summarized as follows:

1. There were significant differences between sexes on motive to avoid success scores, with females scoring higher than males. No significant mean differences were observed on motive to avoid success between races, socioeconomic levels and their interaction effects.
2. A significant and negative relationship was observed between motive to avoid success and congruency for white females. A

high motive to avoid success in white females was found to be associated with the choice of more traditional sex-role stereotyped-occupational aspirations. No significant relationships were observed for motive to avoid success and consistency or differentiation of occupational choice.

3. A significant association was observed between motive to avoid success and educational level of occupational daydreams for all sexes except black males. For females, a high motive to avoid success was associated with a low level of educational aspiration, while with white males, a high motive to avoid success was associated with a high level of educational aspiration. Esposito (1975) concluded that women (especially white women) resolved the conflict between femininity and achievement through modification of their behavior to the inner sex-role stereotypes which limit their vocational aspirations.

Garza (1978) studied the relationship between women in traditional, moderate, and innovative occupations and their level of androgeny; in addition, she examined whether women in these three groups differed in terms of their androgeny according to locus of control, self-acceptance, age, education, ethnic background, marital status, and position in the family. The subjects were 418 women employed on six community college campuses--263 in traditional occupations, 73 in moderate, and 82 in innovative occupations; three psychometric instruments were used to measure dependent variables--the Bem Sex Role Inventory, the Scale to Measure Internal Versus External Control,

and the Expressed Acceptance of Self Scale. A Demographia Data Sheet was also used. The findings showed that when adjusted for differences in locus of control, self-acceptance, age, marital status, and position in family, there were significant differences in occupational levels (traditional, moderate, and innovative) between androgenous and nonandrogenous women, as measured on the Bem Sex Role Inventory. Garza concluded that women in innovative occupations have more androgenous attitudes toward sex-role, than women in moderate or traditional occupations. Esposito (1975) and Garza's studies indicate the influence of sex-role on occupational choice.

McLoughlin (1978) in a treatment of two career-counseling programs for college women examined its effectiveness on the following dependent variables--self-concept, concept of employability, placement readiness, sex-role attitudes, and sex-role characteristics. Subjects ($n = 24$) were randomly assigned to a treatment group, placebo group, and a control group. The subjects in the treatment group received a sex-affirmative career-counseling program with components on sex-role socialization as related to career choice in females. The placebo group received a sex-fair career-counseling treatment with components which did not address the effects of sex-role socialization on career choice in women. The control group received no instruction or training. The subjects were tested three times--pretest, posttest, and follow-up. A correlation analysis of the pretest scores revealed that significant relationships existed between self-concept, concept employability, placement

readiness, and masculine traits. Significant relationships did not exist for feminine traits and the other dependent variables. The effectiveness of the treatment was evaluated with Lindquist Type 1 Analysis of Variance. There were mixed results: The sex affirmative career counseling group differed significantly from the sex-fair career-counseling group on total positive self, physical self, personal self, and social self; while the treatment group did not differ significantly from the control group on these variables. However, the data showed that the experimental group did experience a significant change from the control group on placement readiness. McLoughlin's findings suggest that women's career behaviors may be easier to change than their career attitudes.

Deaux and Emswiller (1974) performed a social psychological experiment to test the attribution of self-esteem. They found that different attributions were rewarded for successful experiences performed by men and women. If a man was the stimulus person, he was attributed to have ability, whereas if it was a women, she was said to be lucky in completing the experimental task. This differential attribution tendency was maintained with judges of both sexes. Feather and Simion (1975) and Feldman-Summers and Kiesler (1974) found a similar consistent denial of the ability of successful female stimulus persons.

Summary

Of the cited studies, the following findings are noted:

1. College freshman women in comparison with college

freshman men demonstrated a significant tendency to internalize sex-role stereotypes and avoid occupations that require high achievement.

2. Women in innovative occupations at community colleges tend to be more androgenous in their sex-role attitudes than women in moderate and traditional occupations at the community-college level.

3. College women's sex-role behavior is more responsive to career-counseling treatments than are college women's sex-role attitudes.

4. Attributions for successful experiences appear to be differentiated by sexes. Both men and women judges significantly differ in attributing success for men as a result of ability and for women as a result of luck.

5. These findings suggest that sex be included as a secondary factor that influences personal empowerment.

Race

There were three studies reviewed that describe the effects of race on personal and career development. These studies demonstrate how race restricts the personal empowerment of blacks.

Farmer (1978), in a review of the literature on the effects of race, sex, and SES, found that these factors restricted self-concept development. The disadvantaged groups, e.g., blacks, women, and individuals with low SES, had low self-esteem and an external orientation on locus of control. These characteristics inhibited these groups' career development on the following criteria--

goal-setting, identifying needed resources, planning, evaluating plans, trying out best plans, and evaluating goal plans. Her review showed that demographic variables could influence groups' outcomes.

Thomas and Carpenter (1976), in a cross-sectional study of elementary to high school students (6th to 12th grade), examined the main effects of race and sex control on career maturity. Using SES, as a covariable, an analysis of covariance was computed.

Significant main effects were found for race and locus of control. The results indicated that the mean-maturity scores for whites were significantly higher than those for blacks. Similarly, the mean-maturity scores for internals were significantly higher than those for externals.

Smith (1976) examined the relationship between career maturity and the reference group perspective of 188 low SES black high school students. Subjects' scores on the Survey of Community Opinions determined their reference group perspective as either middle- or lower-class. Career maturity was measured on the Career Maturity Inventory. The middle-class reference group obtained significantly higher vocational-attitude-maturity scores than the lower-class reference group. Smith concluded by questioning the appropriateness of career maturity for analyzing the career development of lower SES black youth. These three researchers show how race can restrict the career development of adolescents and adults.

Summary

The summary of this phase of the research follows:

1. Disadvantaged blacks have low self-esteem and an external orientation on locus of control. These characteristics inhibit their career development.

2. Controlling for SES, white adolescents scored significantly higher than black adolescents on scores of vocational-attitude maturity.

3. Low SES blacks with a middle-class reference perspective scored significantly higher than low SES black youth with a lower-class reference-group perspective.

4. Race is a secondary factor that inhibits the personal empowerment of blacks.

College Class

College class is another factor like sex and race which may account for group differences in student development. There were three career-counseling outcome studies reviewed. Although these studies do not completely support the following contention, the investigator suggested that college class enhances the personal empowerment of sophomores.

Most career-counseling-outcome studies do not evaluate the effects of college class on underclassmen's career development. Hamm (1978) studied the effectiveness of three different career-counseling techniques on college freshmen and sophomores without accounting for the difference of a year's experience in her sample. Similarly, Droessler (1977) examined the effects of a career workshop on 70 freshman and sophomore students without evaluating the difference

between the two classes. However, Kneflekamp and Slepitz (1976) reported differences within freshmen and sophomores in a study of the effectiveness of career decision-making classes on university undergraduate and graduate students. The freshmen and sophomores were rated as exhibiting two stages of behavior--dualist and transition--on Kneflekamp and Slepitz's Cognitive-Developmental Model of Career Development. University seniors, first-year graduate students, and advanced graduate students were all functioning at higher stages of performance than the freshmen and sophomores. Although these results do not specify a difference between freshmen and sophomores, they do suggest that such a difference might exist.

Despite the lack of clear evidence that college class contributes to personal empowerment, the present study examines college class as a secondary factor that seems to enhance the personal empowerment of sophomores. Sophomore students with a year's experience at college, most likely, have an advantage in adjustment over freshmen students.

Summary

A summary of the college-class review follows:

1. Most career-counseling-outcome studies do not evaluate the effects of college class on underclassmen's career development.
2. Kneflekamp and Slepitz's (1976) study, although not examining the effects of college class on career development, does indicate that qualitative differences do exist between students on the basis of years in higher education.
3. Despite the lack of clear evidence that college class

contributes to personal empowerment, the present study examines college class as a secondary factor that seems to enhance the personal empowerment of sophomores.

Self-concept

The literature on the treatment of self-concept consists of three subsections--self-esteem, self-acceptance, and locus of control. Each section discusses the treatment literature and briefly describes other contexts in which the variable has been studied.

Self-esteem

The use of self-esteem as an outcome measure for career counseling will be reviewed in terms of two primary populations--college underclassmen and high school students. These two populations are the most similar to the sample population used in this study. Research on other populations will be mentioned but not described.

Schroer (1978) used the Career Motivation Process program (CMP), a 10-hour career-counseling exercise, to test 122 college sophomores. She examined sex differences in self-concepts and the effectiveness of the program in changing self-concepts of participants. A significant difference was found on the pretest between the control group males and females, with males scoring higher on nine measures of self-esteem on the Tennessee Self-Concept Scale. In addition, the author's two posttests revealed no significant differences between the experimental and control groups; however, there was a difference in the self-concept pattern for females. The experimental females

scored higher than males at the outset and increased in a positive direction, receiving the highest Total Positive Self-Regard score in the study, while females in the control group moved in a negative direction, receiving the lowest Total Positive Self-Regard score. Schroer concluded that the CMP was an appropriate developmental program for the college population and that there appeared to be differences in the self-esteem of male and female students.

Beilin (1976) examined the effects of a vocational workshop on the self-esteem of undecided college freshmen. He studied a small sample of 30 dormitory residents--15 experimental subjects and 15 control subjects. The workshop consisted of eight structured group sessions from Figler and Mandell (1975) which the researcher presented. Beilin found no significant differences on any of his four hypotheses. He concluded that time may have been a factor in not allowing the subjects a sufficient period in which to try out the new behaviors learned in the sessions.

Gunter (1975) also used a short treatment, when she studied the effects of three different 12-hour guidance programs--a career class, a career counseling group, and a multimedia career orientation group. Her small sample consisted of 40 students--10 students were randomly assigned to each of four groups. Gunter evaluated the effectiveness of the treatments on measures of self-esteem, career crystallization, and satisfaction with treatment. She found two statistical differences on the Personal Self scale of the Tennessee Self-Concept Scale and the Career Certainty score of the Kuder

Occupational Interest Survey. From these findings the investigator concluded that the career-counseling group was more effective in enhancing junior-college students' self-esteem, career crystallization, and satisfaction with treatment. These three studies support the appropriateness of self-esteem as an outcome variable for a college underclassmen population.

Snider (1978), in direct contrast to the previous studies, examined the CMP on high school students finding no significant differences on measures of self-concept development or career development. Similarly, Knox (1975) found no significant differences on measures of self-esteem, consistency among counselee's values, career choices, and leisure-activities preference, during a 10-hour value-oriented treatment. The counseling was expected to result in more positive attitudes toward leisure, more positive self-esteem, and greater consistency among the counselee's values, career choices, and leisure-activities preferences in high school juniors.

Stonecypher (1973) in a study of the effectiveness of an occupational-guidance program, compared high school students involved in vocational and nonvocational curricula and found no significant differences in self-concept measures between the two curricula groups or between the treatment and control groups. However, Curran (1977) studying the effects of two career-counseling treatments--a self-help group and a career-guidance minicourse--found significant differences in self-concept development, with the minicourse members scoring higher on self-esteem than the control group, and on career-attitude

maturity, with the control group scoring significantly lower than the miniguide group or self-help group. These studies indicate the difficulty involved in changing this personality function for adolescents.

Self-esteem has also been studied as an outcome variable for career-development treatments with junior-high-school students (Clark, 1977; Higgins, 1972), elementary school children (McCordick, 1975; Rosenberry, 1977; Shelver, 1976), penal inmates (Feldman, 1973), emotionally disturbed adolescents (Jorne, 1978), psychiatric patients (Oleary, 1975), prospective teachers (Padgett, 1967), and middle-aged women (Strauss, 1977). All of these studies focus on the emotional dimension of the self-esteem literature, as Wells and Marwell (1976) describe it:

Most attention in the self-concept literature seems to focus on this dimension, so that self-concept is virtually equated with self-esteem (e.g., Taylor, 1955; Webb, 1955; Fitts, 1965; Korman, 1968)--either implicitly or explicitly. A major reason for this focus is the presumed motivational significance of the evaluations a person places on objects, especially himself, that is "the person's evaluation of esteem of himself plays a key role in determining his behavior" (Gergen, 1971). Much of what a person chooses to do, and the manner in which he does it, is presumed to be dependent upon his self-esteem [p. 60].

Self-esteem as the emotional dimension of self-concept has

been studied in relation to a number of other career development variables. The current review will briefly describe the relationship of self-esteem to variables of career choice for college students.

Barrett and Tinsley (1977) summarized the literature on self-esteem related to choice of major--a vocational concern for college undergraduates. The following studies did support these relationships between self-esteem and vocational choices: High self-esteem individuals were more "decided" as to college major (Maier & Herman, 1974); these students were also found to be more "certain" about their choice of majors (Resnick, Fauble, & Osipow, 1970) than low self-esteem students (Healey, Bailey, & Anderson, 1973; Leonard, Walsh, & Osipow, 1973).

On the basis of their review, Barrett and Tinsley (1977) decided that self-esteem might act as an independent variable to differentiate individuals as to their ability to make clear, certain and satisfying vocational choices. In their own investigation, they found that self-esteem accounted for 25% of the variance in relation to:

1. college students' crystallization of their vocational self-concept, and
2. college students' perceptions of themselves as "need competent decision makers" (i.e., their ability to make need satisfying decisions).

The investigators found that subjects with high self-esteem did

score significantly higher on the Vocational Rating Scale, a measure of crystallized vocational self-concept, and on the Decision Rating Scale, a measure of self-competent-decision making. These results show empirical support for self-esteem as an affective component in the phenomenological process of vocational-decision making.

Self-esteem has also been related to need for achievement, occupational aspirations, and career salience in the study of vocational choice. Bedian (1977) found a positive relationship between high self-esteem in college students and their tendency to aspire to occupations with high prestige. Similarly, Greenhaus and Simon (1976) found that college students high on self-esteem and high on career salience were most likely to consider their chosen occupation as ideal. These findings suggest that high self-esteem is related to making clear, certain, and satisfying vocational decisions.

Summary

The review of the literature on self-esteem can be summarized as follows:

1. Self-esteem is an appropriate outcome variable for a career-development study of a college-underclassmen population.
2. Self-esteem is a difficult personality function to change in adolescents.
3. Self-esteem is sometimes equated with self-concept, due to the emphasis placed on the emotional dimension and its motivational consequences.
4. High self-esteem in college students seems to be related

to the process of making clear, certain, and satisfying vocational decisions.

Self-acceptance

This subsection of self-concept reviews self-acceptance as an outcome measure of counseling interventions. There are two outcome measures found in the literature. Outcome studies that use these two different approaches are reviewed.

The two studies (Gillan, 1974; Woodhouse, 1974) define and measure self-acceptance as favorable attitudes toward self. These studies represent the first method of using self-acceptance for evaluation.

Woodhouse (1974) studied the effectiveness of a self-exploration group on measures of self-acceptance and acceptance of others. Undergraduates were randomly assigned to experimental and control groups. There were three administrations of Berger's Acceptance of Self and Others Scale given--a pretest, and two post-tests. The author found that not only did participants in the experimental groups significantly increase their favorable attitudes toward themselves and others, but they also maintained these positive attributes over a period of time.

Gillan (1974) used a simulation situation to study the effects of a job interview on self-acceptance. There were 93 male seniors who participated as subjects. The author evaluated the effects of five selection variables for the prediction of employee desirability, general ability, academic achievement, achievement in major

extracurricular involvement and part-time work. The dependent variable was self-acceptance as measured by the Number of Favorable Adjectives Checked on the Adjective Check List. Multiple regression analysis revealed that 36% of employee desirability was significantly accounted for by favorable attitudes toward self. This was significantly increased 40% ($p < .05$) by the addition of academic achievement. The subsequent addition of part-time work ($p < .05$) raised it to 44%. Together the five variables of employee desirability accounted for a partial correlation of .545 ($p < .01$). Gillan concluded that self-acceptance was positively related to acceptance of others and that guidance personnel should work to raise their client's levels of self-acceptance. Gillan's study and Woodhouse's (1975) study show that favorable attitudes toward self can be used as successful outcome measures for self and career-development treatments of college students.

The studies of Blackford (1976), Brew (1975), and Williams (1961) defined and measured self-acceptance as the discrepancy between attitudes. These studies represent the second method used in evaluating self-acceptance. After the second method of evaluating self-acceptance is presented, the differences between the two methods will be explained.

Brew (1975) explored the effects of a career-counseling workshop for adult women at a community college. The three types of information collected were on the Semantic Differential Scale, the Inventory of the Self-Concept, and demographic information sheet.

The two tests administered--a pretest and a 6-month follow-up post-test--were evaluated on a change in women's self-aspired--self-congruency scores and in their behavior. The results showed that:

1. participants in the workshop showed greater congruency (less discrepancy), and
2. follow-up scores for noninitiators versus initiators (subjects who started a new activity or job--paid or volunteer--resumed education, or additional counseling) revealed that non-initiators showed greater congruency (less discrepancy).

The investigator cautioned that the results must be interpreted with care, due to a lack of a control group and other factors associated with self-selection.

Blackford (1976) also investigated the effects of a guidance program on the discrepancy of attitudes toward self. She studied 61 Latino youths enrolled in an urban high school. In addition to the career sessions, one third of the sample was randomly assigned to participants in small-group counseling and another third was randomly assigned to home-school counseling. Self-concept and vocational maturity were measured on Bill's Index of Adjustment and Values, the Michigan State Motivation Scales, and a survey questionnaire designed to evaluate occupational intent. The treatment was found to be positive in enhancing self-acceptance, and both measures of vocational maturity. The results support the definition of self-acceptance as a discrepancy of attitudes.

Williams (1961) following the work of Dymond (1954) and

Rudikoff (1954), measured the effects of educational-vocational counseling on congruency scores for three types of self-perception--Self, Ideal Self, and Ordinary Self. Williams used three groups of volunteer undergraduate subjects--an experimental group (n = 45), a control group of previously counseled students (n = 46), and a control group of introductory psychology students (n = 30). There were three administrations of the Q-sort discrepancy measures--a pretest, a posttest, immediately following the treatment for all groups, and a long-term posttest 4- to 5-months after the treatment (for groups 1 and 2 only). The three group scores on Butler and Haigh's Q-sort were tested using an analysis of variance to evaluate group differences on a combination of the three adjustment scores--Congruence of Self and Ideal Self, Congruence of Self and Ordinary Person, Congruence of Observed Person and Ideal Self. The investigator concluded the following:

1. The experimental group showed a lower level of adjustment prior to the treatment than did the other two groups.
2. On overall adjustment scores, the experimental group significantly increased in comparison with the two other groups on change from pretest to posttest scores.
3. Upon completion of counseling, the adjustment level of all three groups was not significantly different.
4. The congruence of self versus ideal self, and self versus ordinary person remained relatively stable over 4 months while self versus ordinary person appeared to diminish.

Williams concluded that educational-vocational counseling helped to facilitate personal adjustment of attitude discrepancies.

The three previous studies demonstrate two techniques of measuring attitude discrepancies--discrepancy indexes, and Q-sorts. The differences in measurement on the five studies of self-acceptance are theoretically linked. Woodhouse (1974) was applying self-alienation theory, a theory that emphasizes the affective domain of self-concept development, to his study of the effectiveness of a self-exploration group. Favorable attitudes toward self represented a positive outcome for the group experience--a sharp contrast to self-alienation. Williams (1961) was applying Super's (1953) Developmental Self-Concept Theory, a theory that emphasizes the cognitive domain of self-concept development, to his study of the effectiveness of educational-vocational counseling. Congruence between self-attitudes represented a positive outcome for clients and a resolution of the discrepancy between conflicting roles. Both methods have proven effective in evaluating theoretical differences in self-concept measurement.

Summary

The review of the literature on self-acceptance can be summarized as follows:

1. The two methods of evaluating self- and career-development are reviewed as successful outcome measures of self-acceptance.
2. Theoretical differences determine the choice of one evaluation procedure over another.

3. The findings suggest that both methods have proven effective for evaluating theoretical differences in the self-concept measurement.

Locus of Control

This subsection of self-concept reviews the literature associated with the treatment of locus of control as an outcome measure of counseling interventions. The multidimensionality of this concept necessitates the specification of treatment domain. Theoretical differences can be used to influence the outcome.

Crow (1973) studied the effects of a Vocational Exploration Program on participants' locus of control, self-esteem, and vocational-attitude maturity. Subjects were randomly selected and assigned to one of three treatment group pools--the treatment group, the placebo-treatment-control group, and the no-treatment-control group. The students participating were 300 11th and 12th graders--150 from each grade. The criterion measures were a combination of three scales--the Rotter Internal-External Control Scale (I-E Scale), the Rosenberg Self-Esteem Scale, and the Attitude Scale of Crites' Career Maturity Inventory. The groups were given three tests--a pretest, posttest (immediately following treatment), and a follow-up posttest. Complete data was obtained and analyzed for 90 subjects--30 from each group. The author found no significant differences between the three groups on either of the two posttests. There was a noticeable trend in the internal direction on the I-E Scale. However, Crow thought that this trend might be attributable to the practice effect of pretesting or

other extraneous events. He concluded, that despite these findings, the VEG still had potential for changing personality variables with other high school populations.

Rivas (1978) also examined the effects of a career-development program on locus of control. Using a stratified random-sample procedure, she selected 60 9th grade students as subjects. She used three groups in the study--the experimental group (20 disadvantaged Mexican-American students enrolled in The Coordinated Vocational Academic Education--CVAE), the placebo-control group (another 20 disadvantaged Mexican-Americans enrolled in CVAE), and a control group (20 non-CVAE students). There was no significant difference between the three groups on the locus of control scores. Rivas concluded that less concrete, more abstract variables such as learner self-concept and locus of control need additional time and supportive service programs to change them. Both Crow (1973) and Rivas (1978) studies demonstrate the appropriateness of locus of control as an outcome measure of career-education programs, but they also indicate the difficulties encountered in treating this variable.

Schlesinger (1978) in a validation study, assessing student outcomes for a psychological-education course, "Skills for Living," examined the following concepts--self-esteem, locus of control, self-actualization, and vocational-attitude maturity. The four instruments chosen for validation of these concepts were--the Self Assessment Scales (SAS), the I-E Scale, the Personal Orientation Inventory (POI), and the CMI (Attitude Scale). Teachers' ratings of

74 junior and senior high school students enrolled in the course at three separate high schools were used to classify subjects on two objectives--enhanced self-concept and increased responsibility in directing one's own life. The top 30% of each class ranking was pooled to form a group called high self-concept or high responsibility, similarly the bottom 30% was pooled as to low self-concept and low responsibility. At the completion of the course, the subjects were administered a posttest on the four instruments. The high- and low-group ratings were compared on the scores. Self-concept was found to be a significant source of variation for two scales of the SAS--Well-being and Showing Feeling; while responsibility accounted for significant variation in the Well-Being Scale and the POI. The CMI-Attitude Scale and the I-E Scale did not detect group differences. The investigator concluded that the CMI and I-E Scale were not valid as outcome measures of psychological education for self-concept and responsibility. These findings show some of the limitations of the I-E Scale and CMI-Attitude Scale as outcome measures for a "Skills for Living" course.

Lynch, Ogg, and Christensen (1975) used the I-E Scale to assess the outcome of a Life Planning Workshop (LPW) on college students. The treatment group consisted of five men and eight women who volunteered as subjects compared with a no-treatment control group of three men and eight women volunteers. The two groups were pre- and post-tested on the I-E Scale. A factorial analysis of variance was used to control for self-selection (with I-E pretest

scores being used as covariates) and to account for posttest differences by group (experimental, control) and sex. A significant regression coefficient of $p < .0001$ suggests that the analysis of covariance was appropriately used. A significant difference between the two groups was found with the experimental group showing a greater degree of internality on locus of control. The authors warned that the small sample size and the self-selection factors should be considered in interpreting the results.

Johnson and Bukacek (1979) followed upon Lynch and his associates' (1975) research. Using a superior research design to evaluate the LPW, they also sought to examine the I-E Scale as an outcome measure. A between-participants design, synthesized from two designs presented in Campbell and Stanley (1963), was incorporated to control for history, maturation, testing instrumentation, and selection by providing random assignment to independent treatment groups. A Life Planning Workshop Questionnaire (LPWQ) was also developed to evaluate the degree to which specific workshop goals were achieved. The workshop goals were:

1. to bring participants to a confrontation with the future,
2. to help participants realize they can influence the future, and
3. to help participants develop a specific behavioral action plan to achieve their goals.

The I-E Scale was used to evaluate goal 2. and the LPWQ was used for goals 1. and 3. The subjects were college students ($n = 127$), who

were distributed randomly and assigned to take the LPWQ and the I-E Scale on one occasion (at sign up, pre, post- or follow-up). There were four independent groups created by the occasion to which they were assigned testing. The following results were found: the pooled data difference between pregroups and postgroups on the LPWQ was highly significant ($F = 12.991$; $df = 1,125$; $p = < .001$); while a one-way analysis of variance revealed no significant differences across the four occasions on the I-E Scale. The authors concluded that:

It seems likely that the test-retest decline noted by Rotter (1966) was confounded with workshop effects on Rotter scores in previous research using the within-participants paradigm. These results indicate that workshop goals were being achieved while raising questions about the appropriateness of the use of the Rotter I-E instrument for within-participants comparisons in life planning workshops [p. 357].

Thornton (1978) using a modified I-E Scale and a different research approach examined the effects of a career-planning workshop on secretaries. He was interested in whether internally-oriented subjects would be more responsive to a career-planning program. It was hypothesized that following the workshop, internals would be more active than externals in taking action--to identify personal strengths and developmental needs, to explore career goals and options, and to carry out means of attaining goals. A total of 97 secretaries participated in a 1-day workshop. At the beginning of

the program, a modified version of the I-E Scale (Robinson & Shaver, 1973) was administered and a follow-up questionnaire was sent out 4 months following the session. There was a 66% rate of return.

The following results indicated that:

1. the respondents scored more toward the internal end of the scale than nonrespondents [$t(95) = 3.98; p < .05$];
2. internal respondents reported more career-planning actions than external respondents;
3. internal respondents took more steps to explore potential career goals ($p < .05$);
4. internal respondents identified more strategies for attaining those ($p < .10$).

There were no significant differences in the respondents who took steps to explore current strengths and developmental needs. Overall, there was a significant correlation between the total number of career-planning and advancing activities and the I-E Score ($r = .62, p < .05$). Thornton concluded that there was a significant relationship between internality and the amount of career-planning activity. The author described the limits of the study, noting particularly that the study does not show conclusively that the workshop had an effect on the participants, although unsolicited comments suggest that it did. The findings were interpreted as being especially applicable to career-education programs stressing the development of an internal orientation to locus of control.

The six studies describing the effects of career counseling

on locus of control were not always consistent in achieving significant outcomes. These inconsistencies may be due in part to the research designs and may also be related to the complexity of measuring locus of control. Bradley and Gaa (1973) found that locus of control is a multidimensional construct, which could be susceptible to change in specific domains while not affecting locus of control belief in other situations. These findings justify the importance of matching the outcome measurement to that of the theoretical rationale.

Summary

The review of the literature on locus of control can be summarized as follows:

1. Locus of control has been used as an effective outcome measure of career counseling/educational programs.
2. Inconclusive findings with the I-E Scale may be related to the decline in scores associated with pre- and post-testing and to research designs that compare subjects' performance on within-participants samples.
3. Another explanation for the inconsistent findings may be the multidimensionality of locus of control and the domain specificity of this construct.
4. The domain specificity of locus of control serves as a justification for matching the outcome measurement to that of the theoretical rationale.

Career Maturity

This section on the treatment of career maturity consists of three subsections--vocational-attitude maturity, a process orientation to planning, and vocational-information-seeking behavior. The treatment literature is discussed in each subsection and the relationship of the outcome variables to other concepts is explored.

Vocational Attitude

Maturity

The treatment of vocational-attitude maturity is reviewed in terms of college and adolescent populations, as theoretical similarities in the developmental tasks of these age groups offers a basis for comparison. The outcome studies are organized by three groups (college, senior-high school (grades 10 to 12), and junior-high school (grades 7 through 9)).

Super (1963) described two developmental tasks associated with adolescent career development--crystallization (14- to 18-years) and specification (18- to 21-years). The only difference between these structures was an awareness of the need to crystallize or specify, depending on the task level. Super and Overstreet (1960) in the Career Pattern Study (CPS), a longitudinal analysis of 9th grade boys vocational development, empirically tested a model of vocational maturity. This process led to the creation of a factor-analytic model which condensed characteristics from the original model and was recognized as a classic study in the field of career development. Crites (1965), as an outgrowth of the CPS project, constructed the

Career Maturity Inventory to evaluate another model of career maturity. To accomplish this, he compared the vocational attitudes and behaviors of 9th graders with those of 12th graders. These two important studies were conducted with junior- and senior-high-school populations. The inclusion of these groups in the present review provides a more comprehensive picture of adolescent-vocational development. These groups provide more information about the structures of vocational development and are applicable to this study in illustrating the use of outcome measures to evaluate the acquisition of appropriate career attitudes and behaviors.

Wingett (1975) assessed the effects of a Career Awareness, Decision Making, Self-Concept, and Attitude Program (CAUSA) on 8th grade girls in three schools. The treatment and control groups were each composed of 38 subjects. There were two dependent variables--self-concept and career-attitude maturity--measured on the Piers-Harris Children's Self-Concept Scale and Crites' Career Maturity Inventory-Attitude Scale (SMI-AS). The data was examined using a two-way analysis of covariance. The main effect of school was significant on both measures, whereas the main effect of treatment was significant for the self-concept variable, but not for the career-maturity variable. No significant interaction effects were found on either dependent measures. In comparing the results with other findings, the author noted, that, although the content of the CADSA program was uniform among the three schools, the method of presentation may have differed. Wingett also observed that, while

another researcher had shown a need for enhancing the vocational maturity of rural students, the CADSA program had not satisfied this need. She concluded that the CADSA program could be used to facilitate self-concept development and that either the program should be modified to enhance career-attitude maturity or a different measure of the construct, more highly related to CADSA, should be used.

In a second study with 8th grade students, Wintersteen (1979) examined the effect of a class in decision making on the subjects' vocational-attitude maturity. Randomly assigning 132 subjects to two classes--an experimental class and a control class--the author used a Solomon Four-Group format as his design. The CMI-AS was used as one criterion measure. Students in the experimental groups were also measured on two scales of decision making--Miller-Tiedeman's Decision Making in Retrospect Scale to measure decision-making ability, and an instrument created for the study to measure the recognition of decision-making strategies. In addition, all students were tested on a derived-intellectual ability scale of the Educational Development Series. The statistical analysis of variance revealed that the experimental class had increased significantly ($p < .05$) in comparison with the control group on vocational maturity. A highly significant correlation was found ($p < .001$) between career maturity and intellectual ability; while no relationship was found, either between vocational-attitude maturity and change in decision-making ability. Wintersteen concluded by recommending the teaching of decision-making skills for enhancing the vocational-

attitude maturity of 8th graders.

The last two studies showed the applicability of career maturity as an outcome measure of career-education treatments for junior-high-school students. Egner and Jackson (1978) in a comprehensive study of the effectiveness of a career-decision-making-skills program on the vocational-attitude maturity and decision-making skills of 11th graders found, in their review of the literature, that consistent positive relationships had been established between decision-making and career maturity (Crites, 1973b, Dilley, 1965; Holland, Gottfredson, & Nofziger, 1975; Jepsen, 1974; Mathewson & Orton, 1963). Following an initially successful trial use of the decision-making program on college-bound youth, as evidenced by increased posttest mean scores on the CMI-AS (Jackson, 1974), the authors decided to investigate the effects of their program on a larger more diverse sample. The subjects were represented by four groups of 11th grade males ($n = 161$) and females ($n = 173$), who were selected in each of two city, two suburban, and two rural high schools. Students voluntarily chose to be in the experimental or control group. To increase external validity, academic and non-academic students were included in the study. Both the experimental group and the control group were composed of one group of academic students and one group of nonacademic students. The treatment group had 80 males and 81 females while the control group had 81 males and 92 females.

The two groups were pre- and post-tested on a career-decision-

making questionnaire (CDQ). The CDQ was designed to measure two dependent variables--vocational-attitude maturity and career-decision making. It consisted of the CMI-AS and problem situations related to the Enger-Jackson model of decision making. An analysis of covariance was used to determine the effectiveness of the career-decision-making program in enhancing students' scores on the dependent measures. Pretest scores were used as covariates. Egner and Jackson (1978) found that:

1. those students enrolled in the career-decision-making program significantly increased their career-maturity scores ($p < .001$) in comparison with the control group;

2. the program was effective in increasing the career maturity of academic students in comparison with nonacademic students;

3. decision making and career maturity were positively related; and

4. students found the program useful.

A second study, involving separate treatments of kindergarten through high-school students, is Bonnet's (1978) synthesis of program results emerging from federal projects for career education in 1975-1976. The number of treatments per grade groups was 3 kindergarten to 3rd grade studies), 6 (grades 4 to 6 studies), 15 (grades 7 to 9 studies), and 20 (grades 10 to 12 studies). The author used 10 goals to organize the different outcomes. Goal 3 was "equipped with a personally meaningful set of work values that foster in them

(students) a desire to work [p. 26]." The CMI-AS was used in the majority of these studies. Other instruments used were the Career Orientation Battery--Attitudes toward Work, the Valuing Approach to Career Education Test, and the New Mexico Career Education Test. Of the 44 studies measuring attitudes toward work, only 20 of them reported positive differences between mean scores. Bonnet (1978) found that career education seemed to be more successful with younger students in shaping their desire to work. She concluded, despite the results not being significant, that current education programs seemed to be able to provide adolescents with a desire to work. The four studies that have been reviewed seem to indicate that the CMI-AS is an effective measure for junior and senior high-school students.

The last two outcome studies in this review of vocational-attitude maturity are with college population. Davidshofer, Thomas, and Preble (1976) used the CMI-AS to evaluate the effectiveness of a Career Development Group Program (CDG). They cite Crites (1971) as having summarized the results of over 100 studies supporting the CMI-AS as an objective measure of vocational-attitude maturity. There were 41 college students who participated as subjects--31 in the experimental group and 10 in the control group. The subjects were pre- and post-tested on the instrument. The scores were analyzed for pretest and posttest test differences. Neither of the results were significant at the .05 level; however, the difference in the analysis on the posttest scores between the experimental and control group was in the expected direction. The authors explored several hypotheses

to explain the inconclusive findings. They found that a significant change had occurred in the experimental group from pre- to post-testing ($t = 2.71$; $df = 30$; $p < .05$). There was no significant change in the control group over a similar period of time ($t = .6049$; $df = 9$; $p < .05$), thus leading the researchers to conclude that the group experience had produced some change in the participants' vocational-attitude maturity. The failure to find significant improvement between the two groups may have been due to wider variability among the members of the experimental group or to the size of the samples. The authors felt that further research was needed to answer these questions.

Rubinton (1980) investigated the differential effects of two decision-making treatments and three decision-making styles on vocational-attitude maturity. There were four experimental groups--two treatment groups, one placebo attention group, and a control group. The career-counseling treatments were Guided Designs (GD) and Decisions and Outcomes (DO). Rational, intuitive, and dependent were the three decision-making styles. A total of 120 college freshmen participated in the experiment. Subjects in the treatment groups were randomly assigned to intact classes. The placebo group registered for a college orientation class and the control group consisted of students who were waiting to participate in the experimental classes. Vocational-attitude maturity was measured on the CMI-AS and decision-making style was measured on the Assessment of Career Decision Making (ACDM). All groups were pre- and post-tested

on the CMI-AS. Students were given the ACDM, 1-week after the treatment began.

A 3 X 4 chi square analysis revealed no significant pretest differences between the decision-making styles in the four groups. A two-way analysis of variance of the pre-CMI-AS means revealed no significant main effects for treatment or decision-making style; while the two-way ANOVA of the posttest means for decision-making style revealed a significant main effect $F(2,108) = 3.79, p < .01$ with a nonsignificant effect for treatment $F(3,108) = 1.94, p > .01$, and a nonsignificant interaction of style and treatment $F(5,108) = .94, p > .01$. Post hoc comparisons employing the Scheffe procedure resulted in significant difference ($p < .05$) between the rational style and the dependent style. Pretest and posttest means by t -test yield several mean differences. There were significant differences across the three decision-making styles for both treatments: The GD group was significant at the .01 level and the DO group was significant at the .05 level. Additionally, the rational decision-making styles pretest and posttest differences were significant at the .001 level and the dependent decision-making styles pretest and posttest levels were significant at the .01 level.

Rubinton (1980) concluded that the results strongly support the differential effects of the two treatments and the contribution of decision-making style to vocational-attitude maturity. The most significant increase in pretest posttest mean scores for vocational-attitude maturity with the intuitive style decision makers came with

the intuitive intervention (DO); while the most significant increases in pretest posttest mean scores for vocational-attitude maturity with the rational style decision makers came with the rational intervention (GD). The researcher concluded that future research should explore the effects of differential-career-counseling treatments with decision-making style and other personological variables related to vocational-attitude maturity. The outcome studies reviewed have shown the CMI-AS to be a widely used instrument in evaluations of career-education treatments for adolescents and college students.

Westbrook, Cutts, Madison, and Arcia's (1980) validation study of Crites' (1973b) Model of Career Maturity provides a comprehensive evaluation of the CMI-AS. The investigators examined two group factors of Crites' model of career maturity--career-choice attitudes and career-choice competency. The Career Maturity Inventory, a scale of indecision and a scholastic aptitude measure, was administered to 312 9th graders and 200 college technical students in two separate studies. The group factor of career-choice attitudes is measured by the CMI-AS and includes five dimensions--involvement in the choice process, orientation toward work, independence in decision making, preference for vocational-choice factors, and conceptions of the choice process. The relationship of the dimensions to their definitions and items on the CMI-AS is described in Table 1.

The authors interpreted the results of the two studies as showing internal validity for the CMI as a criterion measure of Crites' (1965) model, noting that variables classified under

Table 1
 Definitions and Samples of Items in the
 Attitude Scale of the Career
 Maturity Inventory

Dimension	Definition	Sample Item
Involvement in the choice process	Extent to which individual is actively participating in the process of making choice.	"I seldom think about the job I want to enter."
Orientation toward work	Extent to which individual is task or pleasure oriented in his attitudes toward work and the values he places upon work.	"Work is dull and unpleasant" and "work is worthwhile mainly because it lets you buy the things you want."
Independence in decision-making	Extent to which individual relies upon others in the choice of an occupation.	"I plan to follow the line of work my parents suggest."

Table 1--Continued

Dimension	Definition	Sample Item
Preference for vocational choice factors	Extent to which individual bases his choice upon a particular factor.	"Whether you are interested in a job is not as important as whether you can do the work."
Conception of the choice process	Extent to which individual has accurate or inaccurate conceptions about making an occupational choice.	"A person can do any kind of work he wants as long as he tries hard."

Note. From Crites, Measurement of vocational maturity: 1. Attitude test of the vocational development inventory, 1965, p. 35.

career-choice attitude had more in common with each other than with variables under career-choice competency; however, they questioned the external validity noting that Career Choice Attitudes had more in common with Indecision ($r = -.67$) and with Scholastic Aptitude ($r_c = -.43$) than it did respectively with Career Choice Competency ($r_c = -.47$ and $r_c = -.39$). The authors concluded that the results of their study raised more questions than they answered. They saw a major goal of future investigations as being to collect more evidence of the construct validity of career-maturity measures. They thought that future research would either confirm or deny the applicability of Crites' instruments as a measure of the construct validity of career maturity.

Summary

The review of the literature on vocational-attitude maturity can be summarized as follows:

1. Vocational-attitude maturity was found to be an outcome measure for junior-high school, high school, and college students.
2. Decision-making style and differential career-counseling treatments produced significant pretest and posttest mean differences on freshmen-outcome scores of the CMI-AS.
3. The internal validity of the CMI was generally supported with the dimensions of the two group factors of career-choice attitudes and career-choice competency having more in common with the other dimensions within the group factor than with

those outside the factor.

4. The external validity of the CMI was questioned with higher correlations being observed between the Attitude Scale and Indecisiveness and Scholastic Aptitude than with the Competence Scale.

5. The need for further research with the CMI-AS was advocated to confirm or deny the applicability of the instrument as a measure of the construct validity of career maturity.

A Process Orientation

to Planning

A process orientation to planning is examined as an outcome dimension of career interventions in this subsection. Research conducted with Crites' (1974) Career Maturity Inventory-Competency Test (CMI-CT), an instrument designed to measure the career-choice-competency factor of career maturity with five variables--Problem Solving, Planning, Occupational Information, Self-Appraisal, and Goal Selection--is reviewed. Treatments of adolescents and college students are discussed. These studies are analyzed for the effectiveness of the treatments on the outcome measures.

Forrest (1978), investigating difference aspects of Parson's (1909) theory of vocational guidance, studied the effects of three career interventions:

1. a program to teach self-awareness skills,
2. a program to provide students with career information, and

3. a program to integrate the learning of self-awareness skills with the acquisition of occupational information.

The subjects in the experimental group were 48 10th grade students, who were randomly assigned to one of three treatments. A control group of two 10th grade health classes was used. The criterion dimension was maturity in career-choice competencies. The CMI-CT was chosen to measure the effectiveness of the treatment on the criterion dimension. The four groups were posttested and a one-way analysis of variance was used to interpret the results. Forrest found that not only did the experimental groups show no significant gains on the CMI-CT, but also the control group consistently, although not significantly, scored higher than the experimental groups. These insignificant findings could be interpreted as demonstrating that the instruction and content of the health intervention were more effective in increasing the career-maturity scores of 10th grade students. On the basis of these findings, the author concluded that student difficulties in making self-appraisal decisions were identified by their exposure to the self-awareness treatment. Forrest recommends that the study be replicated on an older population and that the treatment of self-awareness be left to time rather than instruction.

In a second study evaluating the effects of group video feedback on the career exploration of 10th graders, Deakin (1978) used the CMI-CT subtests of Self-Appraisal and Goal Selection. These subtests were selected along with the CMI-AS as measures of career maturity. The concepts of career self-understanding and

vocational-information-seeking behaviors were also measured. The treatment consisted of three groups--a career-counseling group using Interpersonal Process Recall (IPR, a videotape feedback technique), a career discussion group, and a control no-treatment group. The three groups contained 11 to 14 students ($n = 36$). A pre-post-test design was used to measure change on career maturity, while vocational information-seeking behavior and career self-understanding were evaluated on a posttest-only design. The ANOVA statistical technique was used to examine the CMI-CT data and a series of chi square tests were used to analyze group differences on the measures of self-awareness and vocational-information-seeking behaviors. No significant differences were found among the three groups on the two subtests of the CMI-CT; however, the IPR group showed significant gains on the CMI-AS. There were, also, no significant effects found in relation to the concepts of career self-awareness and vocational-information-seeking behaviors. The author concluded that the research contained implications for future study of the career-maturity construct with video feedback techniques.

The previous studies demonstrate the use of the CMI-CT as an outcome measure for career-maturity competencies of high-school students. Bonnet's (1978) synthesis of career-education evaluations was noted in the last subsection on vocational-attitude maturity. Her work contains an analysis of recent studies (1975-1976) conducted with the CMI-CT. The synthesis includes three outcome goals that involve the five variables of the CMI-CT:

1. career decision-making skills (Goal Selection and Problem Solving),
2. self-appraisal/self-esteem (Self-Appraisal), and
3. career information (Occupational Information and Planning).

In 100 studies, using career-decision-making skills as an outcome goal, Bonnet (1978) noted that the Goal Section subtest was used 25 times with 3 significant results at the .05 level and 17 with positive differences between the mean scores. She also observed that the Problem Solving subtest was used 18 times with 2 significant results and 14 describing positive differences between the means. These two subtests were used with three grade groups: 4th to 6th grades, 7th to 9th grades, and 10th to 12th grades.

Bonnet (1978) identified 105 career-education studies using self-appraisal/self-esteem as an outcome goal: 19 used the Self-Appraisal subtest of the CMI-CT--2 of these outcomes were significant at the .05 level while 11 indicated positive differences between the means. The self-appraisal test was administered to the same three grade groups: 4th to 6th grade, 7th to 9th grade, and 10th to 12th grade as with the previous outcome goal.

A total of 172 studies were grouped under the outcome goal of career information. Bonnet (1978) found 25 studies using the Planning subtest of the CMI-CT--2 of these treatments were significant at the .05 level and 19 demonstrated positive-mean-score differences. She also identified 20 studies, which used the

Occupational Knowledge subtest--2 of these outcomes were significant and 12 indicated positive differences between the means. Again, the treatments were used with the same three populations--elementary, junior-high school, and high-school students. The author's synthesis supports the applicability of the CMI-CT to one preadolescent group and two adolescent groups. These findings support the applicability of the CMI-CT as a proven outcome measure for a wide age range.

Hamm (1977) studied the effects of three career-counseling strategies on the vocational-attitude maturity, vocational competence, and self-esteem of college students. The three concepts were measured on the following instruments--the CMI-AS, the CMI-CT, and the Tennessee Self-Concept Scale. The students volunteered to participate and were randomly assigned to one of four groups--individual counseling, self-directed counseling, group counseling, and the control group. Each group contained 20 subjects, except group counseling, which had 19. A posttest-only design was used. Just 52 students out of 79 satisfied the membership requirements and completed the posttesting on the three instruments. No significant differences were found between the four groups on any of the dependent measures. Due to the lack of conclusive findings, the author recommended the following:

1. increasing the length of the treatments,
2. including more students in the experimental groups, and
3. eliminating the use of volunteer subjects from the design.

Although these findings are not conclusive, they still support on an experimental basis the use of the CMI-CT as an outcome measure of career-counseling treatments for college students.

The four studies reviewed so far have been with high-school populations. The next study describes the effects of a career-development treatment with a college population. Ganster and Lovell (1977) evaluated the effectiveness of a theoretically based 15-hour career-decision-making seminar on college students' career maturity. The CMI, both the Attitude Scale and the Competency Test, was used to measure the dependent variables. A Solomon four-group design (Campbell & Stanley, 1963) was used. There were 24 undergraduates in the experimental group and 22 college students in the control group. Significant differences were found between the experimental and control groups on four out of six career-maturity variables with the experimental group demonstrating increased scores on the Attitude Scale, Self-Appraisal, Goal Selection, and Problem Solving. The researchers concluded that the results indicated support for a theoretically designed treatment (Holland's, 1973) and that the findings also attested to the validity of the CMI as a measurement and evaluation tool.

The five outcome studies reviewed show how the CMI-CT can be used to measure a process orientation to planning with high school and college students. The last study, Westbrook et al. (1980) validation report on Crites' (1973b) model of career maturity was mentioned in the previous subsection. However, an important finding of

that study is related to the present examination of a career-competency dimension; the authors, in finding support for the internal validity of Crites' model, were confirming the difference between the two dimensions of the model. Crites has referred to these dimensions as learning domains: noting that Problem Solving, Planning, Occupational Information, Self-Knowledge, and Goal Selection represent knowledge and abilities in the cognitive domain; while Involvement, Orientation, Independence, Preference, and Conception are attitudinal variables which represent the affective domain. The internal validity of the CMI-AS and the CMI-CT as instruments of these two dimensions, supports their use in the present study as measures of the affective and cognitive theoretical domains of career maturity.

Summary

The review of the literature on a process orientation to planning is summarized as follows:

1. A process orientation to planning is effective as an outcome dimension of career interventions.
2. The CMI-CT is effective with high school and college populations.
3. A recent validation study of Crites' (1973b) model of career maturity supports the existence of two theoretical dimensions/ domains of career maturity--the affective and cognitive.
4. The present study uses the CMI-AS and the CMI-CT as proven outcome measures of the affective and cognitive domains

of career maturity.

Vocational Information-

Seeking Behavior

Research on vocational-information-seeking behavior, as an outcome measure of career-counseling treatments, is reviewed in this subsection of career maturity. Performance of exploratory behavior represents a career-related developmental task for teenagers and young adults. The effectiveness of interventions, in helping students attain these vocational-information-seeking behaviors, is examined on two populations--high-school students and college students.

Krumboltz and Thoresen (1964) used two career-counseling procedures and two control groups:

1. reinforcement counseling,
2. model-reinforcement counseling,
3. audiovisual presentation (an active control) with discussion, and

4. the school's regular guidance program (an inactive control) to enhance the vocational-information-seeking behavior of 192 11th-grade students.

The authors replicated the study in six high schools--in each high school 20 boys and 20 girls were selected at random from a group of volunteers and were then randomly assigned to groups in the following proportions: 2 boys and 2 girls to the six treatment groups, 4 boys and 4 girls to two groups (the inactive control group and a reserve

group). The six treatment groups consisted of three individual procedures and three group procedures.

Vocational-information-seeking behavior of subjects was assessed by self-report statements made in evaluation interviews. The validity of these statements was investigated through random examination of 18 subjects, who reported 85 information-seeking behaviors--79 were verified and 6 were unconfirmable. These findings are consonant with those of Krumboltz (1963) and Schroeder (1964), refuting the falsification of self-report statements. There were two scores--frequency and variety--derived from each subject's interview protocol for information-seeking behavior. Krumboltz and Thoresen (1964) distinguished frequency--the number of reported behaviors from variety, the range of reported behaviors, e.g., two requests for graduate-school catalogs, and three counseling sessions would represent a variety score of 2 and a frequency score of 5.

A 4 X 2 X 6 X 2 analysis of variance was performed using treatments, sex of subjects, counselor-schools, and treatment setting (individual vs. group), as the independent variables. Separate analyses were computed for the dependent variables of frequency and variety; three of the four main effects were significant at the .05 level or better on the two criterion variables. The four treatments produced significant differences at the .001 level. The main effect of treatment setting was not significant for either variable. Interpretation of the results were complicated by four significant

interaction effects--treatment and sex of subjects, treatment and counselor-school; counselor-school and setting; and treatment, sex of subject, counselor-school, and setting.

Krumboltz and Thoresen (1964) concluded that:

1. model-reinforcement counseling and the reinforcement counseling were more effective than equivalent control groups in increasing vocational-information-seeking behavior;
2. model-reinforcement counseling was more effective for male students than was reinforcement counseling (a similar difference was not found for females);
3. although there was no significant difference between the main effects of counseling setting, male subjects, receiving reinforcement counseling, scored higher in the group setting than in the individual--while the opposite was true for males receiving reinforcement counseling (again, females did not show these differences); and
4. the significant main and interaction effects of counselor-schools suggests that different counselor and/or school settings have differential effects with male and females in group and individual counseling.

In a study similar to Krumboltz and Thoresen's (1964) and Krumboltz and Schroeder's (1965), Borman (1972) examined the effectiveness of three counseling methods--individual reinforcement counseling, educational and vocational guidance (active control), and normal-school guidance (inactive control), with two groups of subjects, classified by motivation, on their variety of vocational-information-seeking

behaviors. On the basis of 9th grade student responses to a motivation questionnaire, two pools of volunteers were classified as more or less motivated. From each pool, 36 students were randomly selected and randomly assigned to one of the three treatments. Upon completion of the treatments, the subjects were posttested on a vocational-information-seeking behavior questionnaire. An analysis of variance was computed and no significant main effects were found for treatment or motivation; however, interpretation of the data was complicated by a significant interaction effect at the .01 level, between the more motivated group and the less motivated group in terms of variety of vocational-information-seeking behaviors. The interaction appeared to be attributable to the differential effectiveness of treatments for the more and less motivated group. Borman noted that the educational and vocational-guidance treatment appeared to be more effective with the more motivated group, while the reinforcement counseling method seemed to be more effective with the less motivated group. He concluded by recommending that further research was needed to see if changes in the two counseling procedures might produce more effective methods for eliciting vocational-information-seeking responses.

The third outcome study in this review on high-school populations is another modification of Krumboltz and Thoresen's (1964) original experiment. As previous research (Krumboltz & Schroeder, 1965; Thoresen & Krumboltz, 1967) had shown that male models were more effective with male clients than for female clients; Thoresen, Krumboltz, and Varenhorst (1967) were interested in evaluating the

differential effects of sex of counselor and model on the frequency and variety of vocational-information-seeking behavior. The study was replicated in two suburban-high schools--24 boys and 24 girls were randomly selected from a pool of 11th-grade volunteers and assigned at random to one of 12 treatment conditions. The conditions were blocked by the six treatment variables, the sex of the client and counselor--two subjects of the same sex were assigned to each block. The treatment consisted of four models of reinforcement counseling, an active control, and an inactive control. All participants (n = 94--two did not complete the study) completed an interview session, conducted by independent judges, 3 weeks after the initial counseling treatment. The judges evaluated the subjects as to frequency and variety of vocational-information-seeking behavior. Separate analyses of variance were computed for the four models of reinforcement counseling on the frequency and variety of vocational-information-seeking behavior, and for the three methods of treatment--reinforcement counseling, active, and inactive control--and sex of subject on the outcome measures. The authors summarized the results:

1. Male students receiving model reinforcement counseling significantly ($p < .05$) increased their vocational-information-seeking behaviors in comparison with the two control groups.

2. Male students, using model reinforcement counseling with a male counselor and male models produced more information-seeking behavior than any combination using female counselors or

models.

3. Female students engaged in more vocational-information-seeking behavior when counseled by a male counselor using a model tape containing either all males or all females.

Thoresen, Krumboltz, and Varenhorst concluded that the results seemed consistent with cultural expectations that males are perceived as more competent and prestigious in vocational-decision making.

The fourth outcome study, to be reviewed in this subsection, shows the applicability of vocational-information-seeking behaviors to an older adolescent population--college students. Fisher, Reardon, and Burck (1976) continued to elaborate on the work of Krumboltz and Thoresen (1964), and Thoresen, Krumboltz, and Varenhorst (1967). In previous studies the effects of model reinforcement had been linked to additional counseling, the present authors were interested in enhancing vocational-information-seeking behavior by exposing subjects to a taped model without subsequent counseling. The three treatments consisted of the Curricular-Career Information Service Center (CCIS), with Module II and a model video tape; the CCIS center, Module II, and no-tape (active control); and the CCIS center (inactive control). Subjects self-selected to use or not use Module II and then were either alternately assigned to treatments or 2 randomly selected for treatment 3. From a total of 824 students, using the resource center, 42 students, equally divided by sex, participated as subjects in the study. Vocational-information-seeking behavior was measured by frequency and type, i.e., information-seeking behavior was classified by

six types--write, observe, read, listen, visit and talk. There were two independent variables investigated--treatments and sex of subjects. An analysis of variance was calculated for a 3 X 2 factorial design. Separate analyses were computed for frequency and type of vocational-information-seeking behavior. The authors found significant differences for both frequency (.05 level) and type (.01 level) of vocational-information-seeking behavior due to the treatment effects, while they found insignificant differences on these scores for the between sex effect, and the interaction effect. Subsequent analyses revealed a differential effect of treatment for male and female students with females exhibiting a significant treatment difference in type of information-seeking behaviors and males indicating a significant treatment difference in frequency of vocational-information-seeking behaviors. Fisher and his associates concluded that college students could benefit from the use of vocational-guidance materials that excluded counselor interaction and suggested that future investigations of modeling procedures should study subject variables (e.g., race and level of career maturity) and model variables (e.g., race and sex) in order to more clearly understand some of the observations found in their study. The four outcome studies in this subsection represent a coherent body of research investigating the effects of social-learning interventions on adolescents' vocational-information-seeking behavior. This outcome measure has shown promise in stimulating new research on career development.

Summary

The review of the literature on vocational-information-seeking behavior is summarized as follows:

1. Model-reinforcement counseling and reinforcement counseling were significantly effective in increasing vocational-information-seeking behavior.

2. Counseling treatments and student-career-motivation interact to produce significant differences in terms of vocational-information-seeking behaviors.

3. Male counselors with male student and male counselor models seem to produce the most vocational-information-seeking behaviors in male students, while female students produced more information-seeking behaviors with all male or all female models.

4. There were three outcome variables used for measuring vocational-information-seeking behaviors--variety, frequency, and type.

5. Career media guidance presentations can produce significant increases in vocational-information-seeking behaviors.

6. Sex of student and media treatments can interact to produce differential outcomes in vocational-seeking behaviors.

7. Vocational-information-seeking behaviors are effective career-outcome measures with high school and college populations and their use has stimulated a comprehensive body of research.

8. Vocational-information-seeking behaviors are proven outcome measures of the behavioral dimension of career maturity.

Career Development Treatments

The present section on the review of career-development treatments is organized into three subsections--affective-career-counseling treatments, cognitive-career-counseling treatments, and behavioral-career-counseling treatments. Each subsection describes career-counseling interventions that emphasize one of three learning domains--affective, cognitive, and behavioral (social learning). The strategies used in promoting self- and career-development are described and the effects of these treatments on sample populations are noted.

Affective Career-Counseling

Treatments

Affective career-counseling treatments stress the feeling or motivational aspect of learning. The Affective Life Career Development Course includes three modules of "The Life Career Development System"--"Exploring Self," "Determining Values," and "Setting Goals," which use affective strategies for motivating adolescents. There are three affective interventions that have been described in the literature for the treatment of needs, values, and goals. These three treatments correspond to the three modules used in the Affective Life Career Development Course. Career Education literature emphasizing these three treatments is described in this subsection.

Treatment of needs. Studies on the treatment of needs include a variety of techniques designed to help individuals identify, satisfy, or achieve their needs. The two approaches in the literature

have been achievement-motivation training, and a combination of different learning strategies for helping people obtain their needs. Both treatments of needs are examined.

Carlson (1974) used an achievement-motivation simulation with inner-city high-school students to enhance their vocational development. Using exercises and games to teach learning strategies and career concept, he found that the treatment did significantly enhance the vocational-attitude maturity of 10th graders, participating in the simulation, but did not significantly enhance their knowledge of vocational or educational concepts, or their perceptions toward school. Keck (1977) used an achievement-motivation program with high-school incorrigibles to enhance their self-concept and vocational maturity. The program consisted of two parts--a 2-day off-campus workshop and a 1-day on-campus workshop. The researcher did not find significant differences between the experimental and control group on measures of self-esteem or career-attitude maturity, yet the experimental group did show positive gains, without exception, on the subscale scores and on the Total Positive score of the Tennessee Self-Concept Scale, as well as significant differences ($p < .05$) on total faculty ratings, grade point averages, and daily attendance records. Keck recommended that the program be expanded to include a wide range of students, not confined to any particular label of behavior. These two studies demonstrate the applicability of achievement-motivation training as a method of treating adolescent needs.

McLelland and Winter (1969) used a more comprehensive approach in their program for adults of a low socioeconomic status. The treatment included cognitive restructuring, experiencing role models, and time as a factor in the relearning process. The protracted treatment took a year to complete. Participants gained a higher level of self-esteem and a more internal orientation on locus of control. Decharms' (1976) program, similar in many respects to McLelland and Winter's, was designed for black adolescents and was aimed at restoring a sense of power (internal orientation on locus of control) for these individuals. He used experiential techniques to help participants behave like powerful people. The treatment consisted of structured activities that encouraged participants to identify their own strengths and weaknesses, to develop action plans for goal achievement, and to evaluate progress in attaining goals. Evans (1973) studied the effects of vocational information on occupational aspiration of college students, who were classified by levels of ability, need achievement, and extraversion. The treatment consisted of a lecture program providing information about the 80 occupations listed on the Occupational Aspiration Scale (OAS). Upon completion of the treatment, subjects were posttested on the OAS. The results were inconclusive for the effectiveness of the treatment and for the effect of need for achievement on subjects' scores, as many subjects changed in a given direction in the high-need for achievement-experimental group as did those in the high-need for achievement

control group. These three outcome studies combine a variety of techniques for helping adolescents and adults fulfill their needs.

Treatment of values. Treatments of values include strategies designed to help individuals identify their values and prioritize them. The two methods of employing these strategies are values clarification and moral education. First, studies describing values-clarification programs are reviewed, then research on moral education is discussed.

Korschgen, Whitehurst, and O'Gorman (1978) studied the effects of a values-clarification workshop on the self-understanding of college students. Using subjects' and judges' ratings for a mock-job interview, which was conducted upon completion of the treatment, they found that the treatment significantly increased the participants' self-understanding. A 6-month follow-up revealed that value-group subjects still significantly rated the experience, as meaningful; however, there were no significant differences in long-term self-understanding or identification of goals. The researchers concluded that the lack of long-term self-understanding was due to the brevity of the value-clarification exercises (3 hours) and that further research should be conducted with the effects of values-clarification exercises over longer periods of time.

Lockwood (1978), in a comprehensive review of 13 "second generation" values-clarification treatments conducted from 1971 to 1976, analyzes the studies in terms of six primary criteria--research design, internal validity problems,

external-validity problems, major strengths, major weaknesses, and confidence in researchers' claims. He disputes the warranted claims of De Petro (1975) and Guziak (1975) as to their treatments of values clarification having an effect on the self-esteem of school-age subjects. With the exception of Fitzpatrick (1975) he dismisses the others' findings as impaired by statistical maneuvers and overgeneralizations. Lockwood's main criticism with values clarification as a treatment is in defining the objectives of the approach. Suggestions for future research include: requiring much larger differences in hard-to-measure, attitude scores before claiming effectiveness, being consistent in stating implications that follow from results, and reporting final data for individual groups as well as composite scores. In conclusion, the critic advocates the consideration of the variables of age-related differences and classroom atmosphere in future values-clarification treatments and the use of follow-up testing to confirm or deny speculations.

Instructional media and computer guidance programs are two technologies that can be used to supplement values-clarification programs. Lynn (1976) studied the effects of three instructional methods, using the film "Relationships with Other People" on occupational-high-school students classified by their high- or low-interpersonal-skill level on three scales of the California Psychological Inventory--Achievement via Independence, Tolerance, and Sociability. The three treatments were presentations (a) of the film only, (b) the film and print-based material, and

(c) the film-print-based material and formal classroom instruction. The results of Lynn's study showed that the film produced significant affective and cognitive growth on interpersonal skills in most students--especially the students with High Achievement via Independence scores. A group of students--those with low Tolerance scores--appeared to need special instruction in order to achieve significant gains in affective growth on interpersonal skills. Lynn concluded that the amount of growth that subjects experienced was directly related to the amount of instructional material used.

Katz (1980) described a computer decision-making program, the System of Interactive Guidance and Information (SIGI), developed by the Educational Testing Service.

The content of SIGI incorporates six major subsystems: Values, Locate, Compare, Prediction, Planning, and Strategy Throughout, the student encounters recurrent attention to values. Values serve as a major synthesizing element in an individual's self-concept and a dynamic force in decision-making: they provide the main dimensions along which students construe their desires and analyze occupational characteristics [p. 36].

Sampson (1978) studied the effects of three levels of counselor interaction with the SIGI system--a structured-counselor-intervention, a nonstructured-counselor group, and a control group with no interaction. The structured group consisted of counselor-intervention strategies based on the subjects' use of the computer system. The

nonstructured group allowed subjects the opportunity to request counseling interventions, and the control group allowed students to use SIGI with no counseling assistance. The subjects were 124 community college students. They were evaluated on three criteria-- perceptions of career development, evaluation of SIGI, and the way SIGI was used. The results indicated that the structured group form of interaction was the most valuable for students. Significant differences between the three groups were not obtained on the measures of perceptions of career development or use of the system. The author concluded that when using computer-assisted-guidance programs, structured counseling interventions should be available. Lynn's (1976) and Sampson's studies suggest that instruction media and computer-guidance programs are useful supplemental strategies for value clarification programs.

Moral education represents a new area of research for career guidance. As Severinsen (1979) noted, few career programs have been designed with a moral-education model. Kneflekamp and Slepitzka (1976) have developed a new model of career development based on Perry's theory of intellectual and ethical development in college students. Touchton, Wertheimer, Cornfeld, and Harrison (1977), using Kneflekamp and Slepitzka's career-development model as a guide for developing instructional modes and as a measure of student growth, taught and assessed a moral education program. They found their course to be effective in stimulating gains in freshman and sophomore college students' level of cognitive complexity. The average stage

movement of students in the developmentally-taught-experimental section was .59 compared to .17 in the traditional section and .39 in the mixed section. Their study has usefulness in terms of the concepts and methodology of developmental instruction. Their instructional system is very similar to the facilitation model used with "The Life Career Development System." As in the LCDS model of facilitation, Touchton et al. seek to provide a balance between challenging the student and supporting the student. The importance of structure and process are recognized. Students are encouraged to participate as well as communicate what they are doing. This balance between providing an external structure (e.g., lesson plan) and having students evaluate their own performance is the essence of developmental instruction.

Treatment of goals. The treatment of goals involves helping individuals develop plans for achieving their goals. There have been two strategies used in the treatment of goals--the life-planning workshop and career-development programs. Treatments that use these strategies with adolescents and young adults are examined.

Johnson and Bukacek (1979), Knickerbocker and Davidshofer (1978), Burke (1978), Cross (1976), Frederick (1975), and Kaufman (1978) conducted experimental research using goal-setting techniques. There were four of the research studies which included the Life Planning Workshop (LPW) as part or all of their treatment. The LPW consisted of a series of career-planning exercises designed

to help the individual determine his/her future. Johnson and Bukacek, and Lynch, Ogg, and Christensen (1975) effective treatments have already been cited in the subsection on locus of control. Knickerbocker and Davidshofer examined the impact of the LPW on attitudes of feeling reactivity and self-regard. There were 42 17- to 34-year olds assigned to experimental or control conditions. The results indicated that the LPW was effective in significantly raising the experimental group scores on attitudes toward future planning and feeling reactivity in comparison with the control group, while there were no significant differences between groups on the measure of self-regard. Burke used the LPW in a comparison of three career-counseling techniques--the LPW, Holland's Self-Directed Search (SDS), and a combination of the SDS and individual-career counseling, on black-freshmen students at Hampton Institute, Hampton, Virginia. She found that all three treatments produced significant differences in comparison with a control group on measures of career maturity, vocational indecision, and vocational-information-seeking behavior. She did not find any significant differences between the three groups experiencing the three treatments. She concluded that the three techniques were effective in influencing the career-related activities and attitudes of black students. These four studies support the overall effectiveness of the LPW as an affective strategy for assisting individuals in the process of goal attainment.

Cross (1976) and Frederick (1975) encountered mixed results with their career-development programs.

Cross used a Career Life Planning Seminar Course in conjunction with a Freshmen Experiential Teacher Training Program (FETTP). There were two treatments--FETTP and FETTP and the Course. The freshmen teachers were measured on three variables of personal development, educational development, and career development. The results were mostly nonsignificant--one exception was the combination groups scoring significantly higher than the FETTP group on the Occupation Scale of the Career Assessment Form. Cross concluded that individual differences in the three developmental areas should first be assessed, then group difference could be examined. Frederick (1975) studied the effects of two treatments on the life goals of delinquent adolescents. There were 45 volunteers who had the highest scores on the state-trait Anxiety Scale who were chosen as subjects. There were three groups to which subjects were randomly assigned--a career-development treatment program, a placebo discussion group, and a no-treatment-control group. Results showed that there were significant differences between the three groups, in favor of the reducing state-trait anxiety of the treatment. However, there were no significant differences among the three groups' life-goal scores. The author concluded that the treatment was effective in reducing anxiety but did not alter the adolescent's language goals.

The findings of the previous two researchers contrast with those of Kaufman (1978). Her study, cited in an earlier section on the review of the Life Career Development

System (LCDS), represented an effective application of the Goal Setting module of the LCDS.

Summary

The review of the literature on the affective career-counseling treatments is summarized as follows:

1. Achievement motivation training and a combination of motivational techniques have been used as effective strategies for helping people fulfill their needs.

2. Values-clarification programs and moral educational courses have employed effective strategies for helping high school and college students identify and prioritize their values.

3. The life-planning workshop and career-development programs have been used as effective strategies for enabling adolescents and young adults to attain their goals.

Cognitive Career Counseling

Treatments

Cognitive career-counseling treatments emphasize the thinking or decision-making aspect of learning. The Cognitive Life Career Development Course includes three modules of the "Life Career Development System: Expanding Options, Overcoming Barriers, and Using Information," which use cognitive strategies to help adolescents with career-decision making. There are three cognitive approaches that have been described in the literature. These approaches are the treatment of options, barriers, and information. These three treatments correspond to the three modules used

in the Cognitive Life Career Development Course. Career-education literature, emphasizing these three treatments, is described in this subsection.

Treatment of options. A variety of group programs have been used to help adolescents explore career options. There were three group programs reviewed that encourage young people to consider career alternatives.

Walter (1978) used an exploratory home-economics program with junior-high-school students. The treatment, "Exploring Careers in Fabrics and Living Environments," was evaluated on measures of career-decision-making competency, cognitive achievement, and vocational-attitude maturity. The researcher found that the experimental group scored significantly higher than the control group on the measure of cognitive achievement, while the control-group scored significantly higher than the experimental group in the measures of career-decision-making competency. There was no significant difference between the two groups on scores of vocational-attitude maturity.

Gordon (1977) used a preorientation career-orientation-planning intervention with 62 undecided-freshmen college students, who chose to be uncommitted to a degree track upon matriculation. In both an immediate posttest and a 3-month follow-up test, she found that the experimental group was more effective in helping participants to feel more decisive and satisfied with their choice of major and career than the control group. Gordon concluded

that the concentrated, informal treatment facilitated the decision-making process of incoming undecided freshmen. In another program designed for college freshmen, Heck and Weible (1978) administered an exploratory-career program. This program combined self-knowledge and an indepth knowledge of careers to increase the subjects' informed choices. The results of a questionnaire, designed to assess the attitudes of course participants, indicated that the treatment was successful in helping first-year students gain greater confidence in career-decision making. The three previous studies on group programs show the effectiveness of this method for assisting adolescents with the exploration of career options.

Treatment of barriers. In the present subsection, two techniques for overcoming barriers--simulations and problem-solving--are reviewed. Outcome studies that help adolescents and adults surmount obstacles are summarized.

Simulations are game-like experiences that are used to help individuals deal with life-like obstacles. Willett (1976) used a simulation experience, "Industry," with an adult-career-counseling project. Individuals who completed the exercise showed improved self-awareness and increased appreciation for the tasks of industrial personal management. Whitson (1975) used two simulation techniques, "Deciding" and the "Life Career Game" in her study of 8th and 9th grade students at two different junior-high schools. Her results did not show significant increases for the combined treatment group, utilizing both games, on the

criterion measure, the Career Maturity Inventory. Rohrer (1968) studied the influence of selected ability and interest dimensions as predictors of success for college students in a business-management-decision game. She found that degree of knowledge and skill in business operations, especially marketing, were the best predictors of success in the simulation while interest in accounting and record activities were negative predictors of success. These three studies demonstrate the effectiveness of simulations as a treatment of barriers.

Sharon and Colodner (1976) used "Counselor"--a simulation game for vocational-decision making--with 10th and 11th-grade students in Israel. The game involved groups of students acting as guidance counselors. Through group discussions and cooperative decision making, the groups would select suitable occupations for clients by matching personality-type and occupational environment (Holland, 1973). There were 77 subjects who volunteered to take part in the simulation and 31 who participated in the control group. A questionnaire, designed as a profile of a 15-year-old client, was used as a pre- and post-test measure (reliability $r = .77$). An analysis of variance with pre-test scores as covariates was computed. The results indicated significant differences between the experimental and control test scores on 6 out of 11 questions. The researchers decided that the game had been effective in achieving specific educational goals, e.g., an awareness of the many possible suitable occupations for the client. They

cautioned that the questionnaire was not an attempt to explore the validity of a particular theoretical approach to career-development. Sharon and Colodner concluded by emphasizing the difference between "Counselor" as a viable technique for increasing high-school students' awareness of external realities in vocational decisions rather than as a diagnostic tool for determining appropriate occupations for particular individuals.

The technique of problem solving can be applied to life-career-development barriers. Wagner (1976) designed and evaluated a career-development workshop for high-school seniors. Of the career competencies he measured, one was problem solving. He did not find significant differences between the control and experimental group on this measure, although he did find significant differences between the control and experimental group on vocational-attitude maturity. Tomilson-Keasy and Eisert (1978) described a specialized learning program for freshmen at the University of Nebraska, Project Accent on Developing Abstract Processes of Thought (ADAPT), a comprehensive-curriculum program designed to teach problem-solving skills through experiential instruction. The overall results indicated that Project ADAPT was moderately successful in meeting its goals. Another approach to problem solving was used by Fry (1974) in a case study of an army officer acting as a performance manager. The approach represented a departure from the traditional-motivational technique, threat of punishment, to a self-motivation method, without any breakdown in

discipline. Problem solving and simulations are two group career-counseling techniques which have been generally effective in helping adolescents and adults overcome obstacles.

Treatments of information. Treatments of information are designed to help participants process career information. There were three approaches to processing information examined--teaching decision-making skills, conveying occupational information, and a combination of group and individual-counseling techniques. Adolescents and young adults are the subjects of these treatments.

The teaching of decision-making skills is a useful technique for encouraging individuals to process information. Wintersteen (1979), in evaluating a program for teaching decision-making skills, found a significant difference between the control and the experimental group of 8th graders in vocational-attitude maturity; however, he did not find any significant differences between the two groups on the two measures of decision-making ability. Wachtel (1978), in a similar treatment study, found no significant differences in treatment and control groups on vocational-attitude maturity, classroom absenteeism, and program changes for sophomore students in an open-campus-high school. In contrast to these studies, Egner and Jackson (1978) conducted a large quasi-experimental study of 334 academic and nonacademic high-school students and found their treatment effective in significantly increasing vocational-attitude maturity and career-competency scores, as well as helping students evaluate their future career

choices. Fox (1976) also found generally effective results in her teaching treatment for college and postcollege females, although she did observe differential effects for the sample population; while Biscoglio (1976) using a commercially-produced program, "Decisions and Outcomes," did not find significant differences on measures of vocational-attitude maturity and career competency to support the conclusion that the career-decision-making program was effective with 11th graders. Although two authors, Wachtel and Biscoglio, found the treatments having low effectiveness with high-school students, the other two, Wintersteen and Fox, found a high degree of effectiveness in teaching career-decision-making skills to groups of adolescents.

Rosenberg (1977) used career-information-dispensing techniques to influence the information processing of college students. Rosenberg tested three treatments-- a written occupational-information group, a computerized occupational-information group, and a combination group. The results showed that the combination treatment was more effective than either treatment alone. Rosenberg's study demonstrates the effectiveness of career-information-dispensing programs with a college population.

A combination of group counseling and individual-counseling techniques have been used to enhance the information processing of teenagers and adults. Revello (1977) compared the effects of three treatments--career-activities training, the Self-Directed Search (SDS, an individualized learning program)

with a counseling interview, and a traditional-vocational counseling approach. He found that all three treatment groups were equally effective in helping high-school students develop career maturity.

Sullivan (1976) compared four treatments:

1. a group using traditional career-counseling techniques.
2. a group using a decision-making model,
3. individual counseling using traditional career-counseling techniques, and
4. individual counseling using a decision-making model.

The author found that both individual and group counseling with the decision-making model were significantly more effective, than the other two treatments in increasing the vocational-attitude maturity of college freshmen, while neither of the four treatments showed significant differences on measures of career competence. Sheperd (1973), in a similar comparison between individual and group counseling methods, found that group counseling produced significant results in relation to individual counseling on students' knowledge of their career-related interests; while group and individual counseling were about equally as effective on other measures of career development. These studies seem to indicate that individual and group counseling methods are both effective strategies in stimulating the career-information processing of high school and college students.

Summary

The review of the literature on cognitive career-counseling treatments follows:

1. Group programs, utilizing effective cognitive strategies, have helped young people to consider career alternatives.

2. Problem-solving techniques and simulation strategies have been effective in encouraging adolescents and adults to find ways of overcoming obstacles.

3. Teaching decision-making skills, conveying occupational information, and counseling techniques (individual and group) have been effective strategies in helping students process career information.

Behavioral Career Counseling

Treatments

Behavioral career-counseling treatments include the social or environmental aspects of learning. The Behavioral Life Career Development Course contains three modules of the "Life Career Development System: Working Effectively, Enhancing Relationships, and Creating Futures," which use behavioral strategies for increasing the social competencies of adolescents. There have been three behavioral interventions described in the literature; these are the treatment of management contingencies, interpersonal skills, and future-forecasting techniques. These three treatments correspond to the three modules used in the Behavioral Life Career Development Course. Career-education literature, utilizing these three treatments, is described in this subsection.

Treatment of management contingencies. The treatment of management contingencies provides young people with techniques for working more effectively. The three strategies of management contingency--stimulus and response techniques, study-skills programs, and self-monitoring methods--are used to increase adolescent social behaviors. Treatments which use these strategies are reviewed.

Atkinson, Davis, and Sanborn (1972) compared three groups of superior high-school students-- a stimulus-response-training group, a video-taped model group, and a control group. The stimulus-response-training group consisted of cue presentation plus reinforcement counseling (CPR). The criterion measure was the number of verbal questions that subjects ask. The two treatment groups significantly increased the number of subjects' questions, in comparison with the control group. The CPR group produced the highest question-asking frequency. The authors concluded that the two methods of behavioral counseling had been effective in stimulating the superior high-school students' verbal responses. This study demonstrates the effectiveness of stimulus-response training as a contingency management strategy for gifted adolescents.

Tarpey and Harris (1979) defined and evaluated a study-skills course for college students. The course required students to follow six procedures:

1. establish end-of-term grade goals,
2. set weekly study goals,
3. keep records,

4. participate in class discussions,
5. make contracts with the instructor, and
6. discuss specific study techniques, e.g., taking notes from lectures and reading, studying for and taking tests, and writing research papers.

In comparison with a control group of similar students, the treatment was shown to be effective in significantly increasing the grade point average and study habits of participants. This study reinforces the applicability of study-skills programs, as a technique for the contingency management of college students. Study skills are an essential part of the life-career-development of college students, as they represent effective coping behaviors for the vocational task of completing college.

In a review of the literature, Grenier and Karoly (1976) found that despite the variety and widespread success of study-skills programs (Robinson, 1970), the problem of persuading college students to use newly-acquired study skills persists (Harris & Ream, 1972). Grenier and Karoly devised six treatments--an information-control group, an information-expectancy-control group, an information-plus self-monitoring group, an information-plus self-monitoring plus self-reward group, an information-plus self-monitoring plus self-reward plus planning group, and a no-treatment control group to evaluate college students' ability to internalize these behaviors. The subjects were assessed on process and outcome measures. The Brown

and Holtzman (1967) Survey of Study Habits and Attitudes (SSHA) and a questionnaire designed to assess motivation to change study habits were process measures; while the outcome measures were quiz scores, study habits, and grade point average. The authors found that subjects in the self-control plus planning group consistently outperformed the other self-control trained groups, as well as the control groups on the majority of assessment measures. They concluded that the results support theoretical positions (Miller, Gallanter, & Pribram, 1960; and Mischel, 1973). The three previous outcome studies represent three effective group methods of managing the environmental contingencies of adolescents.

Treatments of interpersonal skills. Treatments of interpersonal skills are designed to improve the individual's ability to form friendships. The three outcome studies of interpersonal-skill treatments reviewed are--assertive-behavior training, self-disclosure training, and social modeling. The effectiveness of these treatments on adolescents and adults are examined.

Schinke and Rose (1976)

in a review of experimental studies isolated a number of effective techniques for assertiveness training: behavioral rehearsal (McFall & Twentyman, 1973), verbal instructions (Eisler, Hersen, & Miller, 1973), response feedback (McFall & Marston, 1970), practice (Hersen, Eisler, Miller, Johnson, & Pinkston, 1973), modeling (Martinson & Zerface, 1970). The researchers noted that most of these studies concentrated on the individual as the unit of treatment with a few

studies investigating the possibilities of a group treatment (Rathus, 1972, 1973; Wright, 1973). Schinke and Rose investigated whether two group-counseling treatments--behavioral-rehearsal-contracting and behavioral-discussion (placebo control)--would increase the assertive behaviors of self-referred adult-counseling clients. The behavioral-rehearsal-contracting group contained a duplicate treatment of the control group, plus social modeling, behavioral-reversal techniques, contingency contracting, and a buddy system. The three outcome measures used were--The California Psychological Inventory, the Rathus Assertiveness Schedule, and an audio-taped behavioral role-play test. The authors found that the subjects in both conditions improved equally on the two self-report measures, while the behavioral-rehearsal group showed significant gains over the control group on the role-play test. The authors concluded that the self-report inventories may have been influenced by repeated administrations (3); whereas the role-play test, as a measure of actual assertive behavior, may have been the most useful instrument.

Zarle and Boyd (1977)

used three treatment groups--a communication-skills-training group, a modeling group, and a control group (no-treatment), on married couples, from a staff and student university population. The communication-skills-training group contained a combination of both didactic and experiential methods, while the modeling group was a systematic videotaped modeling approach. Measures of the quality of interaction and facilitative self-disclosures were used. There

were five measures on the quality and quantity of self-disclosure obtained from two instruments--the Hill Interaction Matrix and the Facilitative Self-Disclosure Scale. The results showed that:

1. the communication-skills-training group demonstrated a significant increase on four of the five measures of self-disclosure,
2. the modeling group demonstrated an increase on three of the five measures, and
3. the control group did not change on any of the variables.

The authors concluded that both modeling and experiential methods can contribute to the affectiveness of interpersonal-skills-training programs.

Using these treatments--social modeling, systematic-training only, and the residence-hall-adviser program (control)--Dalton and Sumbald (1976) examined the effectiveness of three methods of teaching interpersonal skills on 90 undergraduate-resident advisers. All groups participated in the residence-hall-training program (control group), a brief audiovisual introduction to the form of empathic responses, the systematic-training-group only received five 2-hour empathic training sessions, and the social-modeling group observed a 90-minute audiovisual counseling model of empathic responses. Subjects' written responses were rated by judges according to the level of empathy on Scale I of the Carkhuff Scales for Assessment of Interpersonal Functioning. The authors found significant results with the modeling

group showing significantly higher empathy scores than both the systematic-training group and the control group. Dalton and Sumbald concluded that the study showed the potency of social modeling for the communication of empathy. The three preceding outcome studies exhibit three strategies--assertiveness training, self-disclosure training, and social modeling for improving interpersonal skills of adolescents and adults.

Treatment of future forecasting techniques. Treatments of future forecasting techniques are used to provide the individual with a positive outlook toward the future. As Thomas and Coan (1978) noted research in the area of future studies instruction is almost nonexistent. The two studies reviewed used future forecasting techniques to shape the future orientation of high-school students.

Using a career education and future-studies program, designed for gifted high-school students, Torrance (1976) pre- and post-tested a treatment and control group on three outcome measures--a written-career-narrative plan, a scenario (about a day and week in the year 2001), a soliloquy (a statement of accomplishments in retrospect from the year 2001). The results were analyzed on six dimensions:

1. expressed satisfaction with future career,
2. perception of the worldkind/mankind as changed,
3. heightened consciousness of trying to make the world better/solve future problems, and

4. originality, imagination, and involvement of self as a creative problem solver.

Torrance found the posttest means to be significantly higher than the pretest means on all six dimensions listed above. These results do not indicate the effectiveness of the treatment, although they do suggest that future forecasting techniques are viable strategies for teaching about the future.

Thomas and Coan (1978) in a more comprehensive study evaluated the effectiveness of the Making Changes program, for 300 junior and senior high-school students. The course integrates instruction in skills and strategies of inventive problem solving with alternative futures. The program incorporates four methods and objectives borrowed from:

1. Strategies for defining and solving open-ended problems: the Osborn-Parnes Creative Problem Solving Model (Osborn, 1963; Parnes, 1967); the Synectics Model (Gordon, 1961; Gordon and Poze, 1972).
2. Specific techniques for facilitating fluency, flexibility, and originality (Gordon, 1961; Davis, 1969; Torrance, 1976).
3. Skills and strategies for interpreting trends and generating forecasts about the future (Glenn, 1975; Kaufman, 1976; Torrance, 1976).
4. Attitudes and dispositions conducive to inventive problem solving (Parnes, 1967) to the investigation of

alternative futures (Kaufman, 1976); and to a healthy orientation toward the future (Kaufman, 1976; Torrance 1976) [Thomas & Coan, 1978, pp. 4-5].

The program was evaluated on a total of 18 measures, including appeal and acceptability of the program, students' mastery of program concepts and strategies, changes in students' attitudes toward problem solving and group work, and changes in fluency, flexibility and originality of students' responses on a variety of creative thinking and problem-solving tasks, as well as changes in students orientation to the future. Participants were not measured on all the scales, as the researchers were concerned about test burden. Significant results were found on measures of fluency, flexibility, and originality of students' descriptions of possible futures, but they were not found in altering students' attitudes and beliefs about the future. The researchers concluded that an instructional program that combines inventive problem solving and futures studies can produce changes in students' images of the future. These two outcome studies support the use of future forecasting techniques for increasing the creativity of adolescents.

Summary

The review of the literature on behavioral career-counseling treatments is summarized as follows:

1. Stimulus response techniques, study skills programs, and self-monitoring methods are effective skills for adolescents' working efficiently.

2. Assertive behavior training, self-disclosure training, and social modeling are effective techniques for helping young people to form friendships.

3. Future forecasting techniques are effective strategies for enhancing the creativity of high-school students.

Conclusion

The treatments of the Life Career Development System were used to evaluate the personal empowerment of adolescents. Except for one study, they were ineffective in relating the treatment variables to personal empowerment.

There are three secondary factors which seem to influence the treatment of personal empowerment on young people. Sex can decrease a woman's personal empowerment; race can decrease a black's personal empowerment; and college class can increase a sophomore's personal empowerment.

The outcome variables of self-esteem, self-acceptance, and locus of control were proven measures of high school and college students self-concepts. They represented three learning dimensions of the self-concept construct--affective, cognitive, and behavioral. Similarly, vocational-attitude maturity, a process orientation to planning, and vocational-information-seeking behaviors represented three dimensions of the construct-career maturity. Also, they were proven outcome measures of career maturity for adolescents and young adults.

The three life-career-planning treatments emphasize one of

the three learning dimensions. Career-development strategies similar to those used in the modules of the life-career-planning treatments were found to be instrumental for high school and college students in the three learning areas of personal empowerment.

Chapter 3

Methodology

The current investigation examined the effects of three life-career-development courses on self-esteem, self-acceptance, locus of control in decision making, career-attitude maturity, vocational-information-seeking behaviors, and a process orientation to planning on underclassmen at Franklin Pierce College. This chapter describes: (a) the subjects, (b) the college setting, (c) the evaluative procedures, (d) the instruments used to measure the dependent variables, (e) treatment of subjects, (f) the experimental conditions, (g) the procedures to be used for data collection, (h) the elements of research design, and (i) the techniques of statistical analysis.

The Subjects in Their College Setting

There were 40 freshman and sophomore students at Franklin Pierce College who participated as subjects in this experiment in the Fall and Winter terms of 1980-1981. Franklin Pierce College, a small private, coeducational 4-year liberal-arts college, is located in Rindge, New Hampshire on Pearly Lake near the base of Mount Monadnock. Founded in 1962, Franklin Pierce College offers a liberal-arts experience to 858 students. The college's mission statement defines the student's experience at Franklin Pierce as "a time to shape his/her ability to change, to grow intellectually as well as individually, and to address the educational as well as the vocational demands of a

world in flux [Franklin Pierce College, 1980-81, p. 4]." Franklin Pierce has eight academic departments--anthropology, biology, creative and performing arts, economics and management, English, History, psychology, and sociology--which are subdivided into 24 academic divisions, with four concentrations in which a student can receive vocational training--Recreation Management, Computer Science, Mass Communications and Teacher Certification. A student can combine his major with a particular vocational focus and thus gain more experience in an area related to one's career interests.

The geographic distribution of students attending Franklin Pierce comes primarily from the Northeastern portion of the United States. Approximately 60% of the student population comes from suburban-urban centers, while the remaining 40% are from a more rural setting. According to Fall 1979 enrollment figures, the largest number of students came from the following five states: Connecticut 190 (21%), Massachusetts 160 (18%), New York 155 (17%), New Jersey 140 (16%) and New Hampshire 91 (10%).

The economic background of most students is middle- to upper-middle class: 60% of the student body receives some form of financial aid. The comprehensive fee, consisting of tuition, room, board, and activity fee, for the 1979-80 college year was \$5,475.00.

The admission policy is characterized as "flexible," i.e., each individual is considered on the basis of whether or not he will find the College acceptable to his needs. Guidelines for acceptance to Franklin Pierce are distributed to high-school-guidance counselors,

outlining the following criteria:

1. Successful completion of academic program in high school with C/C+ average.
2. 800 combined SAT.
3. The trend toward improved grades.
4. Difficulty of Course work.
5. The amount/level of extracurricular activity.

Any student applying with a verbal SAT of below 300 is referred to special committee for consideration. The special committee composed of the Director of Admissions, the Academic Advisor, and the Study Skills Specialist evaluate the student's folder to see if there is any evidence of potential success at Franklin Pierce. The Director of Admissions stated that approximately 11% of the newly admitted students to the College had received favorable action from the special committee; of these specially admitted students, 7 subjects or 17.5% of the sample population used in the study were admitted under these special conditions.

Evaluation Procedures

There were two types of evaluative procedures used in deriving self-concept scores. Wells and Marwell (1976) identified these two evaluative procedures as "implicit derived evaluations," and "explicit derived evaluations." An examination of self-concept theory provides a continuum of self-regard measurement with self-affection representing one end and self-evaluation the other. The two evaluative procedures correspond to theoretical differences

along this continuum. In the explicitly-derived evaluations, a subject does not directly report his own impressions, but rather provides parallel descriptions of himself and his ideal or aspirational self. This procedure represents a position toward the self-evaluation end of the continuum. Similarly, in implicit-derived evaluation, the subject does not give his own evaluations. However, he reports how much he likes himself--in general or in terms of some particular trait and unlike the explicit-derived evaluations, the subject only provides one part of the evaluation. He does not state his ideal or aspirational goals. The implicit-derived procedure represents the self-affection side of the theoretical continuum.

Wells and Marwell (1976) found a certain amount of disagreement as to the definition of outcomes for the implicitly and explicitly derived evaluation procedures in the literature:

Fitts (1965) uses the implicit derived score to yield a score labeled self-esteem. Butler and Haigh (1954) and Cohen (1959) specify that explicit derived evaluation procedures (intersort correlations and discrepancy scores, respectively) yield measures of self esteem, however Crowne and Stephens (1961) and Helper (1958) term it self-acceptance, and this same form of measurement is popularly described as an index of personal or phenomenal "adjustment"--e.g., Bills, Vance, and McLean (1951), Block and Thomas (1955), Fiedler et al. (1959)--distinguish between explicit derived and implicit derived forms of evaluation, specifying that the

former provides a measure of "self-satisfaction" to which a person approaches his personal ideals--while the latter is a measure of self-esteem to which a person approaches social ideals [p. 94].

The present study agrees with Crowne and Stephens (1961) and Helper's (1958) definition of self-acceptance as the outcome of the explicitly-derived evaluation procedure and with Fitts (1965) in using the implicitly-derived procedure to measure self-esteem; in addition, another outcome definition of an implicitly-derived evaluation technique is used to measure locus of control in decision making.

The strengths of the explicitly-derived procedure and the weaknesses of the implicitly-derived procedure are noted in the following review:

The use of discrepancy measures seems to rely on several points, both conceptual and empirical. Most important of these is an apparent and desirable isomorphism between computational and definitional specifications of the self-esteem construct, lending considerable "face validity" to the measurement form. For those who use Cohen's (1959) definition of self-esteem as "the degree of correspondence between an individual's ideal and actual concepts of himself," the appeal is easily apparent. In addition, the use of two-part scores makes explicit those elements of the evaluative judgment which remain implicit and unmeasured where subjects are merely asked to describe themselves. Wylie (1961, 1968)

argues that using the cultural ideal for the trait (as the designer or user of the measure perceives it) as the individual's implicit ideal self assumes both that such a cultural ideal exists and that it coincides with the individual's phenomenal ideal. Both such contentions, she notes, are empirically unproven. Wylie (1961, 1974) adds that the discrepancy score "is in principle the more consistently phenomenological index." While the single self-concept rating of self-esteem may appear to be simpler, it actually involves another kind of dual index, one part of which is implicit and nonphenomenal. Since most discussions of self-esteem depict it as a phenomenal process, such criticisms may be important [Wells & Marwell, 1976, p. 96].

While the strengths of the explicit-derived evaluations procedure lie in its conceptual linkage to theory, its weaknesses lie in its computational transformation of scores, i.e., the problem of interpreting the variance of a score which is an arithmetic combination of two or more variables whose variances have their own conceptual meaning. Helper (1958), Kenny (1956), and Wylie (1961) have criticized the explicitly-derived procedure for its computational weaknesses. Conversely, the strengths of the implicitly-derived procedure lie in its computational simplicity. Wylie (1974) and Burns (1979) recommend its use over the explicit-derived procedure because of this advantage.

Both procedures are used in the current investigation. Self-acceptance is measured by the explicit-derived procedure as it is the

most appropriate technique for evaluating Super's (1953) Developmental Self-Concept Theory while self-esteem and locus of control in decision making are measured by the implicit-derived procedure as it is an applicable technique for evaluating Hoppock's (1976) theory of career development and Krumboltz's (1974) social learning theory. The implicit-derived technique is applicable for evaluating both theories as the method of score derivation is inferential. Thus, theoretical differences can be interpreted through a similar evaluative procedure.

Summary

The following summarizes the evaluation procedures:

1. There are two evaluation procedures identified with theoretical differences in the measurement of self-concept-- explicit-derived evaluations and implicit-derived evaluations.
2. The explicit-derived evaluations procedure is strong in its conceptual link to phenomenology and weak in its computational transformation of scores.
3. The implicit-derived evaluations procedure is strong in its computational transformation of scores and weak in its conceptual link with cognitive theory.
4. The explicit-derived technique of evaluating self-acceptance is chosen in the present investigation because of its appropriateness to Super's (1953) Developmental Self-Concept Theory.
5. The implicit-derived technique of evaluating self-concept

is used in part of this study as a measure of self-esteem and locus of control in decision making because of its applicability to Hoppock's (1976) Theory of career development and Krumboltz's (1974) Social Learning Theory of career development.

6. The implicit-derived technique is appropriate for both the affective and social learning theories as the method of score derivation is inferential.

The Instruments

There were six instruments used to measure the dependent variables of personal empowerment on the subject sample in its college setting. The instruments were: The Tennessee Self-Concept Scale (TSCS), the Adjective Check List (ACL), the Career Development Responsibility Scale (CDRS), the Career Maturity Inventory-Attitude Scale (CMI-AS), the Process Orientation to Planning Indicator (POPI), and the Vocational Information Seeking Behavior Checklist (VISBC).

The Tennessee Self- Concept Scale

The TSCS was designed by William H. Fitts in 1965. There are two forms: A Counseling Form (C) and a Clinical and Research Form (C & R). The forms are two pages in length and take from 10- to 20-minutes to complete. The C & R form was chosen as the instrument provided more descriptive data to help interpret group self-esteem scores. The C & R form and the C form consist of 100 self-descriptive statements evaluated on a 5-point Likert Scale, ranging from "Completely False" to "Completely True." The C & R form consists of

29 scales, 14 more than the C form. The 29 scores include: a True/False Ratio, Self-Criticism, Net Conflict, Total Conflict, Total Positive consisting of 8 Positive subscores: Total Variability consisting of 2 Variability subscores, Total Distribution consisting of 5 Distribution subscores, 6 empirical scales, and a Number of Deviant Signs. The Total Positive score will be used to measure positive self-regard. The True/False Ratio will be used to measure self-description, and the Total Distribution score will be used to measure certainty of perception. Total positive self-regard, self-description, and certainty of perception represent three feelings of attitudes which an individual has toward himself.

The total Positive Self-Regard score reflects the individual or group's overall level of self-esteem.

People with high scores tend to like themselves, feel that they are people of worth and value, have confidence in themselves, and act accordingly. People with low scores are doubtful about themselves and have little faith or confidence in themselves [Fitts, 1965, p. 2].

The True/False Ratio Score, which defines self-description, is being interpreted from a self-theory perspective.

From this approach, high True/False scores indicate that the individual is achieving self-definition or self-description by focusing on what he is and is relatively unable to accomplish the same thing by rejecting or eliminating what he is not. Low True/False scores would mean the exact opposite, and scores in the middle ranges would indicate that the subject achieves self-definition by a more balanced employment of both tendencies--affirming what is self and eliminating

what is not [p. 4].

The Total Distribution score is a summary score of the way an individual distributes his answers across the 5-point Likert Scale to each of the 100 items composing the TSCS.

It is also interpreted as a measure of still another aspect of self-perception: certainty about the way an individual sees himself. High scores indicate that the subject is very definite and certain about the way one sees himself while low scores mean just the opposite. Low scores are also found at times with people being defensive and guarded Extreme scores on this variable are undesirable in either direction . . . [p. 3].

Response set. Response set is being discussed as a methodological consideration that has important implications in the use of self-report inventories. Anastasi (1976) explored the relationship of self-concepts to self-report inventories.

The interpretation of personality inventory responses in terms of self-conceptualization forms the basis of a provocative hypothesis formulated by Loevinger (1966a, 1966b), Loevinger & Ossorio (1958), Loevinger, Wessler, and Redmore (1970). Bringing together many disparate findings of her own research and that of others, Loevinger proposed a personality trait which she defined as the capacity to conceptualize oneself, or to "assume distance" from oneself and one's impulses. According to Loevinger, it is the manifestations of this trait in personality inventories that have been described in such

terms as facade, test-taking defensiveness, response set, social desirability, acquiescence and personal style. In common with other psychologists Loevinger regards such test-taking attitudes not as instrumental errors to be ruled out, but as the major source of valid variance in personality inventories [pp. 598-599].

This investigator's theoretical rationale is consistent with Loevinger's in describing self-esteem as the feelings or attitudes one has about one's self-concept.

The research concerning response styles has passed through two distinct phases (Anastasi, 1976, p. 520). First, response sets were identified as being sources of error variance in self-report inventories to be eliminated. Second, these sets became recognized as indicators of broad and durable personality styles that were worthy of investigation (Jackson & Messick, 1958, 1962; Wiggins, 1962). Yet, a controversy over their designation as sets or styles remains (Bentler, Jackson, & Messick, 1971, 1972; Block, 1967, 1971, 1972; Jackson, 1967a, 1967b; Samelson, 1972). Burns (1979) makes this argument for response style versus response set:

In terms of the phenomenological approach to self-concept it is tempting to ask whether there is a problem here at all, for what a person believes about himself might not be objectively true, as observed by others, but it is true for him and motivates his behaviour [sic]. Thus it can be argued that social desirability is a factor that is part of one's

attitude to oneself [p. 83].

This investigator agrees with the phenomenological point of view and sees response style as a meaningful portion of an individual's self-image. There are two variables of response style measured by the TSCS--social desirability and acquiescence.

Edwards (1957), Crowne and Marlow (1964), and Frederiksen (1965) have presented evidence to indicate that the social desirability variable is related to putting on a good facade, an individual's more general need for self-protection, avoidance of criticism, social conformity, and social approval. The True/False Ratio score which is being used as a measure of self-description can also be interpreted as an indicator of social desirability.

Couch and Kenniston (1960) have distinguished another variable of response style--acquiescence--or the tendency to answer "true" or "yes." This variable is conceptualized as continuous with the "truesayers" on one end of the continuum and the "falsifiers" on the other end. Acquiescence is described by the concept of certainty of perception which is measured by the Total Distribution score on the TSCS.

The present investigation might be criticized in its application of the TSCS for not accounting for a third factor attributed to response set. Berg (1967) has described a third variable of response set, which he labeled deviance. This variable is based on unusual or uncommon responses. As the scores for this variable would be determined in comparison with a norm group, this measure could not be

operationally defined as self-feelings or attitudes. Deviance, as a response set, should not confound the present investigation as it will not substantially influence the TSCS in distinguishing individuals who are low on self-esteem.

Reliability. Test-Retest Reliability for the TSCS was computed with a sample of 60 college students over a 2-week period (Fitts, 1965). Reliability coefficients of .82, .92, and .89 were reported, respectively, for the True/False Ratio score, the Total Positive score, and the Total Distribution score. These coefficients suggest that the percentage of score variance attributable to different sources may range from 82% to 92%.

Validity. There are four kinds of validation procedures present in the manual (Fitts, 1965)--content, discrimination between groups, correlation with other personality measures, and personality changes under particular conditions. Each procedure will be described.

The TSCS was constructed from a large pool of self-descriptive items which Fitts derived from the self-concept measures of Balester, Engel, and Taylor. Items were also added from written self-descriptions of healthy and mentally ill individuals. After analysis of the items, a phenomenological system was devised on the basis of what the items were saying about the individuals. This led to the development of a 3 X 5 classification system by seven clinical psychologists, who judged the items as to their positive or negative content, assigning an equal number to the 3 X 5 matrix. The

90 items chosen were those on which the judges had reached unanimous agreement. From these systematic procedures it can be assumed that the classification system has adequate content validity.

The TSCS has been used to discriminate different groups on self-concept measures. The following three groups have been compared to determine the concurrent validity of the TSCS: between psychiatric patients and nonpatients; between delinquents and nondelinquents; and between the average person and the well-integrated person (Fitts, 1965, p. 17). Fitts cites the work of Congdon, Piety, Havener, and Wayne to confirm his data that showed highly significant (almost at the .001 level) differences between patients and nonpatients for almost every score that is incorporated in the instrument. He also found similar results in comparing a personality integrated group with patients.

Another approach to differentiating groups has been an application of self-theory which contends that there should be predictable self-concept differences in groups whose behavior is different (Fitts, 1965, p. 21). Atchinson (cited by Fitts) using the C form found significant differences on all scores, except Self-Criticism and Total Distribution between delinquent and nondelinquent groups. The delinquents had lower Positive scores and higher variability scores. Lefeber (cited by Fitts) found significant differences between juvenile first offenders, repeated offenders, and a control group. Wells and Bueno (cited by Fitts) found that a group of alcoholics had significantly low Positive scores, high Variability

scores, and more extreme Distribution scores.

The TSCS has been compared to a number of other instruments which measure similar personality constructs (Fitts, 1965, p. 24). McGee (cited in Fitts) correlated scores of the Minnesota Multiphasic Personality Inventory (MMPI) based on 102 psychiatric patient tests. The relationship between the Total Positive scale and Ego Strength ($r = -.44$) was significant at the .01 level; it was not significant between the Lie score and True/False Ratio score ($r = .05$), nor between the Correction score and Total Distribution score ($r = .04$). Quinn's (cited by Fitts) study found a correlation of $-.534$ between the Total Positive Score and the Minnesota Teacher Attitude Inventory. Since high scores on the inventory represented unhealthy attitudes toward children, it appears that teachers with high self-regard have more favorable attitudes toward children. Wayne (cited by Fitts) reported a correlation of $.68$ between the Total Positive score and Izard's Self Rating Positive Affect Scale. Searles (cited by Fitts) found the following correlations between self-concept and family relations on the Kell-Hoefline Incomplete Sentence Blank and Total Positive Scale ($.58$), and the Total Distribution score ($.77$). The TSCS did not correlate significantly with the Edwards Personal Preference Schedule (EPPS); however, further examination by Sundby (cited by Fitts) indicated the inappropriateness of the comparison because the "ipsative" scores of the EPPS result only in the extremely high and low scores being correlated. Overall, the TSCS, especially the total Positive Score, appears to

demonstrate significant construct validity with other tests.

The fourth method of examining the construct validity of the TSCS is to gauge the influence of life experiences on personality change--"positive experiences should enhance the self-concept, whereas negative or stressful experiences would be expected to result in lower self-esteem [Fitts, 1965, p. 28]." These studies have involved pre- and post-testing in predicting possible change. Gividen (cited by Fitts) evaluated the effects of stress and failure on Army paratroopers. Both the Pass and Fail groups showed significant decreases. The Fail group demonstrated a significantly greater increase in the True/False Ratio score while both groups showed less certainty of perception as evidenced by lower Distribution scores. Aschraft and Fitts (cited by Fitts) conducted a study of personality change in response to psychotherapy. The therapy group not only recorded significant change for the group as a whole on 18 of the 22 predicted variables but it also achieved 765 correctly predicted individual score changes out of 1,110 predicted. These studies support the construct validity of the TSCS for measuring personality change.

Bentler (1972) reported two major weaknesses of the TSCS. He found no information available on the internal consistency of the scale or subscale scores and noted a high degree of overinterpretation relative to the data base. The reviewer concluded that at best two or three dimensions exist in the scale. The three scales chosen for the present study represent two different

dimensions--self-esteem and response style. There may be some overlapping of self-definition and certainty of perception as these concepts represent two variables of the response-style dimension.

Selection. The TSCS was chosen because of its high reliability, content validity, and concurrent validity in discriminating groups on the basis of self-concept measures. It was also chosen as an implicitly-derived evaluation procedure for the affective dimension of self-concept. Other advantages of the instrument are its simple format, easy administration, and quick scoring. Despite the researcher's attempts to include response style in the measuring process, certain unexplained factors may contribute to error variance in the scoring of this self-report inventory. The TSCS is selected with an understanding of the limitations of the self-report format.

The Adjective Check List

The Adjective Check List (ACL) was designed by Gough (1950) as the way of collecting observations of staff members in personality assessment. The ACL consists of 300 words, selected from approximately 18,000 words which Allport and Odbert (1936), and Cattell (1943, 1946) had analyzed and which Gough shaped into a more manageable format for his research at the Institute of Personality Assessment and Research (IPAR).

The ACL has been used in three ways to analyze personality:

1. to study the difference between self and ideal-self image,

2. to observe others or groups of others, and
3. to study historical personalities.

The present study will use the ACL to measure an individual's level of self-response in terms of his self-ideal--self discrepancy

The responses of subjects in selecting adjectives on the ACL can be evaluated on 24 scales; 15 of these scales correspond to the need scales of Murray's Psycho-Social Personality theory: achievement, dominance, endurance, order, intraception, nurturance, affiliation, heterosexuality, exhibition, autonomy, aggression, change, succorance, abasement, and deterence, with the other nine representing different aspects of the testing situation and personality; total checked, defensiveness, favorable, unfavorable, self-confidence, self-control, liability, personal adjustment, and counseling readiness.

The ACL can be used with children from 9-years-old to adults. The test takes 20-minutes to administer, equaling approximately 40-minutes for the subjects to complete two different score sheets. The ACL can be hand- or computer-scored.

While at IPAR, Gough (1965) developed an index of correspondence, i.e., a scale for the self versus ideal-self correspondence. The index was determined by calculating a phi coefficient, For each man a 4-fold point surface was tallied counting adjectives checked both times, neither time, the first but not the second, and the second but not the first. Phi coefficients were then computed for each of the 100 distributions

[p. 14].

The phi coefficient is a suitable measure of association indicating the strength of the relationship between the self- and ideal-perceptions. It is used to operationally define the phenomenological concept of self-acceptance.

The self versus ideal-self correspondence apparently reflects a generally healthy and positive kind of psychological disposition. One might anticipate a component of egotism and self-satisfaction among those high on the self versus ideal-self continuum but in this sample [n = 100 men] no such trend was apparent. It may be that the "above average" range in our example has absolute in addition to relative significance so that phi coefficients in the range of .51 and .85 are the ones that take on these favorable implications whereas values of over .85 would not [Gough & Heilbrun, 1965, p. 19].

Response style. Response style is taken into account in the measurement of self-acceptance. Jacobs and Barron (1968), Radcliffe (1966), Stricker (1969), and Wiggins (1966) have conducted studies which show the facility with which desired impressions can be deliberately created on personality inventories. Since self-acceptance, like self-esteem, is based on individual attitudes, desired impressions are just as relevant as actual ones. The method of comparing one's real self to one's ideal self is similar to many of the studies which have been designed to show "faking,"

"acquiescence," of "social desirability" (Anastasi, 1976, p. 516). Yet, in the current investigation, this method of comparison is used as an appropriate measure of association of real and ideal self-images. This measurement of association is consistent with cognitive-career-development theory which postulates the congruence for discrepancy of attitudes toward self.

The use of the total number of checks as an index of acquiescence response tendency may bypass the possibility that the number of checks, does reflect a valid and meaningful personality dimension. It is possible, for example, that subjects differ in the degree of development and differentiation of self-concept and that this difference may be reflected in the number of adjectives checked. Thus, a distinction might be made between acquired cause and what might be termed inclusiveness or complexity, defined as the number of distinct variables or elements included in a particular concept [Masterson, 1975, p. 300].

Gough and Heilbrun's (1965) methods of controlling acquiescence by converting raw scores to standard scores are not being used, as they would confound the measurement of the phi coefficient. However, Gough and Heilbrun's recommendations for eliminating any subject whose standard score on the Scale of Defensiveness exceeds the range of 30 (minus) and 70 (plus) will be observed. This procedure will control for extreme-response sets.

Reliability. The test-retest reliability scores for college students over a 10-week period are stated in the manual: "Total checked, males .76, females .86, Favorables, males .76, females .67, and Unfavorable, males .84, females .77 [Gough & Heilburn, 1965, p. 14]." The differences between male and female scores are an indication that perceptual differences within these two groups do influence consistency of scoring. This may also account for the weak reliability coefficients.

Validity. There were three types of validity considered in selecting the instrument--content, concurrent, and construct. The development of the ACL progressed from a list of 171 words, obtained from Cattell's (1943, p. 46) study; 108 words were added for theoretical reasons, i.e., words thought to be essential for describing personality from different theoretical perspectives (e.g., those of Freud, Mead, Murray, et cetera); two more revisions were made to include important omitted works; thus, completing the final list of 300 adjectives (Gough & Heilbrun, 1965, p. 5). The derivation of the Favorable and Unfavorable Scales by a sample of judges has already been described. These systematic efforts at producing a meaningful and communicable measure of self self-concept contribute to the content validity of the ACL.

A major use of the ACL in the research literature has been to determine the self-concept characteristics of a particular group (Masterson, 1975, p. 279). Nathan, Zare, Ferneau, and Lowenstein (1970), Vanderpool (1969), and Nathan, Titler, Lowenstein,

Solomon, and Rossi (1970) have used adjective check lists in the assessment of alcoholics' self-concept, while Hooke and Kraus (1971) in their study of successful police sergeant candidates found a response tendency toward conventional and socially-desirable behavior.

The ACL has also been used to compare the self-concepts of different groups. Astin (1971) compared college protesters, nonprotest leaders, and random-college students, finding student activists and nonprotestors to be relatively similar in self-concept.

Reinehr (1969) found that unhospitalized alcoholics were able to agree (70% agreement) on only 8 adjectives out of 300 on the ACL, whereas a hospitalized sample reached agreement on 19 adjectives as being self-descriptive.

Because of its conduciveness to repetition and application to almost any stimulus object, the ACL has been used in multiple comparative paradigms (Masterson, 1975, p. 280). Heilbrun (1971) asked adolescents to describe themselves first as they saw themselves and second as they believe others to see them. Davis (1969) using the ACL found a significant correlation between the role expectations of social science and nursing students and their self-concepts. These studies show the versatility of the ACL as an instrument to demonstrate the concurrent validity of distinguishing group self-concept characteristics.

The ACL has been compared to other personality inventories to demonstrate construct validity for its different scales.

The manual (Gough & Heilbrun, 1965) reports the following correlations: Number of Adjectives Checked shows a significant correlation ($< .01$) with the Self-Acceptance Scale, and a negative correlation, in the anticipated direction, with the Sociability Scale of the California Psychological Inventory (CPI) (p. 28). The Defensiveness scale showed an expected significant negative correlation ($\underline{r} = -.40$) with Welsh's Anxiety Scale on the MMPI and another significant correlation ($\underline{r} = .33$) with Edwards' Social Desirability Scale (p. 17). The relationship between Favorable and Unfavorable Scales appears frequently in the opposite directions in comparison with other instruments. There are two measures of Intellect with which these Scales seem to demonstrate some significant association--the General Information Survey (Favorable $\underline{r} = .23$, Unfavorable $\underline{r} = -.20$, $p < .05$) and the Gottschalt Figures Test (Favorable $\underline{r} = .24$, Unfavorable $\underline{r} = -.17$)(p. 18). The high correlations shown between ACL Scales and those of other instruments is an indication of the construct validity of the ACL.

Rorer (1972) is critical of the development of the ACL. He questioned the selection of the adjectives as being neither complete nor exhaustive. He especially disputed the content validity of the ACL, finding little evidence of it. Vance (1972), on the other hand, liked the simplicity of the ACL and saw it as having utility for research, as an economical measure of general adjustment. While not being complete or exhaustive, the utility of the ACL as a research measure lies in its compatibility with different theoretical perspectives.

the theoretical importance of the instrument counteracts its weaknesses in content validity.

Selection. The construct validity of the ACL was an important factor in its selection. The ACL is an appropriate measure of cognitive-career-development theory. It is chosen as one of several instruments to measure self-concept and vocational maturity. The adjectives it includes may not be exhaustive or complete, yet they represent a comprehensive picture of an individual's personal adjustment. The ACL represents an explicit-derived evaluation procedure for the cognitive-dimension of self-concept.

The Career Development

Responsibility Scale

Hollie Thomas (1974) developed CDRS "to measure the extent to which students feel that reinforcement in terms of success in preparation-acquisition-performance situations in a career are to be considered contingent on the student's own behavior [p. 4]."

The CDRS is a 30-item instrument devised so that there are two items for each cell of a 3 X 5 matrix. The matrix is composed of two dimensions--the conative area of Crites' (1973b) CMI Attitude Scale and the cognitive areas of his CMI Competency Scale; the three conative areas include independence, involvement, and responsibility, while the five cognitive areas are self-knowledge, occupational information, goal selection, planning, and job-acquisition performance.

Each item in the matrix was written to reflect both dimensions of the matrix and to provide a response mode that

forced the student to choose between an internal and external response [Thomas, 1974, p. 4].

The CDRS takes 15 minutes to administer and can be hand-scored. The 30 items on the instrument are measured by weighing external responses as one and internal responses as zero--the higher the score, the more external the scorer's orientation.

Response style. Response style has not been controlled for with the CDRS, as the variable locus of control in decision making is an expression of a person's decision-making style. Social desirability and acquiescence have been controlled for with the TSCS and the ACL. Additional measures of response style would only increase the subjects' test burden. On the basis of these considerations, the investigator decided to limit the present study by not including a separate measure of response style for the CDRS.

Reliability. There are two studies supporting the reliability of the CDRS conducted by Thomas (1974) and Thomas and Carpenter (1976). Thomas (1974) found a reliability coefficient of .67 for the internal consistency of the CDRS with 9th graders, while Thomas and Carpenter (p. 4) found an average test-retest reliability coefficient of .74 for norm group samples from grades 6 through 12. This was considered adequate, given the development aspects of the instrument.

Validity. Content validity was established by writing items to correspond with Crites' (1973) theory of career development as operationalized by the CMI. The items were then analyzed by a panel of experts as to their appropriateness in distinguishing between the

internal and external criteria. Items were then revised or deleted on the basis of these experts' judgments.

Criterion-related validity was found in relation to two instruments--the intellectual Achievement Responsibility Scale (IAR) and the Career Maturity Inventory with the CDRS. There were significant relationships between the CMI-Attitude Scale ($r = .210$, $N = 189$, $p < .01$) and the three locus of control scales in the IAR-- I + ($r = .358$, $N = 189$, $p < .001$), I - ($r = .361$, $N = 189$, $p < .001$), and IAR total ($r = .427$, $N = 189$, $p < .001$) (Hollie, 1974, p. 6). Significant sex and grade differences were noted in the measurement of these three instruments. Locus of control was studied for its mediating effects on career maturity (Thomas & Carpenter, 1976). The scale represents a specific application of Mirels (1970); Collins, Martin, Ashmore and Ross (1973); Gurin, Gurin, Leo, and Beattie (1969); Stephen and Delys (1973); and Hrycenko and Minton (1974) findings that demonstrate the multidimensionality of locus of control. These studies support the existence of two factors accounting for a substantial portion of the variance. The two factors being Hard Work versus Luck, and Acceptance versus Rejection of the idea that a citizen can exert some influence on local and world affairs.

Selection. The CDRS is chosen as an application of locus of control to the specific domain of career-decision making. It is selected as an implicitly-derived-evaluation procedure of the behavioral dimension of self-concept. The instrument is used with caution, being a new measure which requires further construct validation.

The possibility of sex differences are anticipated and scores will be compared to see if there is a noticeable bias.

Career Maturity Inventory

The CMI, formerly known as the Vocational Development Inventory, was developed in 1973 by John Crites of Harvard University. The instrument was constructed to measure two aspects of vocational development-- the maturity of attitudes and competencies that are critical in realistic decision making. The Attitude Scale of the CMI consists of 50 items in a true/false format. The items represent five conative aspects of decision making--involvement in career choice, orientation toward work, independence in decision making, preference for career-choice factors, and conceptions of the career-choice process. The Attitude Scale required 25- to 30-minutes to complete.

The CMI-AS has a wide range of applicability: The floor of reading level difficulty was set at a 6th grade level and the ceiling of the test extends to the junior-year of college. The test has been used with a wide range of groups differing in demographic, curricular, and cultural characteristics. The instrument, according to Crites (1973), applies equally well to males and females, although the possibility of sex differences remains.

Response style. The career-maturity measures are not being controlled for response style, as this procedure has not been observed in the literature review of career-counseling outcome studies.

Reliability. Crites (1974) reported reliability for the

CMI-AS from .84 to .65 with a mean level for internal consistency of .74. He found a test-retest reliability coefficient of .71 on a standardization sample of 1,648 students (kindergarten through 12th grade). The test-maker sees the low scores as being attributable to the developmental aspect of the variable. He argues that lower consistency is due to maturational differences.

Validity. Content, criterion related, and construct validity have all been noted in the test manual (Crites, 1973a). An expert panel of judges selected test material appropriate to the content of the instrument, correlations of .20 and .30 have been reported with relevant variables and similar criterion measures; and, finally, the construct has been favorably compared with intellectual and nonintellectual measures.

The Attitude Scale has been criticized as being too negative in its assessment of career maturity--only 7 true statements out of 50 constitute a mature attitude. Katz (1978) argues that this imbalance questions the construct validity of the measure. Katz, also, questioned the Attitude Scale in terms of its content and criterion validity. He argued that the evidence of the manual of 8 out of 10 counseling psychologists and a majority of high-school seniors agreeing on 37 out of 50 items does not represent the accepted manner of determining content validity, but rather supports the reason for keying items on the test. He disputes the correlations reported by the manual for criterion-related validity by emphasizing the fact that Super's (1957) Indices of Vocational Maturity, which purports to

measure the same construct, does not show a significant correlation with the Scale.

Selection. The CMI-AS is chosen as an appropriate measure of the affective dimension of career maturity. Despite its weaknesses, it remains a widely used instrument and is being included because of its theoretical importance, concurrent validity, and extensively documented criterion-related validity. The short amount of time required for test administration is another reason for its selection. The CMI-AS is applicable to Hoppock's (1976) Theory of Career Development. The scores will be examined for possible sex differences.

Process Orientation to

Planning Indicator

The POPI was developed by Johnson (1976) in his evaluation of the LCDS on community-college students. The instrument consists of an essay question to which students have 20-minutes to write a response. This is the question subjects were given:

Super (1957) has stated: "People seek work and occupations in which they can be the kind of persons they want to be (p. 294)." Discuss yourself in terms of an occupation and refer to factors that you think have an effect on your view. Specifically what steps do you consider essential in relating yourself to an occupation? You will be given twenty minutes in which to complete your answer and one sheet of 8-1/2 by 11-inch paper on which to write it

[Johnson, 1976, p. 80].

The written essays were evaluated in terms of five criterion themes. The essays were scored (1 present or 0 absent) in terms of the five theme categories. Subjects were evaluated by category as either demonstrating or not demonstrating the behavior. The instrument used nominal-level measurement.

The five criterion themes were based on Crites' (1973b) model of career choice competency--self-knowledge, knowledge of jobs, goal selection, planning, and problem solving. The following operational definitions were used:

1. Self-knowledge--"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, 1973b, p. 23]."

2. Knowledge of job options--

much as the individual learns more about himself as he grows older, he also gathers more information about jobs and occupations. Consequently, accuracy and extent of job knowledge should differentiate the more from the less vocationally mature [Crites, 1973b, p. 24],

3. Goal selection--

The more vocationally mature person not only has greater knowledge about self and work but relates one to the other. He has thought about how his capabilities relate to the demands and requirements of jobs [and he uses this information in

occupational choice making] [Crites, 1973b, p. 25].

4. Planning--

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, 1973b, p. 27].

5. Problem solving--

the most effective response would be one which would best resolve this problematic nature of the situation, and also tend to maximize other positive consequences . . . and minimize negative ones [Crites, 1973b, p. 28].

Reliability. Berelson's (1950) procedure for developing a reliable method of analysis was followed. The procedure required that data should be collected under similar conditions and that upon analysis, similar results should be obtained by different analysts. The first of these conditions was met through uniform administration of the instrument. The second will be met by comparing the results of two independent judges.

The researcher trained two psychologists (see Appendix B) to identify the criterion referent themes. Tests were then, independently, randomly distributed to the evaluators. A reliability score of the judge's process of evaluation was determined by attribute sampling.

Attribute sampling is an adaptation of methods used by auditors to make decisions about the reliance of internal

accounting control (Robertson, 1979, pp. 222-223). Reliability in this method is defined as the agreement between judges. This represents the attribute of control. The exceptions to control are the judges' disagreements. The process of scoring is evaluated by examining the outcomes. The percent of agreement or measure of reliability is computed by summing the number of disagreements and subtracting them from the total number of possible agreements. This score is then divided by the total number of scores evaluated. This measure of reliability is especially appropriate to these five binomial distributions as it includes the complete population of scores and consequently does not involve sampling error. The results of this method will be reported in Chapter 4.

Validity. As previously discussed in Chapter 2, Westbrook, Cutts, Madison, and Arcia (1980) found evidence to support the internal construct validity of the five criterion themes of Crites (1973b) career choice competency model. The POPI derives its construct validity from this model. Berelson (1952) suggests that content validity is not a problem with content analysis when there is careful definition of the categories and strong agreement among the judges.

Selection. The POPI is chosen as a criterion referenced test of the cognitive dimension of career maturity. The POPI is inexpensive, focused, easy to administer, and comprehensive. Another important reason for its selection was the short amount of time it took to complete. The POPI is consistent with Super's (1953) Developmental Self-Concept Theory.

Vocational Information-

Seeking Behavior

Checklist

The VISBC was adapted from Krivatsy and Magoon's (1976) revision of the Vocational Guidance Questionnaire (Zener & Schnuelle, 1972). The instrument included 27 items which were to be checked if they described an attitude or activity that the subject had recently performed/held the items included: time spent thinking about an occupation need for more information, talking to parents, visiting job sites, satisfaction with vocational plans, and applying for a job. The instrument provides a variety score of an individual's vocational-information-seeking behavior. The VISBC takes approximately 2 minutes to complete.

Reliability. There have been no reliability tests conducted on the VISBC or the Vocational Guidance Questionnaire. Krumboltz and Thoresen (1964) found a high degree of reliability in following up interview protocol statements to assess the consistency of the self-report statements. They reported no inconsistencies and only a few unconfirmed statements.

Validity. There have been no validity studies conducted on the VISBC. However, considerable evidence has been found for construct validity in the research of Krumboltz and Thoresen (1964); Thoresen, Krumboltz, and Varenhorst (1967); Borman (1972) and Fisher, Reardon, and Burck (1976).

Selection. The VISBC is chosen as an appropriate measure of

the behavioral dimension of career maturity. It is a quick, economical, direct measure which contains a broad range of action as well as cognitive behaviors. The measure is closely related to Krumboltz's (1974) Social Learning Theory of Career Development.

Summary

There were six instruments chosen to measure the effects of three career-planning treatments and one control group. The instruments have been chosen for theoretical and methodological reasons. There are three measures of self-concept and three measures of career maturity. Each instrument measures a different dimension of a central construct. The TSCS measures the affective dimension of self-concept; while the ACL and the CDRS measure the cognitive and behavioral dimensions of that construct. Similarly, the CMI-AS measures the affective dimension of career maturity; while the POPI and the VISBC measure the cognitive and behavioral dimensions of career maturity. These three dimensions correspond to the different theoretical emphases of Hoppock (1976), Super (1953), and Krumboltz (1974).

Treatment of Subjects

A total of 40 subjects participated in the four treatment groups. Students preregistered for the three experimental classes in the Fall semester. Treatments were randomly assigned to the three intact classes. Group 1 received the affective-life-career-development treatment. Group 2 was assigned the cognitive-life-career-development treatment and Group 3 drew the behavioral-life-

career-development treatment. The control group composed of 11 students preregistered for the career-development course offered in January 1981. This group received no treatment prior to completion of the criterion instruments.

The Experimental Conditions

The experimental conditions consisted of three different modifications of the LCDS. The LCDS includes a series of nine integrated career-development modules. (See Appendix A for an outline of the modules, statement of goals and objectives, and a summary of the sessions.) Each module consists of six to seven 50-minute sessions.

The LCDS has been reorganized to examine three different aspects of career learning. The following listing outlines the three particular components of career learning:

Affective

- Exploring Self
- Determining Values
- Setting Goals
- Using Information
- Working Effectively

Cognitive

- Exploring Self
- Using Information
- Expanding Options
- Overcoming Barriers

Working Effectively

Behavioral

Exploring Self

Using Information

Working Effectively

Enhancing Relationships

Creating Futures (Walz & Benjamin, 1974).

Note: Exploring Self, Using Information and Working Effectively was used in all treatments.

The courses are composed of three career-planning components--the affective, cognitive, and behavioral. Each course stresses one component over the other two, e.g., the Behavioral treatment includes three behavioral modules, one cognitive and one affective. The Affective treatment will emphasize the feeling dimension of career development. The first three modules--"Exploring Self," "Determining Values," and "Setting Goals"--are representative of the affective component, while "Using Information" and "Working Effectively," depict the cognitive and behavioral components, respectively.

The Cognitive course will stress the thinking process in career development. "Exploring Self," the first module to be taught in the course, is essentially affective in nature, while the next three--"Expanding Options," "Overcoming Barriers," and "Using Information"--constitute the cognitive emphasis, followed by "Working Effectively," which represents the behavioral dimension.

The third career-development course is the behavioral treatment. "Exploring Self" and "Using Information" can be described as affective and cognitive modules, while "Working Effectively," "Enhancing Relationships," and "Creating Futures" are behavioral ones.

The reorganization of the LCDS into three different learning areas was evaluated by two independent judges (Appendix B). The researcher described the theoretical rationale of the three courses; then had the judges rate the nine modules as to one of three primary learning emphases. The results of this additional analysis will be reported in Chapter 4.

The facilitation of the three life-career-development courses was also evaluated by two independent judges. There were three class sessions, chosen at random, and three audio tapes were made of the different courses. The audio tapes were used to rate the facilitation of the three different courses using the Model of Facilitation (Walz et al., 1974; Appendix C). The judges listened to the tapes for evidence of the 12 stages of facilitation. They also evaluated the overall equivalence of the three methods of facilitation. The results of this additional analysis are reported in Chapter 4.

Data Collection Procedure

Upon completion of the Fall semester treatments, the four groups met separately and received a battery of assessment instruments consisting of the Tennessee Self-Concept Scale, the Adjective Check List, the Career Development Responsibility Scale, the Career Maturity Inventory, the Vocational Information-Seeking Behavior Checklist, and the Process

Orientation to Planning Indicator. The posttesting occurred within 4-weeks of the final treatment sessions. The battery of tests took approximately 3-hours to complete.

The data collection procedure is based on a research design which examines the differences between the experimental groups and the control groups, as well as the differences among the experimental groups.

The design is a modified Post-Test-Only Control Group Design as described by Campbell and Stanley (1963).

R	X_1 (Group 1, Affective LCDS Treatment)	O_1
R	X_2 (Group 2, Cognitive LCDS Treatment)	O_2
R	X_3 (Group 3, Behavioral LCDS Treatment)	O_3
R	X_4 (Group 4, Control)	O_4

Although students selected the meeting time of a particular group, they were unaware of the treatment that would be assigned. The four groups were posttested only on the six self-assessment measures.

The Post-Test-Only Control Group Design was used to control for the "reactivity" that would result from pre- and post-testing with self-report instruments.

The design adequately satisfies internal validity demands. In terms of external validity randomized selection of subjects was accomplished, however, it was limited to those subjects who volunteered so the sample cannot be considered a representative sample of the college population, and, therefore, the results cannot be generalizable beyond

a similar population of college students.

The four groups of approximately 40 underclassmen were compared on the following criteria: number of courses carried during the semester, and number of hours devoted to part-time work during the semester and number of hours devoted to extracurricular organizations on campus during the semester. The four groups were examined to see if there is any initial difference on these work criteria that might relate to the composition of the four groups. These criteria were analyzed to determine the equivalence of the groups before testing.

The sample size of the four groups were 8, 11, 10, and 11 subjects. The small size is due to the nature of the treatment, as small groups function better with a limited number of individuals, and to the process of self-selection. The Central Limit Theorem states that: "the totals (and therefore the means) of random samples drawn from any populations is a normal distribution provided only that the samples are large enough [Kimble, 1978, p. 144]. Kimble found that samples of 10 numbers seemed to satisfy the large enough clause of the Central Limit Theorem (p. 147). This report suggests that the sample sizes of the current investigation are large enough to come from a normal distribution. The samples are large enough to avoid a Type 2 error and, hence, constitute a sufficient size to test the following hypotheses.

Techniques of Statistical Analysis

Different statistical methods were used in the examination of

data pertaining to specific hypotheses. The operational definitions of concepts is given in the Definition of Select Terms in Chapter 1. All hypotheses will be tested at the .05 level of significance.

Hypothesis 1

Mean level of Total Positive Self-Regard Scores--Self-Definition Scores and Certainty of Perception scores--on the TSCS will be determined. t-tests will be applied individually to determine if there exists significant differences between the experimental groups and the control group on these variables of self-esteem.

Data from the experimental groups will be statistically tested with a one-way analysis of variance. This technique will be used to determine if any significant differences among the experimental groups are due to the different treatments.

Hypothesis 2

Mean level of ACL discrepancy scores will be determined, a t-test will be applied to the data to determine if there exists a significant difference between the experimental groups and the control group on the criterion of self-acceptance.

Data from the experimental group will be subjected to a one-way analysis of variance to determine if any significant difference exists among the experimental groups.

Hypothesis 3

Mean levels of the CDRS will be computed (low scores will indicate high internal locus of control in decision making). A t-test will be applied to determine if there exists a significant difference

between the experimental groups and the control group on the criterion of locus of control in decision making.

Data from the experimental group will be subjected to a one-way analysis of variance to measure any significant differences between the experimental groups due to the treatments.

Hypothesis 4

Mean levels of the CMI scores (Attitude Scale) will be determined, a t-test will be applied to the data to establish if significant differences between the experimental groups and control group exist on the criteria of Career Attitude Maturity.

Data from the experimental groups will be statistically tested with a one-way analysis of variance to determine if any significant differences among the experimental groups were due to the different treatments.

Hypothesis 5

Frequency scores on the POPI subtests--Self Awareness, Occupational Knowledge, Goal Selection, Planning and Problem Solving--will be counted. Chi-square tests will be applied to the data to determine if there exists a significant difference between the experimental groups and the control group on the criterion of a process orientation to planning.

Data from the experimental groups will be statistically tested with chi-square analysis to determine if any significant differences among the experimental groups were due to the different treatments.

Hypothesis 6

Mean levels of the VISBC scores will be computed (variety of Vocational Information-Seeking Behaviors). A t-test will be applied to the data to determine if there exists a significant difference between the experimental groups and the control group on the criterion of vocational-information-seeking behaviors.

Data from the experimental groups will be statistically tested with a one-way analysis of variance to determine if any significant differences among the experimental groups were due to the different treatments.

Hypothesis 7

To test the relatedness between the TSCS, the ACL, the CDRS, the CMI-AS, and the VISBC a Pearson Product Moment Correlation test will be applied to the scores from these scales.

To test the association between the TSCS, the ACL, the CDRS, and the POPI, a Point Bi-Serial Correlation will be computed.

Hypothesis 8

The means of the black scores on the TSCS, the ACL, the CDRS, the CMI-AS, and the VISBC will be compared with those of the white scores by applying t-tests to determine if there were significant differences between the groups.

The frequency of white scores on the POPI subtests of Self-Awareness, Occupational Knowledge, Goal Selection, Planning, and Problem Solving will be compared with those of black scores by applying Chi square tests to the data to determine if significant differences

exist between the two groups

Hypothesis 9

The means of sophomore scores on the TSCS, the ACL, the CDRS, the CMI-AS, and the VISBC will be compared with those of freshman scores by applying t-tests to determine if there were significant differences between the groups.

The frequency of sophomore scores on the POPI subtests of Self-Awareness, Occupational Knowledge, Goal Selection, Planning, and Problem Solving will be compared with those of freshman scores by applying Chi-square tests to the data to determine if significant differences exist between the two groups.

Hypothesis 10

The means of female scores on the TSCS, the ACL, the CDRS, the CMI-AS, and the VISBC will be compared with those of male scores by applying t-tests to determine if there were significant differences between the groups.

The frequency of female scores on the POPI subtests of Self-Awareness, Occupational Knowledge, Goal Selection, Planning, and Problem Solving will be compared with those of male scores by applying Chi-square tests to the data to determine if significant differences exist between the two groups.

Chapter 4

Results

This study examined the differential effects of three life-career-development courses on posttreatment measures of self-esteem, self-acceptance, locus of control in decision making, career-attitude maturity, a process orientation to planning, and vocational-information-seeking behavior. A sample of 40 college undergraduates volunteered for the study. The treatment conditions were randomly assigned to the three treatment groups. The control group was tested before receiving treatment. The groups were unequal in size. Treatment Group 1 (n = 8) participated in the affective-Life Career Development Course (ADC); Group 2 (n = 11) received the cognitive-Life Career Development Course (CDC); Group 3 (n = 10) completed the behavioral-Life Career Development Courses (BDC); and Group 4 (n = 11) had no treatment. The three treatment group were tested at the end of the fall semester--1980 and the control group was tested within the next month, at the beginning of the January session--1981.

The following major research questions were investigated in this study:

1. Is there any significant differences in the self-esteem of treated and nontreated groups which can be attributed to the completion of the three life-career-development courses as determined by subjects' scores on the Tennessee Self-Concept Scale (TSCS)?

Are there any significant differences in self-esteem (as defined by the TSCS) among the treated groups which can be attributed to these treatment conditions?

2. Is there any significant difference in the self-acceptance of experimental subjects and control subjects which can be attributed to the three life-career-development courses as determined by the subjects' scores on the Adjective Check List (ACL)?

Are there any significant differences in self-acceptance (as defined by the ACL) among the treated groups which can be attributed to these treatment methods?

3. Is there any significant difference in the locus of control in decision making of experimental subjects and control subjects which can be attributed to the three life-career-development courses as determined by the subjects' scores on the Career Development Responsibility Scale (CDRS)? Are there any significant differences in the locus of control in decision making (as defined by the CDRS) among the treated groups which can be attributed to these treatment conditions?

4. Is there any significant difference in the vocational-attitude maturity of the treated subjects and control career-group subjects that can be attributed to the three life-career-development courses as determined by the subjects' scores on the Career Maturity Inventory-Attitude Scale (CMI-AS)? Are there significant differences in career-attitude maturity (as defined by the CMI-AS) among the treated groups which can be attributed to these treatment methods?

5. Is there any significant difference in the process orientation to planning of the treated subjects and the control-group subjects that can be attributed to the three life-career-development courses as determined by subjects' scores on the Process Orientation to Planning Indicator (POPI)? Are there any significant differences in a process orientation to planning (as defined by the POPI) among the treated groups which can be attributed to these treatment conditions?

6. Is there any significant difference in the variety of vocational-information-seeking behavior of the treated subjects and the control-group subjects that can be attributed to the three life-career-development courses as determined by subjects' scores on the Vocational Information-Seeking Behavior Checklist (VISBC)? Are there any significant differences in the variety of vocational-information-seeking behavior (as defined by the VISBC) among the treated groups which can be attributed to these treatment conditions?

7. Is there a significant correlation between self-concept as determined by scores on the TSCS, the ACL, and the CDRS, and career maturity as defined by scores on the CMI-AS, the POPI, and the VISBC?

8. Is there a significant difference in the self-concept and career maturity of female subjects and male subjects as determined by scores on the TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC?

9. Is there a significant difference in the self-concept

and career maturity of black subjects and white subjects as determined by scores on the TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC?

10. Is there a significant difference in the self-concept and career maturity of sophomore and freshman subjects as determined by scores on the TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC?

Questions 1, 7, 8, 9, and 10 which deal with self-esteem include three variables--self-regard, self-definition, and certainty of perception. These variables are measured on three subscales of the TSCS--Total Positive Self-Regard, True/False Ratio, and Total Distribution. Similarly, questions 5, 7, 8, 9, and 10 which deal with a process orientation to planning include five variables--self-awareness, occupational knowledge, goal selection, planning, and problem solving. These variables are measured on five subscales of the POPI--Self-Awareness, Occupational Knowledge, Goal Selection, Planning, and Problem Solving. The major hypotheses derived from the preceding questions were tested using a Posttest-Only Control Group Design (Campbell & Stanley, 1963). Except for the POPI posttest scores, all other posttest scores are interval-level data. The POPI data is nominal level.

Interval-level posttest scores were assessed for differences between treated and nontreated subjects on a t -test. A one-way analysis of variance was performed on the interval-level data to determine the differences among the treated groups. The Statistical

Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was used as a software program for computer analysis. SPSS has standardized programs for handling groups of unequal numbers. Nominal-level posttest scores were tested for statistical significance using Chi square to assess the difference between the treated and nontreated subjects. Chi square was also used to analyze the nominal-level data for differences among the treatment groups. Pearson correlations were used to test the interval-level data for the relatedness between measures of self-concept and career maturity; while Point Bi-Serial correlations were used for testing the relatedness of nominal-level data between measures of self-concept and career maturity. t -tests and Chi square were also used to analyze the interval- and nominal-level data for group differences due to the secondary factors of sex, race, and college class. A result that precluded analysis was that only one person received a positive rating on the problem solving subscale of the POPI. This finding led this researcher to drop the scale as an inadequate measure of group performance. For the remainder of this chapter, statistical results are presented by hypothesis.

Hypothesis 1

Hypothesis 1 stated that subjects in the experimental groups would not score significantly different on the TSCS from subjects in the control group. To test the subparts of Hypothesis 1, posttest data obtained from each of the subscales of the TSCS were separately subjected to a t -test. Upon completion of this statistical test for

each subscale, the following t -values were found--Total Positive Self-Regard $t = 0.89$; True/False Ratio $t = -0.54$; and Total Distribution $t = 0.60$. The t -values for the three subscales did not reach the .05 level of significance. Table 2 presents the means and standard deviations of the variables under consideration in terms of the control and experimental groups for the three subscales of the TSCS. The TSCS raw scores utilized in each of these analyses are reported in Appendix D.

The null hypothesis that subjects in the experimental groups would not score significantly different on the TSCS than the subjects in the control group failed to be rejected for all three subscales. There were no statistical significant differences between the two groups, therefore, no significant differences were observed.

A one-way analysis of variance was performed on the TSCS scores of the three experimental groups to determine if there existed any significant difference among the groups on the variable of self-esteem, as stated in Hypothesis 1. After the ANOVA had been applied to the data from each of the subscales, the analyses showed the following F ratios--Total Positive Self-Regard $F = 1.172$, True/False Ratio $F = 0.500$, and Total Distribution $F = 0.825$. These F values are not significant at the .05 level. Table 3 presents information relevant to each ANOVA used in examining the difference among groups.

Hypothesis 1 stating that there would not be statistically significant differences among the experimental groups in terms of

Table 2

Hypothesis 1--t of Control and Experimental Group Scores on
the Tennessee Self-Concept Scale's Subscales of--
Total Positive Self-Regard, True/False Ratio,
and Total Distribution

Groups	Mean	Standard Devi- ation	Degrees of Freedom	<u>t</u>	2-tail Proba- bility
Total Positive Self-Regard					
Experimental (n = 29)	338.8966	34.342	38	0.89	0.396
Control (n = 11)	327.3636	41.805			
True-False Ratio					
Experimental (n = 29)	1.1421	0.315	38	-0.54	0.590
Control (n = 11)	1.2173	0.549			
Total Distribution					
Experimental (n = 29)	116.0690	30.5675	38	0.60	0.551
Control (n = 11)	109.4545	32.510			

Note. This analysis reflects the use of raw scores.

Table 3

Hypothesis 1--One-Way Analysis of Variance of Experimental
Groups on the Tennessee Self-Concept Scale Subscales of--
Total Positive Self-Regard, True/False Ratio,
and Total Distribution

Source	Degrees of Freedom	Sum of Squares	Mean Squares	<u>F</u>	<u>F</u> Prob- ability
Total Positive Self-Regard					
Between Groups	2	2731.3691	136.6846	1.172	0.3255
Within Groups	26	3029.2773	1165.0491		
Total	28	33022.6445			
True-False Ratio					
Between Groups	2	0.1031	0.0515	0.500	0.6124
Within Groups	26	2.6806	0.1031		
Total	28	2.7837			
Total Distribution					
Between Groups	2	1560.46797	780.2346	0.825	0.4494
Within Groups	26	24593.3828	945.8992		
Total	28	26153.8516			

Note: This analysis reflects the use of raw scores.

self-esteem as determined by subscale scores on the TSCS was rejected. The computed differences among the groups did not reach the .05 level of significance.

Hypothesis 2

Hypothesis 2 stated that the ACL discrepancy scores of the subjects in the experimental groups on self-acceptance would not be significantly different than the subjects' discrepancy scores in the control group. To test this hypothesis a phi coefficient was computed from ACL discrepancy scores and then this posttest data was subjected to a t -test. The analysis following this statistical test produced a t -value of -0.47. This t -value did not reach the .05 level of significance. Table 4 presents the means and standard deviations of the variable under consideration in terms of the control and experimental groups for the phi coefficients of the ACL. The ACL phi coefficients utilized in this analysis was reported in Appendix E.

The null hypothesis that subjects in the experimental groups would not score significantly different on the discrepancy scores of the ACL than the subjects in the control group failed to be rejected. There were no statistically significant differences between the two groups, therefore, no significant differences were observed.

A one-way analysis of variance was performed on the ACL discrepancy scores of the three experimental groups to determine if there existed any significant difference among the groups on the

Table 4
Hypothesis 2--t Test of Control and Experimental
Group Scores on the Phi Coefficients of
the Adjective Check List

	Adjective Check List				
	Mean	Standard Deviation	Degrees of Freedom	<u>t</u>	2-Tail Prob- ability
Experimental (n = 29)	0.326	0.123	37	-0.47	0.638
Control (n = 11)	0.347	0.126			

Note. This analysis reflects the use of computed scores.

variable of self-acceptance, as stated in Hypothesis 2. After the ANOVA had been applied to the phi coefficients of the ACL, the analysts showed the following F ratio 7.321. This F ratio was significant at the .05 level. A Multiple Range Test was computed to assess the differences between group means on the ACL scores. The Duncan Procedure for Ranges revealed a difference between the BDC and the ADC and the CDC. The BDC mean of 0.427 was significantly higher at the .05 level than the CDC mean of 0.303 and the ADC mean of 0.244. Table 5 presents information relevant to the ANOVA used in examining the differences among groups.

Hypothesis 2 stating that there would not be statistically significant differences among the experimental groups in terms of self-acceptance as determined by discrepancy scores on the ACL, was rejected. The computed differences among the groups did reach the .05 level of significance.

Hypothesis 3

Hypothesis 3 stated that the CDRS scores of the subjects in the experimental groups on locus of control in decision making would not be significantly lower than the subjects' CDRS scores in the control group. To test this hypothesis, posttest data obtained from the CDRS was subjected to t -test. The analysis following this statistical test produced a t -value of 0.32. This t -value did not reach the .05 level of significance. Table 6 presents the means and standard deviations of the variable under consideration in terms of the control and experimental groups for the CDRS scores.

Table 5
 Hypothesis 2--One-Way Analysis of Variance Among
 Experimental Group Scores on the Phi
 Coefficients of the Adjective
 Check List

Adjective Check List					
Source	Degrees of Freedom	Sum of Squares	Mean Squares	<u>F</u>	<u>F</u> Prob- ability
Between Groups	2	0.152	0.759	7.321	0.003
Within Groups	25	0.259	0.104		
Total	27				

Group	Count	Mean	Standard Deviation	Standard Error
Affective LCDC	8	0.244	0.108	0.150
Cognitive LCDC	11	0.303	0.077	0.232
Behavioral LCDC	9	0.427	0.120	0.041
Total	28	0.326	0.123	0.023

Table 5--Continued

Multiple Range Test**Duncan Procedure**

Ranges for the .05 level--2.91 3.06

Subset 1

Group	Affective LCDC	Cognitive LCDC
Mean	0.244	0.303

Subset 2

Group	Behavioral LCDC
Mean	0.427

Note. This analysis reflects the use of computed scores.

Table 6
 Hypothesis 3--t of Control and Experimental Group Scores
 on External Score of the Career-Development
 Responsibility Scale

Career Development Responsibility Scale					
Group	Mean	Standard Deviation	Degrees of Freedom	<u>t</u>	2-Tail Prob- ability
Experimental (n = 29)	5.690	3.809	38	0.32	0.729
Control (n = 11)	5.273	3.165			

Note. This analysis reflects the use of raw scores.

The CDRS raw scores used in this analysis are reported in Appendix F.

The null hypothesis that subjects in the experimental group would not score significantly lower on the CDRS than the subjects in the control group failed to be rejected. There were no statistically significant differences between the two groups, therefore, the null hypothesis was accepted.

A one-way analysis of variance was performed on the CDRS scores of the three experimental groups to determine if there existed any significant difference among the groups on the variable of locus of control in decision making, as stated in Hypothesis 3. After the ANOVA had been applied to the posttest data, the statistical test showed the following F ratio of 0.352. This F value was not significant at the .05 level. Table 7 presents information relevant to the ANOVA used in determining the differences among groups.

Hypothesis 3 stating that there would not be statistically significant differences among the experimental groups in terms of locus of control in decision making as determined by CDRS scores failed to be rejected. The computed differences among the groups did not reach the .05 level of significance.

Hypothesis 4

Hypothesis 4 stated that the CMI-AS scores of the subjects in the experimental groups on career-attitude maturity would not be significantly higher than the subjects' CMI-AS scores in the control group. To test this hypothesis posttest data obtained from the

Table 7
Hypothesis 3--One-Way Analysis of Variance of Experimental
Groups on External Scores of the
Career-Development-Responsibility Scale

Career-Development-Responsibility Scale					
Source	Degrees of Freedom	Sum of Squares	Mean Squares	<u>F</u>	<u>F</u> Prob- ability
Between Groups	2	10.705	5.352	0.352	0.706
Within Groups	26	395.502			
Total	28	406.207			

Note. This analysis reflects the use of raw scores.

CMI-AS was subjected to a t -test. The analysis following this statistical test produced a t -value of ± 0.64 . This t -value did not reach the .05 level of significance. Table 8 presents the means and standard deviations of the variable under consideration in terms of the control and experimental groups for the CMI-AS scores. The CMI-AS raw scores used in this analysis are reported in Appendix G.

The research hypothesis that subjects in the experimental group would not score significantly higher on the CMI-AS than the subjects in the control group failed to be rejected. There were no statistically significant differences between the two groups, therefore, no significant differences were observed.

A one-way analysis of variance was performed on the CMI-AS scores of the three experimental groups to determine if there existed any significant differences among the groups on the variable of career-attitude maturity, as stated in Hypothesis 4. After the ANOVA had been applied to the CMI-AS data the analysis showed the following F ratio of 2.360. This F value was not significant at the .05 level. Table 9 presents information relevant to the ANOVA used in determining the differences among groups.

Hypothesis 4 stating that there would not be statistically significant differences among the experimental groups in terms of career-attitude maturity as determined by CMI-AS scores failed to be rejected. The computed differences among the groups did not reach the .05 level of significance.

Table 8

Hypothesis 4--t of Control and Experimental Group Scores
on the Career Attitude Maturity Score of the
Career Maturity Inventory--Attitude Scale

Career Maturity Inventory--Attitude Scale					
Group	Mean	Standard Deviation	Degrees of Freedom	<u>t</u>	2-Tail Prob- ability
Experimental (n = 29)	49.690	7.714	38	-0.64	.523
Control (n = 11)	51.546	9.191			

Note. This analysis reflects the use of raw scores.

Table 9

Hypothesis 5--One-Way Analysis of Variance among Experimental
Groups on the Career-Attitude Maturity Score of the
Career Attitude Maturity Inventory--Attitude Scale

Career Attitude Maturity Inventory--Attitude Scale					
Source	Degrees of Freedom	Sum of Squares	Mean Squares	<u>F</u>	<u>F</u> Prob- ability
Between Groups	2	256.007	128.003	2.360	0.114
Within Groups	26				
Total	28				

Note. This analysis reflects the use of raw scores.

Hypothesis 5

Hypothesis 5 stated that the POPI scores of the subjects in the experimental groups on a process orientation to planning would not be significantly higher than the subjects' POPI scores in the control group. To test the subparts of Hypothesis 5, posttest data obtained from each of the five subscales of the POPI were separately subjected to a Chi square test. Upon completion of this statistical test for each subscale, the following χ^2 values were found--Self-Awareness $\chi^2 = 1.004$, Occupational Knowledge $\chi^2 = 0.046$, Goal Selection $\chi^2 = 0.014$, and Planning $\chi^2 = 1.337$. The χ^2 values for the four subscales did not reach the .05 level of significance. Table 10 presents the cross-tabulations of the variables under consideration in terms of the control and experimental groups. The POPI raw scores used in each of these analyses are reported in Appendix H.

The null hypothesis that subjects in the experimental groups would not score significantly differently on the POPI than the subjects in the control group was rejected for all five subscales. There were no statistically significant differences between the two groups, therefore, the null hypothesis was accepted.

Another Chi-square test of statistical significance was performed on the POPI scores of the three experimental groups to determine if there existed any significant difference among the groups on the variable of a process orientation to planning, as stated in Hypothesis 5. After the Chi-square test had been applied to the data from each of the subscales, the analysis showed the following χ^2 values--

Table 10

Hypothesis 5--Cross-tabulations of the Four Subtests of the
 Process Orientation to Planning Indicator--
 Self-Awareness, Occupational Knowledge,
 Goal Selection, and Planning between
 the Experimental and Control Groups

Count			
Row Percent	Experi-	Control	Row
Column Percent	mental	Group	Total
Total Percent	Group	Group	Total
Self-Awareness			
	4	3	7
	57.1	42.9	17.5
0	13.8	27.3	
	10.0	7.5	
	25	8	33
	75.8	24.2	82.5
1	86.2	72.7	
	62.5	20.0	
Column	29	11	40
Total	72.5	27.5	100.0

Raw Chi Square = 1.004 with 1 Degree of Freedom. Significance = 0.316.

Table 10--Continued

Occupational Knowledge			
	17	7	24
	70.8	29.2	60.0
0	58.6	63.6	
	42.5	17.5	
	12	4	16
	75.0	25.0	40.0
1	41.4	36.4	
	30.0	10.0	
Column	29	11	40
Total	72.5	27.5	100.0

Raw Chi Square = 0.08359 with 1 Degree of Freedom. Significance = 0.7725

Goal Selection			
	3	1	4
	75.0	25.0	10.0
0	10.3	9.1	
	7.5	2.5	
	26	10	36
	72.2	27.8	90.0
1	89.7	90.9	

Table 10--Continued

	65.0	25.0	
Column	29	11	40
Total	72.5	27.5	100.0
Raw Chi Square = 0.01393 with 1 Degree of Freedom. Significance = 0.9060			

Planning

	19	5	24
	79.2	20.8	60.0
0	65.5	45.5	
	47.5	12.5	
	10	6	16
	62.5	37.5	40.0
1	34.5	54.5	
	25.0	15.0	
Column	29	11	40
Total	72.5	27.5	100.0
Raw Chi Square = 1.33751 with 1 Degree of Freedom. Significance = 0.2475			

Self-Assurance \bar{X} = 3.292, Occupational Knowledge \bar{X} = 0.133, Goal Selection \bar{X} = 3.025, and Planning \bar{X} = 0.637. These \bar{X} values are not significant at the .05 level. Table 11 presents information relevant to each Chi-square test used in examining the differences among groups.

Hypothesis 5 stating that there would not be statistically significant differences among the experimental groups in terms of a process orientation to planning as determined by POPI scores failed to be rejected. The complete differences among the groups did not reach the .05 level of significance.

Hypothesis 6

Hypothesis 6 stated that the VISBC scores of the subjects in the experimental group on vocational-information-seeking behavior would not be significantly higher than the subjects' VISBC scores in the control group. To test this hypothesis posttest data obtained from the VISBC was subjected to a t -test. The analysis following this statistical test produced a t -value of 2.13. This t -value is significant at the .05 level. Table 12 presents the means and standard deviations of the variable under consideration for the experimental and control groups. Appendix I contains the raw scores of the VISBC used in the analysis.

The null hypothesis that the VISBC scores of the subjects in the experimental groups would be statistically significantly higher than the subjects' scores in the control group was rejected. The experimental group scores were significantly higher at the .05 level.

Table 11

Hypothesis 5--Cross-tabulations of the Four Subtests of the
 Process Orientation to Planning Indicator--Self-Awareness,
 Occupational Knowledge, Goal Selection, and Planning
 among the Experimental Groups

Count				Row
Row Percent				
Column Percent				Row
Total Percent	Affective	Cognitive	Behavioral	Total
Self-Awareness				
	1	3	0	4
	25.0	75.0	0.0	13.8
0	12.5	27.3	0.0	
	3.4	10.3	0.0	
	7	8	10	25
	28.0	32.0	40.0	86.2
1	87.5	72.7	100.0	
	24.1	27.6	34.5	
Column	8	11	10	29
Total	27.6	37.9	34.5	100.0

Raw Chi Square = 3.29216 with 2 Degrees of Freedom. Significance = 0.1928

Table 11--Continued

Occupational Knowledge				
	5	6	6	17
	29.4	35.3	35.3	58.6
0	62.5	54.5	60.0	
	17.2	20.7	20.7	
	3	5	4	12
	25.0	41.7	33.3	41.4
1	37.5	45.5	40.0	
	10.3	17.2	13.8	
Column	8	11	10	29
Total	27.6	37.9	34.5	100.0
Raw Chi Square = 0.13279 with 2 Degrees of Freedom. Significance = 0.9358				
Goal Selection				
	2	1	0	3
	66.7	33.3	0.0	10.3
0	25.0	9.1	0.0	
	6.9	3.4	0.0	
	6	10	10	26
	23.1	38.5	38.5	89.7
1	75.0	90.9	100.0	

Table 11--Continued

	20.7	34.5	34.5	
Column	8	11	10	29
Total	27.6	37.9	34.5	100.0

Raw Chi Square = 3.02505 with 2 Degrees of Freedom. Significance = 0.2204

Planning

	6	8	5	19
	31.6	42.1	26.3	65.5
0	75.0	72.7	50.0	
	20.7	27.6	17.2	
	2	3	5	10
	20.0	30.0	50.0	34.5
1	25.0	27.3	50.0	
	6.9	10.3	17.2	
Column	8	11	10	29
Total	27.6	37.9	34.5	100.0

Raw Chi Square = 1.63732 with 2 Degrees of Freedom. Significance = 0.4410

Table 12
 Hypothesis 6--t of Control and Experimental Group Scores on
 the Variety Score of the Vocational Information-
 Seeking-Behavior Check List

Groups	Vocational Checklist				
	Mean	Standard Deviation	Degrees of Freedom	<u>t</u>	2-Tail Probability
Experimental (n = 29)	13.483	3.832	38	2.13	0.039
Control (n = 11)	10.546	4.034			

Note. This analysis reflects the use of raw scores.

A one-way analysis of variance was performed on the VISBC scores of the three experimental groups to determine if there existed any significant differences among the groups on the variety of vocational-information-seeking behavior as stated in Hypothesis 6. After an ANOVA had been applied to the posttest data, the statistical test showed the following F ratio--1.678. This F value was not significant at the .05 level. Table 13 presents information relevant to the ANOVA used in determining the differences among groups.

Hypothesis 6 stating that there would not be statistically significant differences among the experimental groups in terms of the variety of vocational-information-seeking behavior as determined by the VISBC failed to be rejected. The computed differences among the groups did not reach the .05 level of significance.

Hypothesis 7

Hypothesis 7 stated that significant correlations would not exist between interval-level measures of self-concept and the interval-level measures of career maturity. To test the subparts of this hypothesis, posttest data on the following self-concept measures--the three subscales of the TSCS, the phi coefficients of the ACL, and the CDRS--were compared with posttest scores on the career-maturity measures of the CMI-AS and the VISBC, using a Pearson Product Moment correlation. After computations were accomplished with regard to each scale, these analyses produced the following correlation coefficients with regard to the career-maturity measures of the CMI-AS--

Table 13
 Hypothesis 6--One-Way Analysis of Variance among Experimental
 on the Variety Score of the Vocational Information-
 Seeking-Behavior Checklist

Vocational Information-Seeking Behavior Checklist					
Source	Degrees of Freedom	Sum of Squares	Mean Squares	<u>F</u>	<u>F</u> Prob- ability
Between Groups	2	47.014	23.507	1.678	0.206
Within Groups	26	364.227	14.009		
Total	28	411.241			

Note. This analysis reflects the use of raw scores.

Total Positive Self-Regard "r" = .197, True/False Ratio "r" = -.64, Total Distribution "r" = -0.015, Phi Coefficient "r" = .096, and External Score "r" = -.297; and of the VISBC--Total Positive Self-Regard "r" = .009, True/False Ratio "r" = -.093, Total Distribution "r" = .044, Phi Coefficient "r" = -.336, and External Score "r" = -.244. There was one significant correlation computed for the CMI-AS with the External Score of the CDRS at the .05 level of significance. Another significant correlation was observed for the VISBC with the Phi Coefficient of the ACL at the .05 level of significance. Table 14 presents the information relevant to the Pearson Product Moment used in these correlations. The TSCS, CDRS, CMI-AS, and VISBC raw scores used in each of these analyses are reported in Appendices D, F, H, and I, respectively. The Phi Coefficient Scores of the ACL are included in Appendix E.

The null hypothesis that there would not exist significant correlations between the self-concept measures and the career-maturity measures was rejected for two correlations--the CMI-AS with the CDRS and the VISBC with the ACL, at the .05 level of significance. The null hypothesis failed to be rejected for the other correlated interval-level measures.

Point Bi-Serial correlations were performed on the relationship between the POPI nominal-level measures of career-maturity and the interval-level measures of self-concept, as stated in Hypothesis 7. After the Point Bi-Serial correlations were computed, the following results were found--Self-Awareness with Total Positive Self-

Table 14
 Hypothesis 7--Pearson Correlation Coefficients of the
 Career-Maturity Inventory--Attitude Scale and
 the Vocational Information-Seeking Behavior
 Checklist Raw Scores

Self- Concept Measures	Career-Maturity Inventory-- Attitude Scale	Vocational Infor- mation-Seeking Behavior Checklist
Total Positive Self-Regard	0.197	0.009
True-False Ratio	-0.164	-0.092
Total Distribution	-0.015	0.044
Phi Coefficient	0.096	-0.337 ^a
External Score	-0.297 ^a	-0.244

^a
p < .05

Regard "rpb" = .022, True/False Ratio "rpb" = -.011, Total
 Distribution "rpb" = -.037, Phi Coefficient "rpb" = -.057, and
 External Score "rpb" = -.202; Occupational Knowledge with Total
 Positive Self-Regard "rpb" = .067, True/False Ratio "rpb" = -.368,
 Total Distribution "rpb" = -.049, Phi Coefficient "rpb" = .110, and
 External Score "rpb" = -.003; Goal Setting with Total Positive Self-
 Regard "rpb" = .065, True/False Ratio "rpb" = .041, Total
 Distribution "rpb" = .112, Phi Coefficient "rpb" = 1.41, and External
 Score "rpb" = -.204; Planning with Total Positive Self-Regard "rpb"
 = -.296, True/False Ratio "rpb" = -.173, Total Distribution, "rpb"
 .144, Phi Coefficient "rpb" = .069, and External Score "rpb" =
 -.075. The following correlations were significant at the .05
 level: Occupational Information with the True/False Ratio, and
 Planning with Total Positive Self-Regard. Table 15 presents the
 information relevant to the Point Bi-Serial used in these correla-
 tions. The TSCS, CDRS, and POPI raw scores used in each of these
 analyses are reported in Appendices D, F, and H, respectively. The
 Phi Coefficient Scores of the ACL are included in Appendix E.

The null hypothesis that there would not exist statistically
 significant correlations between the self-concept measures and the
 nominal career-maturity measures was rejected for three correlations
 at the .05 level of significance and failed to be rejected for the
 other tests of similarity.

Hypothesis 8

Hypothesis 8 stated that sophomore scores would not be

Table 15
 Hypothesis 7--Point Bi-Serial Correlation Coefficients of
 the Process Orientation to Planning Subtests--
 Self-Awareness, Occupational Knowledge,
 Goal Selection, and Planning
 Rating Scores

Self- Concept Measures	Self- Aware- ness	Occupa- tional Know- ledge	Goal Selec- tion	Planning
Total Positive				
Self-Regard	0.022	0.067	0.065	0.296 ^a
True-False Ratio	-0.011	-0.368 ^a	-0.041	-0.173
Total Distribution	-0.037	-0.049	0.112	0.144
Phi Coefficient	-0.057	0.110	0.141	0.069
External Score	-0.203	-0.003	-0.204	-0.075

^a
p < .05

statistically different than freshman scores on the TSCS, the ACL, the CDRS, and the VISBC. To test the subparts of this hypothesis, posttest data obtained from interval-level data of the five instruments were separately subjected to a t -test. After this statistical test had been carried out with regard to each scale, the following t -values were found--Total Positive Self-Regard $t = -1.72$, True/False Ratio $t = -.07$, Total Distribution $t = -1.47$, Phi Coefficient $t = 1.22$, External Score $t = -.059$, Vocational Attitude Maturity $t = 0.76$, and Variety of Vocational Information-Seeking Behavior $t = 1.16$. These t -values were not significant at the .05 level. Table 16 presents the means and standard deviations of the variables under consideration in terms of the class identification of the subjects. The TSCS, CDRS, CMI-AS, and VISBC raw scores by class used in each of these analyses are reported in Appendix J. The Phi Coefficients computed from the ACL discrepancy scores are reported by class in Appendix K.

The null hypothesis that sophomore scores would not be significantly different from freshman scores on the interval-level measures of personal empowerment failed to be rejected. The sophomore scores were not shown to be statistically different at the .05 level of significance.

Chi-square tests of statistical significance were performed on the nominal-level posttest data of subjects by class group, as stated in Hypothesis 8. After the Chi-square tests applied to the four posttest scores of the POPI, the analyses produced the

Table 16

Hypothesis 8--t-Test of Freshman and Sophomore Group Scores on the Tennessee Self-Concept Subscales--Total Positive Self-Regard, True/False Ratio, and Total Distribution; the Phi Coefficient Score of the Adjective Check List; the External Score of the Career Development Responsibility Scale; the Career-Attitude Maturity Score of the Career-Maturity Inventory--Attitude Scale; and the Variety Score of the Vocational-Information-Seeking Behavior Checklist

Group	Mean	Standard Devi- ation	Degrees of Freedom		2-Tail Prob- ability
Total Positive Self-Regard					
Freshman (n = 32)	330,906	36.068	38	-1.72	0.094
Sophomore (n = 8)	355.000	32.768			
True/False Ratio					
Freshman (n = 32)	1.161	0.424	38	-0.07	0.946
Sophomore (n = 8)	1.171	0.192			

Table 16--Continued

Total Distribution					
Freshman (n = 32)	110.718	32.187	38	-1.47	0.150
Sophomore (n = 8)	128.375	20.563			
Phi Coefficient (Reflects Use of Computed Scores)					
Freshman (n = 32)	0.343	0.125	37	1.22	0.231
Sophomore (n = 8)	0.281	0.104			
External Score					
Freshman (n = 32)	5.406	3.627	38	-0.59	0.561
Sophomore (n = 8)	6.250	3.694			
Career-Attitude Maturity					
Freshman (n = 32)	49.9231	8.863	38	-0.29	0.772
Sophomore (n = 8)	50.7143	6.615			
Vocational Information-Seeking Behavior Checklist					
Freshman (n = 32)	12.1154	3.882	38	-1.19	0.240
Sophomore (n = 8)	13.7143	4.332			

following results--Self Awareness $\underline{X} = .0390$, Occupational Knowledge $\underline{X} = 0.026$, Goal Selection $\underline{X} = 0.069$, and Planning $\underline{X} = 0.026$. The \underline{X} values were not significant at the .05 level. Table 17 presents the cross-tabulations of the variables under consideration in terms of the sex identification of the subjects. The POPI raw scores by class used in each of these analyses are reported in Appendix L.

The null hypothesis that sophomore scores would not be statistically significantly different from freshman scores on the nominal-level measures of career maturity failed to be rejected. The sophomore scores were not shown to be statistically different at the .05 level of significance.

Hypothesis 9

Hypothesis 9 stated that black scores would not be significantly different than white scores on the TSCS, the ACL, the CDRS, and the VISBC. To test the subparts of this hypothesis, posttest data obtained from the interval-level data of the five instruments were separately subjected to a \underline{t} -test. After this statistical test had been carried out with regard to each scale, these analyses produced the following \underline{t} -values--Total Positive Self-Regard $\underline{t} = 0.12$, True/False Ratio $\underline{t} = -1.81$, Total Distribution $\underline{t} = -1.01$, Phi Coefficient $\underline{t} = -1.49$, External Score $\underline{t} = 0.42$, Vocational Attitude Maturity $\underline{t} = 0.01$, and Variety of Vocational Information-Seeking Behavior $\underline{t} = -1.32$. These \underline{t} -values were not significant at the .05 level. Table 18 presents the means and standard deviations of the variables under consideration in terms of the race identification of

Table 17

Hypothesis 8--Cross-tabulations of Freshman and Sophomore

Group Scores on the Four Subtests of the Process

Orientation to Planning Indicator--

Self-Awareness, Occupational

Knowledge, Goal Selection,

and Planning

Count			
Row Percent			
Column Percent			Row
Total Percent	Freshmen	Sophomore	Total
Self-Awareness			
	5	2	7
	71.4	28.6	17.5
0	15.6	25.0	
	12.5	5.0	
	27	6	33
	81.8	18.2	82.5
1	84.4	75.0	
	67.5	15.0	

Table 17--Continued

Column	32	8	40
Total	80.0	20.0	100.0

Raw Chi Square = 0.38961 with 1 Degree of Freedom. Significance = 0.5325

Occupational Knowledge

	19	5	24
	79.2	20.8	60.0
0	59.4	62.5	
	47.5	12.5	

	13	3	16
	81.3	18.8	40.0
1	40.6	37.5	
	32.5	7.5	

Column	32	8	40
Total	80.0	20.0	100.0

Raw Chi Square = 0.02604 with 1 Degree of Freedom. Significance = 0.8718

Goal Selection

	3	1	4
	75.0	25.0	10.0
0	9.4	12.5	
	7.5	2.5	

Table 17--Continued

	29	7	36
	80.6	19.4	90.0
1	90.6	87.5	
	72.5	17.5	
Column	32	8	40
Total	80.0	20.0	100.0

Raw Chi Square = 0.06944 with 1 Degree of Freedom. Significance = 0.7921

Planning

	19	5	24
	79.2	20.8	60.0
0	59.4	62.5	
	47.5	12.5	
	13	3	16
	81.3	18.8	40.0
1	40.6	37.5	
	32.5	7.5	
Column	32	8	40
Total	80.0	20.0	100.0

Raw Chi Square = 0.02604 with 1 Degree of Freedom. Significance = 0.8718

Table 18

Hypothesis 9--t-Test of Black and White Group Scores on the Tennessee Self-Concept Subscales--Total Positive Self-Regard, True/False Ratio, and Total Distribution; the Phi Coefficient Score of the Adjective Check List; the External Score of the Career Development Responsibility Scale; the Career Attitude Maturity Score of the Career Maturity Inventory--Attitude Scale; and the Variety Score of the Vocational Information-Seeking Behavior Checklist

Group	Number of Cases	Mean	Standard Devi- ation	<u>t</u> Value	Degrees of Freedom	2-Tail Prob- ability
Total Positive Self-Regard						
Whites	34	336.0294	36.652	0.12	38	0.902
Blacks	6	334.0000	37.968			
True/False Ratio						
Whites	34	1.1176	0.379	-1.81	38	0.079
Blacks	6	1.4183	0.360			

Table 18--Continued

Total Distribution						
Whites	34	112.1765	30.432	-1.01	38	0.318
Blacks	6	126.0000	33.275			
Phi Coefficient (Reflect Use of Computed Scores)						
Whites	33	0.320	0.118	-1.49	37	0.146
Blacks	6	0.400	0.137			
Career Development						
Whites	34	5.6765	3.364	0.42	38	0.678
Blacks	6	5.0000	5.138			
Career Maturity Inventory--Attitude Scale						
Whites	34	50.2059	8.086	0.01	38	0.991
Blacks	6	50.1667	8.727			
Vocational Checklist						
Whites	34	12.3235	4.169	-1.32	38	0.196
Blacks	6	14.6667	2.875			

the subjects. The TSCS, CDRS, CMI-AS, and VISBC raw scores by race used in each of these analyses are reported in Appendix M. The phi coefficients computed from the ACL discrepancy scores are reported by sex in Appendix N.

The null hypothesis that black scores would be statistically significantly different from white scores on the interval-level measures of personal empowerment failed to be rejected. The black scores were not shown to be statistically different at the .05 level of significance.

Chi-square tests of statistical significance were performed on the nominal-level posttest data of subjects by race group, as stated in Hypothesis 9. After the Chi-square test had been applied to the four posttest scores of the POPI, the analyses produced the following results--Self Awareness $\chi^2 = 1.226$, Occupational Knowledge $\chi^2 = 0.130$, Goal Selection $\chi^2 = 0.784$, and Planning $\chi^2 = 0.131$. The χ^2 values were not significant at the .05 level. Table 19 presents the cross-tabulations of the variables under consideration in terms of the race identification of the subjects. The POPI raw scores by race used in each of these analyses are reported in Appendix O.

The null hypothesis that black scores would not be statistically significantly different from white scores on the nominal-level measures of career maturity failed to be rejected. The male scores were not shown to be statistically different at the .05 level of significance.

Table 19

Hypothesis 9--Cross-tabulations of Black and White Group Scores
 on the Four Subtests of the Process Orientation to Planning
 Indicator--Self-Awareness, Occupational Knowledge,
 Goal Selection, and Planning

Count	Self-Awareness		
Row Percent	White	Black	Total
Column Percent	Row		
Total Percent	White	Black	Total
0	5	2	7
	71.4	28.6	17.5
	14.7	33.3	
	12.5	5.0	
1	29	4	33
	87.9	12.1	82.5
	85.3	66.7	
	72.5	10.0	
Column	34	6	40
Total	85.0	15.0	100.0

Raw Chi Square = 1.22570 with 1 Degree of Freedom. Significance = 0.2682

Table 19--Continued

Occupational Knowledge			
	20	4	24
	83.3	16.7	60.0
0	58.8	66.7	
	50.0	10.0	
	14	2	16
	87.5	12.5	40.0
1	41.2	33.3	
	35.0	5.0	
Column	34	6	40
Total	85.0	15.0	100.0

Raw Chi Square = 0.13072 with 1 Degree of Freedom. Significance = 0.7177

Goal Selection			
	4	0	4
	100.0	0.0	10.0
0	11.8	0.0	
	10.0	0.0	
	30	6	36
	83.3	16.7	90.0
1	88.2	100.0	

Table 19--Continued

	75.0	15.0	
Column	34	6	40
Total	85.0	15.0	100.0
Raw Chi Square = 0.78431 with 1 Degree of Freedom. Significance = 0.3758			
Planning			
	20	4	24
	83.3	16.7	60.0
0	58.8	66.7	
	50.0	10.0	
	14	2	16
	87.5	12.5	40.0
1	41.2	33.3	
	35.0	5.0	
Column	34	6	40
Total	85.0	15.0	100.0
Raw Chi Square = 0.13072 with 1 Degree of Freedom. Significance = 0.7177			

Hypothesis 10

Hypothesis 10 stated that male scores would not be significantly different than female scores on the TSCS, the ACL, the CDRS, the CMI-AS, and the VISBC. To test the subparts of this hypothesis, posttest data obtained from the interval-level data of the five instruments were separately subjected to a t -test. After this statistical test had been carried out with regard to each scale, these analyses produced the following t -values--Total Positive Self-Regard $t = 1.07$, True/False Ratio $t = 0.57$, Total Distribution $t = 1.43$, Phi Coefficient $t = -0.74$, External Score $t = 1.30$, Vocational Attitude Maturity $t = -.029$, and Variety of Vocational Information-Seeking Behavior $t = -1.19$. These t -values were not significant at the .05 level. Table 20 presents the means and standard deviations of the variables under consideration in terms of the sex identification of the subjects. The TSCS, CDRS, CMI-AS, and VISBC raw scores by sex used in each of these analyses are reported in Appendix P. The phi coefficients computed from the ACL discrepancy scores are reported by sex in Appendix Q.

The null hypothesis that male scores would be statistically significantly different from female scores on the interval-level measures of personal empowerment failed to be rejected. The male scores were not shown to be statistically different at the .05 level of significance.

Chi-square tests of statistical significance were performed on the nominal-level posttest data of subjects by sex group, as

Hypothesis 10--t-test of Female and Male Group Scores on the Tennessee Self-Concept Subscale--Total Positive Self-Regard, True/False Ratio, and Total Distribution; the Phi Coefficient Score of the Adjective Check List; the External Score of the Career Attitude Maturity Score of the Career Maturity Inventory--Attitude Scale; and the Variety Score of the Vocational Information-Seeking Behavior Checklist

Group	Number of Cases	Mean	Standard Devi- ation	<u>t</u> Value	Degrees of Freedom	2-Tail Prob- ability
Total Positive Self-Regard						
Males	26	340.2308	32.362	1.07	38	0.291
Females	14	327.3571	42.850			
True/False Ratio						
Males	26	1.1885	0.414	0.57	38	0.574
Females	14	1.1150	0.339			
Total Distribution						
Males	26	119.3077	29.962	1.43	38	0.160
Females	14	104.8571	31.290			

Table 20--Continued

Phi Coefficient						
(Reflects Use of Computed Scores)						
Males	25	0.321	0.117	-0.74	37	0.463
Females	14	0.352	0.135			
Career Development						
Males	26	6.1154	3.953	1.30	38	0.201
Females	14	4.5714	2.709			
Career Maturity Inventory--Attitude Scale						
Males	26	49.9231	8.863	-0.29	38	0.772
Females	14	50.7143	6.615			
Vocational Checklist						
Males	26	12.1154	3.882	-1.19	38	0.240
Females	14	13.7143	4.322			

stated in Hypothesis 10. After the Chi-square tests had been applied to the four posttest scores of the POPI, the analyses produced the following results--Self Awareness $\bar{X} = 1.600$, Occupational Knowledge $\bar{X} = 0.897$, Goal Selection $\bar{X} = 0.440$, and Planning $\bar{X} = 0.165$. The \bar{X} values were not significant at the .05 level.

Table 21 presents the cross-tabulations of the variables under consideration in terms of the sex identification of the credit hours $t = -0.70$, extracurricular hours $t = -0.46$, and part-time work hours $t = 0.12$. These t -values were not significant at the .05 level.

Table 22 presents the means and standard deviations of the variables under consideration for the experimental and control groups. The evaluation form raw scores used in this analysis are reported in Appendix S.

The null hypothesis that there would be equivalence among subjects in the experimental and control groups with respect to these work and study variables failed to be rejected. The computed differences between the groups did not reach the .05 level of significance.

The experimental methods of teaching three life-career-development courses were recorded on audio-tape and then evaluated by two judges. The judges evaluated the three tapes on the LCDS model of facilitation. The model consisted of 12 categories of facilitation. The judges listened to each tape for evidence of the facilitator's behavior. They then indicated by checking or leaving blank the appropriate category. An inter-judge reliability of 81%

Table 21

Hypothesis 10--Cross-tabulations of Female and Male Group
 Scores on the Four Subtests of the Process Orientation
 to Planning Indicator--Self-Awareness, Occupational
 Knowledge, Goal Selection, and Planning

Count			
Row Percent			
Column Percent			Row
Total Percent	Male	Female	Total
Self-Awareness			
	6	1	7
	85.7	14.3	17.5
0	23.1	7.1	
	15.0	2.5	
	20	13	33
	60.6	39.4	82.5
1	76.9	92.9	
	50.0	32.5	
Column	26	14	40
Total	65.0	35.0	100.0

Raw Chi Square = 1.60030 with 1 Degree of Freedom. Significance = 0.2059

Table 21--Continued

Occupational Knowledge			
	17	7	24
	70.8	29.2	60.0
0	65.4	50.0	
	42.5	17.5	
	9	7	16
	56.3	43.8	40.0
1	34.6	50.0	
	22.5	17.5	
Column	26	14	40
Total	65.0	35.0	100.0
Raw Chi Square = 0.89744 with 1 Degree of Freedom. Significance = 0.3435			
Goal Selection			
	2	2	4
	50.0	50.0	10.0
0	7.7	14.3	
	5.0	5.0	
	24	12	36
	66.7	33.3	90.0
1	92.3	85.7	

Table 21--Continued

	60.0	30.0	
Column	26	14	40
Total	65.0	35.0	100.0
Raw Chi Square = 0.43956 with 1 Degree of Freedom. Significance = 0.5073			

Planning

	15	9	24
	62.5	37.5	60.0
0	57.7	64.3	
	37.5	22.5	
	11	5	16
	68.8	31.3	40.0
1	42.3	35.7	
	27.5	12.5	
Column	26	14	40
Total	65.0	35.0	100.0
Raw Chi Square = 0.16484 with 1 Degree of Freedom. Significance = 0.6847			

Table 22

t-Tests of Experimental and Control Groups on Credit Hours,
Extra-Curricular Activity Hours, and Part-Time Work Hours

Group	Number of Cases	Mean	Standard Devi- ation	<u>t</u> Value	Degrees of Freedom	2-Tail Prob- ability
Credit Hours						
1	29	3.5862	1.500	-0.70	38	0.486
2	11	3.9091	0.302			
Extra-Curricular Activity Hours						
1	29	8.8966	9.409	-0.46	38	0.649
2	11	10.3636	7.915			
Part-Time Work Hours						
1	29	4.4483	6.179	0.12	38	0.903
2	11	4.1818	6.113			

was computed by comparing the judges responses. The following number of categories and the corresponding percentage of the total are listed for the judges' evaluation of each course--Affective 7/12 (58%) and 4/12 (33.3%), Cognitive 6/12 (50%) and 7/12 (58%), and Behavioral 9/12 (75%) and 8/12 (66.6%). Overall both judges concluded that the facilitator had treated the three groups equally in terms of the model. The rating forms for the Taped Facilitation and the evaluation scores by categories are reported in Table 23.

The course content was also evaluated by two independent judges. The specified criteria used in reorganizing the LCDS was explained to the judges. Having been briefed in the experimenter's theoretical perspective, the judges then evaluated the nine modules of the LCDS as to their being one of three particular learning emphases--affective, cognitive, or behavioral--on a form containing the nine modules. The judges chose three affective modules, three cognitive modules, and three behavioral modules. Independently, the judges selected the nine appropriate learning emphases. These ratings produced a 100% similarity score and a 100% reliability score for the two independent evaluations. The course content-rating form is included in Appendix T. The fourth additional analysis describes the procedure and results of the reliability test for the POPI.

Judges' ratings were used to measure subjects' process orientation to planning scores. These independently-derived scores were then compared using content by category analysis to determine

Table 23

Rating Form for Taped Facilitation

Categories	Affective	Cognitive	Behav- ioral
1. Structuring	1,2	1,2	1,2
2. Process checking	1		2
3. Modeling	1,2	1,2	1
4. Self-disclosing			
5. Honoring	1,2	1,2	1,2
6. Reinforcing	1,2	1,2	1,2
7. Summarizing			1,2
8. Generalizing	1	1,2	1,2
9. Personalizing			
10. Applying	1	2	1,2
11. Reviewing			1,2
12. Renewing		1,2	1

Note. 1 = Judge 1 2 = Judge 2

Overall, would you say the facilitator treated the three groups
equally? Yes 1,2 No _____

<u>Totals for 12 categories</u>	<u>Affective</u>	<u>Cognitive</u>	<u>Behavioral</u>
Judge 1	7 (58%)	6 (50%)	9 (75%)
Judge 2	4 (33.3%)	7 (58%)	8 (66.6%)

inter-judge reliability. This method was chosen to provide a more accurate description of dichotomous ratings. A reliability coefficient of 72.5% was found in comparing the judges' evaluations. A category, Goal Selection, produced 50% disagreement on the first 20 individuals scored, while on the last 20 scored, there was 100% agreement. The two judges' scores were compared with those of the researcher's evaluations of the five categories (81%, 86%). The scores of the judge who had 86% inter-judge reliability with the researcher were chosen as being the most consistent with Crites' (1974) model and were used in the analysis of the research hypothesis. The POPI judge's ratings are presented in Appendix H.

Summary

The primary findings presented in this chapter were derived from the testing of 10 research hypotheses and four additional analyses:

1. The experimental group did not score statistically significantly different from the control group on the Total Positive Self-Regard Scale, True/False Ratio, and Total Distribution Scale of the TSCS. No statistically significant differences were observed among the treatment groups on measures of self-esteem.

2. Experimental group scores on the phi coefficient of the ACL were not statistically significantly different from those of the control group. There was a statistically significant difference among the experimental groups, as the subjects in the behavioral life-career-development course scored significantly higher than the

other two groups on the measure of self-acceptance.

3. No statistically significant differences were found between the experimental groups and the control group on the External score of the CDRS. Similarly, no statistically significant differences were found among the experimental groups on the measure of locus of control in decision making.

4. It was found that the experimental groups did not score statistically significantly different from the control group on the CMI-AS. There were no statistically significant differences observed among the experimental groups on the measure of career-attitude maturity.

5. Subjects in the experimental groups did not score statistically significantly different from those in the control group on the Self-Awareness, Occupational Knowledge, Goal Selection, and Planning. No statistically significant differences were found among the experimental groups on the measures of a process orientation to planning.

6. Experimental group scores on the Variety score of the VISBC were statistically significantly different from those of the control group. However, there were no statistically significant differences among the experimental groups on the measure of vocational-information-seeking behavior.

7. Statistically significant correlations were found between the CMI-AS and the VISBC, the VISBC and the ACL, the True/False Ratio of the TSCS and the Occupational Knowledge subscale of the POPI, and

the Total Positive Self-Regard Scale of the TSCS and the Planning subtest of the POPI. The other correlations for measures of self-concept with measures of career maturity were not statistically significant.

8. No statistically significant differences were observed between males and females on scores of the following instruments--the TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC.

9. Black- and white-subjects did not score statistically significantly different on the following instruments--TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC.

10. There were no statistically significant differences found between sophomore and freshman scores on the following instruments--the TSCS, the ACL, the CDRS, the CMI-AS, the POPI, and the VISBC.

11. No statistically significant differences were observed between the experimental and control groups on the following work- and study-variables--part-time work hours, extracurricular hours, and credit hours.

12. Judges' evaluations of three audio-tapes of the different treatment groups were reliable and showed an overall similarity of the three methods of implementing the LCDS facilitation model.

13. Judges' evaluation of the course content was consistent with that of the researcher's theoretical perspective and reliable for the independent ratings.

14. A reliability score of 72.5% was computed for the POPI

and the method of selection for the judges' rating scores for the POPI was described.

Chapter 5

Summary, Conclusions, and Recommendations

In this final chapter, the researcher summarizes the main purposes of the investigation, states the findings, discusses the hypotheses, draws conclusions, notes the limitations of the study, suggests implications for future research, and offers recommendations for new investigations.

Summary of the Purposes of the Study

The present study can be summarized in terms of three main purposes: (a) an investigation of the differential effects of three life-career-development courses on the personal empowerment of college underclassmen, (b) an evaluation of personal empowerment as a theoretical construct, and (c) an examination of the secondary factors of sex, race, and college class on the personal empowerment of college freshmen and sophomores.

The differential composition of the three life-career-development courses--the affective life-career-development course (ADC), the cognitive life-career-development course (CDC), and the behavior life-career-development course--is related to theoretical differences in the learning emphases of Hoppock's (1976), Super's (1953), and Krumboltz's (1974) career-development theories. Personal empowerment is measured in terms of six variables--self-esteem, self-acceptance, locus of control in decision making, career-attitude maturity, a

process orientation to planning, and vocational-information-seeking behavior. The experimental treatments were designed to be effective in comparison with a control group (no-treatment group) on all six measures and individually more effective on two variables that related to the theoretical emphasis (e.g., the ADC would be more effective on self-esteem and career-attitude maturity, two variables of the affective dimension, than the CDC or BDC).

The theoretical construct of personal empowerment (diagrammed in Appendix U) was formulated to assess a person's ability to take control of his life. Personal empowerment was conceptualized as a person's insights and competencies. A person's insights were described in terms of an individual's self-concept. There were three self-concept measures--self-esteem, self-acceptance, and locus of control in decision making--that corresponded to the three theoretical emphases used in the treatments--affective, cognitive, and behavioral. Similarly, a person's competencies were described in terms of career maturity. The three career maturity measures--career-attitude maturity, a process orientation to planning, and vocational-information-seeking behavior--were used to measure these three dimensions in career maturity. This theoretical model of personal empowerment postulated a relationship between self-concept and career-maturity measures. The model suggested that there should also be a relationship between self-concept and career-maturity measures of the same dimension, e.g., the affective dimension implies that a relationship would exist between self-esteem and career maturity.

The secondary factors of college class, race, and sex, were

evaluated in terms of their effects on the personal empowerment of subjects. Sophomores were expected to have enhanced personal empowerment in comparison with freshmen; while blacks and women were expected to have restricted personal empowerment in comparison with whites and men. The three major purposes of the study were incorporated in terms of 10 hypotheses.

Statement of Findings

The findings are stated in terms of the 10 null hypotheses as described in Chapter 1, and along with the four additional analyses described in Chapter 3.

Hypothesis 1

There was no relationship between the four treatment groups and the variable of self-esteem.

Hypotheses 2

There was a relationship between the BDC and the variable of self-acceptance. There was no relationship between the ADC, the CDC, and the control group.

Hypotheses 3

There was no relationship between the four treatment groups and the variable of locus of control in decision making.

Hypothesis 4

There was no relationship between the four treatment groups and the variable of career-attitude maturity.

Hypothesis 5

There was no relationship between the four treatment groups

and the variable of a process orientation to planning.

Hypothesis 6

There was a relationship between the three experimental groups and the variable of vocational-information-seeking behavior. There was no relationship between the control group and this variable.

Hypothesis 7

There was a relationship between the self-concept measures and the career-maturity measures.

Hypothesis 8

There was no relationship between college class and the six variables of personal empowerment.

Hypothesis 9

There was no relationship between race and the six variables of personal empowerment.

Hypothesis 10

There was no relationship between sex and the six variables of personal empowerment.

Analysis 1

There was no relationship between the four groups and the variables of credit hours, part-time work hours, and extracurricular activities hours.

Analysis 2

There was overall agreement among the two judges that the three life-career-development courses had been facilitated equally in terms of Walz and Benjamin's (1974) model of facilitation.

Analysis 3

There was 100% agreement among the two judges as to the modification of the LCDS into three life-career-development courses emphasizing, respectively, one of the three learning dimensions.

Analysis 4

A 72.5% reliability score was computed using attribute sampling as the method for determining the score.

Discussion

The discussion is organized in two parts: first, by hypothesis--research supporting the inclusion of the hypotheses in the present investigation is cited and explanations for the current findings are presented; the second part of the discussion includes the additional analyses. Reasons for these additional findings are given and the results are explained.

Hypothesis 1

Career education outcome studies conducted by Schroer (1978), Beilin (1976), Gunter (1975), Snider (1978), Knox (1975), Stonecypher (1973), and Curran (1977) are used to justify the inclusion of this hypothesis, as a theoretical evaluation of the effectiveness of the treatment in terms of self-esteem. Of these studies, five out of seven (Beilin, 1975; Knox, 1975; Schroer, 1978; Snider, 1978; Stonecypher, 1973) reported partial or insignificant findings on the variable of self-esteem. These research findings can be interpreted as demonstrating the difficulty of changing self-esteem. This

interpretation can be used to explain the lack of relationship found between the experimental groups and self-esteem.

Hypothesis 2

Career-counseling treatments evaluated by Blackford (1976), Brew (1975), and Williams (1961) are used to justify the inclusion of Hypothesis 2 as these researchers examined self-acceptance as a theoretical evaluation of the effectiveness of the treatment. Brew and Williams reported partial or insignificant findings for personal adjustment. These research findings suggest the difficulty of changing self-acceptance. They can be interpreted along with Blackford's positive outcome as explaining the mixed results found in Hypothesis 2. The BDC was related to self-acceptance, while the CDC and ADC were not; moreover, there was no relationship between self-acceptance and the combined experimental groups in comparison with the control group. This mixed relationship is inconsistent with the theoretical rationale, as self-acceptance should be enhanced by the CDC, instead of the BDC. This difference between the three experimental groups in terms of self-acceptance is anomalous and open to interpretation; while, the finding that there was no relationship between the experimental and control groups is interpreted as an indication of the ineffectiveness of the treatments.

Hypothesis 3

Outcome studies of career-education treatment conducted by Crow (1973), Rivas (1978), Schlesinger (1978), Johnson and Bukacek (1979), and Thornton (1978) support the inclusion of Hypothesis 3 as

a theoretical evaluation of the effectiveness of the treatment in terms of locus of control in decision making. Of these outcome studies, only Thornton's was effective in achieving significant change in terms of locus of control. The majority of studies indicate the difficulty involved in changing subjects' locus of control. This determination is consistent with the present finding indicating the ineffectiveness of the treatment in changing subject's generalized expectance of reinforcement for decision making.

Hypothesis 4

Career-counseling programs assessed by Wingett (1975), Wintersteen (1979), Egner and Jackson (1978), Bonnet (1978), Davidshofer, Thomas, & Preble (1976), and Rubinton (1980) support the inclusion of Hypothesis 4 as a theoretical evaluation of the effectiveness of the treatment in terms of career-attitude maturity. Of these outcome studies, three (Wintersteen, Egner & Jackson, & Rubinton) demonstrated a relationship between their treatments and career-attitude maturity; whereas, the other three (Wingett, Bonnet, & Davidshofer et al.) did not. These mixed findings suggest that career-attitude maturity can be a difficult variable to change. This decision is consistent with the present finding that indicated there was no relationship between the three experimental groups and career-attitude maturity.

Hypothesis 5

Career-education-outcome studies evaluated by Forrest (1978), Deakin (1978), Bonnet (1978), and Ganster and Lovett (1977) support the inclusion of Hypothesis 5 as a theoretical assessment of the

effectiveness of the treatments in terms of a process orientation to planning. Of these outcome studies, none were completely successful in altering the subjects' process orientation to planning. These findings demonstrate the difficulty of changing this attitudinal variable. This determination is consistent with the present finding that indicates no relationship between the three life-career-development courses and a process orientation to planning.

Hypothesis 6.

Outcome studies of career-education programs assessed by Krumboltz and Thoresen (1964), Thoresen, Krumboltz, and Varenhorst (1967), Borman (1972), and Fisher, Reardon, and Burck (1976) justify the inclusion of Hypothesis 6 as a theoretical evaluation of the effectiveness of the treatments in terms of vocational-information-seeking behavior. Of these outcome studies, four out of four were successful in increasing subjects' vocational-information-seeking behavior. These positive findings indicate that career-education programs can increase this variable of behavior. This decision is consistent with the findings of the present study as a relationship was found between the three experimental groups and vocational-information-seeking behavior.

Hypothesis 7

Correlations between personality variables and career-maturity variables examined by the following researchers--Jones, Hansen, and Putnam (1976), Wadnowiak (1973), and Winer, Cesari, Haase, and Boden (1979)--justify the inclusion of Hypothesis 7 as a theoretical

evaluation of the personal-empowerment construct. These three studies generally support the relationship between self-concept variables and career-maturity variables. This determination is consistent with the findings of the present study as 12 out of 30 correlations were $\bar{r} = .12$ or better, suggesting a significant trend. However, there were not as many significant--only four--correlations as expected, with one being in the wrong direction. No relationship was found between the self-concept and career-maturity measures for the three dimensions of personal empowerment. This result can also be considered consistent with the reviewed studies; as no studies were found that supported the existence of the personal-empowerment model. The results suggest that the present theoretical model is inapplicable.

Hypothesis 8

Career#education-outcome studies conducted by Droessler (1978), Hamm (1978), and Kneflekamp and Slepitz (1976) are cited by this researcher as justification for the inclusion of Hypothesis 8 as a theoretical evaluation of the secondary effect of college class on personal-empowerment measures. Although these studies did not specifically study the differences between freshmen and sophomores in terms of these variables, Kneflekamp and Slepitz did observe stage differences in cognitive complexity. From these studies, it may be determined that differences in college class between freshmen and sophomores have generally not been studied in terms of self-concept and career maturity, as they represent too little variation. This determination is consistent with the findings of the present study demonstrating no relationship

between college class and the six variables of personal empowerment.

Hypothesis 9

Research conducted by Garza (1978), Esposito (1975), and Mcloughlin (1978) justifies the inclusion of Hypothesis 9 as a theoretical evaluation of the secondary effect of race on personal-empowerment measures. These studies indicate that race can interact with Socioeconomic Status to hinder the personal and career development of blacks. These results are consistent with the present findings as no relationship was found between race and personal empowerment. This inconsistency may be attributed to the control of SES in the present study, as the high level of SES (middle- to upper-middle class) controlled for race differences on the measures of personal empowerment.

Hypothesis 10

Research conducted by Farmer (1978), Thomas and Carpenter (1976), and Smith (1976) justify the inclusion of Hypothesis 10 as a theoretical evaluation of the secondary effect of sex on personal-empowerment measures. These studies indicate that sex can interact with SES to restrict the personal empowerment of women. This determination is inconsistent with the present findings as no relationship was found between sex and the six variables of personal empowerment. As with Hypothesis 9, this inconsistency can be explained by the control of SES in the present study. The high level of SES in the sample seems to have masked any sex differences on the personal-empowerment measures.

Analysis 1

Analysis 1 was used to determine if there were any pretreatment differences between the four groups. As no significant differences were observed on the three career-related measures, it was concluded that in terms of these measures no significant pretreatment differences existed between the four groups.

Analysis 2

Analysis 2 was used to determine if the facilitator was excessively favoring one treatment group over another. The judges' evaluations of the audio tapes showed that differences existed between the groups, but that overall the model was being equally used with the three experimental groups.

Analysis 3

Analysis 3 was used to evaluate the facilitator's organization of the three life-career-development courses. After reading the researcher's theoretical rationale, the two judges independently achieved complete agreement in selecting the nine learning emphases of the LCDS modules.

Analysis 4

Analysis 4 represented the reliability score for the judging process of the POPI. The score of 72.5%, while not being high, represents adequate inter-judge reliability. It should be noted, however, that the Problem Solving scale of the POPI had to be discarded as only one subject out of 40 received a favorable rating.

Conclusions

The following conclusions are based on the present findings and a discussion of the results:

1. The difficulty of changing attitudes accounted for the large number of insignificant findings.
2. The life-career-development courses were able to enhance the vocational-information-seeking behavior of college underclassmen, over a short period of time.
3. The theoretical construct of personal empowerment is inapplicable to the three measures of self-concept and the three measures of career maturity. There does appear to be an overall relationship between self-concept and career maturity, but it cannot be defined in terms of the three dimensions of personal empowerment.
4. The measures of personal empowerment do not appear to be appropriate for the differences between freshmen and sophomores as there seems to be little variation in the vocational-development tasks of these groups.
5. Socioeconomic status appears to have limited the variation due to sex and race differences on the personal-empowerment-outcomes. The sample consisting of middle- to upper-middle-class students may have limited the expression of these economically-related inequalities.

Limitations

The applicability of the results of the present investigation is delimited by certain procedural restraints that constituted

the research design. The most fundamental ones are mentioned here briefly:

1. The external validity of the study is confined by the size and characteristics of the sample. The four experimental groups contained, respectively, 8, 11, 10, and 11 subjects. There were 32 freshmen and 8 sophomores, 34 whites and 6 blacks, and 27 males and 14 females. The size was limited by the treatment method (small group facilitation) and course registration. The groups were comprised of intact classes; consequently, the results are not generalizable to other populations composed of volunteers.

2. The subjects in the experiment were not randomly assigned to groups. However, the experimental classes were randomly assigned to treatment conditions. Complete randomization was logistically impossible as it was necessary to use intact classes for the study.

3. The methodological problems related to the use of self-report measures have been discussed and an effort was made to control for "response set" and "social desirability" on the TSCS and ACL. Nevertheless, the validity and reliability of unconfirmed reports of attitudes and behaviors may be suspect.

4. Due to logistical restraints, the investigator taught the three experimental groups. The investigator attempted to facilitate the three courses equally. Analysis 2 supported this contention, however, other factors related to the facilitator's interaction with the experimental groups were not assessed, e.g., sex and personality.

5. Students seemed to prefer the most career-oriented

modules--"Overcoming Barriers," "Expanding Options," "Using Information," "Working Effectively," and "Creating Futures." They were less enthusiastic about personal growth modules such as "Setting Goals," "Determining Values," and the intrapersonal-growth module "Enhancing Relationships." Students expressed the most ambivalence about "Exploring Self"--some really enjoyed it and others did not. These mixed reactions to the modules may have influenced the outcome measures.

6. A follow-up test might have been run 6 months after the treatment to assess if there were any long-term changes on the personal empowerment measures. This test would explore the durability of change observed in the experimental groups on vocational-information-seeking behavior.

Implications for Future Research

Implications for future research are suggested based on the investigator's experience in conducting field research. There are three topics discussed in relation to the three purposes of the study--treatment effectiveness, measurement of personal empowerment, and secondary factors.

The research topic of evaluating treatment effectiveness is examined in terms of four issues related to career-education-outcome studies:

1. isolating specified treatments,
2. ascribing strategy to theory,
3. referring outcomes to strategy, and

4. relating design to strategy.

An important issue for future research is isolating specified treatments. These treatments should be limited to a particular technique. The modules or specific sessions of the LCDS could be used to create a treatment that consisted of one method of instruction. The advantage to specifying one instructional technique is that it will be easier to determine the effectiveness or ineffectiveness of the treatment.

A second issue associated with the topic of treatment effectiveness is ascribing strategy to theory. Once the particular strategy has been isolated, a suitable career-development theory must be chosen. The relationship between strategy and theory should be as close as possible. Instructional theory may be used in addition to help integrate classroom practice and theoretical assumptions. The closer the relationship between the theoretical rationale and the instructional method, the more precise the evaluation will be.

A third issue that relates to the treatment topic is selecting outcomes that correspond with the strategy. The choice of a particular strategy and theoretical rationale lead to the definition of outcomes. Outcomes that are consistent with the strategy and theory should be chosen. The closer the fit between these three components, the easier it will be to interpret the experimental results.

The fourth issue for the treatment topic concerns relating design to strategy. Again, the relationship is contingent upon the previous issues, i.e., specific strategy, theory, and outcomes. The

design should incorporate randomization of subjects and random assignment of treatment and control groups. A pre-post-test control experimental-group design could be used to measure change associated with the strategy on nonreactive instruments; while a post-test-only-control-group design might be used to evaluate the effectiveness on reactive measures of the strategy. These designs could be repeated in succession to assess a number of strategies.

A second topic of implications for future research is measuring personal empowerment. There are four issues to examine-- the methodology of self-report instruments, the item of evaluation procedures, the need for appropriate measures, and the relationship of theory to measurement.

The first issue to consider is the methodology of self-report instruments. Personal empowerment should not be measured on these instruments until advances are made. The use of self-report inventories is fraught with difficulties. The problem of defining response set/style has not been satisfactorily answered. It has been identified as social desirability, faking, or social deviance. The question of what the instruments actually measure is related to this problem. Does the self-report instrument indicate the person's test-taking ability or a measure of his self-concept? Until clear answers can be found, these instruments will continue to impede attitudinal measurement.

The issue of evaluative procedures constitutes another concern for future research. Evaluative procedures as defined by Wells

and Marwell (1976) include three methods--the implicitly derived, the explicitly derived, and the direct evaluative procedures. The direct evaluative procedure was not examined in this study as it was not incorporated in the instruments selected. It is positioned on the self-evaluative end of Wells and Marwell's self-worth continuum. It is distinguished from the other two methods by requiring subjects to make direct evaluations in response to instrument questions. The scores are directly derived from the individual's assessments. This differs from the other two methods in that scores are either implicitly derived from or explicitly derived from theory in the process of computing scores. An example of a direct evaluative procedure would be Kelly's (1963) Role Construct Report Test that allows subjects to evaluate roles in terms of their own constructs. The distinction between the three procedures is another aspect of self-report measurement that requires future research.

A third issue associated with the measurement of personal empowerment is related to the need for appropriate measures. New measures are needed to evaluate behavioral and attitude change. An important consideration for attitudinal instruments is that they should incorporate a broad score range, as attitudinal measures are difficult to change and the broader the range--the more sensitive the instrument is to change. Behavioral measures should incorporate scores of frequency, variety, and type. These new measures should be examined for content validity; tested for reliability and incorporated in studies to determine their criterion related and construct

validity.

A fourth issue connected to the measurement of personal empowerment is the relationship of theory to measurement. If career-development theory would specify more definable objectives, then more realistic models could be measured. The present model of personal empowerment is inadequate because the theory is not well-developed.

Secondary factors represent the third topic of implications for future research. Under this topic, three issues are introduced-- a method of measuring SES, designing changes, and theoretical refinement.

The first issue to be presented is the inclusion of a method of assessing SES. The Two Factor Index of Social Position is a widely-used scale that combines parental occupations with educational level. This scale or other more refined measures might be incorporated in future outcome studies assessing the effects of secondary factors.

Alteration of the research design is a second issue to be examined under the topic of secondary factors. A different approach to the problem of evaluating secondary factors would be to focus on an individual's scores instead of group scores. By changing the design to examine repeated measures on particular subjects, differences in individual's performances could be compared. By studying the differences in individual's behaviors some generalizations might be developed that could be applied to groups. Theoretical development leads on to the next issue.

The third issue on the topic of secondary factors is theoretical refinement. The problem of understanding the relationship of secondary factors to personal-empowerment measures is a theoretical question. The current theoretical rationale for measuring personal empowerment is inadequate. Designing/identifying new measures of personal empowerment that relate more directly to secondary factor theories of career development, e.g., Krumboltz's (1974) Social Learning Theory of Career Development, is an avenue for future theoretical research. Krumboltz has developed a system for diagramming an individual's career development in a social environment. This method might be taught to student models, who could then communicate it to their peers through social modeling. This form of treatment could be evaluated in terms of the objectives of the model. This theoretical approach to secondary factors in terms of the measurement of personal empowerment could be refined through research.

Recommendations for Future Research

The limitations of the current investigation as well as the implications for future study provide a basis from which these recommendations are proposed:

1. Future career-education treatments should be limited to one technique, per treatment. These treatments should be well-integrated with both career development and instructional theory. Outcomes should correspond to the instructional as well as theoretical objectives. The research design should be related to the

strategy providing a representative and an unbiased sample on which the effectiveness of the treatment may be evaluated. LCDS modules can be adapted to this system of analysis.

2. Alternative theories that specify the use of a particular counseling/instructional strategy should be used to design career-education treatments. Rational-emotive therapy, cognitive-dissonance theory, and cognitive/moral-development theory are three possible choices.

Kneflekamp and Slepitzka (1976) have modified Perry's (1970) theory of moral development into a career-education model. Direct discussion is a treatment that can be closely linked to cognitive/moral development theory. Kohlberg, Colby, Gibbs, Speicher-Dubin, and Power (1977) have developed a casebook for evaluating the Moral Interview Schedule--a theoretically consistent outcome measure. The combination of this theory, strategy, and outcome would constitute a new career-education program for evaluation.

3. New outcome measures of personal empowerment are needed. These measures should be closely related to treatments. Criterion referenced tests, semantic differential tests, and refined self-report measures may be explored in the future. Tests should be carefully examined before selection when their strengths and weaknesses can be compared with other instruments. Response set, evaluative procedures, score range, and theoretical applicability are important issues for future research in test measurement.

4. Research designs should be related to the treatment objectives, theoretical assumptions, and outcome measures. Larger sample sizes increase the generalizability of results. Complete randomization controls for experimental error. Some possible research designs that might be used are as follows--pre-post-test experimental control group (with nonreactive measures), post-test-only control experimental group (with reactive measure), repeated trials with individual subjects, and longitudinal analysis.

5. Krumboltz's (1974) Social Learning Theory of Career Development might be refined in the measurement of personal empowerment. Using this model of diagramming, the career-development of individuals in a social environment, student models could be trained. These student models could teach other students how to use the diagram to understand their own career development. This instructional strategy could be evaluated in terms of the theoretical and instructional objectives. From this combined approach a new model of personal empowerment might be formulated.

6. A final recommendation is for research with future-education techniques. A paucity of research has been conducted in this field. A suggestion for a particular approach would be to develop a treatment for divergent thinking and then evaluate it in terms of creativity. Research from studies of creativity could be usefully applied to programs of future education.

Now it is high time to awake out of sleep: for now is our salvation nearer than when we believed. The night is far

spent, the day is at hand: let us therefore cast off the works of darkness, and let us put on the armour of light.

Romans 13:11

APPENDICES

APPENDIX A
OUTLINE OF THE MODULES, STATEMENT OF GOALS, AND
OBJECTIVES, AND A SUMMARY OF THE SESSIONS

Module 1. Exploring Self

Goal

To assist individuals to increase their understanding and acceptance of self--of their interests, strengths, personalities, needs, and life-style preferences, and of the relationship between self-understanding and potential careers.

Objectives

Individuals will be able to do the following:

1. Recognize themselves as unique; appreciate similarities and differences between themselves and their peers.
2. Become aware of their interest patterns and activities related to their interests.
3. Define ways of broadening their interests.
4. Become aware of their strengths and ways of utilizing them.
5. Increase understanding of their personalities.
6. Become aware of their needs and how these can be met.
7. Broaden understanding of life-style and become aware of their own life-style preferences.
8. Identify occupations that help them realize all of the above.

Sessions

Seven sessions requiring nine 50-minute periods to complete. Through pictorial representation, graphs, diagrams, lists, group discussion, and a game called "Internal Compasses," participants focus on themselves, determining areas of strongest interests, strengths, general personality classification and personal life-style preferences--relating all of these areas of self to potential careers.

Module 2. Determining Values

Goal

To help individuals recognize the importance of values, explore values, determine personal values, and examine the relationship of values to, and the importance of values in, career planning.

Objectives

Individuals will be able to do the following:

1. List and describe major work values.
2. Describe and share personal values of most importance to themselves.
3. Gain understanding of how values may conflict and learn strategies for dealing with conflicts in values.
4. Gain an appreciation for and understanding of people who have values that are different from their own.
5. Discover the extent to which they are acting according to their personal values, analyzing from a group activity what values caused them to behave as they did.
6. Identify occupational areas which will allow them to

express their values.

Sessions

Six sessions requiring seven 50-minute periods to complete. Through ranking stated values, a game called "Fallout Shelter," case studies portraying value conflicts, exercises in communication for clarification of values, and exploration of alternative ways of handling conflict, participants explore the whole area of values, focusing on identifying their own values, gaining experience with conflict resolution, and finding to what extent they are acting according to their values.

Module 3. Setting Goals

Goal

To help participants relate their goals to their values, particularly work values; understand specific goal-setting procedures; recognize how goals develop from intrinsic and extrinsic motivational sources; learn to work with others in achieving group goals; and recognize the importance of long-range planning in relation to career goals.

Objectives

Individuals will be able to do the following:

1. Identify work values and examine activities which allow them to express their own work values.
2. Originate and state goals according to specific criteria.
3. Practice setting and achieving short-term goals.
4. Differentiate among various motivational sources of goals.

5. Identify internal and external obstacles to goal-setting.
6. Develop action strategies to deal with obstacles to goal-setting.
7. Identify personal ways of behaving which facilitate or obstruct group progress toward achievement of goals.
8. Complete a procedure useful for long-term goal-setting.
9. Become acquainted with specific techniques for increasing their motivation for achievement of goals.

Sessions

Six sessions requiring seven 50-minute periods to complete. Through analysis of case studies, contracting for short-term goals, selection of alternative ways of dealing with obstacles, a game called "Broken Squares," utilization of a "Career Planning Guide" created by themselves, and various action-oriented procedures based on a political campaign theme, participants explore and acquire skill in setting and achieving goals.

Module 4. Expanding Options

Goal

To help individuals become aware of new work roles, changing work values, social consequences of work and a variety of alternatives in career planning and decision making; and to explore means of attaining satisfaction and meaning from work.

Objectives

Individuals will be able to do the following:

1. Identify reasons for the emergence of new career roles.

2. Describe specific new career roles.
3. Determine negative and positive implications of conflicting work values.
4. Evaluate the social consequences of various work roles.
5. Propose and evaluate alternative courses of action to make work more meaningful and satisfying for themselves.
6. Explore various personal career options.

Sessions

Six sessions requiring six 50-minute periods to complete. Through analysis of quotations, insertion of themselves in case studies, independent research in specific careers, and participation in a group "fish-bowl" experience, individuals identify and explore new, emerging career roles and their social consequences and broaden their thinking about potential careers.

Module 5. Overcoming Barriers

Goal

To help individuals identify environmental and personal barriers in general and examine alternative ways of coping with barriers, leading to identification of barriers which confront them personally and ways they themselves can deal with these.

Objectives

Individuals will be able to do the following:

1. Identify environmental barriers in general; become aware of barriers associated with special groups and populations.
2. Determine effective ways of coping with barriers.

3. Distinguish between environmental barriers and those originating within the self.
4. Identify environmental barriers associated with specific occupations.
5. Identify environmental barriers they might encounter in their chosen career area.
6. State action strategies to help them overcome these barriers.

Sessions

Six sessions requiring six 50-minute periods to complete. Through role-playing, a game, rating scales, case studies, examination of specific careers, simulated job interviews, and a group exercise in "confidential feedback," participants identify barriers in general and explore ways of coping with them in their own lives.

Module 6. Using Information

Goal

To help individuals understand the importance of information in career planning, learn to evaluate information using specific criteria, become knowledgeable about sources of information and develop skill in finding new sources, and use information in planning their own careers.

Objectives

Individuals will be able to do the following:

1. Identify a problem in career decision-making and determine the kinds of information necessary to solve it.

2. Evaluate information on the basis of three criteria:
(a) is it understandable? (b) is it accurate? and (c) is it current?
3. Understand the usefulness of persons as sources of information.
4. Identify and consult with a person in regard to a career of interest to them.
5. Become aware of the many sources of information and determine which sources are most applicable to various kinds of problem-solving.
6. Collect information about specific careers and share the information with others.

Sessions

Six sessions requiring five 50-minute periods and one period of about three hours to complete. Through solving career problems for fictitious individuals; paired communication exercises; analysis of information for relevance, possible bias, and currency; a Career Information Auction Game; and examination of a variety of sources of information; participants become aware of numerous sources of information and gain experience in consulting and utilizing these sources.

Module 7. Working Effectively

Goal

To help participants learn about factors which contribute to increased effectiveness and efficiency, to improve their study habits, to enhance their listening effectiveness, to increase their ability to work effectively with others, and to develop an understanding of the

importance of effective job performance.

Objectives

Individuals will be able to do the following:

1. Become aware of consequences of efficiency and lack of efficiency.
2. Identify factors which contribute to working more effectively.
3. Evaluate and determine methods for improving study habits.
4. Improve listening effectiveness.
5. Describe behaviors that improve or hinder group effectiveness and demonstrate increased effectiveness in working with groups.
6. Understand importance of effective job performance in specific occupations and identify consequences of ineffective job performance.

Sessions

Six sessions requiring nine 50-minute periods to complete. Through debates, a game, role-playing, completing questionnaires, group discussion, examination of behaviors in groups, and other team activities, participants explore the area of effective listening and effective performance in individual efforts, group work, and career-related activities.

Module 8. Enhancing Relationships

Goal

To help participants become aware that their relationships with others are a direct consequence of their feelings about themselves,

examine their feelings about themselves and determine whether others view them in a similar manner, become aware of their own responsibility in determining the quality of their relationships, acquire skills in specific techniques of communication, become knowledgeable of the kinds of behavior that cause defensiveness, become aware of their personal patterns of conflict resolution, acquire skill in constructive conflict resolution.

Objectives

Individuals will be able to do the following:

1. Define self-concept and express in written and verbal form their feelings about themselves.
2. Identify ways their self-concept differs from views of themselves expressed by others.
3. Choose one area of self-concept that they wish to improve and outline steps to effect that change.
4. Examine and describe how their own actions could have caused a relationship to be negative or positive.
5. Describe from direct experience the effect of using specific words or concepts in communication.
6. Experience and describe the feelings that are concomitant with self-disclosure and determine its effect on the nature of a relationship.
7. Demonstrate listening skills to the satisfaction of another person.
8. List behaviors that are liable to cause themselves or

others to become defensive.

9. Identify personal patterns of dealing with conflict.

10. Identify methods commonly used to handle interpersonal conflicts.

11. Identify constructive ways of handling interpersonal conflict.

Sessions

Six sessions requiring six to seven 50-minute periods to complete. Through a self-evaluation chart completed by themselves and others, role playing with subsequent analysis of relationships, practice of specific modes of communication, use of listening and feedback techniques, identification of behaviors that cause defensiveness in themselves and others, analysis of personal patterns of conflict resolution, and development of constructive means of handling conflicts, participants acquire skills in the art of communication and of enhancing relationships.

Module 9. Creating Futures

Goal

To assist participants to generate viable images of the future, develop skill in social and personal forecasting, acquire attitudes and skills necessary for mastering the future, contribute to and participate in purposeful change, learn ways of adapting to new situations, and design and implement a personal strategy for self-renewal.

Objectives

Individuals will be able to do the following:

1. Describe alternative futures.
2. Utilize a variety of forecasting techniques for planning for the future.
3. Acquire futuristic-relevant attitudes and behaviors requisite to coping with future shock.
4. Learn strategies and techniques for implementing planned change.
5. Develop skill in the method of environmental mastery.
6. Design and implement a strategy for personal renewal.

Sessions

Six sessions requiring six to eight 50-minute periods to complete. Through forecasting training, imaging practice, a futuristic game, skill-training in coping behaviors, specific measures of futuristic thinking, and consultation on renewal strategies utilizing individual, dyadic and small group procedures, participants will acquire skill in thinking and behaving in a futuristic manner.

APPENDIX B
ACADEMIC AND PROFESSIONAL QUALIFICATIONS
OF CONTENT ANALYSTS

James Ernest Forrester

Ed.D. College of William and Mary

**Adolescent Coordinator at the Alcoholism Recovery Center of Virginia,
Portsmouth, Virginia**

Michael Barton Magri

Ed.D. College of William and Mary

Family Counselor Supervisor

**Department of Corrections, Juvenile and Domestic Relations District
Court**

Yorktown, Virginia

APPENDIX C

LIFE CAREER DEVELOPMENT SYSTEM FACILITATION PROCESS

1. Structuring

Process Checking

2. Modeling

Self-disclosure

3. Honoring

Reinforcing

4. Summarizing

Generalizing

5. Personalizing

Applying

6. Reviewing

Renewing

Successful

Facilitation

Explanation of the Life Career Development System

Facilitation Terms

1. Structuring--The facilitator begins describing the purpose and goals for the session, placing it in the context of the Module.
2. Process checking--The facilitator keeps up a rapport with the group, by clarifying their reaction to the objectives and activities.
3. Modeling--The facilitator will demonstrate an example of the experience involved in the session.
4. Self-disclosure--The facilitator will share some feelings or thoughts he has about the process.
5. Honoring--The facilitator recognizes group members' comments.
6. Reinforcing--The facilitator encourages others to self-disclose.
7. Summarizing--The facilitator gets the group to summarize its process.
8. Generalizing--The facilitator leads the group in generalizing experiences from its learnings.
9. Personalizing--The facilitator shares some of his own learnings from similar situations.
10. Applying--The facilitator gets group members to apply what is done in class to their own life situation.
11. Reviewing--The facilitator reviews the session in terms of the objectives and activities.

12. Renewing--The facilitator closes the session and highlights the next day's session.

Appendix D

Tennessee Self-Concept Subscales Raw Scores on the Total
Positive Self-Regard Score, the True/False Ratio, and
the Total Distribution Score

Experimental Group				Control Group		
Total	True- False Ratio	Total Distri- bution	Experi- mental Group	Total Positive Self- Regard	True- False Ratio	Total Distri- bution
362	1.03	141	1	363	1.48	132
278	0.89	61	1	323	0.95	139
324	1.66	154	1	313	0.81	88
382	1.15	145	1	325	0.54	74
325	1.20	131	1	292	1.18	151
318	0.78	88	1	328	0.93	84
301	1.00	70	1	293	0.67	61
302	1.25	107	1	245	1.07	82
279	1.19	52	2	389	1.14	135
323	1.71	132	2	373	1.26	146
328	0.50	86	2	357	1.36	112
357	0.86	116	2			
346	1.29	126	2			

Appendix D--Continued

355	0.86	109	2
364	1.15	111	2
338	1.45	109	2
327	0.79	111	2
346	0.94	86	2
389	1.20	170	2
371	1.05	138	3
359	1.27	148	3
291	1.93	132	3
412	1.10	164	3
296	1.46	88	3
329	1.03	99	3
345	1.52	111	3
402	0.98	147	3
352	1.14	145	3
327	0.74	89	3

Note. 1 = Affective Life-Career-Development Course
 2 = Cognitive Life-Career-Development Course
 3 = Behavioral Life-Career-Development Course

Appendix E

Computed Phi Coefficient Scores of the Adjective Check List

Experimental Group				Control Group
Phi Coefficient	Experimental Group	Phi Coefficient	Experimental Group	Phi Coefficient
0.150	1	0.383	2	0.329
0.398	1	0.294	2	0.125
0.181	1	0.183	2	0.500
0.185	1	0.392	2	0.498
0.365	1	0.278	3	0.474
0.156	1	0.457	3	0.253
0.354	1	0.451	3	0.450
0.161	1	a	3	0.219
0.227	2	0.587	3	0.251
0.325	2	0.321	3	0.344
0.348	2	0.357	3	0.373
0.384	2	0.385	3	
0.242	2	0.645	3	
0.347	2	0.362	3	
0.205	2			

Appendix E--Continued

Note. 1 = Affective Life-Career-Development Course
2 = Cognitive Life-Career-Development Course
3 = Behavioral Life-Career-Development Course

^aMissing Case

Appendix F

Raw Scores of the Career Development Responsibility Scale

Experimental Group				Control Group
External Score	Experimental Group	External Score	Experimental Group	External Score
8	1	12	2	4
2	1	6	2	0
1	1	1	2	5
5	1	8	2	5
12	1	2	3	13
9	1	4	3	5
11	1	2	3	4
5	1	5	3	4
4	2	1	3	5
14	2	3	3	8
4	2	9	3	5
2	2	8	3	
2	2	8	3	
7	2	9	3	
1	2			

Note. 1 = Affective Life-Career Development Course
 2 = Behavioral Life-Career Development Course
 3 = Cognitive Life-Career Development Course

Appendix G

Raw Scores of the Career Maturity Inventory--Attitude Scale

Experimental Group		Control Group		
Career- Attitude Maturity	Experi- mental Group	Career- Attitude Maturity	Experi- mental Group	Career- Attitude Maturity
46	1	56	2	64
39	1	59	2	63
39	1	35	2	54
59	1	60	3	59
48	1	51	3	35
51	1	57	3	44
43	1	40	3	48
40	1	53	3	44
41	2	52	3	48
46	2	53	3	60
60	2	49	3	48
42	2	58	3	
54	2	59	3	
53	2			
57	2			
41	2			

Appendix G--Continued

- Note. 1 = Affective Life-Career-Development Course
2 = Cognitive Life-Career-Development Course
3 = Behavioral Life-Career-Development Course

Appendix H

Rating Scores of Five Subtests of the Process Orientation
to Planning Indicator--Self-Awareness, Occupational
Knowledge, Goal Selection, Planning, and
Problem Solving

Self-Awareness	Occupational Knowledge	Goal Selection	Planning	Problem Solving	Experimental Group
1	0	1	0	0	1
1	0	1	0	0	1
1	0	1	1	0	1
1	1	1	0	0	1
0	1	1	1	0	1
1	0	0	0	0	1
1	1	1	0	0	1
1	0	0	0	0	1
1	1	1	0	0	2
0	0	1	0	0	2
1	0	1	0	0	2
1	1	1	0	0	2
1	0	1	0	0	2
1	0	1	0	0	2
0	0	1	1	0	2

Appendix H--Continued

1	0	0	0	1	2
1	1	1	0	0	2
0	1	1	1	0	2
1	1	1	1	0	2
1	1	1	1	0	3
1	0	1	0	0	3
1	0	1	0	0	3
1	0	1	0	0	3
1	0	1	0	0	3
1	1	1	0	0	3
1	0	1	1	0	3
1	0	1	1	0	3
1	1	1	1	0	3
1	1	1	1	0	3

Control Group

0	0	1	0	0
1	1	1	1	0
1	1	1	1	0
0	1	1	1	0
0	0	1	0	0
1	0	1	1	0
1	0	1	0	0

Appendix H--Continued

1	0	1	0	0
1	0	1	1	0
1	1	1	0	0
1	0	0	1	0

Note. Experimental Group column code:

- 1 - Affective Life-Career Development Course
- 2 - Cognitive Life-Career Development Course
- 3 - Behavioral Life-Career Development Course

Appendix I

Raw Scores of the Vocational Information-Seeking

Behavior Checklist

<u>Experimental Group</u>				<u>Control Group</u>
Variety	Experi- mental	Variety	Experi- mental	Variety
Score	Group	Score	Group	Score
12	1	10	2	8
17	1	11	2	12
17	1	17	2	16
20	1	14	2	9
13	1	19	3	5
17	1	13	3	9
8	1	10	3	7
18	1	14	3	13
19	2	17	3	12
17	2	12	3	18
12	2	9	3	7
12	2	10	3	
16	2	9	3	
14	2	7	3	
7	2			

Note. 1 = Affective Life-Career Development Course

Appendix I--Continued

2 = Cognitive Life-Career Development Course

3 = Behavioral Life-Career Development Course

Appendix J

Freshman and Sophomore Raw Scores on the Tennessee Self-Concept Scale, the Career Development Responsibility Scale, the Career Maturity Inventory--Attitude Scale, and the Vocational Information-Seeking Behavior Checklist

Class	Total Positive Self-Regard	True/False Ratio	Total Distribution	Career Development	Attitude Scale	Vocational Checklist
0	301	1.00	70	11	43	17
0	318	0.78	88	9	51	12
0	382	1.15	145	5	59	16
0	324	1.66	154	1	39	14
0	278	0.89	61	2	39	10
0	296	1.46	88	1	53	11
0	291	1.93	132	2	57	17
0	359	1.27	148	4	51	14
0	371	1.05	138	2	60	17
0	389	1.20	170	8	35	17
0	346	0.94	86	1	59	8
0	327	0.79	111	6	56	17
0	338	1.45	109	12	41	20
0	355	0.86	109	7	53	13
0	346	1.29	126	2	54	10

Appendix J--Continued

0	328	0.50	86	4	60	17
0	323	1.71	132	14	46	19
0	279	1.19	52	4	41	19
0	357	1.36	112	5	48	13
0	389	1.14	135	5	48	12
0	245	1.07	82	4	44	7
0	293	2.67	61	4	48	9
0	328	0.93	84	5	44	16
0	292	1.18	151	13	35	12
0	325	0.54	74	5	59	10
0	313	0.81	88	5	54	9
0	323	0.95	139	0	63	7
0	363	1.48	132	4	64	8
0	327	0.74	89	9	59	12
0	352	1.14	145	8	58	5
0	402	0.98	147	8	49	9
0	329	1.03	99	3	52	7
1	345	1.52	111	9	53	9
1	373	1.26	146	8	60	12
1	357	0.86	116	2	42	13
1	364	1.15	111	1	57	18
1	412	1.10	164	5	40	14
1	362	1.03	141	8	46	12

Appendix J--Continued

1)	325	1.20	131	12	48	7
1	302	1.25	107	5	40	18

Appendix K

Freshman and Sophomore Computed Scores of the Phi Coefficient
on the Adjective Check List

Class	Phi Coef- ficient	Class	Phi Coef- ficient	Class	Phi Coef- ficient
0	0.354	0	0.242	0	0.362
0	0.156	0	0.348	0	0.645
0	0.185	0	0.325	0	0.385
0	0.181	0	0.227	0	0.322
0	0.398	0	0.373	1	0.357
0	0.587	0	0.251	1	0.344
0	0.451	0	0.219	1	0.384
0	0.457	0	0.450	1	0.205
0	0.278	0	0.253	1	0.000
0	0.392	0	0.474	1	0.150
0	0.183	0	0.498	1	0.365
0	0.294	0	0.500	1	0.161
0	0.383	0	0.125		
0	0.347	0	0.329		

Appendix L

Freshman and Sophomore Rating Scores for the Five Subtests

to the Process Orientation to Planning Indicator--

Self-Awareness, Occupational Knowledge, Goal

Selection, Planning, and Problem Solving

Class	Self Aware- ness	Occupa- tional Knowledge	Goal Selec- tion	Planning	Problem Solving
0	1	1	1	0	0
0	1	0	0	0	0
0	1	1	1	0	0
0	1	0	1	0	0
0	1	0	1	0	1
0	1	0	1	0	0
0	1	0	1	1	0
0	1	0	1	1	0
0	1	1	1	0	0
0	1	1	1	1	0
0	0	1	1	0	0
0	1	1	1	0	0
0	1	0	0	0	0
0	1	0	1	0	0
0	1	0	1	0	0

Appendix L--Continued

0	1	0	1	0	0
0	0	0	1	1	0
0	1	1	1	0	0
0	1	0	0	0	0
0	1	0	1	1	0
0	1	0	1	1	0
0	1	0	1	1	0
0	0	0	1	0	0
0	0	1	1	1	0
0	1	1	1	1	0
0	1	1	1	1	0
0	0	0	1	0	0
0	1	1	1	1	0
0	1	1	1	0	0
0	1	0	1	1	0
0	1	1	1	0	0
1	1	0	1	1	0
1	1	1	1	0	0
1	1	1	1	1	0
1	0	0	1	0	0
1	1	0	1	0	0
1	1	0	1	0	0

Appendix L--Continued

1	0	1	1	1	0
1	1	0	0	0	0

Appendix M

Black and White Raw Scores on the Tennessee Self-Concept Scale,
the Career Development Responsibility Scale, the Career Maturity
Inventory--Attitude Scale, and the Vocational Information-
Seeking Behavior Checklist

Race	Total Positive Self- Regard	True- False Ratio	Total Distri- bution	Career Develop- ment	Attitude Scale	Voca- tional Check- list
0	382	1.15	145	5	59	20
0	318	0.78	88	9	51	17
0	301	1.00	70	11	43	8
0	324	1.66	154	1	39	17
0	278	0.89	61	2	39	17
0	327	0.79	111	6	56	11
0	338	1.45	109	12	41	10
0	355	0.86	109	7	53	14
0	346	1.29	126	2	54	16
0	328	0.50	86	4	60	12
0	373	1.26	146	8	60	18
0	364	1.15	111	1	57	7
0	362	1.03	141	8	46	12
0	412	1.10	164	5	40	14
0	302	1.25	107	5	40	18
0	325	1.20	131	12	48	13

Appendix M--Continued

0	327	0.86	116	2	42	12
0	345	1.52	111	9	53	9
0	293	2.67	61	4	48	7
0	328	0.93	84	5	44	9
0	292	1.18	151	13	35	5
0	323	0.95	139	0	63	12
0	363	1.48	132	4	64	8
0	327	0.74	89	9	59	7
0	352	1.14	145	8	58	9
0	402	0.98	147	8	49	10
0	329	1.03	99	3	52	12
0	313	0.81	88	5	54	16
0	325	0.54	74	5	59	9
0	357	1.36	112	5	48	7
0	389	1.14	135	5	48	12
0	245	1.07	82	4	44	13
0	279	1.19	52	4	41	19
0	371	1.05	138	2	60	19
1	323	1.71	132	14	46	17
1	389	1.20	170	8	35	14
1	346	0.94	86	1	59	17
1	359	1.27	148	4	51	13
1	296	1.46	88	1	53	17
1	291	1.93	132	2	57	10

Appendix N

Black and White Computed Scores of the Phi Coefficient
on the Adjective Check List

Race	Phi Coef- ficient	Race	Phi Coef- ficient	Race	Phi Coef- ficient
0	0.185	0	0.161	0	0.498
0	0.156	0	0.365	0	0.373
0	0.354	0	0.384	0	0.251
0	0.181	0	0.357	0	0.219
0	0.398	0	0.450	0	0.227
0	0.294	0	0.253	0	0.279
0	0.383	0	0.474	1	0.325
0	0.347	0	0.125	1	0.392
0	0.242	0	0.329	1	0.183
0	0.348	0	0.362	1	0.457
0	0.344	0	0.645	1	0.587
0	0.205	0	0.385	1	0.451
0	0.150	0	0.321		
0	0.000	0	0.500		

Appendix O

Black and White Rating Scores for the Five Subtests of the
 Process Orientation to Planning Indicator--Self-Awareness
 Occupational Knowledge, Goal Selection, Planning,
 and Problem Solving

Race	Self Aware- ness	Occupational Knowledge	Goal Selec- tion	Planning	Problem Solving
0	1	1	1	0	0
0	1	0	0	0	0
0	1	1	1	0	0
0	1	0	1	1	0
0	1	0	1	0	0
0	1	1	1	0	0
0	1	0	0	0	1
0	1	0	1	0	0
0	1	0	1	0	0
0	1	0	1	0	0
0	1	1	1	0	0
0	0	0	1	1	0
0	1	0	1	0	0
0	1	0	1	0	0
0	1	0	0	0	0
0	0	1	1	1	0
0	1	1	1	0	0

Appendix O--Continued

0	1	0	1	1	0
0	1	0	1	0	0
0	1	0	1	1	0
0	0	0	1	0	0
0	1	1	1	1	0
0	0	0	1	0	0
0	1	1	1	1	0
0	1	1	1	1	0
0	1	0	1	1	0
0	1	1	1	0	0
0	1	1	1	1	0
0	0	1	1	1	0
0	1	0	0	1	0
0	1	0	1	1	0
0	1	0	1	0	0
0	1	1	1	0	0
0	1	1	1	1	0
1	0	0	1	0	0
1	1	1	1	1	0
1	0	1	1	1	0
1	1	0	1	0	0
1	1	0	1	0	0
1	1	0	1	0	0
1	1	0	1	0	0

Appendix P

Male and Female Raw Scores on the Tennessee Self-Concept Scale,
the Career Development-Responsibility Scale, the Career-Maturity
Inventory--Attitude Scale, and the Vocational
Information-Seeking Behavior Checklist

Sex	Total Positive Self- Regard	True/ False Ratio	Total Distri- bution	Career Develop- ment	Attitude Scale	Voca- tional Check- list
0	302	1.25	107	5	40	18
0	325	1.20	131	12	48	13
0	324	1.66	154	1	39	17
0	278	0.89	61	2	39	17
0	362	1.03	141	8	46	12
0	412	1.10	164	5	40	14
0	389	1.20	170	8	35	14
0	346	0.94	86	1	59	17
0	327	0.79	111	6	56	11
0	338	1.45	109	12	41	10
0	364	1.15	111	1	57	7
0	355	0.86	109	7	53	14
0	346	1.29	126	2	54	16
0	328	0.50	86	4	60	12
0	323	1.71	132	14	46	17

Appendix P--Continued

0	373	1.26	146	8	60	18
0	293	2.67	61	4	48	7
0	328	0.93	84	5	44	9
0	292	1.18	151	13	35	5
0	323	0.95	139	0	63	12
0	363	1.48	132	4	64	8
0	327	0.74	89	9	59	7
0	352	1.14	145	8	58	9
0	402	0.98	147	8	49	10
0	345	1.52	111	9	53	9
0	329	1.03	99	3	52	12
1	313	0.81	88	5	54	16
1	325	0.54	74	5	59	9
1	357	1.36	112	5	48	7
1	389	1.14	135	5	48	12
1	245	1.07	82	4	44	13
1	279	1.19	52	4	41	19
1	357	0.86	116	2	42	12
1	371	1.05	138	2	60	19
1	296	1.46	88	1	53	17
1	291	1.93	132	2	57	10
1	359	1.27	148	4	51	13
1	382	1.15	145	5	59	20

Appendix D--Continued

1	318	0.78	88	9	51	17
1	301	1.00	70	11	43	8

Appendix Q

Male and Female Computed Scores of the Phi Coefficient
on the Adjective Check List

Sex	Phi Coef- ficient	Sex	Phi Coef- ficient	Sex	Phi Coef- ficient
0	0.161	0	0.325	1	0.373
0	0.365	0	0.344	1	0.251
0	0.181	0	0.450	1	0.219
0	0.398	0	0.253	1	0.227
0	0.150	0	0.474	1	0.384
0	0.000	0	0.125	1	0.278
0	0.392	0	0.329	1	0.587
0	0.183	0	0.362	1	0.451
0	0.294	0	0.645	1	0.457
0	0.383	0	0.385	1	0.185
0	0.205	0	0.357	1	0.156
0	0.348	0	0.321	1	0.354
0	0.242	1	0.450		
0	0.348	1	0.498		

Appendix R

Male and Female Rating Scores for the Five Subtests of the
 Process Orientation to Planning Indicator--Self-Awareness,
 Occupational Knowledge, Goal Selection, Planning,
 and Problem Solving

Sex	Self-Awareness	Occupational Knowledge	Goal Selection	Planning	Problem Solving
0	1	0	0	0	0
0	0	1	1	1	0
0	1	0	1	1	0
0	1	0	1	0	0
0	1	0	1	0	0
0	1	0	1	0	0
0	1	1	1	1	0
0	0	1	1	1	0
0	1	1	1	0	0
0	1	0	0	0	1
0	0	0	1	1	0
0	1	0	1	0	0
0	1	0	1	0	0
0	1	0	1	0	0
0	0	0	1	0	0
0	1	1	1	0	0

Appendix R--Continued

0	1	0	1	0	0
0	1	0	1	1	0
0	0	0	1	0	0
0	1	1	1	1	0
0	0	0	1	0	0
0	1	1	1	1	0
0	1	1	1	1	0
0	1	0	1	1	0
0	1	0	1	1	0
0	1	1	1	0	0
1	1	1	1	1	0
1	0	1	1	1	0
1	1	0	0	1	0
1	1	0	1	1	0
1	1	0	1	0	0
1	1	1	1	0	0
1	1	1	1	0	0
1	1	1	1	1	0
1	1	0	1	0	0
1	1	0	1	0	0
1	1	0	1	0	0
1	1	1	1	0	0
1	1	0	0	0	0
1	1	1	1	0	0

Appendix S

Raw Scores for Experimental and Control Groups for
Credit Hours, Extra-Curricular Activities Hours,
and Part-Time Work Hours

Experimental Group				Control Group		
Credit Hours	Extra-Curricular Activities Hours	Part-Time Work Hours	Experimental Group	Credit Hours	Extra-Curricular Activities Hours	Part-Time Work Hours
4	16	7	1	3	20	0
4	10	0	1	4	20	0
4	10	7	1	4	12	0
5	10	0	1	4	7	5
4	28	10	1	4	20	4
4	30	0	1	4	1	3
4	2	7	1	4	3	4
5	21	20	1	4	17	0
4	6	0	2	4	0	10
4	12	17	2	4	10	20
4	10	4	2	4	4	0
4	0	9	2			
4	0	0	2			
4	10	0	2			
5	30	17	2			

Appendix S--Continued

4	0	0	2
4	0	10	2
a	a	a	2
a	a	a	2
4	7	0	3
4	10	10	3
0	0	0	3
4	10	0	3
4	4	11	3
4	12	0	3
5	20	0	3
4	0	0	3
4	0	0	3
a	a	a	3

Note. Experimental Group Column Code:

1 = Affective Life-Career Development Course

2 = Cognitive Life-Career Development Course

3 = Behavioral Life-Career Development Course

^aMissing Data

Appendix T

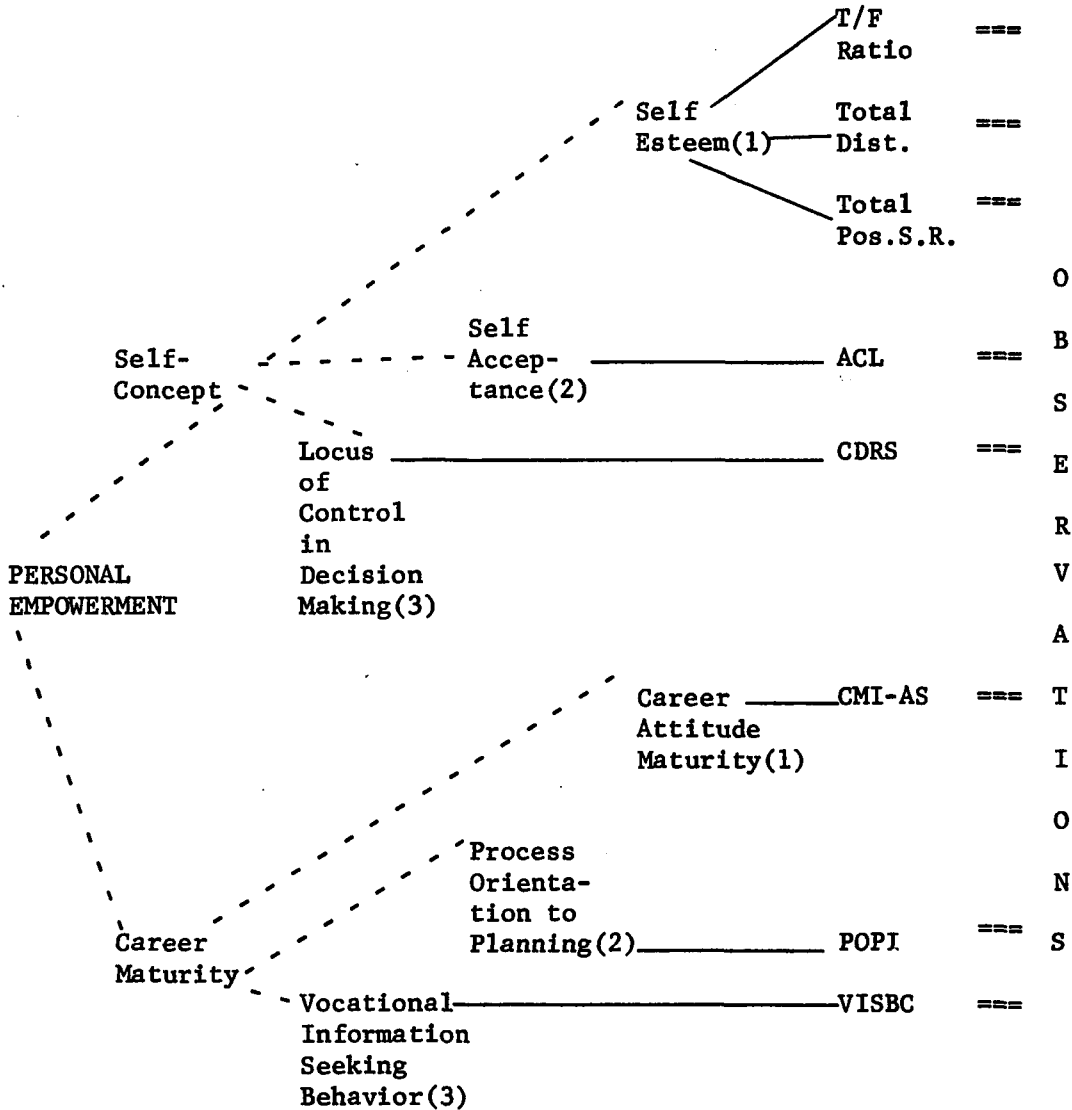
Evaluation of the Major Emphasis of the Nine Life/Career
Development Modules

Module	Affective	Cognitive	Behavioral
Exploring Self			
Determining Values			
Setting Goals			
Expanding Options			
Overcoming Barriers			
Using Information			
Working Effectively			
Enhancing Relationships			
Creating Futures			

Instructions. Choose one of the three learning domains which best express the Major Emphasis of each module. Indicate your preference by a check in the appropriate column.

Appendix U

The Theoretical Construct of Personal Empowerment



- (1) = Variables of Affective Dimension
- (2) = Variables of Cognitive Dimension
- (3) = Variables of Behavioral Dimension

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Abstract

THE DIFFERENTIAL EFFECTS OF THREE LIFE CAREER DEVELOPMENT COURSES ON THE SELF-CONCEPT AND CAREER MATURITY OF COLLEGE UNDERCLASSMEN

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The College of William and Mary in Virginia, August 1981

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The demand for increased cognitive and skilled abilities in the workplace has raised college students' expectations for career-education programs to supplement the liberal arts curriculum. A response to this challenge has been the design of career-education courses that stress the integration of personality development with that of career development. The Life Career Development System, a developmental program of nine integrated modules, has been adapted to the organization of three life-career-development courses--the Affective Life Career Development Course (ADC), the Cognitive Life Career Development Course (CDC), and the Behavioral Life Career Development Course (BDC)--each course emphasizing one of three learning domains.

There were three purposes to this investigation--to evaluate the differential effects of three life-career-development courses on the self-concept and career maturity of college underclassmen, to assess personal empowerment as a theoretical construct, and to examine the effects of sex, race, and college class on the outcome measures. Self-concept and career maturity were theoretically related to personal empowerment. Self-concept was represented by three variables--self-esteem, self-acceptance, and locus of control in decision making--and career maturity was designated by three variables--career-attitude maturity, a process orientation to planning, and vocational-information-seeking behavior. The three variables for self-concept and career maturity corresponded to three dimensions of personal empowerment--affective, cognitive, and behavioral. The three dimensions represented the learning emphasis of three career-development theories. The measures of personal empowerment were operationally defined on the following instruments--the Tennessee Self-Concept Scale (TSCS), the Adjective Check List (ACL), the Career Development Responsibility Scale (CDRS), the Career Maturity Inventory Attitude Scale (CMI-AS), the Process Orientation to Planning Indicator (POPI) (nominal level data), and the Vocational Information Seeking Behavior Checklist (VISBC).

A Post-Test-Only Control Experimental Research Design was used. The treatment consisted of three experimental groups, taught in the Fall semester--1980 and one control group in the January intersession--1981 at Franklin Pierce College. Subjects (N = 40) preregistered for class and the experimental treatments were randomly assigned to group. The experimental treatments consisted of 33 50-minute sessions of group experiential learning exercises. A total of 10 null hypotheses were tested (at the .05 level) using t-tests, one-way analyses of variance, Pearson Product Moment Correlations, Point Bi-Serial Correlations, and Chi-square Tests.

No significant relationships were found between the four groups on scores of the TSCS, CDRS, CMI-AS, and POPI. The experimental groups were significantly different from the control group on scores of the VISBC, while there was no significant difference between the experimental groups; conversely, the experimental groups did not differ significantly from the control group on the ACL, while the BDC scored significantly higher than the CDC and ADC. Significant correlations were found between self-concept and career-maturity variables, while no significant relationships were found in support of the three dimensions of personal empowerment. No significant relationships were found between freshmen and sophomores, blacks and whites, or females and males on the six instruments.

The present results appear consistent with research indicating the difficulty of effecting attitude change, while short-term changes in vocational-information-seeking behavior are achievable. The theoretical model of personal empowerment is inapplicable to the findings. Other secondary factors may have accounted for the lack of differences in the sample on the outcome measures. Sample size, characteristics, and limitations in the randomization procedure restrict the generalizability of these results to other samples. Implications for future research include the topics of treatment effectiveness, measuring personal empowerment, and secondary factors.