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Effects of the Strong-Campbell Interest Inventory, Employing a Computer Generated Prose Interpretation, on Vocational Behavior of Community College Freshmen

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EFFECTS OF THE STRONG-CAMPBELL INTEREST INVENTORY, EMPLOYING A COMPUTER GENERATED PROSE INTERPRETATION, ON VOCATIONAL BEHAVIOR OF COMMUNITY COLLEGE FRESHMEN.

by

Tony Swerbinsky

A Dissertation Submitted to the Faculty of The Graduate College in partial fulfillment of the Degree of Doctor of Education

Western Michigan University Kalamazoo, Michigan August 1977
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Tony Swerbinsky
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CHAPTER I

INTRODUCTION

Statement of the Problem

Community colleges are engaged in serving a broad portion of the general population including many individuals who otherwise would not attend college. These student groups entering the community college comprise a wide range of goals, ambitions, aspirations and achievement levels (Thornton 1960). A high percentage of entering freshmen are indecisive regarding their career plans and have undertaken little or no investigation of available options. Up to one half are often undecided regarding their academic major.

In recent years the employment prospects of college graduates have become less certain and the critical need for career planning during the college years has become apparent (Woods 1974). Adams (1974) states that:

Community college freshmen also appear to be less motivated, and decide to attend college later than do their four-year college counterparts. Moreover, they do not exhibit a great deal of interest about being in college, and are uncertain of their chosen program. They come from a broad, though somewhat lower socio-economic level than the average college student. Most do not like to read. They seem to know very little about who they are as human beings, or what they have to offer -- either to
an educational program or to an occupation. Most would find it difficult to name even 50 occupations. About 80% of entering students will name a bachelor's degree as their minimal goal — yet only about 15% actually achieve this educational level. Approximately 75% do not complete any degree or program whatsoever. They are much more concrete in their thinking and less interested in ideas and abstractions. Usually these students have given little thought to career choices, and for the most part have been drifting down a path of least resistance. When entering freshmen are asked to make choices about their direction, most are frankly unable to do so.

To the extent that community college students are inferior in coping with academic and vocational development compared to their peers, they can be considered vocationally immature (Super 1963). Super and associates (1963) defined vocational maturity as the repertoire of coping behavior leading to outcomes, compared with the behavioral repertoire of the peer group, thus making it a developmental rather than an outcome construct.

Theoretically, the indecision, vocational immaturity, and need for career planning of community college students can be overcome with career counseling employing interest inventories as stimulus. This theory needs to be tested empirically.

The purpose of this study is to test the theory that administering a vocational interest inventory and providing results does stimulate vocational thinking as evidenced by
change in the vocational behavior of college freshmen. The change in behavior should result in improved coping skills in the area of academic and vocational development, i.e., higher degree of vocational maturity as measured by criteria developed by Baldwin (1967) and Super (1974).

Rationale for the Study

A need is claimed to exist at the community college level for the development of materials and methods of motivating students to examine career options (Adams 1974). Preferably, a treatment should be developed giving careful considerations to factors such as cost, speed and convenience so as not to place an undue burden on the staff or students. The object of the treatment would be to increase the degree of vocational maturity of the students.

Developers, researchers and theorists of vocational inventories (such as Cronbach, 1960; Darley & Haganah, 1955; Dolliver, 1969; Prediger, 1971; Campbell, 1969; Holland, 1974) have theorized that the chief purpose of these instruments is to stimulate and facilitate vocational thinking, exploration and planning. The three available studies that have attempted to empirically test this theory have provided moderate support for it.

Zener and Schnuelle (1972) reported a study in which the effect of a vocational inventory, Holland's Self Directed Search (SDS), on high school students was examined. The
results indicated that the vocational behavior of the subjects was modified by exhibiting:

1. an increase in the number of occupations considered.
2. decreased need for more general and specific information.
3. increased satisfaction with the present vocational choice.
4. increased time spent on thinking about occupations.

Redmond (1972) investigated the effects of the SDS with high school students and concluded that the experimental group:

1. increased significantly on information seeking and number of occupations considered.
2. college bound subjects scored higher than non-college bound on both variables.

Frazer (1974) in a study with college students concluded that the administration and interpretation of the Strong Vocational Interest Battery (SVIB) and SDS increase the student's self confidence in career planning and decrease the need for more information. The treatment also significantly influenced the first occupational choice or preference as a higher number of students indicated a change on this variable.

Briefly, Super's (1974) model of vocational maturity is based on three concepts of developmental psychology, and three characteristics of mature behavior which constitutes Baldwin's (1967) model. The concepts are:

1. development proceeds from random, undifferentiated
activity to goal directed specific activity.

2. development is in the direction of increasing awareness and orientation to reality.

3. development is from dependence to increasing independence.

4. the mature individual sets a goal.

5. the mature individual's behavior is goal oriented.

The model is rooted in Super's Theory of Vocational Development (1953) which will be detailed in the Review of Literature.

The treatment should result in benefits to the student by increasing the degree of success with his developmental life stage as evidenced by:

1. increased vocational information seeking behavior.

2. increased movement towards specific career decisions.

3. increased satisfaction with educational experiences and career plans.

4. decreased need for vocational information.

5. increased academic achievement.

Career selection for the college student in today's job market is very critical since only one in five jobs in 1970 required a college degree (Flanders, 1970), while 60 percent of high school graduates enter college (Harris, 1975). Upward occupational mobility is the reason most young people decide to go to college - they want to "work with people rather than things; they expect high incomes; and they don't want to do 'the dirty work'" (Faltermeyer, 1974).
In community colleges various options exist, ranging from career curricula composed of a few courses to the traditional two-year transfer curricula. To solve the career decision making dilemma, a number of community colleges have responded with development of career awareness classes for the purpose of exploring career choices. If informal reports and discussions at conventions (American Personnel and Guidance Association, American College Personnel Association) are any indication, acceptance of such classes by students has generally been less than enthusiastic. Among the reasons given are: the class "does not transfer"; the class is not required for any curricula. As with all courses that could be considered remedial, students believe that enrolling in them is somehow a reflection of their incompetency. Generally, considerable agreement exists among student personnel staffs that more empirical data is needed on successful ways to increase vocational maturity of community college students.

One factor interfering with attempts to personalize the career awareness effort is often the scarcity of financial resources for necessary staff. Nevertheless, it would be desirable to motivate the incoming freshmen to begin exploring their interests and capabilities in the area of career choice. Motivation remains a very complex concept. Marx and Tombaugh (1967) state that "Much of the individual's behavior is the product of extremely complex interactions
among a variety of motivational and learning factors. Such complexity makes the analysis of individual behavior very difficult."

Timing is of considerable importance in increasing vocational maturity. As students become aware of the need to make career decisions they begin the process of differentiation (Tiedman, 1963). At this time it would be important that they be able to consider a number of different goals and alternatives. Harris (1973) advocates the need for exploratory activities early in one's college program by saying that, "the significance of the exploratory aspects of vocational development cannot be emphasized enough. In a very real sense we may delay this function to such an extent that it can never operate effectively in promoting vocational maturity. Exploration must come at a time when individuals' energy levels are high, when general habits are still flexible, when developing cognitive abilities are causing youth to ask questions, to formulate and test hypotheses: essentially the mid-adolescent and youth periods."

American College Testing studies (Bergeson, Roost and Phillips, 1975; Christian, 1972) state that students' family and personal friends are the greatest influence on career and college choice and that school personnel provide very limited resources for such choices. All too often, for some unexplained reason, college student personnel workers view
this as undesirable. It might not be out of order to accept the personnel workers' limited direct influence and develop systematic approaches that provide students with needed information and/or skills that make it possible for them to use more effectively whatever resources they have at their disposal. Family and friends obviously are an inexpensive source of information that has face validity to the student and therefore should be utilized.

Bergeson (1975) underscores the state of the art when he states that, "Techniques for better use of psychometric devices, such as vocational interest measures, should be developed and methods are needed to inform students of the availability of these measures." Sharf (1974) suggests some specific steps that could be taken when he states that Professors of measurement have been concerned about helping their students to become more sophisticated with use of statistical tools. Perhaps it is now time to make reliance on these tools less necessary so that test results can be used by more people. With technological advances in the use of taped presentations and computerized reports, this is now possible. Counselors who experiment, even informally, with different methods of inventory interpretation should learn much in the process. The clinical process of trying out different approaches to inventory interpretation could result in the counselor's greater understanding of the interpretive process.

The reason for choosing the Strong-Campbell Interest Inventory (SCII), (Campbell, 1974) a merged form of the
male and female form of the Strong Vocational Interest Blank, as the treatment is because it is a well researched instrument and is well accepted by counselors and students alike. The results of the SCII can be obtained in an interpretive form which is easy to follow due to a narrative format. The SCII is designed to tell people something about themselves and their relationship to the working world that will lead them to greater self-understanding and to better decisions about the course of their lives (Campbell, 1974). This instrument, especially in the narrative augmented interpretive report can serve as an extremely useful aid in discussion between student and friend or parent. The probability that students will retain the important aspects of the meaning of the scores should be increased since easy reference can be made to the verbage in the report (Johansson, 1974). Johansson (1976) reports that over one-third of the reports for the SCII processed by National Computer Systems, Inc., are interpretive reports in contrast to 10 per cent a year ago.

Specifically, this study should be undertaken because:

1. No study of the effects of a vocational inventory on the vocational behavior of community college freshmen has been undertaken.

2. In this study, the method of administering the vocational interest inventory and interpreting the results is different from previous studies. (The treatment consists of administering the SCII via mail and utilizing the narrative form computerized interpretive report). The study would provide information on whether the effect of previous studies are continued by varying the operationalization of the interest inventory.
3. The evidence supporting the theory that vocational interest inventories stimulate and facilitate vocational thinking, exploring and planning is sparse and although positive, certainly not conclusive.

Importance of the Study

This study is important because it will:

1. Determine whether the SCII as utilized in this study will have a significant effect on a number of vocational maturity factors of community college students.

2. Produce empirical data on the effects of using a vocational interest inventory, where the computer generated results are presented in a narrative format, on the vocational maturity of community college students.

3. Contribute towards the goal of developing a model of vocational guidance specific to the community college.

4. Lead to recommendations for further studies in the area of vocational guidance.

Definition of Terms

Theoretical definitions

1. Vocational Information Seeking Behavior is the activities which lead one to obtain new information about occupations and how they relate to the individual. "Thinking about," "reading about" or "planning to seek information" would be examples of such activities.

2. Curriculum Changes are changes in the academic program of students which result in preparation for a career different from the original.

3. Academic Achievement is the degree of academic accomplishment in formal disciplines usually reported with grades.
Operational definitions

1. **Vocational Information Seeking Behavior** is equated to the mean score on the Vocational Information Seeking Behavior Checklist.

2. **Curriculum Changes** are changes in the academic programs of students as recorded on the Lake Michigan College Program Plan Sheet.

3. **Satisfaction with Career Plans** is equated to the response made by the subject on that portion of the Vocational Information Seeking Behavior Checklist pertaining to career satisfaction.

4. **Satisfaction with Educational Experiences** is equated to the response made by the subject on that portion of the Vocational Information Seeking Behavior Checklist pertaining to educational satisfaction.

5. **Academic Achievement** is equated to the first semester grade point average as reported by Lake Michigan College.

Organization of the Dissertation

The purpose of Chapter I has been to introduce the content of the study as well as state the problem, the rationale for the study, the definition of terms and organization of the dissertation. Chapter II contains a review of the literature pertinent to the problem including Holland's major effort to develop a self-directed career search instrument. Summaries of other writers research activities and findings are summarized, and the hypotheses are developed and limitations stated.

Chapter III, Methods and Procedures, contains an overview of the procedure, the hypotheses to be tested, the methods
of gathering data, sources of data, the instrumentation and the methods of analyzing the data. Chapter IV contains a report of the findings of the study. Chapter V is comprised of a brief summary of the study, discussions of the findings, conclusion drawn from the findings and a statement of implications with recommendations for subsequent research.
CHAPTER II

REVIEW OF LITERATURE

This chapter contains a review of the literature relevant to the study and theory being tested, and lists the hypotheses, limitations, and assumptions. The chapter is organized for the purpose of developing a theoretical and empirical base for the study, and includes seven sections which provide background and structure necessary for evaluating the results of the study.

The first section contains an examination of current theories of career choice and their impact on career guidance. The second section includes a review of models, practices and treatments which grew out of the theories, while the third section contains the empirical research involving vocational interest inventories, a category to which this study will contribute. The fourth section includes research leading to the research hypotheses of this study, and the fifth section contains a statement of those hypotheses. The last two sections include statements of limitations and assumptions of the study.

Theories of Vocational Choice

Frank Parsons is generally noted as the pioneer of vocational guidance and his book "Choosing a Vocation,"
published in 1908, was the foundation of vocational counseling and research efforts for almost 50 years. According to Parsons (1908), appropriate vocational placement could be made by matching people and jobs. The task for vocational counselors and guidance workers, according to Parson's trait-factor approach, was to analyze various client dimensions such as attitudes, interests, and personality and then help the client find a job whose dimensions seemed appropriate. Given this approach and the assumption (Fryer, 1931) that personal and social happiness is enhanced by having a job that is compatible with one's interests as well as one's skills and intelligence, great effort was exerted to develop interest measures for use in vocational counseling.

It was not until the 1950's that new theories appeared, incorporating the developments of psychological experiments and sociological research. A brief review of the theories important to this study are presented here as background.

In non-psychological theories of career choice the characteristics of the individual do not relate to vocational choice but environmental factors do. Crites (1969) listed these factors as: (1) chance; (2) law of supply and demand; and (3) folkways and institutions of society. The work of Ginzberg, et al. (1951) was representative of this model. Concerned with combining sociological and psychological factors of vocational choice into a comprehensive theoretical
structure, Ginzberg began his research in the 1930's by studying what unemployment did to people in a work oriented society. He later continued his studies in the areas of vocational choice. Ginzberg (1951) formulated his theory because he believed that:

...no adequate theory had been developed to explain how the many factors within the individual act and react on each other so that individuals can finally resolve the problem of occupational choice.

The basic assumption of this theory is that the individual reaches his ultimate decision through a series of decisions over a period of time. The cumulative impact is the determining factor in career choice. The four elements of Ginzberg's theory are:

1. Occupational choice is a developmental process which typically takes over the period of some ten years.

2. The process is largely irreversible.

3. The process of occupational choice ends in a compromise between interests, capacities, values, and opportunities.

4. There are three periods of occupational choice: fantasy, tentative and realistic.

During the realistic choice period the criteria used for judging vocational development include:

1. The explanation stage where the individual seeks to acquaint himself with his alternatives.

2. The crystallization state where he determines boundaries of his choice.
3. The specification stage where he fixes the boundaries of his choice.

Ginzberg (1951) stated that this theory is only a first approach to a general theory, subject to correction and improvement by the work of other investigators.

Super (1953) in reviewing the work of Ginzberg and his associates, noted that his special contribution was the concept that interests, capacities, and values of the individual were the dominant determinants of choice before reality began to play a major role in career choice. Crites (1969) added that Ginzberg's theory was a departure from Parson's model and conceptualized vocational choice as a developmental process spanning the years from late childhood to early adulthood.

Psychological theories of vocational choice focus on the individual as the crucial variable in vocational choice. These theories are based on the assumptions that: (1) there is some individual freedom in vocational choice; (2) vocational choice is determined, but individual characteristics, i.e., personality, interests, aptitudes are the determining factors (Crites, 1969).

Super's theory of vocational choice is perhaps the best known among psychological theories and is based on three psychological concepts: (1) differential psychology; (2) self-concept; and (3) developmental psychology. Super bases his theory on the following propositions (Super, 1953):
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 tolerances 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 summed up in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline, and 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 socio-economic level, mental ability, and personality characteristics, and by the opportunities to which he is exposed.

7. Development through the 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 the 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 satisfaction 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 work situation, and a way of life in which he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate.

For Super, the process of vocational development occurs through five activities. The first stage, crystallization of vocational preference, requires the formulation of ideas about work appropriate to the individual. Specification, narrowing a general career direction into a specific career choice, and implementing the decision in the second stage. The implementation stage of vocational choice requires planning and completion of some training and development in a related field. Super places even more emphasis than Ginzberg upon vocational choice as a process and proposes that the term "development" be used rather than "choice" because "...it comprehends the concepts of preference, choice, entry, and adjustment" (Super, 1953). He introduced the concept of vocational maturity to denote the individual's
degree of development from the time of his early fantasy choices in childhood to his decision about retirement from work in old age (Super, 1955). As the individual matures vocationally, he passes through a series of life stages, each of which corresponds to some phase in the development of his self-concept (Super, 1957). In adolescence, for example, the individual elaborates upon and clarifies the concept of himself he formed during childhood, and he begins to translate his self-concept into vocational terms through his aspirations, preferences, and work values. To the extent that he successfully copes with the developmental tasks of a life stage, the individual can be considered as more or less vocationally mature. The basic assumption which underlies Super's theory is that vocational development is a dynamic process which parallels, influences, and is modified by social, intellectual, and emotional development.

Super (1963) believed that everyone engages in exploratory behavior which leads to a vocational decision. Vocational exploratory behavior, in particular, refers to activities, mental or physical, undertaken with the more or less conscious hope of eliciting information about oneself or one's environment which will aid one in "...choosing, preparing for, entering, adjusting to, or progressing in, an occupation." Super, Starishevsky, Matlin and Jordaan (1963), hypothesized that some of the changes listed below will result from exploratory experiences.
1. Increased self-knowledge:
   a. more realistic appraisal of his interests, abilities, values, and personality traits.
   b. more realistic appraisal of his strengths and shortcomings.
   c. increased understanding of why he behaves, feels, and thinks as he does.
   d. greater awareness of how he resembles, or differs from others.

2. Increased ability to relate this new knowledge to future objectives.

3. Increased and more specific knowledge of:
   a. occupational possibilities: their availability, character, requirements.
   b. expectations of persons who occupy a significant place in his life: parents, friends, peer group, teachers, employer, and so forth.
   c. adult mores and expectations.
   d. obstacles he may have to overcome to achieve his objectives.
   e. his preferred occupation.

4. Changes in the way he perceives himself:
   a. a more realistic self-concept.
   b. a clearer and better differentiated self-concept.
   c. a more integrated self-concept.
   d. an expanded self-concept.
   e. greater confidence in his self-concept.
   f. a clearer sense of identity.

5. Changes in his interests, values, goals, concept of success.
6. Decision to continue with or abandon a course of success.

7. Changes in the way in which he handles his problems or his relationships with people.

8. Greater awareness of the ways in which people and occupations resemble or differ from one another.


10. Seeing significance in something which previously had little or a different meaning to him.

11. Change to a vocational or educational objective which is more in line with his interests, abilities, values, personality, self-concept, and financial means.

12. Clearer understanding of the bases on which certain decisions which are confronting him should be made.

13. Confirmation or rejection of a previously held belief: about himself, others, or some aspect of his environment.

14. Increased awareness of the choices and decisions which are, or will shortly be, confronting him.

15. Formulation, implementation, or both, of plans for attaining his objectives, or for self-development.

16. Formulation and implementation of plans for further exploration.

17. Clearer formulation of objectives.

18. Increased confidence in, or commitment to, his objectives.

19. More realistic plans for achieving the goals he has set for himself.

20. More specific plans for achieving his objectives.
The model employed in this study is grounded in Super's vocational choice theory.

General theories of vocational choices are developmental and are characterized as comprehensively embracing and incorporating as many of the determinants of decision making as possible. However, Crites (1969) stated: "...what these theories gain in comprehensiveness by being so general--they lose in cohesiveness of their propositions." Holland (1966) presented a typological theory of vocational choice. He formulated these propositions:

1. In our culture, most persons can be categorized as one of six types: realistic, intellectual, social, conventional, enterprising, and artistic.

2. There are six kinds of vocational environment: realistic, intellectual, social, conventional, enterprising, and artistic.

3. People search for environments and vocations that will permit them to exercise their skills and abilities, and to express their attitudes and values, to take on agreeable problems and roles, and to avoid disagreeable ones.

4. A person's behavior can be explained by the interaction of his personality patterns and his environments.

5. Consistent, congruent, and homogeneous pairs of the individual and his environment are most conducive to (1) more stable vocational choice, (2) greater vocational achievement, (3) better maintenance of personal ability, and (4) greater satisfaction (Holland, 1966).
Holland believed that career choice represented an extension of personality and an attempt to implement broad personal behavioral styles in the context of one's life work. He also believed that people project their views of themselves and the world of work onto occupational titles. By allowing individuals to express their preference for, or feeling against, a list of occupational titles, Holland assigned them to a personality type which, in turn, has implications for vocational choice. Holland (1959) proposed that a finite number of work environments exist within the society to which everyone is required to adjust and develop certain skills in relation to this adjustment in developmental life stages. The way in which a person typically responds to his environment represents his personality type. Specific personality characteristics are assigned to each classification. Holland stated that if orientation to one of the environments is dominant, the individual will seek an occupational environment that corresponds to that orientation. Osipow (1968) believed that: "There is considerable research evidence that personal orientations exist much as he (Holland) described them."

The problem of assessing theories of vocational choice and the effectiveness of counseling models derived from them is difficult. Borrow (1964) stated that:
...reports on theories and counseling models have been poorly presented because of limited journal space, poor writing or confused thinking. In addition, unpublished reports easily outnumber the published ones...only a few reports present empirical results. Finally, the empirical research has been done with atypical samples, or with samples so small that actual predictive studies of choice or career patterns are not feasible.

The theories discussed in this section form the basis of motivation for developing new counseling techniques which incorporate the developmental aspects of vocational choice.

Vocational Counseling Treatments

Vocational choice theories have given rise to some vocational counseling models and methods. Barry and Wolf (1963) classified the various counseling models into eight categories, i.e., educational-vocational model, services model, counseling model, adjustment model, problem centered model, education model, developmental model, and the integrated model. The models are not distinct and separate, and all contain the common elements of: recognition of individual differences, the incorporation of psychological concepts of personality, self-concept, maturation, and the importance of sociological factors of career choice to the individual and to his society. Assessment of interests, abilities and aptitudes by standard tests and self-exploration are components of all models. Information seeking, occupational exploration, and exploration of the world of work are also included in
varying degrees in the different models. With the forenamed theories and models as background, descriptions of the more significant research relevant to this study will follow.

**Treatment Affecting Selected Criterion Variables**

Ryan's (1968) study with junior college students in Oregon was an attempt to identify viable vocational guidance techniques and materials to help post-high school youth develop skills for making sound vocational decisions. She specifically studied the effects of reinforcement counseling techniques on student's acquisition of vocational decision making, and the relationship between counseling techniques and the student's need achievement. Her study was supported by earlier findings of Thoresen and Krumboltz (1964) who found that the counselor's reinforcement of the client's report of seeking, or his intent to seek information, was positively correlated with subsequent client information seeking activity outside the interviews. Ryan used group counseling techniques. The counselors in the study used the same material and similar techniques to control for variance arising from counseling implementation of a given technique. The prepared materials included:

1. a resume of the reinforcement techniques to be used.

2. outlines for the orientation lectures and the discussion guides for each scheduled meeting.
3. instructions for use of different techniques and materials.

4. a number of case histories for use in simulated decision making exercise.

5. the sequence of tasks assigned to each session.

Group sessions were semi-structured in process and content. During the 50 minute counseling period, counselors gave conversational clues to elicit responses that were relevant to the particular aspect of vocational choice under discussion. As students responded, the counselors verbally reinforced those responses which were viewed as appropriate and desired. Counselors used such responses as "Good," "Fine," "That sounds like a good point of view," "Great idea," "Good point," (Ryan, 1968). The 10 weekly counseling sessions were task oriented.

Results of Ryan's study supported these major hypotheses:

1. Vocational counseling techniques were effective in improving students' vocational decision making.

2. Vocational guidance programs found to be most effective implemented reinforcement counseling techniques and simulated decision making.

These results supported earlier studies of Wrenn and Darley (1942) and Froelich (1949) who found that both counseling techniques and the characteristics of the counselor were found to have a significant impact on the individual outcomes of the counseling experience.
Aiken and Johnson (1973) conducted a study which was concerned with the effects of group reinforcement counseling on the frequency of career information seeking behaviors for ninety-four theoretically grouped college freshmen and sophomore males. Holland's Vocational Preference Inventory (VPI) was used to identify consistent-inconsistent vocational patterns, and Crites' Vocational Development Inventory (VDI) was used to identify vocational maturity-immaturity.

Two studies by Schroeder (1964), and Krumboltz and Thoresen (1964), provided direction for using group reinforcement counseling. They supported the rationale for using group reinforcement counseling to increase information seeking behavior but were not definitive about the type of student who benefited from such counseling. The hypotheses tested were: (1) vocationally inconsistent subjects (incompatible personality patterns) would be more open to acquiring new information seeking behavior; (2) vocationally mature students would not show an increase in career information seeking responses, since they already know what they should in order to find suitable occupations; (3) vocational consistency would have meaningful interactive effects with vocational maturity or immaturity in terms of potential information seeking behaviors.

Prediction about behavioral change were made for each theoretical conception. Three counseling sessions, each 1.5 hours long, were utilized. Pre-, post-, and post-post
measures of cognitive and active information seeking behaviors outside of the treatment session were taken. Results did not support hypotheses 1, as the subjects with vocationally consistent personality profiles tended to increase their information seeking responses more than the vocationally inconsistent ones. No significant differences were found within groups on any of the other variables. All treated groups increased their cognitive information seeking responses significantly over control groups supporting the contention that group reinforcement counseling does increase frequency of career information seeking behavior.

Fisher, Reardon, and Burck (1976) recently tested the effects of a model-reinforced videotape and on increasing vocational information seeking behavior and obtained positive results. The setting for the study was the Curricular Career Information Service (CCIS), an outreach, media based, self-help-oriented service featuring instructional career planning modules, a library of occupational information, multi-media-based resources, referral lists for educational information, and the Self-Directed Search test. The CCIS is staffed by professional counselors. The subjects were randomly selected from the population who enters to use the facility, but in addition to the normal instructional module were subjected to a specially produced 15 minute model
videotape. The normal module acquaints the viewer with a decision making model and some common pitfalls in career decision making. The model videotape had a counselor re-enact a situation with a student, and demonstrated how the use of CCIS was employed for resolution of a vocational dilemma. The tape stressed six "action words" write, read, observe, listen, visit, and talk (Stewart, 1969), and made suggestions on what the student could do.

The results indicated that students subjected to the model reinforced videotape subsequently engaged in significantly more types of vocational seeking behavior as well as more frequent information seeking behavior. The implication of this study that many college students can benefit from the use of specifically designed vocational guidance materials that exclude counselor interaction. A model reinforced videotape, used primarily on a self-directed basis, is effective in increasing behavior associated with the location and use of educational-vocational information. The study by Fisher, Reardon, and Burck (1976) supported that of Krumboltz and Thoresen (1964), who found similar results for model reinforcement counseling, particularly for male students.

Counselors generally operate from the assumption that interests are important factors in student academic success. These assumptions are seldom put to empirical tests although
all educators can testify from experience that they have known students with high interests in particular areas that motivated them to exceptional academic achievement. Whether any generalizations can be made from such "experiences" is doubtful. Thomas (1970) states that it also has been assumed that, "...more interest would be reflected in higher grades in those courses related to one's highest interests, and less effort and lower grades in those courses in which the student has less interest." Validation of these assumptions remains an occasional exercise.

Interest tests have been useful in predicting choices of a major (Berdie, 1955) but have drawn mixed results in regard to academic achievement. Garrett (1949) stated that the interest tests add little to intelligence test scores as predictors of success in college. Stone (1958), however, found that adding an interest variable to measures of ability increased considerably the accuracy of the prediction. Lavin (1963) found that in non-specialized curricula, interest measures were useful for predicting performance in related courses while for students enrolled in professional curriculum, measures of interests were not related to performance.

Super and Crites (1962) reviewed research which related vocational interest to achievement. Scores on achievement tests and grades in courses were correlated with the Strong Vocational Interest Blank with the hope of improving prediction.
of educational success. Their results were contradictory and they suggested the use of other than correlational approach in studying the relationship of interest to academic achievement.

Thomas, Morrill, and Miller (1970) designed and carried out a study which tested the assumption that high interests would be reflected in high grades. Their study was conducted with 250 male students at Colorado State University who were administered the Educational Interest Inventory. Seven areas of the Educational Interest Inventory were used: Business Administration, Botany, Chemistry, History and Political Science, Sociology, Economics, and Mathematics. Grade point average was determined by an analysis of students' transcripts. Ability was held constant through statistical techniques. The results of the study were that there were no significant differences in the adjusted mean of the high and low interest groups for the subject areas of Business Administration, Botany, Chemistry, and Economics while significant differences at the 0.01 level did exist for the areas of History and Political Science, Sociology and Mathematics.

In discussing the results the investigators concluded that:
Perhaps counselors should not attempt to generalize, but rather strive to study each academic area for the purpose of learning more about the importance of interests in relation to academic success in specific areas, as well as the conditions which contribute to higher interests. It should be pointed out that since this study is based on group averages, it does not answer the question of whether an individual will tend to receive his highest grades in those courses which reflect his highest interests.

Educational interests, in combination with sufficient motivation and adequate ability, may be more important for persistence in an academic major than achievement. Additional studies will be necessary to test the importance of educational interest in counseling.

Even with partial support of the assumption that educational interests are an important variable in counseling, counselors continue to be challenged in stating explicitly the assumption underlying the use of interest scores in counseling, and to test the validity of the assumptions.

Adams (1974) reported on a study involving a career planning class he conducted at Everett Community College in the state of Washington. Students who were selected for this class were requested to come to the college for an on-campus interview with one of the professional counseling staff, were asked to complete a Guidance Profile and, with the aid of the counselor, planned their first quarter program which included enrollment in a group guidance class entitled Career Planning. The class was led by members of the counseling staff, who attempted to create a non-threatening atmosphere in which counselors could assist students to
integrate their apparent value structures, abilities, and motivations into an educational-vocational pattern that is both constructive and realizable. Every student was administered an interest and aptitude test and was required to become familiar with a number of occupational information sources. Various teaching techniques were employed culminating in a research paper on one occupation, and completion of a resume.

The freshmen enrolled in the Career Planning group exhibited a substantially higher academic level of performance at the end of the first quarter (2.52 g.p.a.), than did the students in the control group (2.08 g.p.a.). The performance gap increased at the end of a full academic year to 2.59 vs. 2.09. This difference was statistically significant at the .01 level. In addition, students in the career planning group reported significantly more positive attitudes toward college than did students in the control or individually counseled group. No significant differences resulted on the other criteria tested for. In summarizing the study Adams noted that:

...efforts made in the Career Planning class had the desired effect of assisting students to explore and sort out their value structures, to reduce threat, to integrate their interests and abilities with relevant occupational and educational information into some meaningful pattern. With a reduction in dissonance, and in the anxiety of typically associated
with dissonance, the Career Planning students were able to function at a higher level academically, and generally felt more positive about their college experience. In short, they seemed to "have it all together."

One implication which may be derived from the results of this study is that more students could be better served if counseling services were made available to larger numbers of entering students.

Anderson and Binnie (1972) conducted a study at Spokane Community College on the effects of group vocational guidance class and concluded that based on a pre-post test students showed substantial movement from the undecided state to a specific vocational choice or greater commitment to their initial choice. This indicated that the subjects were more goal oriented at the conclusion of the class. Since a comparison group was not practical in their situation one is left to wonder if similar growth would take place without the group vocational guidance class.

Regarding research in the area of vocational exploration for community college students they state:

It is widely accepted that community colleges should provide experiences for their students aimed at stimulating vocational self-exploration, decision making relative to both short-end and long-range goals and adjustment of educational and occupational aspirations.

To accommodate this process, it has been common for the community college to offer classes on study skills, occupational
planning, or personal adjustment. However, there has been a paucity of reports in the guidance literature as to the outcomes of such programs at the community college level.

The Need for Developing Innovative Treatments

Community colleges have accepted an awesome responsibility during the last two decades by becoming responsible for four million college students (Magarrell, 1976). It has been recognized that freshmen in a community college are much more likely to dropout before reaching their stated goals than freshmen in four year colleges and universities (Cohen and Brawer, 1970). The data also seem to point out that freshmen at a community college compared to a senior college typically score lower on academic achievement and aptitude tests and have not performed as well in high school.

Although recent years have shown increasing pressure on counseling centers to produce effective career guidance programs, a literature review by Roost (1972) found no comprehensive models of vocational guidance that were specific to the college campus. Bergeson, Roost and Phillips (1975) developed a model for assessing career guidance needs on the college campus. Their model researches: (1) resources students use to make tentative decisions; (2) resources offered at departmental and college divisions; and (3) graduates' evaluation of university career preparation.
Their study was conducted based on the opinion polling method developed by Jones (1972). Key sites on Utah State University campus of 8500 students were staffed by trained interviewers who interviewed 500 students selected at random. A short structured interview using a standard response sheet was used to gather data.

Ninety-two percent of the sample students at Utah State University were able to identify some career choice and seventy-five per cent of these expressed a strong commitment to that choice, yet, one-half of the sample reported one or more changes in major and career choice during college. When students name the sources of information they used to make career choices, their responses were quite disconcerting. The factors most frequently reported as significantly influencing choice were immediate family and personal or family friends (41 per cent), college and high school faculty (27 per cent), and counselors (3 per cent).

When asked to identify nonpeople factors influencing career choice, 56 per cent of the students could only identify the broad category of personal interests; previous work experience and a desire to contribute to society were each listed by another 15 per cent. When asked to identify resources available on the campus for aid in career planning, 40 per cent of the students were unable to identify any, while only 33 per cent were aware of the counseling center. Advisors and professors were listed by 35 per cent of the respondents.

A structured interview method was used to assess career related services by colleges and departments. Deans and department chairpersons were interviewed. Findings indicated
a minimum of career related services offered by departments or colleges, although there was almost universal agreement about high desirability of developing them. Bergeson concludes that the greatest positive effect of the assessment was not the information gathered, but the discovery of the dearth of resources offered. In summarizing their study the investigators concluded that:

Roughly 80 per cent of the respondents viewed their college major as a necessary or desirable prerequisite for their current position; slightly more than half (58 per cent) had selected a major after establishing a career goal. One third (31 per cent) wished they had majored in a different area, and two-thirds (65 per cent) felt college should be career preparation rather than liberal education.

Apparently, there is a lack of congruity between the perceptions of the students and faculty regarding the major functions of college education, as faculty tended to view college more as liberal education than career preparation.

The recommendations that resulted from this study for the counseling center included the development of techniques for better use of psychometric devices such as vocational interest measures, and methods of informing students of the availability of these methods were needed. More efficient methods of interpreting data than the traditional one-to-one method needed to be developed.

The clientele of most university counseling centers is composed of students who are undecided about a choice of
major (Harmon, 1973). The assumption underlying the approach taken by the counseling centers is that adequate information about self will enable the client to make a decision about selecting a major. Research regarding differences between undecided and decided students is rather confusing. Appel, Haak and Witzke (1968), and Buck (1970) found little difference between vocationally decided and undecided students while Ashby, Wall and Ospiow (1960), and Baird (1967) found some personality and other differences. Baird's study seemed to indicate the undecided student to be more intellectually and less vocationally oriented while Ashby found undecided students showing greater need for dependence.

Gottlieb (1973) in underscoring the Carnegie Commission Report on Education stated:

It is clear that many students feel they had to make career choices with long-range consequences at a time when they were still quite unclear and uncertain as to their own personal needs and desires. It seems that for many students career selection is required during a time when the student is first beginning to deal with himself and to examine seriously his relationships with others and with society.

One of the failures of counseling centers and counselors in dealing successfully with vocationally undecided students has been their failure in the use of tests (Goldman, 1972). He stated, "Better that counselors give up most tests and that testers give up on most counselors, if there is no reasonable hope that both parties will really change markedly."
To remedy the situation he believes the counseling and testing profession should concern itself with, "...setting higher and more specific standards for the information materials and devices used in test interpretation and reporting; encouraging and aiding the publication and use of new kinds of tests that will serve better in exploration and in facilitating individual development."

Goldman supported the ideas that a general counselor, which most often is the case at a community college, is not particularly qualified to interpret tests when he stated that:

One conclusion of which I feel quite certain at this time is that the general counselor can no longer be depended on (if he or she ever could) to possess and use the full range of potentials of modern assessment techniques. There are so many other areas in which the general counselor must attain and maintain proficiency that only a few are ever likely to be strong assessors, especially since most counselors find measurement to be most difficult and unappealing of all the areas they study.

Goldman advocated a larger role in test interpretation should be shouldered by the test publishers and calls upon test publishers and large research and development centers to develop workloads, computer programs, and other techniques to aid the general counselor.

In decrying the lack of empirical effects of interest inventories Holland (1974) emphasized that:
In contrast to speculation and opinion about the effects of interest inventories, the evidence about the actual effects of interest inventories is sparse. This situation exists because psychologists have usually been concerned with psychometric problems rather than treatment effects. Consequently, nearly all empirical studies are concerned with reliability, validity, item format, norms profiles, and related matters.

Prediger (1974) postulated that the main purpose of interest inventories should be to stimulate career exploration and the exploration of self in relation to careers. The process of exploration should lead people to discover new things about themselves and the world of work. The usefulness of this type of stimulation is that it provides focused exploration.

Cole and Hansen (1971) agreed with Prediger's purpose for interest inventories and went on to say:

If we expect interest inventories to serve as stimuli, then we must examine the exploratory steps and actions people take as a result of the inventory. Although the study of inventory impact could have been useful and informative at any time in the history of interest measurement, we have found only limited and very recent empirical examinations of such impact. Holland and his colleagues showed concern with the behavioral impact in the design of SDS. Zener and Schnuelle (1972) empirically examined the impact of SDS on the number and type of occupational options considered. They reported an increase in the number of options considered after the SDS was taken, but no broadening of the type of option. Redmond (1972) reported that both boys and girls are likely to seek more vocational information after the SDS experience.
They argued for the development of supporting materials and score reports which would have maximal impact on exploratory behavior. They cited also that in the study of inventories as stimuli, information must be collected about the number and types of jobs explored after inventory use and about the forms that exploratory behavior took. They further state that, "Such studies, though not now available, can be accomplished in reasonable periods of time, they involve no long term follow-up."

Comparison of Treatment Methods

It is usually assumed that the presentation of test results should benefit the client, although quite often the results are left in files rather than being presented to students (Wood, 1953). Wiley and Andrew (1953) stated that understanding of test results is essential in helping students to understand themselves. The few available research studies on methods of presenting test results (Holmes, 1964; Folds and Gazda, 1966; Wright, 1963; Rogers, 1954; Lane, 1952; Dressel and Matteson, 1950; Miner, 1975) do not permit definite conclusions about more desirable methods.

Holmes investigated the effectiveness of four methods of test interpretation: (1) written; (2) counselor dominant and evaluative; (3) counselor dominant but reflective, and
student dominative out of learning set. One hundred fifty-four college freshmen at the Boston University School of Education participated in the study. The interpretation involved the battery of tests administered during the first month of the academic year. One week following the time that a student was given his test results by mail or by personal interview the evaluation instruments were mailed to the students. The results indicated that the methods used by the counselors had little differing effect on the attitudes toward the counselor and toward the considered value of the tests while the students who did not meet with a counselor but were mailed a brief summary of the meaning of each test and a test profile on which the scores were plotted found the test information to be of least value. The student who did not meet with a counselor had the best recall of their test scores. Among the conclusions the investigator drew were that, "Any of the four methods may be used effectively," and that "...it is not what a counselor does as much as what he stimulates his counselee to feel, to do, and to say that is important in the relationship."

Folds and Gazda (1966) conducted a study which compared three different methods of test interpretation (individual, small group and written) on accuracy of self-estimates of test scores, change in concept of self and others, and evaluation of test interpretation. Data obtained from the
three experimental groups were compared with each other and each group was compared with a control group. Results indicated that: (1) all groups receiving test interpretations were more accurate in self-estimates of test scores than the control group, (2) those receiving individual interpretation procedures, and (3) all groups including the control group made significant change in concept of self and others, but no significant differences among groups was found. The authors concluded that, "...if recall of test information is used as a criterion of test interpretation effectiveness, individual, small group, and written reports are equally effective. However, if one judges effectiveness on the basis of how the student felt about the interpretation, there is a positive relationship between the amount of individual or personal attention received by the student."

In a recent review of literature of Vocational-Educational Counseling Practices at Major University Counseling Centers by Graff and Raque (1974) they stated that, of innovative practices, only group vocational counseling was used to any extent, and only a quarter of the centers had vocational classes offered or employed audio-visual or computer technology, although recent research (Gilbert and Ewing, 1971; Graff, Danish and Austin, 1972; Holland et al., 1972; Norman, 1969) suggest that the educational-vocational counseling process could be handled as efficiently or more
efficiently by mechanical or self help devices.

Sequist (1970), in a study comparing the effectiveness of the conventional manuscript style format SVIB interpretation guide to a typical programmed instruction format, found no significant differences and cited a need for improvements in interpretive guides.

Maola (1974) conducted a study with high school students, comparing a counselor based model to a computer based model, to determine which was the more effective system for teaching career information. The results confirmed his hypothesis, with the computer group scoring significantly higher than the counseled and control groups on (1) knowledge of occupational characteristics, (2) knowledge of occupational preparation requirements, and (3) career planning knowledge.

He concluded that:

1. Students learn career information more effectively from a computer based information system than from a counselor based system.
2. Students can learn career information from a counselor.
3. Students may learn career planning knowledge better through independent exploration.

Sherrill (1972) supported the finding that classroom based group attempts to accelerate personal and vocational development do not guarantee success. He conducted a study with undecided students at the University of Illinois by exposing
them to an encounter group, based on models by Rogers and Eagan, for which two semester hours of credit was given. The semester long experience was intended to accelerate personal development. The four variables tested at the beginning and at the end of the semester were self-esteem, self-actualization, vocational certainty and vocational maturity. The results showed no significant differences between the experimental and control groups as both groups moved in very similar directions during the treatment period.

Effects of Vocational Interest Inventories

The previous section contains evidence on the wide use of interest inventories in the vocational counselor's repertoire and the need for research pertaining to their use. Other writers have further clarified this need. Forster (1969) reported that a 1962 recommendation, made by an American Psychological Association Ad Hoc Committee on Confidentiality of Records to research the effects of communicating psychological information (including test results) to people had still gone relatively unheeded up to that time. In a review article Tyler (1968) pointed out that, "studies are commonly made of test uses without clarifying the educational purpose which they are expected to serve." Osipow (1968) suggested that concern with prediction
of future selection and persistance in regard to research with vocational inventories should be replaced with research on more immediate effects of interest inventories or developmental behaviors. Heir (1970) also expressed concern when he stated that counselors need to identify those environmental manipulators, such as vocational inventories that may, or are supposed to be facilitative of vocational development.

**Current Status of Interest Inventories**

Interest inventories continue to enjoy popularity among counselors. Rothney and Schmidt (1959) claimed that interest inventories and vocational preference records were among the most popular tools of counselors. McGowan (1962) believed that most clients seeking vocational counseling anticipate that tests will play an important part in the counseling process, while Osipow (1969) described the interest inventory as a "bread and butter technique of the vocational counselor."

Initially interest inventories were used to assist people in making vocational choices (Cronbach, 1960). Currently their use is primarily for promoting self-understanding and stimulating thinking about vocations and career plans. Sprinthall (1967) believed that test interpretations should be useful in assisting students to become better decision makers, while (Prediger, 1972) argued that
the primary function is to facilitate exploration. Dolliver (1969) combined both purposes by saying that, "appropriate counseling use of the Strong Vocational Interest Inventory Battery has always been heuristic: to suggest occupations which might be more thoroughly investigated and to indicate general occupational areas." Developers of interest inventories (Campbell, 1966; Holland, 1972) also emphasized that their instrument should be used not to make a final choice but to help facilitate and guide discussion, exploration, and thinking.

Although the rationale for use of interest tests is well developed by test theorists and developers, criticism can also be found in literature. Katz (1963) took the position that inventories frequently provide a formal designation of interests before the student has been fully exposed to a range and variety of experiences that are appropriate for making, "realistic, valid, and stable judgments of preferences." He contended that inventories may very well discourage exploration in various areas where experiences are most deficient and therefore are only helping to create a self-fulfilling prophecy. He suggested that vocational guidance should foster a variety of activities and development of interests that these inventories may perform a negative function in this process. Ryan and Gaier (1967) took a similar position by suggesting that interest
inventories should not be used until after sufficient exploration has taken place and interests have crystalized. Osipow (1968) was perhaps the most vocal critic of inventories such as the Strong Vocational Interest Inventory. He believes that:

The concept of interest in career development has been over emphasized, and in its traditional guise, it is not really very helpful either in understanding career development or in helping people to make sound educational decisions.

In summary, it seems rather clear that a need exists to examine and identify the effect of vocational inventories on various vocational behaviors and decision making variables. A search of literature revealed only three experimental studies which considered a vocational inventory as an independent variable.

Effects of SDS

Zener and Schnuelle (1972) did a study using 1,092 high school students, comparing the effects of the Self-Directed Search to a traditional inventory (the Vocational Preference Inventory), and a control group.

The Self-Directed Search (SDS) is a self-administered, self-scored and self-interpreted vocational guidance tool (Holland, 1971). The SDS includes two booklets, one for self-assessment and one which lists occupations. A person fills out the assessment booklet and obtains a three letter
summary code. He then uses the Occupational Classification booklet to find the occupations which correspond to his summary codes.

The validity of the Self-Directed Search is based on Holland's theory of personality and types and on his assertion that the best way to ascertain what occupational choice a person will make is to ask him directly. He incorporated this belief in the Self-Directed Search by asking subjects to list "occupational daydreams at the beginning of the Assessment booklet and to find the three letter codes which correspond to the daydream occupations. The three letter codes represent combinations of Holland's six personality types: Realistic, Investigative, Artistic, Social Enterprise, and Conventional. The three letter "summary code" is based on scores from five sections of the Assessment booklet (Activities, Competencies, Occupations, and two Self-Estimates). A complete explanation of the theory can be found in Holland's "The Psychology of Vocational Choice" (1966).

Holland (1971) reported reliability coefficients for individual scales of the Self-Directed Search ranging from .53 to .87 for men and women. O'Connell and Sedlacek (1971) provided test-retest reliabilities of summary codes over a 7-10 month period for 65 college freshmen of .75 (Pearson), and .92 (Spearman Rho).
The subjects were randomly assigned to one of three treatment groups: (1) a group that took the regular, published version of the SDS; (2) a group that took a traditional inventory (the Vocational Preference Inventory) which provided a summary code and interpretation similar to the SDS at the time of treatment; and (3) a no treatment control group. The dependent variables in the study by Zener and Schnuelle were: (1) understanding of Holland's theory; (2) number and appropriateness of considered occupations; (3) satisfaction and certainty of vocational plans; (4) need for general information; (5) need for specific information; (6) information seeking behavior; (7) knowledge of chosen occupation; (8) vocation maturity, and (9) time spent thinking about occupations. Variables 1, 2, 3, 4, 5, and 8 were measured one day after the treatment by a self report questionnaire developed by the writers, and the number of occupations was measured again three weeks later, along with variables 6, 7, and 9.

The results of the study showed that:

1. Subjects in both treatments increased more than the control group on number of occupations considered, knowledge of Holland's theory, certainty of satisfaction with present vocational choice, and time spent on thinking about occupations.

2. No differences were found between treatment and control groups on vocational maturity, information seeking, or knowledge of chosen occupations.
3. Subjects in both treatments decreased more than the control group in expressed need for more general and specific information.

4. The only difference between the two treatment groups on the dependent variables was that the groups completing the regular form of the Self-Directed Search was higher on knowledge of Holland's theory.

5. No significant differences were found on any of the dependent variables among students in the treatment groups as a result of sex of socioeconomic status.

A second study which investigated the effects of the SDS was reported by Redmond (1972). Subjects for the study were 360 high school students of both sexes randomly assigned to one of three treatments: (1) a group who completed the SDS; (2) a group who completed the SDS and were given contingency contracts designed to increase vocational information seeking; and (3) a no treatment control group. The criterion measures were information seeking, number of occupations being considered, and certainty with career plans. Information seeking was measured by change on a self report questionnaire while the other two variables were measured by the questionnaire developed by Zener and Schnuelle (1972). The findings of Redmond's study were:

1. Both experimental treatment groups increased significantly more than the controls on information seeking and number of occupations considered,
but there was no significant difference between the three groups on certainty with career plans.

2. There were no significant differences between the two experimental groups on any of the three dependent variables.

3. Significant interactions occurred between treatment, sex and type of student on information seeking and occupations considered. College bound subjects scored higher than non college bound on both variables and college bound males scored the highest while non college bound males generally scored the lowest. Also, college bound females who received both the SDS and contingency contracts tended to score highest among the female subjects.

Holland's Self-Directed Search as a guidance tool has drawn mixed results. Collins and Sedlacek (1972) attempted to compare persons extremely satisfied with the Self-Directed Search to those extremely dissatisfied. In a study with 4,631 incoming freshmen at the University of Maryland who completed the Self-Directed Search, 485 were extremely satisfied and 343 were extremely dissatisfied with their results. The results of the study indicated that more dissatisfied subjects than satisfied subjects did not obtain codes with corresponding occupations listed in the Self-Directed Search booklet. Also, the satisfied group received more Artistic and Investigative codes, while the dissatisfied group received more Conventional codes. This indicated that the student who had been favorably exposed to many occupations
and to many scientific and artistic activities and competences was likely to find the Self-Directed Search a satisfying experience. Students with more limited backgrounds were more likely to find the instrument frustrating and "unreasonable." This finding has implication for community college students where, generally, a larger proportion of students are likely to have a limited background.

Gelso (1973) found that when 221 college freshmen self-directed themselves through the SDS, eighty-nine per cent made errors in the summary table, fifty-five per cent made errors affecting the final code, forty-seven per cent made errors causing the omission of one or more letters from the final code, and four students discontinued when they reached the summary table.

Gelso's study formed a basis for another study (Christensen, 1975) which examined the effects of the test administrator's attitudes toward Holland's Self-Directed Search, the size of the group taking the instrument, and whether or not monitors were used during the administration on both self-scoring accuracy, and satisfaction with results on the Self-Directed Search. Over one fourth of the 184 freshmen who took the instrument during orientation made scoring errors resulting in incorrect high-point codes. Of the three independent variables, only monitoring reduced self-scoring errors, and none affected satisfaction.
Questions were raised about whether, even with monitoring, error rates are too high and satisfaction too low to warrant the use of the instrument as a self-counseling device. In the words of the investigators (Christensen, 1975):

This sort of finding raises serious questions about whether the Self-Directed Search, as it currently stands, can be truly "self-directed," or at least as self-directed as its constructor has purported it to be.

Subjects did not experience a high degree of satisfaction with the instrument, and none of our experimental manipulations affect satisfaction. Fewer than half of the subjects agreed that their results seemed reasonable for them or would be useful in future academic planning.

Brown (1975) found the Self-Directed Search lacking in his work with LaGuardia Community College students. He found the test too complicated as well as placing undue emphasis on what the respondent has done and has been. In contrast parts II, III, and IV of the newly revised Strong-Campbell Interest Inventory, a form that incorporates Holland's theory and typology, instruct the respondent to indicate interest in the areas even though he or she may not have studied or experienced them (Campbell, 1974). Brown went on to say, "Predictably then, blue collar, first generation community college students have evidenced reactions of anger, frustration, and occasional resignation in the face of their "high" aspirations being contradicted by "low" measured profiles."
Effects of SVIB

Although research on the utility of the Strong-Campbell Interest Inventory interpretive report is totally lacking (Johannson, 1976), some pertinent studies with the Strong Vocational Interest Blank are reported. Frazer (1974) investigated the effects of the Strong Vocational Interest Blank and the Self-Directed Search on the following variables: (1) certainty of career plans; (2) satisfaction with career plans; (3) self-confidence in career planning; (4) number of occupations being considered; (5) need for more information; (6) stability of first occupational preference and congruence of first occupational preference. The sample consisted of 62 freshmen and sophomores at the University of Missouri who had expressed a desire to take a vocational inventory. The students were randomly assigned to take either the Self-Directed Search or the Strong Vocational Battery in such a manner that eight groups of students classified by treatment, sex and race were available for analysis. All subjects attended three group treatment sessions over a three week period. The results indicated that four of the Strong Vocational Battery groups increased on one of the self-confidence items and one SDS group decreased on one of the items. Changes among groups indicated the SVIB subjects tended to increase more than SDS subjects and white subjects increased more than black subjects. Some increases were
also noted on need for more information and stability of first occupational preferences, particularly by black subjects. Certainty of career plans, satisfaction of career plans, and the number of occupations being considered did not change within the eight groups as a function of either SDS or SVIB treatment, nor were differences detected among the treatment, sex, and race groups.

The study also contained an examination of the subject's opinion of SDS and SVIB and data suggested that subjects had a generally favorable opinion of both the SDS and SVIB with no significant differences in the rating of the two inventories. Frazer concluded that college students consider career inventories worthwhile career planning aids, and that the dependent variables of the study were complex and multidimensional and should be measured by a multi-item approach rather than be considered as simple concepts measured by a simple item or question.

In another attempt to improve the utility of the Strong Vocational Interest Battery, Matheson and Stahmon (1974) at the University of Iowa developed a two session interpretation format in which they thoroughly explore the Basic Interest Scales and the Occupational Scales. Their work is based on the assumption, "that the Basic Interest Scales can be an ideal tool to generate and encourage self and occupational exploration on the part of the client."
College freshmen who have not yet chosen a college major or career direction indicated that interests is the major career factor they consider most frequently (Elkins, 1975). It is chosen three and one half times as frequently as the career factor of ability.

Miner (1975) conducted a study to determine if significant differences existed between three different methods (written, individual, small group) of interpreting the Strong Vocational Interest Blank for men, as viewed by male college students taking the inventory and receiving an interpretation. The three criteria used to test for significant differences between methods of recall of test information, client satisfaction and change in planning by the client after having his results interpreted to him. The sample consisted of 75 undergraduate male students in a Purdue residence hall who indicated they would like to take the SVIB. Twenty subjects were assigned to each of the three methods of interpretation. The results of the study revealed that the individual method of interpretation yielded more client satisfaction than the small group and written methods, with the small group yielding the least satisfaction to the clients. No significant difference was present between interpretation groups when recall of inventory information or change in planning by the subjects were used as criteria. Miner recommended that additional studies be undertaken with subjects who participated in the small groups and written methods of interpretation to

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determine what in particular they like and disliked about their method of interpretation. He also recommended that the written method of interpreting the SVIB be experimented with as the alternative to the individual method of interpretation.

Summary

This review of literature indicates that:

1. Community college students although professing to aspire to a bachelors degree seldom achieve it and have given little thought to career choices, usually taking the path of least resistance. (Cohen and Brawer, 1970).

2. The majority of college students feel that college should be career preparation rather than liberal education (Bergeson, Roost, Phillips, 1975).

3. Interest inventories can be used to stimulate vocational exploration (Redmond, 1972; Zener and Schnuelle, 1972; Holland, 1974; Prediger, 1972; Dolliver, 1969; Campbell, 1966).

4. Vocational information-seeking behavior can be stimulated by group and model reinforcement counseling (Aiken and Johnson, 1973; Krumboltz and Thoresen, 1964; Schroeder, 1964; Fisher, Reardon, and Burck, 1976).

5. College students consider career inventories worthwhile as planning aids (Frazer, 1974; Collins and Sedlacek, 1972; Gelso, 1973; Matheson and Stahmon, 1974; Elkins, 1975; Miner, 1975).
6. Interest inventories can decrease the need for vocational information (Frazer, 1974, Zener and Schnuelle, 1972).

7. Everyone engages in exploratory behavior which leads to a vocational decision and increased vocational maturity resulting in greater satisfaction with self as exhibited by modified social, intellectual and emotional development (Ginzberg, 1951; Super, 1963; Super, Starishevsky, Matlin and Jordaan, 1963).


9. Group vocational guidance classes can result in students' greater commitment to their initial choice or movement toward a vocational decision (Anderson and Binnie, 1972).

10. Relating interests to academic achievement has produced mixed results, with favorable results reported by Stone (1958), Lavin (1963), and Adams (1974) while unfavorable results were reported by Garrett (1949), and inconclusive or contradictory results by Super and Crites (1962), Thomas, Morrill, and Miller (1970).

11. Comparison of methods of presentation of test results (one-to-one, group, written, and programmed) indicate lack of superiority for any one method (Holmes, 1966; Folds and Gazda, 1966; Wright, 1963; Rogers, 1954; Lane, 1952; Dressel and

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Matteson, 1950; Miner, 1975; Mules, 1972; Maola, 1974).

12. Counselors have not enjoyed success with test interpretation (Goldman, 1972; Hopson, 1968).

13. No comprehensive models of vocational guidance specific to college students exist (Roost, 1972).

14. There exists a lack of studies regarding the evidence about the effect of interest inventories (Holland, 1974; Prediger, 1974; Cole and Hanson, 1971; Zener and Schnuelle, 1972).

Further research is needed to determine interest inventory impact on:

1. career information seeking behavior (Cohen and Brawer, 1970; Bergeson, Roost, and Phillips, 1975; Thomas, Morrill and Miller, 1970; Holland 1974).

2. academic and vocational decision making (Anderson and Binnie, 1972; Prediger, 1974).

3. academic achievement (Super and Crites, 1962; Lavin, 1963; Thomas, Morrill, and Miller, 1970).

Furthermore, additional research is needed in the development of effective test interpretive materials and methods (Sequist, 1970; Sherrill, 1972; Folds and Gazda, 1966; Goldman, 1972; Holland, 1974).

Hypotheses

This study is based on the Developmental Model of vocational counseling (Barry and Wolf, 1963), which is the...
outgrowth of theory developed by Super (1953). The model accepts the psychological point of view that all students are capable of progressively developing self-understanding, self-appraisal, and self-direction. Vocational counseling is directed toward facilitating self-understanding in the student, and to assisting the student, when needed, with his development at points of stress and difficulty. The student will choose his occupation wisely as a result of self-analysis, self-understanding and self-motivation. Theory (Super, 1966) and empirical data (Zener and Schnuelle, 1972; Redmond, 1972; Frazer, 1974) give support to the proposition that administering a vocational interest inventory and providing results in the form of a narrative computer printout will result in changes in the vocational behavior of college freshmen. More specifically current knowledge and theory, as revealed in the reviewed literature, lead to empirical testing of the following hypotheses:

If an experimental group is defined as a specified number of randomly selected freshmen who completed the Strong-Campbell Interest Inventory and received the results in a narrative, computer printout format prior to registration, and if a control group is defined as the randomly selected freshmen who received no treatment, then:

1. the experimental group will exhibit a higher level of vocational information seeking behavior than the control group (Summary statement 3, 5, 8, 11).
2. The mean curriculum changes between initial application and winter semester registration will be greater for the experimental group than the control group (Summary statement 8).

3. the experimental group will indicate greater satisfaction with their educational experiences than the control group (Summary statement 7).

4. the experimental group will indicate great satisfaction with their career plans than the control group (Summary statement 7).

5. the experimental group will indicate a lesser need for career information than the control group (Summary statement 6).

6. the experimental group will exhibit greater academic achievement than the control group (Summary statement 10).

Limitations

The following limitations should be considered when interpreting the results of the study:

1. The subjects in the study were entering students at Lake Michigan College, a two-year open admission community college, during the 1976-77 academic year, and the results may not be applicable to other types of institutions and/or student populations.

2. Multiple t-tests were employed as the test statistic to test certain hypotheses leading to an inflated Type I error rate overall. However, Type I errors were judged not to be of great concern for this study, since the goal was to identify potential effects that will be further studied.

3. This study was a field study and hence the degree of control was somewhat lower than if the study had been done in the laboratory.
Assumptions

This study was based on the following assumptions:

1. It was assumed that a great number of students entering the 1976–77 freshmen class would want assistance in making career decisions.

2. It was assumed that a high response rate would result from the mail-out and follow-up procedures used and that attrition would not be different for the experimental and control groups.

3. It was assumed that the treatment would be viewed by experimental subjects as career guidance treatment rather than just another administrative hurdle at the college.
METHODS AND PROCEDURES

This chapter contains an examination of the method of selecting the sample, forming the experimental and control groups and administering the treatment procedures. It also includes descriptions of the research design, the subjects, the instrumentation and procedures for measurement of the dependent variables, scoring procedures and statement of hypotheses.

Method

The methods used to investigate the effect of the Strong-Campbell Interest Inventory, with the computerized interpretive report, on selected career and educational variables among community college freshmen is described in this chapter. An overview of the study is presented below to provide the reader a general background for more detailed methodological discussion that follows.

The time period for the study was from June 1976 to March 1977. One hundred applicants who were accepted by Lake Michigan College for the fall semester were randomly assigned to receive the treatment, the Strong-Campbell Interest Inventory (Appendix A), while another 100 were assigned to the control group. The treatment group:
1. received the Strong-Campbell Interest Inventory through the mail prior to the orientation-advising-registration process.

2. completed the SCII and returned it for scoring.

3. received the results of the SCII (Appendix B) in the interpretive format, a narrative computer printout.

4. completed the Vocational Checklist (Appendix C) and Career Research Questionnaire (Appendix D), six months after completing the SCII.

The control group completed the Vocational Checklist and Career Research Questionnaire only.

Research Design

A Post-test Only Control Group design was used in this study.

\[ R \times O_1 \]
\[ R \quad O_2 \]

This design was selected because it is the only true experimental design which lends itself to examining this problem within the parameters imposed by financial, time and environmental considerations. Randomization is the most adequate all-purpose assurance of lack of initial biases between groups (Campbell and Stanley, 1963) and will suffice without any pretest, within the limits of confidence stated by tests of significance. The t-test was the statistic employed to measure significant differences between groups on criterion variables.
Subjects

The sample used in this study was selected from persons who applied and were accepted to Lake Michigan College for the 1976 fall semester prior to June 8, 1976. Lake Michigan College is an open door community college admitting all high school graduates to the program of their choice, with the Health Science curricula being the exception. Admission into the Health Science curricula is based on g.p.a. criterion and limited in number, therefore, Health Science applicants were not included in the pool of students from which the sample was chosen. Four hundred thirty-five applicants comprised the population from which a random sample of 200 was chosen for the study.

Instruments

Strong-Campbell Interest Inventory

The Strong-Campbell Interest Inventory (SCII) is the latest edition of the Strong Vocational Interest Blank (SVIB); "...an interest inventory that has the longest history of any psychological test today" (Campbell, 1974). First published in 1927, this test has become one of the most highly respected tests in a psychologist's repertoir. A major change in this edition is the merger of men's and women's forms into a single inventory booklet. The SCII maintains separate scales for the two sexes by scoring
everyone of either sex on all scales and presenting the scores in a manner which emphasizes scores derived from samples of the same sex as the person being scored. The narrative format allows individuals to compare themselves with general reference groups as well as with reference groups of their own sex.

The inventory booklet lists 325 items, to most of which the person responds by filling in either "Like," "Indifferent," or "Dislike," on the answer sheet. The items are divided into seven sections as follows: (1) occupations; (2) school subjects; (3) activities; (4) amusements; (5) types of people; (6) preference between two activities and; (7) your characteristics. None of the items is distressingly personal; they cover the usual range of occupational tasks and day to day activities. Most people require 25-35 minutes to complete the inventory.

The content of the SCII booklet is at about the sixth grade reading level, though a few specific items are unfamiliar to students at that level. Scoring must be done by computer due to its complicated nature. The usual procedure is to send the answer sheet to a commercial scoring agency.

One type of analysis made of a person's responses to the test booklet is the search for general occupational themes as hypothesized and identified by professor John Holland of Johns Hopkins University (Holland, 1966, 1973). Holland's model classifies all occupational interests into
the following basic six categories: (1) realistic, (2) investigative, (3) artistic, (4) social, (5) enterprising, (6) conventional. The 23 Basic Interest Scales, which are measures of strength of specific interest areas, are grouped into Holland's six general categories. The 124 Occupational Scales which reflect the degree of similarity between the respondent's interests and those of men and women employed in these occupations, are also ordered on the profile according to Holland's system. Two other types of scores are reported on the profile; the Special Scales, which include an Academic Orientation Scale; and the Administrative Indexes, which are routine clerical checks run by the computer on every answer sheet to make sure nothing has gone awry in either the administration or scoring of the answer sheet.

**Interpretive Report for the SCII**

The computerized interpretive output reports five types of scores with statements explaining their meaning: (1) scores on six General Occupational Themes; (2) scores on 23 Basic Interest Scales; (3) scores on same-sex Occupational Scales; (4) scores on Administrative Indexes; and (5) Non-Occupational Scales.

Narrative information similar to that presented by the counselor appears on the interpretive output. Relevant codes and page references for the Dictionary of Occupational Titles (DOT) and the Occupational Outlook Handbook (OOH) are

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presented for a person's high and low scores. In addition, relevant books and appropriate OOH reprints are referenced as further sources of information. The interpretive output provides a basic understanding of the results with cautionary statements against over-interpretation, an important feature for large scale use.

Vocational Checklist

Berak, Carney and Archibald (1975) used 24 items from a checklist of items developed to measure the cognitive and behavioral aspects of vocational information seeking behavior in a study on vocational decidedness. This study employed the same 24 items Vocational Checklist (Appendix C).

Each item required the subjects to state the approximate number of times they engaged in a specific vocational information seeking behavior over the preceding six months. Each response was ranked on a six-point scale from never (0) to very frequently (6). The possible range of scores on the instrument was from 0 to 144. The split-half reliability coefficient obtained from a sample of 176 Ohio State University students was .90.

Career Research Questionnaire

The Career Research Questionnaire (Appendix D) is a slightly modified instrument from the one developed by Frazer (1974). Frazer's questionnaire was influenced by the
Vocational Guidance questionnaire developed by Zener and Schnuelle (1972). Frazer administered an early version of the questionnaire to 45 college freshmen and sophomores in a psychology class. From this administration it was determined that college students do vary on satisfaction with their career plans and need for more information. Some of the questions in the first version were not clear, and some not specific enough to the students.

The second version consisted of several specific questions for each of the somewhat more general questions on the first version. Instead of asking students a single question about their certainty or satisfaction in regard to their vocational or career plans, the second version of the CRQ asked their satisfaction with their choice of the college, their major, their first occupational choice or preference, and finally, their general career plans. This detailed structure directed their subjects' attention to career development as a process involving many decisions at various levels and times. The second version was administered to 112 freshmen. The results were encouraging as they showed differences within the group which were in the expected direction based on logical analysis. For the purposes of this study, the CRQ was modified by eliminating the section of the CRQ dealing with career certainty and adding questions pertaining to satisfaction with educational experiences. The added questions were modeled after those developed for
measuring satisfaction of career plans.

Research Procedure

Selection

An equal number of subjects (100) were assigned to the experimental and control groups. The assignments were made by randomization from a pool of 435 applicants accepted for the fall, 1976 semester.

Administration of the SCII

June 9, 1976, the Strong-Campbell Interest Inventory and answer sheet with appropriate cover letter (Appendix E) were mailed to the experimental group. The letter asked the subjects to return the completed Inventory in the enclosed, stamped envelope prior to June 17, 1976. Seventy-three percent of the experimental group subjects completed and returned the SCII during the ten days following the mailing. June 19, 1976, (Appendix F) a reminder letter was mailed to subjects who did not return the completed Inventory. An additional thirteen completed SCII forms were returned by June 25. Eleven of the fourteen subjects not returning the SCII form were called by the investigator requesting completion of the SCII. Six more completed returns were received by June 29. Ninety-three of the one hundred subjects in the treatment group returned the completed SCII.
Scoring and return of the results

The completed SCII's were mailed to National Computer Systems, Inc. in Minneapolis, Minnesota for scoring. The interpretive report with a cover letter (Appendix G) was returned to the subjects on July 7, 1976. One additional SCII, returned on July 10, was scored separately.

Administration of the Career Research Questionnaire and Vocational Checklist

On December 3, 1976, the Career Research Questionnaire (Appendix D) and Vocational Checklist (Appendix C) were mailed to subjects in both experimental and control groups who enrolled at Lake Michigan College for the fall 1976 semester, with a cover letter (Appendix H) explaining the purpose of the questionnaire.

Seventy-six of the one hundred subjects in the experimental group enrolled in Lake Michigan College during the fall 1976 semester. Twenty-three (30%) subjects returned the completed questionnaires one week later. On December 10, follow-up letters (Appendix I) were mailed to the experimental group subjects who did not respond. An additional 26 (34%) completed questionnaires were returned by December 17. On December 19, 21, and 22, twenty-two of the twenty-seven subjects not responding were called and asked to kindly complete and return the questionnaire. Seventeen (22%) additional questionnaires were received by January
20, 1977, bringing the total of completed questionnaires for the experimental group to sixty-six (86%).

Seventy-one of the one hundred subjects in the control group enrolled in Lake Michigan College during the fall 1976 semester. The same procedure was followed for the control subjects as for the experimental subjects. Twenty-eight (39%) subjects returned the completed questionnaires prior to the follow-up letter, and an additional eighteen (25%) prior to telephoning. A total of sixty (84%) responses were received from the control group.

Scoring Procedure

**Vocational information seeking behavior**

The vocational information seeking behavior variable was measured by the twenty-four items in the Vocational Checklist. The responses were scored 0-6 depending on the frequency of participation in the activity. A cumulative score ranging from 0-144 was determined for each individual.

**Frequency of curricula changes**

Subjects who changed their major during the fall or winter semester registration from that originally indicated on the application were assigned a score of 1. Those registering no change were assigned 0. Major changes were determined by examining Course Plan Sheets which require major designation.
**Satisfaction with educational experiences**

Satisfaction with educational experiences was measured by items 1, 3, 8, 9, 10, 11 of the Career Research Questionnaire. The responses were assigned values of zero for very dissatisfied to four for very satisfied. A cumulative score ranging from 0-24 was determined for each individual.

**Satisfaction with career plans**

Satisfaction with career plans was measured by items 1, 3, 5, and 7 of the Career Research Questionnaire. The scoring was the same as for the satisfaction with educational experience variable.

**Need for information**

The need for more information was calculated from responses to items 12-26 of the Career Research Questionnaire. A "yes" response to these items was assigned a score of 1, and a "no" response a score of 0. Like the information seeking, curricula changes and satisfaction variables, the need for information was analyzed separately.

**Academic achievement**

The academic achievement variable was measured with the g.p.a. (0.0 - 4.0 scale) the subjects earned during the fall, 1977 semester.
Hypotheses

The hypotheses and statistical tests used to examine the major research questions follow. Six hypotheses were developed for this study. They are stated in null form for statistical decision making purposes. A .05 level of significance was established for evaluating all the statistical tests.

Hypothesis 1: The experimental and control groups exhibit equal levels of vocational information seeking behavior.

\[ \text{H}_0: \text{Cvisb} = \text{Evisb} \]

The twenty-four item Vocational Checklist served as the instrument for testing hypothesis 1. Scores on each item ranged from 0-6, therefore, the range for the total scores was 0-144. To test hypothesis 1, the t-test was used on the mean scores for experimental and control groups.

Hypothesis 2: The mean frequency of curriculum changes between application and winter registration is equal for the experimental and control groups.

\[ \text{H}_0: \text{Ecc} = \text{Ccc} \]

The t-test was used as the statistic to test for significance.

Hypothesis 3: The experimental and control groups indicate equal satisfaction with their educational experiences.

\[ \text{H}_0: \text{Eee} = \text{Cee} \]

Item 11 of the Career Research Questionnaire provided the information for testing hypothesis 3. The responses
were assigned numerical values ranging from: 0 (very dis-
satisfied) to 4 (very satisfied).

The mean scores were subjected to the t-test. Frequency
of the responses to related items in the questionnaire (1, 3, 8, 9, 10) were reported in table form.

Hypothesis 4: The experimental and control groups indicate
equal satisfaction with their career plans.

\[ \text{H}_0: E_{cp} = C_{cp} \]

Item 7 of the Career Research Questionnaire provided
the information for testing hypothesis 4. Data were analyzed
in the same manner as for hypothesis 3. Data from question
1, 3, and 5 were reported in table form.

Hypothesis 5: The experimental and control groups indicate
equal needs for career information.

\[ \text{H}_0: E_{ci} = C_{ci} \]

Items 12-26 of the Career Research Questionnaire yielded
the necessary data for testing the hypothesis. Frequencies
for each item were reported in table form for both groups.
The means for the experimental and control groups were
subjected to the t-test.

Hypothesis 6: The experimental and control groups exhibit
equal academic achievement.

\[ \text{H}_0: E_{aa} = C_{aa} \]
Comparison of the group's academic achievement was obtained by examining the mean g.p.a. for each group. The mean g.p.a.'s for the experimental and control groups were subjected to the t-test.
CHAPTER IV

RESULTS

This study was designed to investigate the effect of the Strong-Campbell Interest Inventory on the vocational maturity of community college freshmen as evidenced by vocational and academic behavior.

Six vocational and academic variables were employed to test the effect. They were: (1) frequency of information seeking behavior; (2) frequency of curricula changes; (3) satisfaction with educational experiences; (4) satisfaction with career plans; (5) need for information; and (6) academic achievement. Six hypotheses were formulated for the study; one hypothesis for each dependent variable. The results of the tests of these hypotheses are presented separately for each of the dependent variables. The .05 level of confidence was used as the critical point of acceptance or rejection of the null hypotheses.

Results of Testing Individual Hypotheses

**Hypothesis 1:** The experimental group will exhibit a higher level of vocational information seeking behavior than the control group.

Frequency of vocational information seeking behavior was measured by the twenty-four item Vocational Checklist. Each item determined the frequency of specific vocational
information seeking behavior, on a scale of 0-6, the student engaged in during the preceding six month period.

A t-test for the differences between independent group means revealed that the difference between groups in mean frequency of specific vocational information seeking behavior is not more than would be expected by chance (Table 1). The null hypothesis that the experimental and control group means are not significantly different can not be rejected.

Table 1
Frequency of Vocational Information Seeking Behavior Analysis

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>66</td>
<td>60</td>
</tr>
<tr>
<td>\bar{X}</td>
<td>43.61</td>
<td>44.75</td>
</tr>
<tr>
<td>SD</td>
<td>22.29</td>
<td>20.42</td>
</tr>
<tr>
<td>t</td>
<td>-.298</td>
<td></td>
</tr>
</tbody>
</table>

It was, therefore, concluded that there was no difference among the subjects in the control and experimental groups in frequency of vocational information seeking behavior.

Appendix J contains the means and standard deviations of each of the twenty-four items of the Vocational Checklist for the experimental and control groups.

Hypothesis 2: The mean curriculum changes between initial application and winter semester registration will be greater for the experimental group than the control group.
Subjects' course plan sheets were examined for curriculum designation. Subjects registering changes were assigned a score of 1, while those not registering changes were assigned a score of 0.

An examination of the data indicates that subjects in both groups were more likely to change their curriculum at the initial registration than between the fall and winter semester (Table 2). One half of the experimental group who enrolled at Lake Michigan College changed their curriculum during the fall registration from what they indicated on the application. One fifth of the subjects changed again during the winter registration, with a considerable number (15.5%) changing for the second time. A higher percentage of experimental subjects than control subjects changed their curriculum during both the fall and winter registration periods (Tables 2 and 3).

Table 2
Percentage of Enrolled Subjects Changing Their Curriculum by Semesters

<table>
<thead>
<tr>
<th>Semester</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall (changed from curriculum indicated on the application)</td>
<td>50.0</td>
<td>42.5</td>
</tr>
<tr>
<td>Winter (changed from fall registration)</td>
<td>20.2</td>
<td>19.1</td>
</tr>
<tr>
<td>Fall and Winter</td>
<td>15.5</td>
<td>8.2</td>
</tr>
<tr>
<td>Fall or Winter</td>
<td>63.1</td>
<td>54.8</td>
</tr>
</tbody>
</table>
An examination of the mean curriculum change (Table 4) led to the conclusion that the difference in curriculum change among the groups was not significant. Therefore, the null hypothesis that the mean curriculum changes between initial application and winter semester registration are equal for the experimental and control groups cannot be rejected.

Table 3
Percentage of Enrolled Subjects Changing Curriculum by Number of Changes

<table>
<thead>
<tr>
<th>Number of Changes</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36.9</td>
<td>45.2</td>
</tr>
<tr>
<td>1</td>
<td>47.6</td>
<td>46.6</td>
</tr>
<tr>
<td>2</td>
<td>15.5</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Table 4
Mean Curriculum Change Analysis

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>84</td>
<td>.63</td>
<td>.49</td>
</tr>
</tbody>
</table>

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Hypothesis 3: The experimental group will indicate greater satisfaction with their educational experiences than the control group.

Item 11 of the Career Research Questionnaire (How satisfied are you with your overall educational experience?) provided the data for testing hypothesis 3. Table 5 lists the frequency of responses. The responses were assigned numerical values ranging from 0 (very satisfied) to 4 (very dissatisfied) resulting in the weighted scores presented in Table 6. Analysis of pertinent data (Table 6) led to the conclusion that the difference in satisfaction with the educational experiences between the experimental and control groups was sufficient to reject the null hypothesis.

The Career Research Questionnaire is structured in a way that allows a number of specific questions to lead up to the general question of satisfaction with educational experiences and career plans. This detailed structure, directed the subjects' attention to career development as a process involving many decisions. The items listed below,

Item 1. How satisfied are you with your choice of this College?

Item 2. How satisfied are you with your present major?

Item 5. How satisfied are you with your first choice or preference for a career?

Item 8. How satisfied are you with your course selection this semester?

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Item 9. How satisfied are you with the instruction you are receiving?

Item 10. How satisfied are you with your college extra-curricular activities?

although not directly used to test the hypotheses of this study, are related to items which are used as tests for hypotheses 3 and 4. The items are assigned values from 0-4 in the same manner as for item 11. Frequency of responses and weighted scores on the educational and career satisfaction related items are given in Table 7.

Table 5
Frequency of Satisfaction with Educational Experiences

<table>
<thead>
<tr>
<th></th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Doubtful</th>
<th>Somewhat Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>32</td>
<td>21</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Control</td>
<td>13</td>
<td>29</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 6
Satisfaction with Educational Experiences Analysis

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>66</td>
<td>60</td>
</tr>
<tr>
<td>$\bar{X}$</td>
<td>3.11</td>
<td>2.70</td>
</tr>
<tr>
<td>SD</td>
<td>1.17</td>
<td>1.09</td>
</tr>
<tr>
<td>$t$</td>
<td></td>
<td>2.03*</td>
</tr>
</tbody>
</table>

*Significant at the .05 level.
<table>
<thead>
<tr>
<th>Item</th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Doubtful</th>
<th>Somewhat Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>Number of Subjects</th>
<th>Total Weighted Score</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31</td>
<td>30</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>66</td>
<td>222</td>
<td>3.42</td>
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<tr>
<td>1</td>
<td>19</td>
<td>30</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>60</td>
<td>181</td>
<td>3.02</td>
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<tr>
<td>3</td>
<td>27</td>
<td>26</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>66</td>
<td>212</td>
<td>3.21</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>21</td>
<td>13</td>
<td>5</td>
<td>1</td>
<td>60</td>
<td>174</td>
<td>2.90</td>
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<tr>
<td>5</td>
<td>33</td>
<td>17</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>66</td>
<td>212</td>
<td>3.21</td>
</tr>
<tr>
<td>5</td>
<td>21</td>
<td>21</td>
<td>14</td>
<td>3</td>
<td>1</td>
<td>60</td>
<td>174</td>
<td>2.90</td>
</tr>
<tr>
<td>8</td>
<td>21</td>
<td>36</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>66</td>
<td>205</td>
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<tr>
<td>8</td>
<td>14</td>
<td>28</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>60</td>
<td>166</td>
<td>2.77</td>
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<tr>
<td>9</td>
<td>28</td>
<td>22</td>
<td>9</td>
<td>5</td>
<td>2</td>
<td>66</td>
<td>201</td>
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<td>24</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>60</td>
<td>164</td>
<td>2.73</td>
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<td>10</td>
<td>14</td>
<td>27</td>
<td>16</td>
<td>5</td>
<td>4</td>
<td>66</td>
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<td>2.64</td>
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<tr>
<td>10</td>
<td>9</td>
<td>21</td>
<td>20</td>
<td>5</td>
<td>5</td>
<td>60</td>
<td>144</td>
<td>2.40</td>
</tr>
</tbody>
</table>
**Hypothesis 4:** The experimental group will indicate greater satisfaction with their career plans than the control group.

Item 7 of the Career Research Questionnaire (How satisfied are you with your general overall career plans?) provided the information for testing hypothesis 4. Method of scoring is the same as described for hypothesis 3. Frequency of responses for item 7 is presented in Table 8 and analysis of the data is presented in Table 9.

<table>
<thead>
<tr>
<th>Table 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Satisfaction With Career Plans</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Experimental</td>
</tr>
<tr>
<td>Control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted Score and Analysis of Satisfaction With Career Plans</td>
</tr>
<tr>
<td>Number of Subjects</td>
</tr>
<tr>
<td>Experimental</td>
</tr>
<tr>
<td>Control</td>
</tr>
</tbody>
</table>

1.80

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It was concluded that the null hypothesis that the experimental and control group indicates equal satisfaction with their career plans should not be rejected since differences were not sufficient to exclude chance occurrence.

Hypothesis 5: The experimental group will indicate a lesser need for career information than the control group.

Items 12-26 of the CRQ, listed below, provided the data for testing hypothesis 5.

Item 12. I need more information and/or assistance to know where to begin in making career plans.

Item 13. I need to know more about my interests.

Item 14. I need to know more about my abilities.

Item 15. I need to know more about my personality.

Item 16. I need to know more about various majors that I have to choose from.

Item 17. I need to know more about occupational opportunities.

Item 18. I need to know more about occupational requirements.

Item 19. I need to know where I can get general information about occupations and careers.

Item 20. I need to know more about the activities involved in my first career choice or preference.

Item 21. I need to know more about the training or educational requirements for my first career choice or preference.
Item 22. I need to know more about the aptitudes or skills necessary for my first career choice or preference.

Item 23. I need to know more about the income and employment opportunities of my first career choice or preference.

Item 24. I need to speak with people employed in occupations that interest me before I make any further plans or decisions.

Item 25. I need to speak with professors in the majors that interest me before I make any further plans or decisions.

Item 26. I need to speak with a counselor before I make any further plans or decisions.

Frequencies of the responses are listed in Table 10 while Table 11 contains the analysis of the data for testing hypothesis 5.

Table 10
Frequencies of Yes and No Responses to Needs For Career Information Items of the Career Planning Questionnaire

<table>
<thead>
<tr>
<th>Response Group</th>
<th>Item</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
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<tr>
<td>Yes</td>
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<tr>
<td></td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td></td>
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<td>24</td>
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<td></td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>32</td>
<td>38</td>
</tr>
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<td></td>
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<td>44</td>
<td>49</td>
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<td></td>
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<td></td>
<td>C</td>
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<td></td>
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<td>40</td>
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<td></td>
<td>27</td>
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<td></td>
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<td></td>
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<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td></td>
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<td>18</td>
<td>20</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>34</td>
<td></td>
<td></td>
</tr>
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</table>

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Table 11

Need for Career Information Analysis

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th></th>
<th>Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>66</td>
<td>9.77</td>
<td>3.44</td>
<td>60</td>
</tr>
<tr>
<td>X</td>
<td>9.20</td>
<td>3.63</td>
<td></td>
<td>.894</td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of the data in Table 11 indicates the difference among the subjects was not sufficient to reject the null hypothesis.

Hypothesis 6: The experimental group will exhibit greater academic achievement than the control group.

First semester mean g.p.a. was used to test the hypothesis. Table 12 lists the data.

Table 12

Academic Achievement Analysis

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th></th>
<th>Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>63</td>
<td>2.59</td>
<td>.84</td>
<td>65</td>
</tr>
<tr>
<td>X</td>
<td>2.51</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td></td>
<td></td>
<td>.509</td>
</tr>
</tbody>
</table>

The value of the test statistic is not sufficient to reject the hypothesis. No significant difference was detected between the experimental and control group means in academic achievement.

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Results of the analysis of the data for all six variables are summarized in Table 13.

Table 13
Summary of Data Pertaining To the Six Dependent Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational Infor-</td>
<td>N  X  SD</td>
<td>N  X  SD t Conclusion</td>
</tr>
<tr>
<td>mation Seeking</td>
<td>66 43.61 22.29</td>
<td>40 44.75 20.42 0.30 No Diff.</td>
</tr>
<tr>
<td>Behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum Change</td>
<td>84 0.63 0.49</td>
<td>73 0.55 0.50 1.05 No Diff.</td>
</tr>
<tr>
<td>Satisfaction of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Exp.</td>
<td>66 3.11 1.17</td>
<td>60 2.70 1.09 2.05* Diff.</td>
</tr>
<tr>
<td>Satisfaction of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Plans</td>
<td>66 3.12 0.89</td>
<td>60 2.83 0.92 1.80 No Diff.</td>
</tr>
<tr>
<td>Need for Inform-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mation</td>
<td>66 9.77 3.44</td>
<td>60 9.20 3.63 0.89 No Diff.</td>
</tr>
<tr>
<td>Academic Achieve-</td>
<td>63 2.59 0.84</td>
<td>65 2.51 0.93 0.51 No Diff.</td>
</tr>
<tr>
<td>ment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

Summary of Results

The results of the analysis to test the effect of a particular career counseling method on selected dependent variables suggest that the treatment had a minimal effect on community college freshmen. Only one of the six variables showed a significant effect. The dependent variable most
effected by the treatment was subjects' satisfaction with educational experiences, a factor indicating increased degree of success in subjects' developmental life stage (Super, 1974). Even that difference was small, practically speaking. The findings in this study indicate that the treatment does not have a significant effect on the dependent variables of interest.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to test the concept that administering a vocational interest inventory to community college freshmen and providing the results in a narrative computer printout does stimulate vocational thinking and exploration, resulting in improved coping skills in the area of academic and vocational development. Specifically the study was concerned with the six-month effects of the Strong-Campbell Interest Inventory (SCII) on the following six variables: (1) vocational information seeking behavior; (2) frequency of curricula changes; (3) satisfaction with educational experiences; (4) satisfaction with career plans; (5) need for information; and (6) academic achievement.

The basic research question asked in this study was:

Will there be a significant effect on any of the dependent variables, using the two randomly selected groups of community college freshmen, as a result of taking the Strong-Campbell Interest Inventory?

This study was also intended to test the theory that indecision, vocational immaturity and critical need for career planning of community college students can be overcome with career counseling, employing interest inventories.

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Therefore, this study was an attempt to empirically investigate the effects of a growing guidance and counseling practice (administering a vocational inventory) on some of the variables that literature suggests this practice is expected or intended to effect.

An experimental and control group, using a Post-test Only Control Group design, was selected by randomization from community college freshmen applicants. The subjects in the experimental group were asked to complete the SCII. The results of the inventory were provided to the subjects in the form of a narrative computer printout. Six null hypotheses were generated from the basic research question. In order to test these hypotheses and to answer the basic question of the study the subjects in both groups were asked to complete, toward the end of their first semester, the Career Research Questionnaire and the Vocational Checklist. Other pertinent information was obtained by examining subjects' academic records. The two sample groups of subjects were used to test the following six null hypotheses.

1. There is no significant difference between groups on vocational information seeking behavior ($\alpha = .05$).

2. There is no significant difference between groups on curricula change ($\alpha = .05$).

3. There is no significant difference between groups on satisfaction with educational experiences ($\alpha = .05$).
4. There is no significant difference between groups on satisfaction with career plans ($\alpha = .05$).

5. There is no significant difference between groups on indicated need for career information ($\alpha = .05$).

6. There is no significant difference between groups on academic achievement ($\alpha = .05$).

Only one of the six null hypotheses was rejected in this study. Satisfaction with educational experiences (Null hypothesis 3) changed significantly as a result of the treatment.

Conclusions

Hypothesis 1

The findings of this study supported the null hypothesis that the treatment had no effect on the vocational information seeking behavior of community college students. The findings are in opposition to those of Redmond (1972) and Zener and Schnuelle (1972). The extremely large variance within groups experienced with the above variables is perhaps an indication of the heterogeneity of community college students. The Zener and Schnuelle and Redmond studies used a high school population while this study used a community college population. The difference might also be accounted for by age differences, since community college students are more likely to be beyond the developmental
stage where they are adding new possibilities to be explored and are concentrating on decreasing their choices. The findings of this study also do not support the developers, researchers and theorists of vocational inventories (Cronbach, 1960; Darley and Haganah, 1955; Doliver, 1969; Prediger, 1971; Campbell, 1969; Holland, 1974) who theorize that the chief purpose of these instruments is to stimulate and facilitate vocational thinking and exploration. The results also contradict the contention of Katz (1963), and Ryan and Gaier (1967) that inventories may have a negative effect on explorations.

It would be worthwhile to investigate if a more homogeneous group of community college students in age, career indecision, race or type of interest would produce different results. It is quite possible that the treatment of this study could produce significant results with a homogeneous group.

**Hypothesis 2**

An examination of the findings dealing with hypothesis 2 indicates that significant differences in change of major did not occur. Nevertheless, it is interesting that such a high percentage (64% for the experimental group and 55% for the control group) did change their curriculum major between
the time they submitted their application and their registration. This finding compares with 45% for the Frazer (1974) study.

Super, Starishevsky, Matlin and Jordaan (1963) in building their theory of vocational maturity believed that vocational exploration would lead to change in vocational or educational objectives more in line with subjects' interests, abilities, values, etc., resulting in increased exploration. The treatment of this study failed to increase vocational exploration (hypothesis 1) of the experimental group over the control group. The lack of significant differences in the number of vocational alternatives explored as reflected in curriculum changes is consistent with the findings of hypothesis 1, effecting no difference in maturity between the groups.

Both groups exhibited a high rate of change in curriculum which is indicative of vocational development and maturity. Environmental variables such as the economy, personal-social development and the local job market may have been powerful factors influencing both groups to a greater extent than the treatment and should be given careful consideration in future studies.

**Hypothesis 3**

The significant effect the treatment had on satisfaction with educational experiences, according to Super's
theory, is an indication that the treatment increased the vocational maturity of the experimental group. During the six month period of the study, both groups were subject to many external stimuli which could promote vocational maturation, therefore, the differences expected were modest. The findings indicate the experimental group gives the college credit for some of their developmental growth by expressing satisfaction with their educational experiences. This modest difference due to the treatment can be viewed as a valuable public relations gain for the institution. Theoretically, in light of other results found in this study, there is not much support for Super's (1963) theory.

**Hypothesis 4**

Satisfaction with career plans was not altered significantly by the treatment and is in opposition to the Zener and Schnuelle (1972) study. The difference in findings may very well be accounted for by the time lapse between treatment and testing. Zener and Schnuelle used a one day time period between testing as compared to six months in this study.

Another possible explanation of differences in the findings of this study with that of Zener and Schnuelle may be the population differences; the subjects in the Zener and Schnuelle study were younger and at a developmental stage where career concerns are more general and theoretical.
Students at the college level become aware of the need to make a specific career decision (Tiedman, 1963). Theoretically, if a treatment is to promote vocational maturity, it should result in increased satisfaction with career plans. Lack of substantive results in this study is an indication that the treatment is not powerful enough to accomplish this, although an examination of the data (Table 8) indicates a positive direction.

Lack of academic success in areas subjects expressed interest in could also affect satisfaction. Often this is the first time a subject realizes that a high interest in a vocational field is not sufficient for success. A prime example would be individuals who exhibit a high interest in animals attempting to become veterinarians. To successfully effect change in the career satisfaction variable, the treatment should be strengthened by including some group interpretation and discussion or with counseling sessions. The findings are in agreement with Frazer's (1974) findings on the satisfaction with career plans factor. Frazer's study employed a college freshmen population.

**Hypothesis 5**

The lack of significant differences in need for information does not support that of Frazer (1974) and Zener and Schnuelle (1972) who detected a slight overall trend toward
a decrease in need for more information. The Frazer, and Zener and Schnuelle studies covered a period of two weeks and two days respectively while this study covered a period of six months. The time differential may account for the differences in findings between the studies. If true, it is an indication that the effects of vocational inventories are rather shortlived. The population of this study is somewhat more heterogeneous than the Frazer study because community colleges are open door institutions that offer a very diverse curriculum ranging from one year vocationally oriented programs to transfer programs and, therefore, attract a more diverse student body. This diversity of levels in educational programs and subjects' exposure to them may contribute to the need for additional information. Theoretically the maturing individual should become more goal oriented and narrow his need for information (Super, 1963).

Hypothesis 6

The study indicates that the treatment had no effect on the academic achievement of the subjects, supporting the findings of Super and Crites (1962) and Thomas, Morrill and Miller (1972). Academic achievement is a factor in vocational maturity and should respond to a treatment which significantly affects maturity. The treatment of this study did not accomplish this.
This study was based on theories of vocational choice and maturity developed by Ginzberg (1951) and Super (1953, 1963) and does not detract from their fundamental soundness since it uses them as standards to test the effectiveness of the treatment. Super's theory of vocational development is based on the assumption that vocational development is a dynamic process which, "parallels, influences and is modified by social intellectual and emotional development." This quality makes it difficult to measure the effectiveness of any treatment over a moderate period of time.

The variables of this study were measured after a six month period, a time span which may have been too long because effects of the treatment may have been muted by other environmental factors. The other studies which have undertaken to measure the effects of vocational inventories (Redmond, 1972; Zener and Schnuelle, 1972; Frazer, 1974) have measured the effectiveness of this treatment after a much shorter period (two weeks or less). It remains to be tested if vocational inventories do have an effect over a moderate period of time if they are supplemented with group and/or individual counseling sessions. Other interest inventories, particularly Holland's Self-Directed Search which was used in the Redmond and Zener and Schnuelle studies, should be tested for effects over shortened and moderate periods of time. Studies which would compare other treatments for which there exists support in literature,
i.e., group vocational guidance classes (Anderson and Binnie, 1972), group and model reinforcement counseling (Aiken and Johnston, 1973; Krumboltz and Thoresen, 1964) and interest inventories with individual interpretation (Miner, 1975) are needed if sound vocational counseling models are to be developed for college freshmen.

In order to substantiate vocational maturation, according to Super's theory (1953), it is important that in future studies effort should be made to test whether effects of treatments persist for more than brief periods and/or if interventive or support treatments can continue the effects. Super's theory (1953) states that as subjects mature vocationally, they narrow the number of occupations they consider as alternatives. This important factor should be included as a dependent variable in any future studies.

A community college population due to its heterogeneous nature in age, ability and aspiration may introduce too much error into any study, making it difficult to find a treatment which is effective with subjects at various stages of vocational development. Efforts to determine relationships between various subject characteristics should be undertaken to test the effectiveness of interest inventories on distinct homogeneous populations.
The number of items in the instruments used to measure the effectiveness should be shortened if possible for better subject response. The Vocational Checklist and Career Research Questionnaire should be subjected to item analyses.

This study does not support the increasing use of interest inventories by student personnel workers for stimulating vocational exploration, the main purpose of interest inventories (Prediger, 1974; Cole and Hensen, 1971), and for promoting vocational maturity. More empirical evidence is needed on the effectiveness of interest inventories before the concept that they are a placebo or produce a "Hawthorne effect" can be dismissed.

**Enrollment**

In addition to testing the six hypotheses, the subjects' enrollment patterns during the 1976-77 academic year were also reviewed as a sidelight. Analyses of these data (Table 14 and 15) indicate that the subjects in the experimental group were more frequently, than the control group, enrolling in college for at least one semester but were also more frequently withdrawing after a brief attendance period.

It is somewhat interesting that in the experimental group of seventy-six subjects, who enrolled during the fall 1976 semester, thirteen (17%) did not enroll during the winter semester while eight (11%) subjects, who did not
enroll during the fall semester, did enroll for the winter semester.

In the control group only six (8%) subjects did not come back for the second semester while two subjects enrolled during the winter semester only. Although the experimental group had sixty-three students enrolling for both the fall and winter semesters as compared to sixty-five for the control group, eighty-four out of the one hundred subjects in the experimental group did enroll for at least one semester compared to seventy-three subjects in the control group.

An examination of the data in Table 14 indicates that a higher percentage of subjects in experimental treatment group investigated their educational options than their counterparts in the control group. There exists a likelihood that this activity is stimulated by the treatment and this observation merits further study.

Table 14

Comparison of Enrollments, 1976-77 Fall and Winter Semesters

<table>
<thead>
<tr>
<th>Semester</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
</tr>
<tr>
<td>Fall</td>
<td>76</td>
</tr>
<tr>
<td>Winter</td>
<td>71</td>
</tr>
<tr>
<td>Total Number of Subjects</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 15

Enrollments by Semesters of Attendance

<table>
<thead>
<tr>
<th>Semester</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
</tr>
<tr>
<td>Fall Only</td>
<td>13</td>
</tr>
<tr>
<td>Winter Only</td>
<td>8</td>
</tr>
<tr>
<td>Both Fall and Winter</td>
<td>63</td>
</tr>
<tr>
<td>Did Not Enroll Fall or Winter</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

$\chi^2 = 9.38$ Significant at the .05 level with 3 degrees of freedom.

Withdrawals

Thirteen of the seventy-six experimental group subjects who enrolled during the fall semester withdrew during the semester, with five subjects re-entering the winter semester and eight subjects not enrolling during the winter semester. Of the six control group subjects who withdrew during the fall semester only one did not re-enter for the winter semester. Withdrawals (WF's and WP's) were not computed in the subjects grade point averages.

Concluding Statements

The results of this study support the following conclusions:

1. The SCII, when administered by mail and interpreted by means of the narrative computer printout, has some effect on community college freshmen after a six month lapse, but this effect is rather minimal. Of six dependent variables, only one (satisfaction with educational experiences) was affected at a statistically significant level.
2. The SCII, when administered by mail and interpreted to community college freshman by means of a narrative computer printout, does not support the chief purpose of the instrument, that of stimulating and facilitating vocational thinking and exploration.

Recommendations

This study, while providing some tentative answers and conclusions, has also raised a number of questions and implications. The following recommendations are based on those questions and implications.

1. First, a replication of this study (or parts of it) in which other treatment groups are included. Treatments that should be considered are: SCII interpreted in group settings; SCII interpreted in individual settings; the Self-Directed Search; a structured career exploration class.

2. Replication of this study (or parts of it) are needed in which the treatment components and time intervals are varied. For instance: The treatment could be varied by having an experimental group that received some counseling in addition to the inventory and interpretations. Also, effects might show up if measures were taken at short time intervals (e.g., a few days after treatment.)

3. This study documents a high number of curriculum changes but fails to determine whether the subjects narrowed or expanded their career alternatives. A study to test the effect inventories have on the number of occupations subjects consider as career alternatives is recommended.

4. Correlational studies are needed to determine the relationship of dependent variables: (1) to each other; (2) to personality characteristics; and (3) to other subject variables such as age, intelligence, and previous occupational experience.
5. Further statistical analysis and refinement of the measurement instruments of this study should be undertaken.

6. The theoretical implications of this study go beyond the specific inventory or dependent variables. It is recommended that developers and researchers of vocational inventories pay more serious attention to suggestions given by Crites (1968), Osipow (1968), Herr (1970) and Frazer (1974) cited in Chapter II. Developers of inventories should be more concerned with the inventories' power to encourage types of exploratory behavior which facilitates career decision making skills. Such information should become part of the administrative manuals of the inventories.
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This inventory is used to help you understand your work interests in a general way, and to show you some kinds of work you might be comfortable in. The following pages list many jobs, activities, school subjects, and so forth, and you are asked to show your liking or disliking for each. Your answers will be compared with the answers given by people already working in a wide range of jobs, and your scores will show how similar your interests are to the interests of these people. But this is not a test of your abilities; it is an inventory of your interests. Your scores will be presented to you later, on a special sheet called a profile, with information on how to understand the scores.

Directions:
1. With this booklet, you should have a special answer sheet on which to mark your answers.
2. Please make no marks on this booklet; it will be used again by other people.
3. Use any soft, black, lead pencil (such as a No. 2) to make your marks on the answer sheet.
4. Fill in your name and other information on the answer sheet. Follow carefully the instructions for filling in your name.
5. Instructions for marking your answers are given on the next page of this booklet and also on the answer sheet.
6. Make a heavy, dark mark for each answer—not a cross or a check mark.
7. If you make a mistake or change your mind, erase carefully and thoroughly.
8. Your answer sheet will be processed by computer. Please keep it free from wrinkles or stray marks, so that it will be scored correctly.
9. Try to answer each question. Work quickly; first impressions usually give the best results with this inventory. Turn the page and begin.
### Part 1. Occupations

Many occupations are listed below. For each of them, show how you would feel about doing that kind of work.

Mark on the answer sheet in the space labeled "L" if you think you would like that kind of work.

Mark in the space labeled "I" if you are indifferent (that is, if you think you wouldn't care one way or another).

Mark in the space labeled "D" if you think you would dislike that kind of work.

Don't worry about whether you would be good at the job or about not being trained for it. Forget about how much money you could make or whether you could get ahead. Think only about whether you would like to do the work done in that job.

**Work fast. Answer every one.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Occupation</th>
<th>No.</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Actor/Actress</td>
<td>46</td>
<td>Editor</td>
</tr>
<tr>
<td>2</td>
<td>Advertising executive</td>
<td>47</td>
<td>Electrical engineer</td>
</tr>
<tr>
<td>3</td>
<td>Architect</td>
<td>48</td>
<td>Electronics technician</td>
</tr>
<tr>
<td>4</td>
<td>Art museum director</td>
<td>49</td>
<td>Elementary school teacher</td>
</tr>
<tr>
<td>5</td>
<td>Art teacher</td>
<td>50</td>
<td>Employment manager</td>
</tr>
<tr>
<td>6</td>
<td>Artist</td>
<td>51</td>
<td>Factory manager</td>
</tr>
<tr>
<td>7</td>
<td>Artist's model</td>
<td>52</td>
<td>Farmer</td>
</tr>
<tr>
<td>8</td>
<td>Astronomer</td>
<td>53</td>
<td>Fashion model</td>
</tr>
<tr>
<td>9</td>
<td>Athletic director</td>
<td>54</td>
<td>Florist</td>
</tr>
<tr>
<td>10</td>
<td>Auctioneer</td>
<td>55</td>
<td>Foreign correspondent</td>
</tr>
<tr>
<td>11</td>
<td>Author of children's books</td>
<td>56</td>
<td>Foreign service officer</td>
</tr>
<tr>
<td>12</td>
<td>Author of novels</td>
<td>57</td>
<td>Free-lance writer</td>
</tr>
<tr>
<td>13</td>
<td>Author of technical books</td>
<td>58</td>
<td>Governor of a state</td>
</tr>
<tr>
<td>14</td>
<td>Auto mechanic</td>
<td>59</td>
<td>High school teacher</td>
</tr>
<tr>
<td>15</td>
<td>Auto racer</td>
<td>60</td>
<td>Home economics teacher</td>
</tr>
<tr>
<td>16</td>
<td>Auto sales</td>
<td>61</td>
<td>Hospital records clerk</td>
</tr>
<tr>
<td>17</td>
<td>Bank teller</td>
<td>62</td>
<td>Housekeeper</td>
</tr>
<tr>
<td>18</td>
<td>Beauty and haircare consultant</td>
<td>63</td>
<td>Hotel manager</td>
</tr>
<tr>
<td>19</td>
<td>Biologist</td>
<td>64</td>
<td>Illustrator</td>
</tr>
<tr>
<td>20</td>
<td>Bookkeeper</td>
<td>65</td>
<td>Income tax accountant</td>
</tr>
<tr>
<td>21</td>
<td>Building contractor</td>
<td>66</td>
<td>Interior decorator</td>
</tr>
<tr>
<td>22</td>
<td>Business teacher</td>
<td>67</td>
<td>Inventor</td>
</tr>
<tr>
<td>23</td>
<td>Buyer of merchandise</td>
<td>68</td>
<td>Jet pilot</td>
</tr>
<tr>
<td>24</td>
<td>Carpenter</td>
<td>69</td>
<td>Judge</td>
</tr>
<tr>
<td>25</td>
<td>Cartoquist</td>
<td>70</td>
<td>Labor arbitrator</td>
</tr>
<tr>
<td>26</td>
<td>Cashier in bank</td>
<td>71</td>
<td>Laboratory technician</td>
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<tr>
<td>27</td>
<td>Chemist</td>
<td>72</td>
<td>Landscape gardener</td>
</tr>
<tr>
<td>28</td>
<td>Children's clothes designer</td>
<td>73</td>
<td>Librarian</td>
</tr>
<tr>
<td>29</td>
<td>Church worker</td>
<td>74</td>
<td>Life insurance agent</td>
</tr>
<tr>
<td>30</td>
<td>City or state employee</td>
<td>75</td>
<td>Machine shop supervisor</td>
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<tr>
<td>31</td>
<td>City planner</td>
<td>76</td>
<td>Machinist</td>
</tr>
<tr>
<td>32</td>
<td>Civil engineer</td>
<td>77</td>
<td>Manager, Chamber of Commerce</td>
</tr>
<tr>
<td>33</td>
<td>College professor</td>
<td>78</td>
<td>Manager, child care center</td>
</tr>
<tr>
<td>34</td>
<td>Computer operator</td>
<td>79</td>
<td>Manager, women's style shop</td>
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<td>35</td>
<td>Corporation lawyer</td>
<td>80</td>
<td>Manufacturer</td>
</tr>
<tr>
<td>36</td>
<td>Costume designer</td>
<td>81</td>
<td>Military officer</td>
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<td>37</td>
<td>Courtroom stenographer</td>
<td>82</td>
<td>Minister, priest, or rabbi</td>
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<tr>
<td>38</td>
<td>Criminal lawyer</td>
<td>83</td>
<td>Musician</td>
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<td>Dancing teacher</td>
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<td>Nurse</td>
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<td>Dentist</td>
<td>86</td>
<td>Nurse's aide/Orderly</td>
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<td>42</td>
<td>Designer, electronic equipment</td>
<td>87</td>
<td>Office clerk</td>
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<td>43</td>
<td>Dietitian</td>
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<td>Office manager</td>
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<td>44</td>
<td>Drafterman</td>
<td>89</td>
<td>Office manager</td>
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<td>45</td>
<td>Dressmaker/Tailor</td>
<td>90</td>
<td>Opera singer</td>
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<td></td>
<td></td>
<td>91</td>
<td>Orchestra conductor</td>
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<td></td>
<td></td>
<td>92</td>
<td>Pharmacist</td>
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<td></td>
<td></td>
<td>93</td>
<td>Photographer</td>
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<td></td>
<td></td>
<td>94</td>
<td>Physician</td>
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<td></td>
<td>95</td>
<td>Playground director</td>
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<td></td>
<td>96</td>
<td>Poet</td>
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<td></td>
<td>97</td>
<td>Police officer</td>
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<td>98</td>
<td>Politician</td>
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<td>Professional athlete</td>
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<td>Professional dancer</td>
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<td></td>
<td>102</td>
<td>Professional gambler</td>
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<td>108</td>
<td>Retailer</td>
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<td></td>
<td>109</td>
<td>Sales manager</td>
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<td></td>
<td></td>
<td>110</td>
<td>School principal</td>
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<td></td>
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<td>111</td>
<td>Scientific illustrator</td>
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<td>Scientific research worker</td>
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<td></td>
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<td>114</td>
<td>Secret service agent</td>
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<td></td>
<td>115</td>
<td>Social worker</td>
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<td></td>
<td></td>
<td>116</td>
<td>Specialty salesperson</td>
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<td></td>
<td></td>
<td>117</td>
<td>Sports reporter</td>
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<tr>
<td></td>
<td></td>
<td>118</td>
<td>Statistician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>119</td>
<td>Flight attendant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120</td>
<td>Stockbroker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>121</td>
<td>Surgeon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>122</td>
<td>Toolmaker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>123</td>
<td>Traveling salesperson</td>
</tr>
<tr>
<td></td>
<td></td>
<td>124</td>
<td>Travel bureau manager</td>
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<td></td>
<td></td>
<td>125</td>
<td>Typist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>126</td>
<td>TV announcer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>127</td>
<td>Vocational counselor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>128</td>
<td>Winter/Waitress</td>
</tr>
<tr>
<td></td>
<td></td>
<td>129</td>
<td>Wholesaler</td>
</tr>
<tr>
<td></td>
<td></td>
<td>130</td>
<td>X-Ray technician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>131</td>
<td>YMCA/YWCA staff member</td>
</tr>
</tbody>
</table>

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Part II. School Subjects

Show in the same way whether you are interested in these school subjects, even though you may not have studied them.

Mark "L" for Like.
Mark "I" for Indifferent (when you don’t care one way or the other).
Mark "D" for Dislike.

132 Agriculture
133 Algebra
134 Arithmetic
135 Ancient languages (Latin, Sanskrit, etc.)
136 Art
137 Bible history
138 Bookkeeping
139 Botany
140 Calculus
141 Chemistry
142 Civics (government)
143 Dramatics
144 Economics
145 English composition
146 Geography
147 Home economics
148 Industrial arts
149 Journalism
150 Literature
151 Mathematics
152 Mechanical drawing
153 Military drill
154 Modern languages (French, German, etc.)
155 Nature study
156 Feminism
157 Philosophy
158 Physical education
159 Physics
160 Physiology
161 Political science
162 Psychology
163 Public speaking
164 Sociology
165 Statistics
166 Typewriting
167 Zoology

Part III. Activities

Show your interests in the same way as before. Give the first answer that comes to mind.

168 Making a speech
169 Doing research work
170 Repairing a clock
171 Cooking
172 Operating machinery
173 Writing reports
174 Discussing politics
175 Taping a sprained ankle
176 Adjusting a carburetor
177 Going to church
178 Heading a civic improvement program
179 Raising flowers and vegetables
180 Interviewing job applicants
181 Teaching children
182 Teaching adults
183 Meeting and directing people
184 Taking responsibility
185 Seiving
186 Making statistical charts
187 Operating office machines
188 Giving first aid assistance
189 Decorating a room with flowers
190 Interviewing prospects in selling
191 Drilling soldiers
192 Pursuing bandits in a sheriff's posse
193 Watching an open-heart operation
194 Checking typewritten material for errors
195 Repairing electrical wiring
196 Organizing cabinets and closets
197 Adjusting difficulties of others
198 Starting a conversation with a stranger
199 Cabinetmaking
200 Being a forest ranger
201 Bargaining ("swapping")
202 Looking at things in a clothing store
203 Buying merchandise for a store
204 Displaying merchandise in a store
205 Competitive activities
206 Regular hours for work
207 Continually changing activities
208 Interviewing clients
209 Arguments
210 Developing business systems
211 Doing your own laundry work
212 Saving money
213 Contributing to charities
214 Raising money for charity
215 Expressing judgments publicly, regardless of what others say
216 Climbing along the edge of a steep cliff
217 Living in the city
218 Discussing the purpose of life

Part IV. Amusements

Show in the same way how you feel about these ways of having fun. Work rapidly. Do not think over various possibilities. Give the first answer that comes to mind.

219 Golf
220 Fishing
221 Jazz or rock concerts
222 Looking at things in a hardware store
223 Boxing
224 Poker
225 Bridge
226 Solving mechanical puzzles
227 Planning a large party
228 Religious music
229 Drilling in a military company
230 Amusement parks
231 Conventions
232 Formal dress affairs
233 Electioneering for office
234 Art galleries
235 Leading a scout troop
236 Writing a one-act play
237 Symphony concerts
238 Night clubs
239 Church young people’s group
240 Sports pages in the newspaper
241 Poetry
242 Skiing
243 Business magazines
244 Popular mechanics magazines
245 Reading the Bible
246 Magazines about art and music
247 Building a radio or stereo set
248 Attending lectures
249 Family pages in newspapers
250 Performing scientific experiments
251 Camping
252 Playing chess
253 Preparing dinner for guests
254 Entertaining others
255 Trying new cooking recipes
256 Being the first to wear the latest fashions
257 Organizing a play

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### Part V. 
#### Types of People

Most of us choose jobs where we can work with people we enjoy. Show in the same way as before how you would feel about having day-to-day contact with the following types of people. Work fast. Don’t think of specific examples. Just give the first answer that comes to mind.

<table>
<thead>
<tr>
<th>258</th>
<th>Highway construction workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>259</td>
<td>High school students</td>
</tr>
<tr>
<td>260</td>
<td>Military officers</td>
</tr>
<tr>
<td>261</td>
<td>Artistic persons</td>
</tr>
<tr>
<td>262</td>
<td>Foreigners</td>
</tr>
<tr>
<td>263</td>
<td>Ballet dancers</td>
</tr>
<tr>
<td>264</td>
<td>Nonconformists</td>
</tr>
<tr>
<td>265</td>
<td>People who assume leadership</td>
</tr>
<tr>
<td>266</td>
<td>Religious people</td>
</tr>
<tr>
<td>267</td>
<td>Aggressive people</td>
</tr>
<tr>
<td>268</td>
<td>Physically sick people</td>
</tr>
<tr>
<td>269</td>
<td>Babies</td>
</tr>
<tr>
<td>270</td>
<td>Very old people</td>
</tr>
<tr>
<td>271</td>
<td>Emotional people</td>
</tr>
<tr>
<td>272</td>
<td>People who have made fortunes</td>
</tr>
<tr>
<td>273</td>
<td>Thrifty people</td>
</tr>
<tr>
<td>274</td>
<td>Musical geniuses</td>
</tr>
<tr>
<td>275</td>
<td>Outspoken people with new ideas</td>
</tr>
<tr>
<td>276</td>
<td>Fashionably dressed people</td>
</tr>
<tr>
<td>277</td>
<td>Prominent business leaders</td>
</tr>
<tr>
<td>278</td>
<td>Athletic persons</td>
</tr>
<tr>
<td>279</td>
<td>People who daydream a lot</td>
</tr>
<tr>
<td>280</td>
<td>Outstanding scientists</td>
</tr>
<tr>
<td>281</td>
<td>People who live dangerously</td>
</tr>
</tbody>
</table>

### Part VI. 
#### Preference Between Two Activities

Here are several pairs of activities or occupations. Show which one of each pair you like better: if you prefer the one on the left, mark in the space labeled “L” on the answer sheet; if you prefer the one on the right, mark in the space labeled “R”; if you like both the same, or if you can’t decide, mark in the space labeled “=.” Work rapidly. Make one mark for each pair.

- Airline pilot 282 Airline ticket agent
- Taxicab driver 283 Police officer
- Headwaiter/Hostess 284 Lightship keeper
- Selling things house to house 285 Gardening
- Developing plans 286 Carrying out plans
- Doing a job yourself 287 Telling somebody else to do the job
- Dealing with things 288 Dealing with people
- Taking a chance 289 Playing safe
- Drawing a definite salary 290 Receiving a commission on what is done
- Inside work 291 Outside work
- Work for yourself 292 Carrying out the program of a superior whom you respect
- Superintendent of a hospital 293 Warder of a prison
- Vocational counselor 294 Public health officer
- Physical activity 295 Supervisory responsibility (in charge of 30 people)
- Dog trainer 296 Free-lance writer
- Thrilling, dangerous activities 297 Quiter, safer activities
- Physical education director 298 Social worker
- Technical responsibility (in charge of 35 people) 299 Supervisory responsibility (in charge of 300 people)
- Going to a play 300 Doing business-office work
- Teacher 301 Going to a dance
- Selling things house to house 302 Selling with new office equipment
- Experimenting with new grooming preparations 303 Experimenting with new office equipment
- Being married to a research scientist 304 Being married to a sales executive
- Working in a large corporation with little chance of being promoted before age 55 305 Working for yourself in a small business
- Working in an import-export business 306 Working in a research laboratory
- Music and art events 307 Athletic events
- Reading a book 308 Watching TV or going to a movie
- Appraising real estate 309 Repairing and restoring antiques
- Having a few close friends 310 Having many acquaintances
- Work in which you move from place to place 311 Work where you live in one place

### Part VII. 
#### Your Characteristics

Show here what kind of person you are: if the statement describes you, mark in the space labeled “Y” for “Yes”; if the statement does not describe you, mark in the space labeled “N” for “No”; if you cannot decide, mark in the space labeled “?”, be frank in pointing out your weak points, because these are as important as your strong points in choosing a career.

- 312 Usually start activities of my group
- 313 Have more than my share of novel ideas
- 314 Win friends easily
- 315 Make decisions immediately, not after considerable thought
- 316 Prefer working alone rather than on committees
- 317 Have mechanical ingenuity (inventiveness)
- 318 Am concerned about philosophical problems such as religion, meaning of life, etc.
- 319 Can prepare successful advertisements
- 320 Stimulate the ambitions of my associates
- 321 Can write a concise, well-organized report
- 322 Enjoy tinkering with small hand tools
- 323 Can smooth out tangles and disagreements between people
- 324 Put drive into an organization
- 325 Have patience when teaching others

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APPENDIX B
CHOOSING YOUR CAREER IS AN IMPORTANT PROCESS WHICH REQUIRES THAT YOU RECOGNIZE YOUR ABILITIES, BUT YOUR INTERESTS AND PERSONAL PREFERENCES ARE ALSO FUNDAMENTAL TO CHOOSING A SATISFYING OCCUPATION. RESEARCH HAS INDICATED THAT INDIVIDUALS HAVE A BETTER CHANCE OF BEING SATISFIED IN A PARTICULAR OCCUPATION IF THEIR INTERESTS ARE SIMILAR TO THOSE OF PEOPLE ALREADY EMPLOYED IN THAT OCCUPATION. THE STRONG-CAMPBELL INTEREST INVENTORY, THEREFORE, POINTS OUT WORK AREAS WHERE YOUR INTERESTS DO AND DO NOT MATCH THOSE OF PEOPLE IN DIFFERENT OCCUPATIONS. THESE RESULTS, WHICH ARE BASED ON YOUR LIKE AND DISLIKE RESPONSES TO THE ITEMS ON THE INVENTORY, WILL HELP YOU UNDERSTAND HOW YOUR PREFERENCES FIT INTO THE WORLD OF WORK.

THESE RESULTS ARE MEASURES OF YOUR INTERESTS, NOT YOUR ABILITIES. EVEN THOUGH YOUR SCORES MAY INDICATE THAT YOU LIKE ARTISTIC ACTIVITIES AND WOULD ENJOY THE DAILY ROUTINE OF ARTISTS, THEY WILL NOT TELL YOU IF YOU HAVE THE TALENT TO ACTUALLY BE AN ARTIST.

THESE RESULTS CAN GIVE YOU SOME USEFUL INFORMATION ABOUT YOURSELF. WHILE YOU MAY FEEL THAT THEY TELL YOU NOTHING MORE THAN YOU ALREADY KNOW, THEY WILL PERMIT YOU TO SEE HOW THE STRENGTHS OF YOUR INTERESTS COMPARE TO THE AVERAGE SCORES OF OTHER PEOPLE. IN SO DOING THEY CAN AID YOU IN REACHING A SATISFYING CAREER DECISION.

THREE MAIN SETS OF SCORES ARE PRESENTED ON THE FOLLOWING PAGES. THE FIRST SET OF SCORES GIVES YOU AN OVERALL VIEW OF YOUR INTERESTS, BASED ON SIX GENERAL OCCUPATIONAL THEMES. THE STRENGTH OF YOUR INTERESTS IN MORE SPECIFIC AREAS, SUCH AS SALES, MUSIC, AND MECHANICAL ACTIVITIES, IS SUGGESTED BY THE SECOND GROUP OF SCORES. THE LAST SCORES TELL YOU HOW SIMILAR OR DIS-SIMILAR YOUR INTERESTS ARE TO EMPLOYED PEOPLE IN VARIOUS OCCUPATIONS.
GENERAL OCCUPATIONAL THEMES

PSYCHOLOGICAL research has indicated that interests can be grouped into six categories, each of which can be described in a general theme. Immediately below are your scores — listed from high to low — on these six general themes. A graph of your results also has been provided. The six theme names are shown at the right of the graph, with their abbreviations listed in the scale column. Average scores on these scales range between 44 and 97. Scores below 44 are generally considered low and indicate that you probably share few of the characteristics of that theme. Scores above 97 generally are considered high and suggest that many of the characteristics of that theme probably fit you.

<table>
<thead>
<tr>
<th>SCALE</th>
<th>SCORE</th>
<th>C-THEME</th>
<th>R-THEME</th>
<th>A-THEME</th>
<th>E-THEME</th>
<th>I-THEME</th>
<th>S-THEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>59</td>
<td>(CONVENTIONAL)</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>54</td>
<td>(REALISTIC)</td>
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<tr>
<td>5</td>
<td>52</td>
<td>(ARTISTIC)</td>
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<tr>
<td>6</td>
<td>50</td>
<td>(ENTERPRISING)</td>
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<tr>
<td>7</td>
<td>48</td>
<td>(INVESTIGATIVE)</td>
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<tr>
<td>8</td>
<td>39</td>
<td>(SOCIAL)</td>
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</tbody>
</table>

The descriptions given below list the characteristics related to each theme. All of the interests and characteristics for one theme, however, may not fit exactly any one person. Most people score high on two or even three themes, thus displaying characteristics of more than one category. Some people score low on all themes, indicating that definite patterns of interests, as measured by these themes, have not developed yet. This is particularly true for young people. Generally, the higher your score, the more characteristics you share with that particular theme. Men and women score somewhat differently on the same theme, and this has been taken into account by comparing your scores with the averages for your sex.

C-THEME—High scorers in this theme like jobs where they know exactly what is expected of them. Problems using verbal and numerical skills are prefered to those requiring physical ones. They do not seek leadership. They have little interest in intense relationships with others, but value material possessions and status. Such people describe themselves as conventional, stable, well-controlled, and dependable. Vocational preferences are mostly within the business world and include bank examiner, bank teller, bookkeeper, financial analyst, computer operator, inventory clerk, tax expert, statistician, traffic manager, and some accounting jobs. Although one term can not adequately represent the entire theme, the word conventional summarizes this pattern.
WHEN COMPARED WITH JUST MALES, YOUR SCORE IS MODERATELY HIGHER THAN AVERAGE.

R

R-Theme—R-themes people tend to be rugged, practical, and physically strong. They enjoy creating things with their hands and would rather work with objects, such as tools or large machines, than with ideas or people. They like to work outdoors and prefer occupations such as mechanical, construction worker, fish and wildlife manager, laboratory technician, some engineer, military specialists, some military jobs, agriculture, or the skilled trades. To capture the broad meaning of this theme, the word realistic has been used, thus R-theme.

I

Your score of 54 on the R-theme scale indicates some of the above phrases are probably true for you, while some of the other phrases probably do not describe you as well.

C

When compared with just males, your score is an average score.

A

A-theme—People scoring high on this theme are artistically inclined and like to work alone. They have a feeling for beauty and are not likely situations requiring them to express themselves creatively. They do not like situations which require them to use physical strength, and they describe themselves as independent, unconventional, original, and tense. They score higher on measures of originality than any of the other types. Vocational choices include artist, author, cartoonist, composer, singer, dramatic coach, poet, actor or actress, and symphony conductor. This is the artistic theme, or A-theme.

I

Your score of 74 on the A-theme scale means that some of the above phrases are probably true for you, while some of the other phrases do not fit you as well.

C

When compared with just males, your score is an average score.

E

E-theme—E-theme people are frequently in sales work because they are good at leading and convincing people. Enthusiastic, self-confident, and dominant, they think up new ways of doing things. Full of energy, and like adventure. They are impatient with work involving many details, or long periods of intellectual effort or concentration. They prefer social situations where they can lead and direct others. They like power, status, and material wealth, and enjoy working in expensive settings. Vocational preferences include business executive, manufacturer, buyer, hotel manager, industrial relations consultant, political campaigner, realtor, sports promoter, television producer, and many kinds of sales work. The word enterprising summarizes this pattern of interest, thus E-theme.

I

Your score of 50 on E-theme indicates that some of the above phrases are true for you, while some of the other phrases do not describe you as well.

C

When compared with just males, your score is an average score.

I

I-theme—This theme tends to center around scientific activities. High scorers on this theme would rather work alone than with people. They have questioning minds and like loosely defined problems which they can solve by working with ideas, words, and symbols. They do not like situations in which they have to follow many rules, frequently. They are original and creative, especially in scientific fields. Occupations preferred by such people include biologist, mathematician, psychologist, research laboratory worker, physicist, physician, design engineer, technical writer, or meteorologist. The word investigative has been used to summarize this pattern, hence, I-theme.

I

Your score of 46 on the I-theme scale indicates some of the above phrases are probably true for you, while some of the other phrases do not describe you as well.
*WHEN COMPARED WITH JUST MALES, YOUR SCORE IS AN AVERAGE SCORE.*

S-THEME—PEOPLE WHO FIT THIS THEME DESCRIBE THEMSELVES AS CHEERFUL, POPULAR, SOCIALE, RESPONSIBLE, AND CONCERNED WITH THE WELFARE OF OTHERS. THEY SEE THEMSELVES AS ACHIEVERS AND GOOD LEADERS. USUALLY ABLE TO EXPRESS THEMSELVES WELL WITH WORDS, THEY GET ALONG WELL WITH OTHERS AND ENJOY BEING THE CENTER OF ATTRACTION IN A GROUP. THEY PREFER SOLVING PROBLEMS THROUGH DISCUSSIONS OR BY ARRANGING OR REARRANGING RELATIONSHIPS BETWEEN OTHERS. THEY HAVE LITTLE INTEREST IN SITUATIONS REQUIRING PHYSICAL ACTIVITY OR WORKING WITH MACHINERY. THEY PREFER OCCUPATIONS SUCH AS SCHOOL SUPERINTENDENT, CLINICAL PSYCHOLOGIST, HIGH SCHOOL TEACHER, MARRIAGE COUNSELOR, A PLAYGROUND DIRECTOR, SPEECH THERAPIST, OR VOCATIONAL COUNSELOR. THIS IS THE SOCIAL THEME.

YOUR SCORE OF 39 ON THE S-THEME INDICATES THAT PROBABLY VERY FEW OF THE ABOVE DESCRIPTIONS ARE TRUE FOR YOU AND YOU MAY NOT ENJOY WORKING WITH PEOPLE OR HELPING THEM WITH THEIR PROBLEMS. WHEN COMPARED WITH JUST MALES, YOUR SCORE IS MODERATELY LOWER THAN AVERAGE.

************

AN EXCELLENT LITTLE BOOK THAT DISCUSSES THE SIX GENERAL THEME SCALES AND MAKING CAREER CHOICES IS—IF YOU DO NOT KNOW WHERE YOU ARE GOING YOU WILL PROBABLY END UP SOMEWHERE ELSE—BY DR. DAVID P. CAMPBELL. THIS IS AVAILABLE IN YOUR LOCAL BOOKSTORE OR MAY BE PURCHASED ($1.95) FROM NATIONAL COMPUTER SYSTEMS, 4401 WEST 76TH STREET, MINNEAPOLIS, MINNESOTA 55435.

THE PRECEDING GENERAL THEME SCORES PROVIDE YOU WITH A BROAD, GENERAL OVERVIEW OF YOUR INTERESTS. THE NEXT SECTION PRESENTS YOUR RESULTS ON TWENTY-THREE BASIC INTEREST SCALES THAT ARE MORE SPECIFIC MEASURES OF YOUR INTERESTS.

************
** * * * * BASIC INTEREST SCALES * * * * * * * * *

YOUR RESULTS ON TWENTY-THREE BASIC INTEREST SCALES - REPORTED BELOW AND INDICATED BY ASTERISKS ON THE GRAPH - SHOW THE STRENGTH OF YOUR INTERESTS IN A VARIETY OF AREAS. THE AVERAGE ADULT SCORES BETWEEN 43 AND 57 ON EACH SCALE. YOUR HIGH INTEREST SCORES SHOW AREAS WHERE YOU WILL FIND ACTIVITIES ENJOYABLE TO YOU. YOUR LOW INTEREST SCORES INDICATE AREAS THAT WILL RELESS REWARDING TO YOU. ON SOME SCALES, MALES AND FEMALES RESPOND SOMewhat DIFFERENTLY. THE LINES OF DOTs THAT APPEAR FOR EACH SCALE INDICATE THE AVERAGE RANGE OF SCORES FOR YOUR SEX. THE LOWEST POSSIBLE SCORE, (MIN), AND THE HIGHEST POSSIBLE SCORE, (MAX), ARE LISTED FOR EACH SCALE. IN GENERAL, YOU WILL FIND YOUR WORK MORE ENJOYABLE IF YOUR JOB INVOLVES ACTIVITIES IN THE BASIC INTEREST AREAS WHERE YOU HAVE HIGH INTEREST SCORES.

<table>
<thead>
<tr>
<th>BASIC INTEREST SCALES</th>
<th>YOUR SCORE</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>MIN-MAX</th>
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</thead>
<tbody>
<tr>
<td><strong>VERY HIGH INTEREST (66+)</strong></td>
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<td><strong>HIGH INTEREST (65-58)</strong></td>
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<td>Office Practices</td>
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<td>Teaching</td>
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<td>23-67</td>
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<tr>
<td><strong>LOW INTEREST (42-35)</strong></td>
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<td><strong>VERY LOW INTEREST (34-1)</strong></td>
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YOUR HIGHEST INTEREST SCORES ON THE BASIC INTEREST SCALES ARE LISTED BELOW WITH AN EXPLANATION OF THE KINDS OF ACTIVITIES AND OCCUPATIONS THAT ARE RELATED TO EACH OF THE SCALES. IN GENERAL, THESE AREAS WOULD BE SOURCES OF SATISFYING OCCUPATIONAL CHOICES AND LEISURE TIME ACTIVITIES FOR YOU.

ALSO LISTED ARE PAGE REFERENCES FOR THE OCCUPATIONAL OUTLOOK HANDBOOK (O.O.H.), BULLETIN NO. 1675. THIS BOOK CAN BE USED TO FIND MORE INFORMATION ON THE LATEST EMPLOYMENT OPPORTUNITIES AND EDUCATIONAL REQUIREMENTS FOR THE VARIOUS OCCUPATIONS RELATED TO YOUR HIGH SCORES. THE O.O.H. CAN BE FOUND IN YOUR LOCAL LIBRARY OR CAN BE ORDERED DIRECTLY FROM THE U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON D.C., 20402, FOR 27.00.

63 OFFICE PRACTICES (O.O.H. 80-183)---INTEREST IN CLERICAL TASKS, SUCH AS BALANCING BOOKS, ADDING NUMBERS, AND WORKING OFFICE MACHINES, IS MEASURED BY THIS SCALE. OCCUPATIONS INCLUDE BOOKKEEPER, SECRETARY, HOSPITAL RECORDS CLERK, BANK TELLER, AND FILE CLERK.

59 MECHANICAL ACTIVITIES (O.O.H. 181-633)---ACTIVITIES THAT INVOLVE WORKING WITH YOUR HANDS, OPERATING MACHINERY, AND USING TOOLS TO REPAIR OR BUILD SOMETHING ARE OF HIGH INTEREST IN THIS AREA. AUTO MECHANICS, CARPENTERS, MACHINISTS, AND TOOLMAKERS FALL INTO THIS AREA.

56 SCIENCE (O.O.H. 139-355)---PEOPLE WHO ENJOY SCIENTIFIC ACTIVITIES, SUCH AS DOING RESEARCH WORK AND PERFORMING EXPERIMENTS, SCORE HIGH ON THIS SCALE. GEOLOGISTS, BIOLOGISTS, CHEMISTS, AND METEOROLOGISTS ARE EXAMPLES OF SCIENCE-MINDED PEOPLE.

THE PRECEDING TWO SECTIONS EVALUATE YOUR RESULTS IN TERMS OF GENERAL OCCUPATIONAL THEME SCALES AND MORE SPECIFIC BASIC INTEREST SCALES. THE NEXT SECTION IS A SPECIFIC COMPARISON OF YOUR SCORES TO THOSE OF PEOPLE IN A VARIETY OF OCCUPATIONS.

SEPARATE OCCUPATIONAL SCALES HAVE BEEN DEVELOPED FOR EACH SEX BECAUSE FEMALES AND MALES IN THE SAME OCCUPATION RESPOND DIFFERENTLY TO SOME OF THE ITEMS ON THE INVENTORY. SO AS TO NOT LIMIT YOUR CONSIDERATION OF A CAREER NOT CURRENTLY REPRESENTED FOR YOUR SEX, YOUR SCORES ON BOTH FEMALE AND MALE SCALES ARE PRESENTED. YOUR SCORES ON THE OCCUPATIONAL SCALES BASED ON YOUR SEX, HOWEVER, ARE LIKELY TO BE BETTER PREDICTORS FOR YOU THAN THOSE SCORES ON SCALES BASED ON THE OPPOSITE SEX.

PAGE 6

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The next group of results are occupational scales. They indicate how similar your interests are to the interests of employed people in various occupations. The average worker scores about 50 on the scale which is based on her or his occupation, and about two-thirds of these workers have scores of 45 and higher on their occupation scale. In the general population, the average range of scores for adults is between 26 and 44. Scores below 26 indicate little similarity of interest with people in that occupation. Your scores are listed to the left of each occupational scale, and are ranked from high to low within each of the groups of very similar, similar, average range, dissimilar, and very dissimilar interests.

Research has indicated that people who enter an occupation where they have similar scores tend to remain in that occupation and are more satisfied than if they enter an occupation where they have dissimilar scores. Furthermore, these scores may indicate interest in an occupation that you may not have considered before and can help you think about various other careers. The following scores indicate how your interests match those of males in various occupations.

<table>
<thead>
<tr>
<th>Very Similar</th>
<th>Similar</th>
<th>Average Range</th>
<th>Dissimilar</th>
<th>Very Dissimilar</th>
</tr>
</thead>
<tbody>
<tr>
<td>55+</td>
<td>54-45</td>
<td>44-26</td>
<td>25-19</td>
<td>19-</td>
</tr>
<tr>
<td>47 Computer Progr.</td>
<td>43 Musician</td>
<td>25 School Superint.</td>
<td>25 Guidance Counsel.</td>
<td>25 English Teacher</td>
</tr>
<tr>
<td>46 Engineer</td>
<td>42 Purchasing Agent</td>
<td>25 U.S. Store Mgr.</td>
<td>24 English Teacher</td>
<td>24 English Teacher</td>
</tr>
<tr>
<td>46 Cartographer</td>
<td>43 Dictation</td>
<td>25 U.S. Store Mgr.</td>
<td>25 Purchasing Agent</td>
<td>25 Purchasing Agent</td>
</tr>
</tbody>
</table>

- **Very Similar (55+)**: occupations with relatively high similarity scores.
- **Similar (54-45)**: occupations with moderate similarity scores.
- **Average Range (44-26)**: occupations with average similarity scores.
- **Dissimilar (25-19)**: occupations with moderate dissimilarity scores.
- **Very Dissimilar (19-)**: occupations with relatively low similarity scores.

The list includes a wide range of occupations, from technical and scientific fields like Computer Programmer and Engineer, to more artistic and creative fields like Musician and Photograher, to professional and administrative roles like School Superintendant and Guidance Counselor, to healthcare and social services like Nurse and Registered Nurse, to law enforcement roles like Police Officer and Firefighter, to business and sales roles like Business Manager and Sales Manager, to educational roles like Teacher and Professor, to military roles like Navy Officer and Marine Officer, to entertainment and creative roles like Actor and Director, to personal services roles like Funeral Director and Social Worker, to technical roles like Engineer and Technician, to administrative roles like Clerk and Secretary, to healthcare roles like Medical Assistant and Nurse Practitioner, to business roles like Accountant and Executive Assistant, to law and legal roles like Lawyer and Attorney, and to other roles like Artist and Chef.
Below are your highest occupational scale scores. You should pay particular attention to those occupations where your scores indicated that you had the most similar interests. You will have the best chance of finding satisfaction if you choose an occupation where your interests are similar with your co-workers and less chance if your interests are dissimilar. If you recorded the same likes and dislikes as the workers, your score will be high for that occupation. If your like and dislike responses were different from those of people in the occupation, your score will be low and you would not likely be satisfied in that kind of work.

As before, page references are given for the Occupational Outlook Handbook (OOH), which presents additional information on employment opportunities and relevant work situations. References also are listed for the Dictionary of Occupational Titles (DOT), Volume I, Third Edition. The DOT gives detailed job descriptions of the duties and functions of each occupation and can be found in your local library or purchased from the U.S. Government Printing Office for $7.75.

Your highest scores appeared on the following scales and indicate the greatest degree of similarity between your answers and those of males in these occupations—
47 COMPUTER PROGRAMMER———COMPUTER PROGRAMMERS ANALYZE PROBLEMS AND CONVERT THEM TO A FORM SUITABLE FOR SOLUTION BY A COMPUTER. TRAINING FOR THIS FIELD RANGES FROM SOME DATA PROCESSING TRAINING TO A FOUR-YEAR COLLEGE DEGREE, DEPENDING UPON THE TYPE OF PROGRAMMING IN WHICH A PERSON IS INTERESTED. LOGICAL THINKING, PATIENCE, PERSISTENCE, ACCURACY, AND INGENUITY ARE NECESSARY TRAITS FOR THIS FIELD. RELATED FIELDS ARE SYSTEMS ANALYST AND COMPUTER OPERATOR. EMPLOYMENT OF COMPUTER PROGRAMMERS IS EXPECTED TO GROW FASTER THAN THE AVERAGE FOR ALL OCCUPATIONS THROUGH THE MID-1980S.

46 ENGINEER———ENGINEERS WORK IN RESEARCH AND DEVELOPMENT, DESIGN PRODUCTION, CONSULTING, TECHNICAL WRITING, AND TECHNICAL SALES. AT LEAST FOUR YEARS OF COLLEGE TRAINING ARE REQUIRED. ENGINEERS MUST BE CREATIVE AND ANALYTICAL, ABLE TO WORK AS PART OF A TEAM, AND WILLING TO CONTINUE THEIR EDUCATION THROUGHOUT THEIR CAREER. ENGINEERING SPECIALITES INCLUDE AERONAUTICAL, CHEMICAL, CIVIL, ELECTRICAL, MECHANICAL, AND METALLURGICAL. EMPLOYMENT OPPORTUNITIES ARE EXPECTED TO BE GOOD THROUGH THE MID-1980S.

46 CARTOGRAPHER———CARTOGRAPHERS DESIGN AND CONSTRUCT MAPS AFTER GATHERING THE NECESSARY DATA. A FOUR-YEAR DEGREE IN GEOGRAPHY IS REQUIRED FOR BEGINNING POSITIONS IN THIS FIELD, WITH GRADUATE TRAINING NECESSARY FOR ADVANCEMENT, OR RESEARCH AND TEACHING JOBS. CARTOGRAPHERS MUST BE PRACTICAL AND ABLE TO WORK INDEPENDENTLY. RELATED OCCUPATIONS INCLUDE SPECIALIZATIONS IN OTHER AREAS OF GEOGRAPHY SUCH AS ECONOMIC, POLITICAL, OR URBAN GEOGRAPHY. EMPLOYMENT IS EXPECTED TO GROW FASTER THAN THE AVERAGE FOR ALL OCCUPATIONS.

46 MERCHANT MARINE OFFICER———MERCHANT MARINE OFFICERS SUPERVISE MERCHANT MARINE SAILORS. THE DUTIES VARY DEPENDING UPON THE DEPARTMENT TO WHICH THE OFFICER IS ASSIGNED. THE MERCHANT MARINE CARRIES IMPORTS AND EXPORTS TO AND FROM THE UNITED STATES BY SHIP. OFFICER CANDIDATES MUST BE AT LEAST NINETEEN OR TWENTY-ONE YEARS OLD (DEPENDING ON THE POSITION BEING APPLIED FOR), HAVE AT LEAST THREE YEARS OF APPROPRIATE SEA EXPERIENCE, OR BE A GRADUATE FROM ONE OF THE SIX MERCHANT MARINE ACADEMIES IN THE UNITED STATES. THEY MUST ALSO PASS A COAST GUARD EXAMINATION. OFFICERS INCLUDE CHIEF MATE, CHIEF ENGINEER, RADIO OFFICER, AND PURSER. LITTLE GROWTH IN EMPLOYMENT IS EXPECTED THROUGH THE MID-1980S.
THE U.S. GOVERNMENT PRINTING OFFICE PROVIDES SUBSECTIONS OF THE UOM IN PAMPHLET FORM IF THE BOOK ITSELF IS NOT READILY AVAILABLE TO YOU. THE BULLETIN NUMBER AND COST FOR EACH REPRINT THAT WOULD BE HELPFUL FOR YOU ARE LISTED BELOW.

BULLETIN
NO.    COST    TITLE
1875-23  $.35  COMPUTER AND RELATED OCCUPATIONS
1875-75  $.35  ENGINEERS
1875-80  $.35  DRAFTERS: ENGINEERING AND SCIENCE TECHS., SURVEY
1875-70  $.35  MERCHANT MARINE

USING YOUR HIGH OCCUPATIONAL SCALE SCORES AS GUIDES, YOU SHOULD SEEK ADDITIONAL INFORMATION ABOUT THOSE AREAS WHERE YOUR INTERESTS ARE FOCUSED. ASK YOUR LIBRARIAN FOR FURTHER INFORMATION ON JOBS IN THESE AREAS, TALK TO PEOPLE IN THESE FEELUS, READ BOOKS AND PERIODICALS THAT ARE RELEVANT, AND SO FORTH.

TO LEARN MORE ABOUT THE LIFE AND WORK OF PEOPLE IN OCCUPATIONS WHERE YOU HAVE HIGH SCORES, THE FOLLOWING BOOKS ARE SUGGESTED FOR FURTHER INFORMATION--

--YOUR FUTURE IN COMPUTER PROGRAMMING, BY SIDNEY DAVIS. ARCO PUBLISHING, 1974.
--OPPORTUNITIES IN ENGINEERING TECH. CAREERS, BY J. HEER & D.J. HAGERTY. VOC. GUID. HAN., 1975.

TO LEARN MORE ABOUT THE DAILY ROUTINES OF PEOPLE IN OCCUPATIONS WHERE YOU HAVE HIGH SCORES, YOU MAY WISH TO CONSIDER SPENDING SOME TIME TRYING THESE ACTIVITIES--

--VISIT A COMPUTER TRAINING SCHOOL OR SPEND A DAY WITH A COMPUTER PROGRAMMER.
--VISIT AN ENGINEER AT A LOCAL COMPANY.
--VISIT A SURVEYOR.
--VISIT A HARBOR AND TALK WITH A MERCHANT MARINE OFFICER.

THE FOLLOWING ARE YOUR SCORES BASED ON FEMALES IN VARIOUS OCCUPATIONS. SCORES ON ALL THE SCALES AVAILABLE ARE PRESENTED SO AS TO GIVE YOU ADDITIONAL INFORMATION ABOUT A WIDER RANGE OF CAREERS. AGAIN, THE BEST PROJECTIONS FOR YOU WILL BE THOSE SCALES CORRESPONDING TO YOUR SEX. THE FOLLOWING SCORES INDICATE HOW YOUR INTERESTS MATCH THOSE OF FEMALES IN VARIOUS OCCUPATIONS.

<table>
<thead>
<tr>
<th>VERY SIMILAR</th>
<th>SIMILAR</th>
<th>AVERAGE RANGE</th>
<th>DISSIMILAR</th>
<th>VERY DISSIMILAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>54-65</td>
<td>47</td>
<td>40-53</td>
<td>20-25</td>
<td>15-</td>
</tr>
<tr>
<td>47 4TH-SCI.</td>
<td>40-53</td>
<td>20-25</td>
<td>15-</td>
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<td>40-53</td>
<td>25</td>
<td>20-25</td>
<td>15-</td>
<td>15-</td>
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<tr>
<td>25 BUSINESS ED TCP 10 MIL IL COON LCHR</td>
<td>20-25</td>
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<td>20-25</td>
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<tr>
<td>15-</td>
<td>15-</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
41 OPTOMETRIST  
41 MEDICAL TECH.  
40 X-RAY TECHNICIAN  
40 COLLEGE PROF.  
39 CREDIT MANAGER  
39 INSTRUMENT ASSEMBLER  
38 PHARMACIST  
36 ARMY OFFICER  
35 REGISTERED NURSE  
35 MACHINIST  
35 CHEMIST  
34 PHYSICAL THERAPIST  
33 BEAUTICIAN  
33 LICENSED NURSE  
33 DEPT STORE SALES  
33 LAWYER  
32 ELECTRICIAN  
32 PHYSICIST  
32 SECRETARY  
32 EXECUTIVE HOUSEKEEPER  
32 VETERINARIAN  
32 DENTIST  
31 OCCUPATIONAL THERAPIST  
30 NURSE  
30 LIBRARIAN  
29 ADVERTISING EXECUTIVE  
29 PHYSICIAN  
28 RECREATION LEADER  
25 DENAL HYGIENIST  
27 LIFE INS. AGENT

47 MATH-SCIENCE TEACHER--Math-Science Teachers instruct students in Math and Science. A four-year college degree is required. Persons interested in this occupation should enjoy instructing others. Related occupations are Mathematician, Statistician, and Scientist. The employment outlook for this field is expected to be about at the average for all occupations, with competition expected for most jobs.

UOT 099-288
OUP 200-210

43 ACCOUNTANT--Accountants record and summarize business and financial transactions, and analyze, verify, and report the results. Four to six years of college are required. Persons interested in this job must have an aptitude for math. Knowledge and accuracy also are important. Related occupations are Actuary, Statistician, Bookkeeper, and Mathematician. Employment is expected to increase about as fast as the average for all occupations.

UOT 160-188
OUP 123-126
43 Bovners Direct the monetary duties of banks, such as the receipt, disbursement, and investment of funds. A four-year college degree is preferred. Persons interested in this occupation should be able to work independently and analyze detailed information. Tact and good judgment are important. Related occupations are bank teller, bank clerk, loan officer, and credit manager. Employment is expected to increase faster than the average for all occupations through the mid-1980s.

43 Computer Programmer---Computers programmers analyze problems and convert them to a form suitable for solution by a computer. Training for this field ranges from on-the-job training to a four-year college degree, depending upon the type of programming in which a person is interested. Logical thinking, patience, persistence, accuracy, and ingenuity are necessary traits for this field. Related fields are systems analyst and computer operator. Employment of computer programmers is expected to grow faster than the average for all occupations through the mid-1980s.

43 Engineer---------Engineers work in research and development, design production, consulting, technical writing, and technical sales. At least four years of college training are required. Engineers must be creative and analytical, able to work as part of a team, and willing to continue their education throughout their career. Engineering specialties include aeronautical, chemical, civil, electrical, mechanical, and metallurgical. Employment opportunities are expected to be good through the mid-1980s.

You should pay particular attention to your high and low scores on the three sets of scales provided -- general occupational themes, basic interest scales, and occupational scales. You may find that you have a high score in one of the basic interest areas, such as art, and a low score on the artist occupational scale. This might indicate that despite a high interest in art, you probably would not like the everyday life situations of an artist. Such score comparisons can help you determine the types of occupations that would most closely match your interests and give you the greatest satisfaction.

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Your responses to the Strong-Campbell Interest Inventory have been analyzed on three sets of scales, all of which are related. Summarized below are your scores on each theme scale, the basic interest scales related to that theme, and the occupational scales related to both the basic interest and general theme areas. Organizing all of your scores in this manner helps you to clearly see your strongest and weakest areas of interest, and gives you an indication of whether or not you would likely find a work area to be particularly satisfying.

The F or H after each occupational scale indicates the sex of the group used for development of that scale. The first letter of the general occupational theme to which each scale is most close-
LY RELATED.

REMEMBER, MOST ADULTS HAVE SCORES IN THE AVERAGE RANGE, 41-57, ON EACH OF THE SIX THEME SCALES AND TWENTY-THREE BASIC INTEREST SCALES. HOWEVER, ON THE OCCUPATIONAL SCALES, SCORES BETWEEN 26 AND 44 ARE AVERAGE FOR THE GENERAL POPULATION, WHILE SCORES OF 45 OR MORE INDICATE A FAIRLY HIGH SIMILARITY OF INTERESTS WITH MOST OF THE WORKERS IN THAT PARTICULAR OCCUPATION.

<table>
<thead>
<tr>
<th>BASIC AREA SCALES</th>
<th>CODE OCCUP. SCALES</th>
<th>I. 58 C-THEME ----- (CONVENTIONAL) -----</th>
<th>II. 54 R-THEME ----- (REALISTIC) -----</th>
</tr>
</thead>
<tbody>
<tr>
<td>63 OFFICE PRACTICES</td>
<td>43 C ACCOUNTANT F</td>
<td>59 MECHANICAL</td>
<td>45 RIC CARTOGRAPHER M</td>
</tr>
<tr>
<td>39 C DE BRANCH MANAGER F</td>
<td>55 MILITARY ACTS</td>
<td>46 RIC NUCLEAR MECHANIC OFF M</td>
<td></td>
</tr>
<tr>
<td>33 C RETAILER OF DEPARTMENT STORES F</td>
<td>53 ADVENTURE</td>
<td>47 RIC X-RAY TECHNICIAN F</td>
<td></td>
</tr>
<tr>
<td>33 C RE MANDATORY F</td>
<td>43 AGRICULTURE</td>
<td>48 RIC AGRICULTURE OFF. M</td>
<td></td>
</tr>
<tr>
<td>33 C DE BANKER H</td>
<td>42 NATURE</td>
<td>49 RIC NURSE M</td>
<td></td>
</tr>
<tr>
<td>33 C DE DEPT STORE SALES F</td>
<td>39 RIC DENTAL TECHNICIAN</td>
<td>50 RIC INSTILLATION M</td>
<td></td>
</tr>
<tr>
<td>33 C CRITIC, PR. NURSE F</td>
<td>36 RIC CRAFTSMAN M</td>
<td>51 RIC OCCUPATIONAL THERAPIST F</td>
<td></td>
</tr>
<tr>
<td>33 C DE DENTAL ASSISTANT</td>
<td>36 RIC ARMY OFFICER F</td>
<td>52 RIC REGISTERED NURSE M</td>
<td></td>
</tr>
<tr>
<td>32 C DE EXEC MARSEY F</td>
<td>32 RIC POLICE OFFICER H</td>
<td>53 RIC NVT POLICE OFF. M</td>
<td></td>
</tr>
<tr>
<td>32 C DE SECRETARY</td>
<td>31 RIC OCCUPATIONAL THERAPIST F</td>
<td>54 RIC FORESTER M</td>
<td></td>
</tr>
<tr>
<td>31 C DE BUSINESS ED TCHR M</td>
<td>31 RIC REGISTERED NURSE M</td>
<td>55 RIC NAVY OFFICER M</td>
<td></td>
</tr>
<tr>
<td>31 C DE ACCOUNTANT M</td>
<td>29 RIC FARMER M</td>
<td>27 RIC ARMY OFFICER M</td>
<td></td>
</tr>
<tr>
<td>25 C DE BUSINESS ED TCHR M</td>
<td>26 RIC VOC AGRIC. TCHRS M</td>
<td>23 RIC PHYS ED. TEACHER F</td>
<td></td>
</tr>
<tr>
<td>25 C DE BUSINESS ED TCHR F</td>
<td>22 RIC VETINARIAN M</td>
<td>22 RIC VETINARIAN M</td>
<td></td>
</tr>
</tbody>
</table>

III. 92 A-THEME ----- (ARTISTIC) ----- | IV. 50 E-THEME ----- (ENTERPRISEING) ----- |
<table>
<thead>
<tr>
<th>BASIC AREA SCALES</th>
<th>CODE OCCUP. SCALES</th>
<th>BASIC AREA SCALES</th>
<th>CODE OCCUP. SCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>53 ARTS</td>
<td>43 A MUSICAL M</td>
<td>54 SALES</td>
<td>42 RIC PURCHASING AGENT M</td>
</tr>
<tr>
<td>46 WRITING</td>
<td>30 A LITERARY F</td>
<td>41 RIC MUS. MANAGEMENT</td>
<td>36 RIC MUSICAL MANAGER M</td>
</tr>
<tr>
<td>44 MUSIC/OU pHA</td>
<td>29 A ADVERTISING EXEC F</td>
<td>48 LAW/POLITICS</td>
<td>35 RIC CHIRURGICAL M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>28 A LITERARY M</td>
<td>44 MERCHANDISING</td>
<td>33 RIC LAWYER F</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>26 A ARTIST M</td>
<td>47 PUBLIC SPEAKING</td>
<td>32 RIC PHARMACIST M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>26 A ADVERTISING EXEC M</td>
<td>31 RIC CHAM. OF COMM. M</td>
<td>30 RIC CHAM. OF COMM. M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>26 A INTELLIGENCE, ORATOR M</td>
<td>30 RIC FUNERAL DIRECTOR M</td>
<td>30 RIC FUNERAL DIRECTOR M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>25 A MUSICAL M</td>
<td>29 RIC MURAL ARTIST M</td>
<td>29 RIC MURAL ARTIST M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>24 A ARTIST M</td>
<td>28 RIC MECHANICAL M</td>
<td>28 RIC MECHANICAL M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>24 A ARTIST M</td>
<td>27 RIC INVESTMENT FUND M</td>
<td>27 RIC LIFE INS. AGENT M</td>
</tr>
<tr>
<td>49 SING/PERFORM</td>
<td>24 A ARTIST M</td>
<td>27 RIC LIFE INS. AGENT M</td>
<td>27 RIC LIFE INS. AGENT M</td>
</tr>
<tr>
<td>BASIC AREA SCALES</td>
<td>CODE OCCUP. SCALES</td>
<td>BASIC AREA SCALES</td>
<td>CODE OCCUP. SCALES</td>
</tr>
<tr>
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<td>-------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>56 SCIENCE</td>
<td>47 IRC COMPUTER PROGR. H</td>
<td>58 RELIGIOUS ACTIVS.</td>
<td>3A SRC LIC. PRACT. NURSE H</td>
</tr>
<tr>
<td>54 MEDICAL SERVICE</td>
<td>47 IRC MATH-SCI. TEACH. F</td>
<td>46 DOMESTIC ARTS</td>
<td>33 SC PUBLIC ADMINIST. H</td>
</tr>
<tr>
<td>51 MATHEMATICS</td>
<td>46 IR ENGINEER H</td>
<td>45 ATHLETICS</td>
<td>33 SC ELEM. TEACHER F</td>
</tr>
<tr>
<td>44 MEDICAL SCIENCE</td>
<td>43 IR ENGINEER F</td>
<td>43 TEACHING</td>
<td>32 SEC PERSONNEL DIR. H</td>
</tr>
<tr>
<td></td>
<td>43 IRC COMPUTER PROGR. F</td>
<td>39 SOCIAL SERVICE</td>
<td>30 S PRIEST H</td>
</tr>
<tr>
<td></td>
<td>41 IR PHYSICIAN F</td>
<td>29 SIR PHYS. THERAPIST H</td>
<td>28 SER RECREATION LEAD. F</td>
</tr>
<tr>
<td></td>
<td>41 IR MEDICAL TECH. F</td>
<td>25 SIR SCHOOL SUPERINT. H</td>
<td>25 SIR YWCA STAFF F</td>
</tr>
<tr>
<td></td>
<td>40 IR COLLEGE PROF. F</td>
<td>24 SIR SOC. SCI TEACHER H</td>
<td>24 SIR SOC. SCI TEACHER F</td>
</tr>
<tr>
<td></td>
<td>39 IRS MATH-SCI. TEACH. H</td>
<td>24 SIR SOC. SCI TEACHER F</td>
<td>24 SIR SOC. SCI TEACHER F</td>
</tr>
<tr>
<td></td>
<td>38 IR COLLEGE PROF. H</td>
<td>23 S MINISTER H</td>
<td>23 S NURSE F</td>
</tr>
<tr>
<td></td>
<td>38 IR PHARMACIST F</td>
<td>23 S REGISTRED NURSE F</td>
<td>23 S REGISTRED NURSE F</td>
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<tr>
<td></td>
<td>35 IRC MEDICAL TECH. H</td>
<td>23 S SCHOOL RECREATION LEAD. H</td>
<td>23 S SCHOOL RECREATION LEAD. H</td>
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<tr>
<td></td>
<td>35 IRC DIETITIAN F</td>
<td>20 S GUIDANCE COUNS. H</td>
<td>20 S GUIDANCE COUNS. H</td>
</tr>
<tr>
<td></td>
<td>34 IRS PHYS. THERAPIST F</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
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<td>33 S PHYSICIAN F</td>
<td>19 S MEDICAL TECH. H</td>
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<td>29 S PHYSICIAN F</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
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<tr>
<td></td>
<td>29 IRC OPTOMETRIST H</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
</tr>
<tr>
<td></td>
<td>28 IAS PSYCHOLOGIST F</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
</tr>
<tr>
<td></td>
<td>28 IR DENTIST H</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
</tr>
<tr>
<td></td>
<td>28 IRC DENTAL HYGIENIST F</td>
<td>19 S MEDICAL TECH. H</td>
<td>17 S CHRISTIAN ED DIR F</td>
</tr>
</tbody>
</table>
THE TABLE BELOW INDICATES THE PERCENTAGES OF YOUR LIKE (LP), INDIFFERENT (IP), AND DISLIKE (DP) RESPONSES IN EACH OF THE SEVEN SECTIONS OF THE INVENTORY. FOR EXAMPLE, YOUR LP VALUE FOR THE OCCUPATIONS SECTION SHOWS WHAT PERCENTAGE OF THE OCCUPATION ITEMS YOU MARKED AS LIKING.

THE TOTAL RESPONSES AND INFREQUENT RESPONSES TO THE RIGHT OF THE TABLE ARE CHECKS TO MAKE CERTAIN THAT THE ANSWER SHEET WAS FULLY COMPLETED AND PROCESSED CORRECTLY. THE TOTAL RESPONSE INDEX SHOWS HOW MANY ANSWERS MARKED THE COMPUTER REALED FROM YOUR ANSWER SHEET. THIS NUMBER SHOULD BE CLOSE TO 325, SINCE THERE ARE 325 ITEMS ON THE ANSWER SHEET. UP TO TWENTY ITEMS CAN BE OMITTED WITHOUT SIGNIFICANTLY AFFECTING THE RESULTS. THE INFREQUENT RESPONSES INDEX SHOWS THE NUMBER OF RESPONSES YOU GAVE WHICH ARE ATYPICAL COMPARED TO THE WAY MOST PEOPLE RESPOND. ALMOST EVERYONE SCORES ZERO OR HIGHER. A NEGATIVE SCORE MAY INDICATE A RANDOM MARKING OF RESPONSES OR CONFUSION IN COMPLETING THE ANSWER SHEET. THE AOR AND IE SCORES ARE EXPLAINED BELOW.

<table>
<thead>
<tr>
<th>RESPONSE PERCENTAGES</th>
<th>LP</th>
<th>IP</th>
<th>DP</th>
<th>TOTAL RESPONSES</th>
<th>INFREQUENT RESPONSES</th>
</tr>
</thead>
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YOUR SCORE ON THE ACADEMIC INTEREST SCALE (AOR) INDICATES A SIMILARITY OF YOUR INTERESTS WITH PEOPLE WHO GO TO COLLEGE AND RECEIVE THEIR BACCALAUREATE DEGREE, SUCH AS TEACHERS, NURSES, AND ARCHITECTS.

YOUR HIGH SCORE ON THE OCCUPATIONAL INTROVERSION-EXTRAVERSION (IE) SCALE INDICATES THAT YOU PREFER WORKING WITH THINGS TO WORKING WITH PEOPLE. SKILLED TRADESPERSONS, SCIENTISTS, AND ARTISTS GENERALLY HAVE HIGH SCORES ON THIS SCALE, WHILE PEOPLE IN SALES AND SOCIAL-SERVICE OCCUPATIONS GENERALLY HAVE LOW SCORES.

BECAUSE YOU ANSWERED LESS THAN 85 PERCENT OF THE INVENTORY ITEMS, THE RESULTS PRESENTED ABOVE PROBABLY DO NOT ACCURATELY REFLECT YOUR INTERESTS. YOU MAY NOT HAVE ANSWERED ALL SECTIONS OF THE INVENTORY COMPLETELY, OR YOUR ANSWER MARKS MAY HAVE BEEN TOO LIGHT FOR THE COMPUTER TO PICK UP. PLEASE CHECK YOUR ANSWERS CAREFULLY.

* * * * * * * * * * * *
* CLsing COMMENTS     *
* * * * * * * * * * * *

THE STRONG-CAMPBELL INTEREST INVENTORY IS BASED ON YEARS OF RESEARCH ON THE INTEREST PREFERENCES OF HUNDREDS OF THOUSANDS OF PEOPLE. ALTHOUGH THE INTERESTS OF YOUNG PEOPLE TEND TO
FLUCTUATE SOMEWHAT OVER SEVERAL YEARS, INTEREST INVENTORY RESULTS GENERALLY ARE VERY STABLE AND DO NOT CHANGE APPRECIABLY OVER THE YEARS. STUDIES INDICATE THAT OF THOSE PEOPLE WHO COMPLETED EARLIER VERSIONS OF THIS INVENTORY WHEN THEY WERE IN HIGH SCHOOL OR COLLEGE, ABOUT ONE-HALF OF THEM ENDED UP EMPLOYED IN OCCUPATIONS COMPATIBLE WITH THEIR SCORES. MANY OF THOSE WHO WORK IN FIELDS NOT CONSISTENT WITH THEIR INVENTORY RESULTS REPORT THAT THEY DO NOT LIKE THEIR JOBS OR THAT THEY ARE DOING THE JOB IN SOME UNUSUAL MANNER.

YOUR SCORES HAVE BEEN EVALUATED OVER A WIDE RANGE OF GENERAL INTERESTS AND SPECIFIC OCCUPATIONS. REMEMBER, THESE RESULTS ARE NOT MEASURES OF YOUR ABILITIES. USE THEM AS GUIDELINES TO HELP YOU BETTER UNDERSTAND AND EXPLORE YOUR CAREER INTERESTS.

FOR ADDITIONAL INFORMATION, THE FOLLOWING SOURCES ARE RECOMMENDED--

--CONSULT A PROFESSIONALLY TRAINED GUIDANCE COUNSELOR.
--THE HANDBOOK FOR THE INTERPRETIVE REPORT FOR THE STRONG-CAMPBELL INTEREST INVENTORY ($5.00).
WRITE NATIONAL COMPUTER SYSTEMS, 4401 W. 76TH STREET, MINNEAPOLIS, MINNESOTA 55435.

--THE MANUAL FOR THE STRONG-CAMPBELL INTEREST INVENTORY ($5.00). WRITE NATIONAL COMPUTER SYSTEMS, 4401 W. 76TH STREET, MINNEAPOLIS, MINNESOTA 55435.


INTERPRETIVE NARRATIVE REPORT FOR THE STRONG-CAMPBELL INTEREST INVENTORY--COPYRIGHT 1976.
DR. CHARLES O. JOHANSSON, NATIONAL COMPUTER SYSTEMS (NCS), 4401 WEST 76TH STREET, MINNEAPOLIS, MINNESOTA 55435.

END OF REPORT FOR (NAME OF STUDENT) 06/08/77 MALE 197 8010
VOCATIONAL CHECK LIST

Age: _____ Sex: M ____, F____

My goal is to obtain: _______ Certificate of Achievement

_______ Associate Degree
_______ Bachelors Degree
_______ Masters Degree
_______ Doctorate Degree

Listed below are some things that you may have actually done in order to help you select a college major or career. Please check (X) the degree of frequency (from never through very frequently) that you have actually performed these tasks within the last six months:

Please do not skip any items and work as rapidly as possible.

DEGREE OF FREQUENCY

<table>
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<th>How many times over the last six months have I:</th>
<th>Never: 1 : 2 : 3 : 4 : 5 : Very Frequently:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Read or talked about the hours (credits) needed for a particular major.</td>
<td>1: __: __: __: __: __: __:</td>
</tr>
<tr>
<td>2. Sought information concerning chances for advancement in given occupations.</td>
<td>1: __: __: __: __: __: __:</td>
</tr>
<tr>
<td>3. Sought information concerning the supply and demand of various careers.</td>
<td>1: __: __: __: __: __: __:</td>
</tr>
<tr>
<td>4. Discussed with a parent my choice or various choices.</td>
<td>1: __: __: __: __: __: __:</td>
</tr>
<tr>
<td>5. Discussed with other relatives my choice or other various choices.</td>
<td>1: __: __: __: __: __: __:</td>
</tr>
</tbody>
</table>
DEGREE OF FREQUENCY

How many times over the last six months have I:

6. Sought a part-time job while at school in an area in which I might like to make a career.

7. Discussed possible vocational choices with a counselor.

8. Discussed possible career choices with a teacher.

9. Discussed possible career choices with a friend.

10. Discussed possible career choices with an academic advisor.

11. Found people in a given career and obtained information related to that type of work.

12. Written to an agency for pamphlets, catalogues, or information related to a given occupation.

13. Read a book, magazine article, or other material about occupations.

14. Written other educational institutions that offer training more appropriate to my possible career choices.

15. Visited or made definite plans to visit schools or places of employment that are related to possible career choices.

Never: 1: 2: 3: 4: 5: Very Frequently:
<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Viewed TV programs, exhibits, or shows or listened to radio programs about various occupations or training facilities.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
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<tr>
<td>17. Gathered information concerning the extent to which technological change might effect various career choices.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td>18. Tried to communicate to others my vocational abilities, interests, and plans, orally or in writing.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
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<tr>
<td>19. Participated in clubs or interest groups for the purpose of exploring different career fields.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
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<tr>
<td>22. Talked with other students about possible majors.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td>24. Registered at the Counseling Center to take tests (tests not previously taken) in order to further clarify my interests and aptitudes.</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
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</table>
Directions: Everyone makes decisions and choices throughout their youth and adulthood that affects their career and future vocations. The very fact that you are in this school now proves that you chose to finish high school and attend college. Obviously, you also made a decision about what college to attend. The purpose of this questionnaire is to learn more about the career and vocational decisions and planning of college students. Hopefully, information of this kind will help educators to provide better vocational and career assistance to students.

Please read each question carefully and mark the answer that best describes your situation. Please do not leave any questions unanswered. Thank you in advance for your cooperation.

1. How satisfied are you with your choice of this College?

2. What is your present major?

3. How satisfied are you with your present major?

4. If you had to specify one occupation as being your first choice or preference for a career, what occupation would you say?

5. How satisfied are you with your first choice or preference for a career?
6. What other occupations do you consider to be possible alternatives to your first choice or preference for a career?

7. How satisfied are you with your general overall career plans?

8. How satisfied are you with your course selection this semester?

9. How satisfied are you with the instruction you are receiving?

10. How satisfied are you with your college extracurricular activities?

11. How satisfied are you with your overall educational experience?

What further information do you feel you need at the present time in order to aid you in your general career planning? In questions 12-26, choose the answer that best describes your present needs from the following two choices.

12. I need more information and/or assistance to know where to begin in making career plans. Yes No

13. I need to know more about my interests. Yes No

14. I need to know more about my abilities. Yes No

15. I need to know more about my personality. Yes No

16. I need to know more about various majors that I have to choose from. Yes No

17. I need to know more about occupational opportunities. Yes No

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<table>
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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>18.</td>
<td>I need to know more about occupational requirements.</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>I need to know where I can get general information about occupations and careers.</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>I need to know about the activities involved in my first career choice or preference.</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>I need to know more about the training or educational requirements for my first career choice or preference.</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>I need to know more about the aptitudes or skills necessary for my first career choice or preference.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>I need to know more about the income and employment opportunities of my first career choice or preference.</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>I need to speak with people employed in occupations that interest me before I make any further plans or decisions.</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>I need to speak with professors in the majors that interest me before I make any further plans or decisions.</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>I need to speak with a counselor before I make any further plans or decisions.</td>
<td></td>
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</table>
June 8, 1976

Dear

On behalf of the Counseling Center I want to welcome you to Lake Michigan College. Later this month I will be mailing you complete orientation and registration information for the fall semester.

At this time I am enclosing some materials that might be of great assistance to you in planning your future. I am sure that by this time you have had your fill of various tests and are wondering "what else do they want me to do?"

I am asking you to complete the enclosed Strong-Campbell Interest Inventory (not a test) and return it to me by June 17. By July 1 you will receive an 8 page computer printout comparing your interests to that of others as well as to successful persons in selected occupations. The computer interpreted results are for YOUR USE ONLY and will not be made available to anyone else.

If you have any questions regarding the Strong-Campbell Interest Inventory, please call me at 927-3571 between 8:00 a.m. - 4:00 p.m. or at home at 429-5502.

If the Counseling Center can be of any assistance to you in any way, please let me know.

Sincerely,

Tony Swerbinsky

Tony Swerbinsky
Counselor

Enclosure

P.S. Please place the completed answer sheet and booklet in the enclosed envelope and drop it in the mail prior to or on June 15, 1976. Thank you.
APPENDIX F
June 18, 1976

Dear

About a week ago you received the Strong-Campbell Interest Inventory which I asked you to complete and return to me. I realize that this is a busy time for you, but I am hoping that you will take a few minutes to complete the Inventory and mail it to me in the stamped envelope as soon as possible.

I think you will find that completing the Inventory is rather enjoyable and the computer interpreted results (in narrative form) that you receive will be well worth your time. Let me assure you that the results will be made available only to you. Even if you have decided not to attend Lake Michigan College this fall, I am sure you will find the results interesting.

Best wishes for a good summer.

Sincerely,

Tony Swerbinsky

P.S. If you have already returned the completed Inventory, please disregard this letter.
APPENDIX G
Enclosed are the results of the Strong-Campbell Interest Inventory. Your interest profile compares your interest to the interests of the general population and to interests of a number of selected occupations.

I hope you enjoy reading your report and are able to recognize yourself in the descriptions. Discussing the results with your friends and parents is highly recommended, since they often are an important source of additional information and can provide valuable feedback.

If I can be of any assistance with your career plans, course selections, or location of career information, please do not hesitate to contact me.

I hope that Lake Michigan College can provide you with information and assistance necessary for you to attain your educational and career goal and that your educational experiences with us are truly outstanding.

Sincerely,

Tony Swerbinsky
Counselor

TS/ac
Enclosure
Many community college students are indecisive regarding their career goals and need some assistance. At the present time, not enough is known regarding methods that would best assist students in arriving at satisfactory career decisions. I am involved in a research project concerned with the vocational behavior of community college students. In order to determine how I can best help students with career decision-making I need your input.

Through a random sampling procedure you have been selected as one of a group of community college freshmen who are being asked to complete the enclosed materials and return them to me in the enclosed stamped envelope.

I hope that you will be able to assist me in my efforts by taking a few minutes of your time to complete the forms. The information supplied by you will be treated in the most professional and confidential manner and used only for statistical purposes of this study. Your help in this effort is invaluable and appreciated very much. If I can be of any assistance to you now or in the future, please let me know—I would be most happy to reciprocate the favor.

Thank you kindly.

Sincerely,

Tony Swerbinsky
Counselor

TS/ac
Enclosure
December 10, 1976

About one week ago you received the Career Research Questionnaire and Vocational Checklist which I asked you to complete and return to me.

I am sure that, like most of us, you have been busy with various activities and have not found the time to complete the enclosed materials. I realize that this is an imposition on you, but I must ask you for this favor, since I need feedback from you to complete my study. You can rest assured that the information provided by you is confidential and only used for statistical purposes.

If you could spare a few minutes, please complete the enclosed materials and return them to me. Thank you very much.

Best wishes for the Holidays,

Tony Swerbinsky
Counselor

TS/ac

P.S. If you have already returned the questionnaires, please disregard this letter.
APPENDIX J
Means and Standard Deviations of Vocational Checklist Items

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Means and Standard Deviations of Vocational Checklist Items (Cont.)

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