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## ABSTRACT

### HARMONY OF SELF-CONCEPT AS A FACTOR INFLUENCING THE VOCATIONAL DEVELOPMENT OF UPPER-CLASS AND GRADUATE MALE COLLEGE STUDENTS

By

Richard A. Morril

Implicitly, vocational counseling has operated on the assumption that choice of a vocation is a cognitive function utilizing, both cognitive and affective data about one's self and the environment. These cognitive processes are used most efficiently when all parts of the person are functioning with a minimum degree of conflict with each other. It has thus been rather widely accepted that persons enduring intense periods of internal conflict are unable to make realistic vocational choices. From the position of a self-theorist, a major factor influencing vocational development is the degree of harmony of an individual's self-concept--his internal consistency of his self evaluation. Super (1963) suggested that harmony of self-concept is considered to be related to adjustment, to lack of conflict, and to personality integration. It may, therefore, also be related to ability to formulate a

vocational choice, that is, to see oneself in an occupational role.

The present study was designed to investigate the possible relationship between the degree of harmony of self-concept and vocational interest maturity. The study attempted to demonstrate that the variable of harmony of self-concept affects intensity of vocational interests, diversity of vocational interests, and realism of vocational interests, as reflected in psychometric data.

The purpose of this study was threefold. It first sought to determine whether there was a relationship between the degree of consistency of self-concept for a group of male college students and their level of vocational interest maturity. Secondly, it sought to determine whether there was a relationship between the degree of ego integration for a group of male college students and their level of vocational interest maturity. Thirdly, it sought to detect differences in the degree of harmony of self-concept and vocational interest maturity between three groups of males with varying degrees of commitment to a vocational choice.

Participants who volunteered for the study were sixty-nine male juniors, seniors, and doctoral level graduate students at Michigan State University. Twenty were juniors or seniors who came to the M.S.U. Counseling Center requesting vocational counseling and stating that they were having difficulty making a vocational choice. Twenty-seven were juniors or seniors enrolled in

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upper-division majors in the university and, at the time the study was conducted, indicated no dissatisfaction with their choice of major. Twenty-two were third and fourth year doctoral level graduate students.

Subjects completed the Strong Vocational Interest Blank, the Tennessee Self Concept Scale, and the Edwards Personal Preference Scale. The Strong profiles were pattern analyzed according to the objective method outlined by Stephenson (1961). The intensity of interests were determined on the basis of the distribution of primary, secondary, and reject patterns. The DIV scale on the Strong was used to assess diversity of vocational interests. A measure of realism was derived as a discrepancy score between the Occupational Level (OL) scale and the Academic Achievement (AA) scale on the Strong. A measure of ego integration was derived from the Trehub (1959) method of scoring of the Edwards. Finally, three scales on the Tennessee were independently used to measure consistency of self-concept.

Super's theory of vocational development served as the basis for the generation of the following twelve hypotheses.

1. The degree of consistency of self-concept for male college students is related to the intensity of their vocational interests.
2. The degree of consistency of self-concept for male college students is related to the diversity of their vocational interests.

3. The degree of consistency of self-concept for male college students is related to the degree of realism of their vocational interests.
4. Differences exist in the degree of consistency of self-concept among three groups of males with varying degrees of commitment to a vocational choice.
5. The degree of consistency of self-concept for male college students is related to their degree of ego integration.
6. The degree of ego integration for male college students is related to the intensity of their vocational interests.
7. The degree of ego integration for male college students is related to the diversity of their vocational interests.
8. The degree of ego integration for male college students is related to the realism of their vocational interests.
9. Differences exist in the degree of ego integration among three groups of males with varying degrees of commitment to a vocational choice.
10. Differences exist in the diversity of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.
11. Differences exist in the realism of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.
12. Differences exist in the intensity of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.

The null form of hypotheses one through three and five through eight were tested by Pearson Product-Moment correlations, while the null form of hypotheses four, nine,

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ten, eleven, and twelve were tested with the analysis of variance statistic.

The findings of this study indicated that an increase in the degree of ego integration accompanies an increase in diversity of vocational interests. There was also a positive, statistically significant, relationship between one of the measures of consistency of self-concept on the Tennessee and diversity of vocational interests.

Significant differences among the three groups were found on diversity of vocational interests (combined junior/senior groups were found to be more diverse than the doctoral students), degree of ego integration (combined junior/senior groups were found to be less integrated than the doctoral student group), and consistency of self-concept as measured by the Tennessee V score (combined junior/senior groups were found to be less consistent than the doctoral students).

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HARMONY OF SELF-CONCEPT AS A FACTOR INFLUENCING  
THE VOCATIONAL DEVELOPMENT OF UPPER-CLASS  
AND GRADUATE MALE COLLEGE STUDENTS

By

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A THESIS

Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

Department of Counseling and Educational Psychology

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For my wife, Marianne

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## ACKNOWLEDGMENTS

Five years ago a rather scared and anxious recent graduate of the University of Massachusetts left familiar surroundings and relationships to come to Michigan State University for graduate study. He arrived on campus knowing no one and knowing very little about the program into which he had been accepted.

This writer leaves M.S.U. having grown as a person and as a professional. Outward symbols of this change and growth are a Masters and Doctoral degree. These degrees represent the completion of course requirements, examinations, and theses. They do not, however, accurately convey the richness of my experience here. For this reason it seems appropriate to mention some of the people who have made my years here so meaningful. To these people I would like to offer my sincere thanks and appreciation--knowing you has made the difference.

To the M.S.U. Counseling Center staff, for providing the dynamic base for my training as a psychologist and growth as a person.

To my fellow Interns, for sharing the joy and the pain of growth.

To Bill Kell, for helping me to experience impact, and change.



To Maryellen McSweeney, for being a master teacher, and for helping me to come to appreciate and somewhat understand quantitative method.

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To Richard Does, for being willing to share the intensity of himself with someone struggling to find his own intensity and depth, and for his anger that penetrated to the core of the problem.

To the late Buford Stefflre, for having given a great deal in the short time I was able to know him.

Finally, to my clients, for giving as much as they were given.

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## CHAPTER I

### NATURE OF THE PROBLEM

Implicitly, vocational counseling has operated on the assumption that choice of vocation is a cognitive function utilizing both cognitive and affective data about one's self and the environment. These cognitive processes are used most efficiently when all parts of the person are functioning with a minimum degree of conflict with each other. It has thus been rather widely accepted that persons enduring intense periods of internal conflict are unable to make realistic vocational choices. The early literature of vocational counseling clearly separated vocational counseling from personal counseling, believing at that time that there was little if any overlap between the two. Frequently, once a person had been "cured" of his poor adjustment to internal "conflict," he was referred to a vocational counselor for the next step in his growth--vocational choice.

Counseling psychology has progressed from that dichotomous position but has maintained the assumption that the better adjusted (that is, less conflict) the individual, the most likely he is to make a realistic and mature choice

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of career. This belief has never been challenged very realistically. Recently, however, some advances in vocational theory and measurement have provided the avenues for such an investigation.

From the position of a self-theorist the proposition stated above could be that a major factor influencing vocational development is the degree of harmony of his self-concept--his internal consistency of self-evaluation.

Harmony of self-concept, defined as the degree to which an individual has a congruent or internally consistent evaluation of himself, may be a factor influencing vocational development.

Super (1963) suggested that harmony of self-concept is considered to be related to adjustment, to lack of conflict, and to personality integration. It may, therefore, also be related to ability to formulate a vocational choice, that is, to see oneself in an occupational role.

The choice of an occupation requires an individual to state rather explicitly his concept of himself. At some point in time he must say, "I am this or that kind of person." Throughout his life the individual plays a variety of roles which provide him with an opportunity to discover who he is and what he wants to be. In play and work activities he tests his abilities and evaluates them against his accomplishments and the reactions of others. He finds that he does some things well and gains a sense of satisfaction from them (Crites, 1969).

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Super (1951) stated that those successes tend to develop in the individual a series of little specific pictures of the self, which, eventually, add up to a larger picture of the self. As the individual matures he attempts to integrate the various pictures he has of himself into a consistent self-concept. One of the most meaningful ways for an individual to preserve and enhance his image of himself is through his occupational activities. He attempts to select an occupation which will be compatible with his self-concept and which will allow him to make it a reality by permitting him to play the role he wants to play. In light of the foregoing discussion, it would seem logical that translating an internally consistent and harmonious system of self-concepts into an occupational preference would be easier than finding an appropriate role for a conflicted self-concept system. Implementing a harmonious self-concept system in the occupational world should be easier than implementing unintegrated ideas of the self.

The present study was designed to investigate the possible relationship between the degree of harmony of self-concept and vocational interest maturity. More specifically, the study attempted to demonstrate empirically that the variable of harmony of self-concept affects intensity of vocational interests, diversity of vocational interests, and realism of vocational interests, as reflected in psychometric data.

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### Statement of Purpose

The purpose of this study is threefold. It first seeks to determine whether there is a relationship between the degree of consistency of self-concept for a group of male college students and their level of vocational interest maturity. Secondly, it seeks to determine whether there is a relationship between the degree of ego integration for a group of male college students and their level of vocational interest maturity. Thirdly, it seeks to detect differences in the degree of harmony of self-concept and vocational interest maturity between three groups of males with varying degrees of commitment to a vocational choice.

### Theory

Donald E. Super has been the major advocate of the position that self-concept formation and implementation are important factors influencing vocational development. There are two major influences apparent in Super's theory (Osipow, 1968). The first influence, self-concept theory, suggests that behavior is a reflection of an individual's attempt to implement his self-descriptive and self-evaluative thought. Along the same line of thinking, but with particular reference to vocations, Bordin (1943) proposed that responses to vocational interest inventories represent an individual's projection of his self-concept in terms of stereotypes he holds about occupations. An individual selects or rejects an occupation

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because of his belief that the field is or is not consistent with his view of himself.

Charlotte Buehler's (1933) writings in developmental psychology constitute the second major influence on Super's work. She wrote that life can be viewed as consisting of distinct stages, each stage requiring mastery of different life tasks. Super's conception of career development is based on the framework of these life stages based upon the assumption that vocational tasks reflect larger life tasks.

In his career pattern concept, Super suggested that the life cycle imposes different vocational tasks on people at various times of their lives. To fully understand an individual's vocational life the entire cycle must be observed. Super (1953) generated the following ten propositions which should underlie a vocational development theory.

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 the (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 life stages can be guided, partly by facilitating the process of maturation of abilities and interests, and partly by aiding in reality testing and in the development of the self-concept.
  8. The process of vocational development is essentially that of developing and implementing a self-concept: it is a compromise process in which the self-concept is a product of the interaction of inherited aptitudes, neural and endocrine makeup, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.
  9. The process of compromise between individual and social factors, between self-concept and reality, is one of role playing, whether the role is played in fantasy, in the counseling interview, or in real life activities such as school classes, clubs, part-time work, and entry jobs.
  10. Work satisfactions and life satisfactions depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a role which his growth and exploratory experiences have led him to consider congenial and appropriate.

In a later revision of his theory, Super (1963) added that self-concept formation requires a person to recognize himself as a distinctive individual, yet at the same time to be aware of the similarities between himself and others. The self-concept of a well integrated individual is continually developing, shifting somewhat through life as experiences indicate that changes are necessary to reflect reality. Presumably, the vocational part of

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self-concept develops in a similar way. As an individual matures, he tests himself in many ways, most of which have implications for educational and vocational decisions.

In a further extension of his theory, Super elaborated on the concept of vocational maturity. Vocational maturity allows an observer to assess the rate and level of an individual's career development. Vocationally mature behavior is dependent upon successfully dealing with the tasks involved with each life stage. In view of the fluid nature of vocational maturity, Super defined the concept, "normality," in terms of the congruence between an individual's vocational behavior and the expected vocational behavior at that age. The closer the two correspond, the greater the individual's vocational maturity.

The major theoretical basis for the present study grew out of Donald E. Super's theory of vocational development. Specifically, the idea for this study was generated from Super's thesis that the degree of harmony of self-concept is a factor relating to vocational interest maturity. It is reasoned that a male's degree of harmony in his self-concept will reflect itself in the intensity, diversity, and realism of his vocational interests as measured on structured interest inventories such as the Strong Vocational Interest Blank (SVIB).

Males whose self-concepts are highly harmonious should have more intense vocational interests than males

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whose self-concepts are less highly harmonious. Males whose self-concepts are highly harmonious should also have more diverse vocational interests than males whose self-concepts are less highly harmonious. Males whose self-concepts are highly harmonious should, in addition, be more realistic in their vocational expectations than males whose self-concepts are less highly harmonious. Finally, it could be expected that three groups of males with varying commitments to a vocational choice will show differences in self-concept harmony and vocational interest maturity. Males admitting to having vocational development problems could be expected to have less harmonious self-concepts and less mature vocational interests than either males having made a tentative vocational choice, or males having made a deep commitment to a vocational area.

### Research Hypotheses

The foregoing discussion of vocational self-concept theory and vocational development served as the basis for the research hypotheses that were developed and tested in this study.

The twelve hypotheses were:

1. The degree of consistency of self-concept for male college students is related to the intensity of their vocational interests.
2. The degree of consistency of self-concept for male college students is related to the diversity of their vocational interests.



3. The degree of consistency of self-concept for male college students is related to the degree of realism of their vocational interests.
4. Differences exist in the degree of consistency of self-concept among three groups of males with varying degrees of commitment to a vocational choice.
5. The degree of consistency of self-concept for male college students is related to their degree of ego integration.
6. The degree of ego integration for male college students is related to the intensity of their vocational interests.
7. The degree of ego integration for male college students is related to the diversity of their vocational interests.
8. The degree of ego integration for male college students is related to the realism of their vocational interests.
9. Differences exist in the degree of ego integration among three groups of males with varying degrees of commitment to a vocational choice.
10. Differences exist in the diversity of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.
11. Differences exist in the intensity of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.
12. Differences exist in the realism of vocational interests among three groups of males with varying degrees of commitment to a vocational choice.

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### Definition of Terms

The following section contains the operational definition of the terms used in the present investigation.

Self-concept is defined as an individual's evaluation of himself.

Harmony of self-concept, refers to: (1) a measure of the degree of consistency of self-concept for a subject, and (2) a measure of the degree of ego integration for a subject.

Consistency of self-concept is the degree to which an individual has an internally consistent evaluation of himself. In the present study this concept was measured by the Total C, Total D, and Total V scale scores of the Tennessee Self Concept Scale (TSC).

Ego integration is the degree to which an individual has been able to balance his psychological needs so that there are a minimum of psychological needs with mutually incompatible objectives and high levels of joint strength. Measurement of this concept was accomplished by the Trehub method of scoring of the Edwards Personal Preference Schedule (EPPS).

The concept of Vocational interests of an individual refers to the constellation of scores obtained by him on the empirically defined and objectively scored occupational scales of the SVIB.

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Intensity of Interest connotes the extent to which a subject's scale scores on the SVIB profile sheet deviate from the "men in general" zones on these same scales. Intensity of interest is inferred from the relative number of objectively defined primary, secondary, and reject patterns according to Stephenson's (1961) method of pattern analysis resulting from these deviations. Thus subjects with a greater number of such patterns are said to have more intense interests than those subjects with fewer patterns.

No attempt has been made to give differential weights to the various types of patterns. Tyler (1955) has warned that scale scores indicate the direction of interests but not the degree of interest. Thus primary, secondary, and reject patterns were all weighted equally in measuring intensity of interests.

Unclassified Pattern of Interest refers to any one of the eleven occupational groupings on the SVIB profile sheet of a subject which was not analyzed as a primary, secondary, or reject pattern according to Stephenson's (1961) technique of objective pattern analysis.

Diversity of Interests refers to the scale of the SVIB measuring "breadth of interests." The scale has been normed by setting the average score of a group of adults to 50, hence high scores of 58 or above indicate a broader than average range of interests.

Realism is defined in the relative sense that those subjects with a smaller difference score between the

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Occupational Level (OL) scale and the Academic Achievement (AA) scale, on the SVIB profile will be assumed to have a larger component of realism in their occupational interests than subjects with a larger difference score between OL and AA.

Vocationally Undecided is the term used to classify male subjects in the study, juniors and seniors, who came to the Counseling Center seeking vocational testing and counseling.

Vocationally Decided: Tentative is the classification employed for male subjects also juniors and seniors, who were enrolled in upper-division academic majors within the university and did not indicate any special need for vocational testing and counseling.

Vocationally Decided: Established refers to the group of male subjects in the study, who were third and fourth year doctoral level graduate students.

Vocational Maturity refers to intensity of vocational interests (as measured by the Stephenson Objective pattern analysis of the SVIB occupational scales), diversity of vocational interests (as measured by the DIV scale of the SVIB), and realism of vocational interests (as measured by the discrepancy score between the OL and AA scales of the SVIB).

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Commitment refers to the differing levels of academic achievement and commitment to a vocational choice of the three groups of male subjects: Group 1 = Vocationally Undecided (junior/senior counseling sample), Group 2 = Vocationally Decided: Tentative (junior-senior non-counseling sample), Group 3 = Vocationally Decided: Established (doctoral non-counseling sample).

#### Limitations of the Study

Since this study dealt with only the relationship between variables as they existed at a single point in time, no cause and effect relationship can be inferred. This study dealt with a single psychological variable (harmony of self-concept) which has been judged a priori to have a possible relationship to vocational development and maturity. The choice of this single variable is in no way intending to suggest that it is either the only determinant or even necessarily the prime determinant of vocational maturity.

This study is limited by its sample. The participants are all male university students. No information was available on females or non-university males. No generalization can be made concerning the population at large based on the sample in this investigation.

### Organization of the Study

The following chapter will include a review of the literature related to this study. Chapter III will contain a restatement of the hypotheses in testable form, a description of the sample, and a report of the methodology employed. The results will be presented in Chapter IV. Chapter V will contain a summary of the study, a discussion of the results, conclusions, and implications for further research.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

As was stated in Chapter I, this investigation was designed to study the relationship between the degree of harmony of self-concept and vocational interest maturity. This chapter is divided into three main sections. The first section, a brief historical overview of the self-concept in vocational development, is presented as background of the development of research that bridged the gap between personality theory and vocational psychology. The next section, the findings of research studies on the relationship between self-concept and vocational development, is presented as a review of previous investigations of self-concept implementation through vocational choice. The third and final section reviews studies concerning the relationship between ego functioning and vocational development. The purpose of this final section is to present evidence for the influence of ego functioning on vocational development and its relationship to the self-concept.

The Self-Concept in Vocational Development:  
A Brief Historical Overview

Super has stated that first references to self-concept and vocational development appeared in the writings of Carter (1940). These formulations were imprecise and derived from his research into the interests of adolescents. Shortly after Carter's seminal writing, Bordin, who had worked extensively with structured interest inventories began considering vocational interests as reflections of the self-concept and of occupational stereotypes. Independently, a general interest in self-theory had been revived around Lecky's Self-Consistency teachings and Allport's interest in Ego psychology.

Beginning in 1951 the conceptualization of occupational choice as the process of implementing the self-concept began to bridge the gap between personality theory and vocational psychology. In that year Super (1951) wrote a paper linking self-concept to vocational development theory. Leona Tyler (1951) published a paper on the relationships of aptitudes and interests in young children in which she made use of self-concept theory to explain her findings. In a follow-up study Tyler (1955) followed the same children as they grew older, building her theory of vocational development around the concept of identity. Super (1953) identified self-concept development and vocational self-actualization as essential to a theory of vocational development. Torrance (1954) described the use

of self-concept data in the educational counseling of college students. Tyler and Tiedeman summarized their thinking on self-concept and identity development in working papers drawn on by the scientific Careers Project (Super and Bachrach, 1957), and use was made of the self-concept as the organizing element in The Psychology of Careers (Super, 1957).

Anne Roe (1956) also dealt with the importance of the self-concept for occupational choice. In discussing a theoretical society in terms of Utopia she stated that in this imaginary, ideal, society, before an individual would make a vocational choice, he would know himself, and that the process of growing up would include, a full, conscious awareness of the self. He would develop a self-concept in accord with reality and this self-concept would be both known and acceptable to him.

Ginzberg, in his early work, alluded to the importance of a clear self-concept for making a vocational choice (Ginzberg, 1951). He saw the adolescent as being tempted to consider his choice tentative for a longer time than is justified in terms of his opportunity for training. The adolescent feels that he does not know enough about himself or about the world, or about the role that he would like to play in the future, to make a definitive commitment. The period of indecision could only come to an end, Ginzberg felt, when the individual reaches the conclusion that he finally has a clear insight into himself.

From the vague connections made by Carter have come the sophisticated and complex work of Super. The relationship between self-concept and vocational development is now clearly established (Super, 1953; Brophy, 1959; Stewart, 1959; White, 1959; O'Hara and Tiedeman, 1959; Tageson, 1960; Englander, 1960; Norrell and Grater, 1960). Now the task is to differentiate aspects of the self-concept and various aspects of vocational development.

### Self-Concept Implementation Through Vocational Choice

The central hypothesis for this study grew from that part of Super's theory of vocational development that deals with self-concept implementation through a vocational choice. It is relevant, therefore, to review a number of studies that have been conducted inquiring into the relationship between self-concept and career choice.

Norrell and Grater (1960) tested the hypothesis that subjects who can accurately predict their interests, defined in terms of SVIB scores, are more aware of themselves, awareness of self defined in terms of scores on selected scales of the Edwards Personal Preference Schedule (EPPS). Those S's who were able to predict accurately one-half or more of their interests on the SVIB were assigned to a "high awareness of self" group. Twelve of the EPPS scales were judged to possess relevance to self-awareness. These needs were: achievement, autonomy, affiliation, intraception, dominance, nurturance, change,

and heterosexuality. For low self-awareness the needs identified were deference, order, succorance, and abasement. Subjects in the high awareness group were expected to score higher in the appropriate EPPS categories than S's in the low self-awareness group. The results were all in the expected direction, but only two needs, order and succorance, were significant beyond the 0.05 level of confidence. Brown and Pool (1966) replicated the Norrell and Grater study. They again found the only two scales that remained significantly related to self-awareness were order and succorance.

Englander (1960, 1961) had female majors in elementary education, another area of education, and another field complete Q-sorts of (1) items about "self, and (2) statements about elementary teachers. He found that the elementary majors had the greatest degree of congruency between the sorts and concluded that individuals select or reject teaching in accordance with their respective perception of it as being compatible or incompatible with the self-concept.

Using a somewhat different approach, Morrison (1962) obtained corroborative results. He administered Q-sort tasks to forty-four second semester nursing students and forty-three sixth quarter education students, all females. The nursing students were to sort on their self-concept, their concept of a nurse, and their concept of a teacher. Similar procedures were followed for the

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sample of education students. Morrison predicted that nursing students would be more likely to report self-perceptions similar to those of nurses than teachers, while education students would be likely to report self-perceptions more similar to those of teachers than nurses. The results supported the predictions.

Stephenson (1961) suggested that persistence in the pursuit of an occupational goal despite obstacles provides a good index of crystallization of the vocational self-concept. He reasoned that the student who persists in seeking a medical or medically related education after failure to enter medical school must have had a crystallized self-concept when he first applied; the student who changes objectives may or may not have had a truly crystallized vocational self-concept. Of 368 Minnesota pre-medical students who completed applications for medical school but were not admitted, 343 responded to a questionnaire concerning their status four to eight years later. Of these, 30 per cent were in medical occupations despite their first failure to gain entry, 32 per cent were in medically related occupations, and 38 per cent were in nonmedical occupations. The total group of pre-medical students numbered 783, of whom 402 were admitted on first application. Thus, 66 per cent of the total group eventually entered medical school or medically related occupations. Stephenson concluded that the vocational self-concept of the student who attempts to

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enter the field of medicine has typically crystallized prior to making application for admission to medical school. The self-concept has, apparently, been translated into vocational terms, and the translation has been firmed, or crystallized, in the subject's own thinking before he has had significant experience in the field of work.

One should, however, keep in mind that a large number of rejected medical school applicants entered medically related fields by virtue of the relevance of their college training to the new field. They could have been merely trying to salvage as much as possible out of a misdirected education.

Kibrick and Tiedeman (1961) investigated the role of self-concept in the selection of nursing careers by means of comparing the images of nursing held by nursing supervisors and student nurses. They predicted that persistence in nurses' training is a function of the agreement between supervisor and trainee with respect to the image of nursing. Five hundred thirty-eight nursing students from seven different schools plus three or four supervising nurses from each of the schools were used as subjects. They were administered a questionnaire concerning the information they had about the nursing program, the activities of the student nurse, the personality characteristics of the ideal nurse, their own personality characteristics, and the rights and obligations of nurses with respect to superiors, peers, and patients. The results indicated a

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tenuous relationship between the congruence of student and supervisor images of nursing and persistence in training. Kibrick and Tiedeman concluded that self-concept and learning through role playing may still determine the goal elected when choice is necessary. Probably reducing the relationship found in the study is the absence of controls for ability for nursing training.

Blocher and Schutz (1961) studying the relationship between self-description and occupational stereotype and vocational preference, predicted that a person's vocational self-description and ideal self-concept are similar to his stereotype of a member of an occupation in which he is interested. They administered a descriptive check list surveying self, ideal self, and occupational stereotypes to 135 twelfth grade boys. The boys also rated 45 occupations represented on the SVIB in order of interest to them. Blocher and Schutz's findings were that the resulting self, ideal self, and vocational self-concepts were similar, as had been predicted.

Warren (1961) used a personality inventory to measure the self-concept. He also used a measure of the expected occupational role, that is, of the occupational role concept, consisting of ratings of the sources of job satisfaction expected in the preferred occupation. Typical combinations of personality traits and expected job satisfactions were also used as a measure of self-concept role concept agreement, while atypical combinations of traits

and values were treated as discrepancies between self and occupational role requirements. It was hypothesized that this self-role discrepancy measure would predict change of college major. The subjects were 525 high scoring National Merit Scholarship competitors tested in high school and followed up through the sophomore year of college. When the criterion defined change of major as a minor change or as one change, the discrepant group was found not to have changed significantly more often than the compatible group; but when the criterion measure was made more sensitive at the upper end, and change was defined as a single major change or double major change, the expected differences were found. The use of National Merit Scholars as subjects for this study makes inferences to more typical college students more difficult to draw and makes inferences to noncollege populations almost impossible.

Nurses working in a New York hospital were asked by Brophy (1959) to complete an adjective checklist to describe themselves, their ideal selves, and the kind of person their jobs required them to be. They also filled out a job satisfaction questionnaire. Brophy's hypothesis was that similarity of the self-concept to the perceived occupational role requirements (occupational concept) is correlated with job satisfaction. The hypothesis was sustained.

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Tageson (1960) used Q-sorts to obtain descriptions of the self, the ideal self, the ideal seminarian, and the average seminarian from 120 seminary students, together with faculty and peer ratings of realism in the vocational choice of each seminarian. Compatibility of individual student and faculty concepts of the ideal member of the occupation was one predictor. The correlation between this predictor and the criterion variable was .27 when the criterion was faculty rating of vocational realism, statistically significant at the .01 level; but there was no relationship when the criterion was peer ratings of realism or when the predictor was compatibility of self concept and faculty concept of the average seminarian.

James (1965), using cross-sectional data, concluded from his positive findings that (1) each time an individual thinks of himself as a member of his chosen profession, any incongruity he perceives between his self-expectations and his concept of persons in his chosen occupation will create pressure for attitudes toward both to change until congruity between them is attained; and (2) the more frequently these changes toward congruity occur, the more likely it will be that the changed attitudes will become permanent.

Anderson and Olsen (1965) predicted a positive relationship between the degree of congruence of self and ideal self-concepts and the ability to make realistic



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choices of occupational goals. They collected information on first and second occupational choices from ninety-six high school seniors--men and women. In addition, the Flanagan Aptitude Classification Test (FACT) relative to the realism of the choice in terms of four-year versus two-year college plans was administered. A Q-sort between congruence of self and ideal self-concept in terms of both positive and negative items was performed. Student choices, then, were classified as to their adequacy in terms of the probability of the student's completion of the academic training necessary for his preferred field, two-year or four-year college program. Anderson and Olsen predicted that students whose self and ideal self-concepts were similar would make choices more in line with their potential training than would students whose self and ideal self-concepts were divergent. The results failed to support such a prediction. However, these negative results might be questioned with regard to the use of the FACT. The validity of this instrument, for the occupational scales, is seriously questioned (Cronbach, 1960).

Oppenheimer (1966) studied the hypothesis that a positive relationship exists between an occupational preference hierarchy based on predictions made from the degree of agreement between self and occupational concepts and the occupational preference hierarchy directly expressed by a subject. He required his subjects, eighty-one male

liberal arts students below the senior year, to rank seventy occupations in order of their preference for them. A modified Repertory Test was administered to permit the subjects to use their own personal constructs to express their self and occupational ratings. By comparing the occupational rankings with the responses to the Repertory Test, Oppenheimer found support for his prediction that the occupational preferences expressed by people are consistent with their self-concepts.

Korman (1966) tested the general hypothesis that the relationship between the self-concept and choice holds for subjects with high self-esteem but not for those with low self-esteem. His results supported this expectation, and he concluded that they provide negative evidence for a simple match, self to occupational stereotype process in vocational choice. It should be noted, however, that he used t tests rather than analysis of variance for his group comparisons, and consequently he did not properly test for the interaction he hypothesized between self-esteem and the implementation of self in choice. In other words, it is possible that he obtained more significant differences between groups than he would have in the appropriate factorial design.

Finally, there is some confirmatory evidence that there is a relationship between self and vocational concepts after occupational entry. Schuh (1966) found that "myself" and "my job" concepts were correlated on the

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Semantic Differential on two dimensions, evaluative and hastiness, but not on a third, aggressiveness, for two groups of college seniors followed up on the job.

In summary, the evidence from the studies cited above, although based upon widely divergent samples as subjects and employing a variety of standardized and non-standardized measuring instruments, generally supports Super's formulation that self-concept is related to vocational choice. In addition, it appears that agreement between the self-concept and one's occupational concept is related to occupational preferences and to both internal and external criteria of success and satisfaction. Thus, the present review supports the formulation of hypotheses designed to investigate the specific parts of the self-concept and their relationship to measured occupational preferences.

#### Ego Functioning as Related to Vocational Development

Although Super soundly criticized Ginzberg because of his failure to use existing data relevant to vocational choice, Super by his own admission, was influenced in his early writings by Ginzberg (Super, 1951). Since the present study seeks, in part, to relate ego functioning to interest maturity, it seems appropriate to review a few ego process studies.

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Small (1953) proposed that certain aspects of career decisions are based on ego functioning. He hypothesized that a healthy ego, since it is in close contact with reality, will be able to delay gratification to a much greater degree than a weak ego, which is more distantly removed from reality. Since adjustment is partially a function of ego strength, and according to his reasoning, vocational choice is partly a function of ego strength, reality factors in vocational choice are related to ego functioning. Thus, he predicted that adolescent males who are well adjusted will express realistic first occupational preferences and unrealistic second preferences, while the reverse should hold true for poorly adjusted boys.

To test this prediction, he studied the job preferences and reasons for their selection of fifty pairs of fifteen- to nineteen-year-old boys, matched on all significant background features except adjustment. The results supported the hypothesis; the choices of the better adjusted boys reflected participation in their environment, while the choices of the maladjusted boys reflected detachment from their environments, a tendency to act out their impulses, and to have feelings of self-depreciation. These findings led Small to conclude that vocational counseling is most effective with people who have strong egos because they are reality oriented and that those with weak egos need psychotherapy before they can profit from vocational counseling or make realistic vocational plans.

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Small concluded that vocationally undecided people are unable to commit themselves vocationally because they have retentive fantasies and do not care to give up any of their career alternatives.

Segal (1961) used projective techniques to study accountants and creative writers, showing how individuals go about accomplishing the task of establishing an occupational goal which allows for the satisfaction of needs in a socially acceptable way.

His subjects were fifteen advanced undergraduate accounting students and fifteen advanced and successful creative writing students. Care was taken not to confound the two groups by assuring that SVIB scores for accountants were not high on literary and similarly, that for the creative writers the accounting scores of the SVIB were not high. Furthermore, the general background of each group of subjects was similar. That is, their ages, intellectual levels, and so on, were similar. They were administered the Rorschach Inkblot Test and the Bender-Gestalt and were required to write a one-page vocational autobiography.

First, Segal predicted that the general level of adjustment of the two groups would not be different, and the results bore him out. No differences in general adjustment were found. Segal predicted that the accountants would accept social norms to a greater degree than the writers and also that the accountants would attempt to control their emotions more than the writers. On the

other hand, the writers would be more sensitive to emotional situations than the accountants. The results concerning these predictions were mixed. Some of the Rorschach responses that should have differentiated the two groups did not. The Rorschach indicated that the accountants are more emotionally controlled than the writers and the writers more sensitive than the accountants, but the Bender-Gestalt did not support that expectation.

Additional significant results indicated that the writers were more hostile than the accountants and handled emotional and ambiguous situations more adequately than the accountants. Also, there was some evidence for the hypothesis that accountants have a rigid, fearful identification.

Segal concluded that establishing an occupational goal does allow an individual to satisfy his needs in a socially acceptable way.

Several criticisms can be made of the Segal study (Osipow, 1968, p. 104). Using the Rorschach to validate hypotheses about personality development is questionable with respect to the reliability and validity of the instrument in such research as well as with regard to the pathological basis of the Rorschach as opposed to the relatively normal process of choosing a vocation. Using students for the sample was undoubtedly convenient, but being a student is a career in itself in some respects,

and the strength of the results probably would have been increased had practicing accountants and writers been used as a sample.

Finally, Crites (1960) was concerned with the correlation between ego strength and occupational interest level and between ego strength and the degree to which interests are patterned. Crites assumed that a strong ego would result in a clearer pattern of vocational interests at a more professional level than would a weak ego. He also predicted that older students, having a stronger ego as a function of more advanced age, would have clearer interest patterns. Using the SVIB Occupational Level scale and the number of A and B+ scores on the SVIB as measures of level and patterning and the ES scale of the MMPI (Barron, 1953) as an ego strength measure, Crites tested his hypotheses on a sample of 100 male college students who had come to a college counseling center for educational-vocational counseling.

The results failed to support the hypothesis that higher occupational levels are related to strong egos, but the data did support the second hypothesis, that interest patterning is related to ego strength in older students but not in younger ones.

Crites made several suggestions for counseling students with unpatterned interests. He proposed that educational-vocational counseling for such students be

preceded by personal counseling which has as its goal the development of a more adequately functioning ego, thus confirming the suggestions made by Small nearly a decade earlier.

### Summary

From the foregoing review of the literature the present investigation was designed to focus attention upon questions raised by previous investigations but not studied systematically.

The first section of the review was intended to present evidence of Super's attempt to build his theory upon the groundwork laid by previous efforts. The early works of Carter (1940), Bordin (1943), Lecky (1945), and Allport (1943) were shown to be influential in the conceptualization of the influence of the self-concept in vocational development. It was concluded that Super's formulation would potentially provide the theoretical framework for the present study. The second section of the review was intended to present evidence for support of the idea that occupational choice represents the implementation of the self-concept. The Norrell and Grater (1961), Englander (1960, 1961), Morrison (1962), Stephenson (1961), Kibrick and Tiedeman (1961), Blocher and Schutz (1961), Warren (1961), Brophy (1959), Tageson (1960), James (1965), Oppenheimer (1966), Korman (1966), and Schutz (1966) studies generally all indicated that

self-concept is related to vocational choice although not all studies defined those two concepts in the same way operationally. The third section of this chapter was intended to present evidence for the influence of ego functioning on vocational development and its relationship to the self-concept. The Segal (1961), Small (1951), and Crites (1960) studies were presented for the purpose of demonstrating the importance of ego functioning on vocational development.

This study is based on Super's hypothesis that the choice of an occupation is a way of implementing a self-concept. Whereas the previous studies have been concerned with self-concept as a global entity, the present study focused on one dimension of self-concept--harmony, or the degree to which a person has an internally consistent evaluation of himself. In addition, the present study attempted to relate ego functioning to self-concept and, in turn, to vocational preferences. Just as degree of consistency of self-concept was related to vocational maturity, this study also attempted to relate ego integration, or consistency of psychological needs, to vocational maturity. The basis for this formulation was generated from that part of Super's self-concept theory that suggests work satisfactions depend on the extent to which the individual finds adequate outlets for his personality traits, psychological needs being one such personality trait.

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The foregoing chapter has presented research and theory considered to be relevant to an investigation of self-concept and vocational development. In the next chapter the methodology and analysis to be used in testing the hypotheses of the present study will be presented.

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## CHAPTER III

### METHODOLOGY AND ANALYSIS

The sections to follow include a description of the subjects used in the study, an explanation of the procedures used in gathering the data, information about the instruments chosen for testing the hypotheses, a list of the hypotheses cast into statistically testable form, a description of the preparation of the data for analysis, and a summary of the analysis procedures.

#### Sample

Sixty-nine male students at Michigan State University served as subjects for the study. All volunteered to participate in the research. Twenty were vocationally undecided juniors or seniors who came to the Michigan State University (M.S.U.) Counseling Center during the fall and winter terms of the 1969-1970 academic year requesting vocational testing and counseling. Twenty-seven were vocationally decided juniors or seniors, enrolled in upper-division majors at Michigan State University, who at the time of testing indicated no dissatisfaction with their choice. They volunteered, through their residence

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hall floor advisor, to participate in a Michigan State University Counseling Center research project. Twenty-two were vocationally decided third and four year doctoral level graduate students, who at the time of testing also indicated no dissatisfaction with their choice. They volunteered to participate in a Counseling Center research project through the following three sources: (1) the head advisor of a graduate student residence hall, (2) the student affairs office of an academic department, and (3) the training program in Clinical and Counseling Psychology. No attempt was made to control for the academic majors in which the subjects were enrolled at either the undergraduate or graduate level.

### Procedures

Each subject in the junior/senior undecided group was asked during his initial interview by the screening counselor if he would be willing to participate in the study.<sup>1</sup> Each subject was informed that participation in the study would require approximately two hours of testing. When a subject volunteered for the study, he was assigned, by the screening counselor, a battery of three tests. The

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<sup>1</sup>Screening interview is a term used synonymously with initial interview at the M.S.U. Counseling Center. Screening Counselor is a term used to refer to the counselor who conducts the initial or screening interview. A standardized form letter presented by the screening counselor on behalf of the researchers, to the subjects during the initial interview and requesting their participation in the study is contained in Appendix A.

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three tests (Strong Vocational Interest Blank, Edwards Personal Preference Schedule, and Tennessee Self Concept Scale) were routinely administered by the testing section of the Counseling Center. All subjects in this group completed their testing before being seen for educational-vocational counseling. The data collection for this group extended from the fifth week of fall term to the fifth week of winter term, a period of approximately twelve weeks. Each subject in the junior/senior: vocationally decided group was administered the three instruments used in the study in a group testing session. The data were collected for this group during the winter term. Some of the doctoral level student subjects were tested with the three instruments in a group setting and some were tested individually. The data collection for this group also occurred during the winter term.

Of the twenty-four vocationally undecided students who initially agreed to participate in the study, twenty completed the psychometric data required. All of the twenty-seven junior/senior vocationally decided students who originally volunteered for the study completed the testing. Three of the twenty-five doctoral level students who originally volunteered for the study failed to appear for the scheduled group testing session and would not complete the testing individually. After completing the tests the two "non counseling" groups were offered interpretations of their Strong and Edwards profiles. However, this

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interpretation and the counseling that the undecided students received were not variables in this study.

In the preparation of the psychometric data, machine scoring procedures were employed for the scoring of the Strong and Edwards. The design of the study did not include all of the Tennessee Self Concept Scale data collected. The following data were used in this study: (a) the Strong Vocational Interest Blank (SVIB), (b) the Edwards Personal Preference Schedule (EPPS), and (c) the Total Variability (V), the Total Distribution (D), and the Total Conflict (C) scores of the Tennessee Self Concept Scale (TSC).

### Instruments

In this section the instruments which were used in testing the hypotheses are discussed. The rationale for their use as well as validity and reliability information for each instrument is presented.

#### Tennessee Self Concept Scale

The Tennessee Self Concept Scale was developed for the purpose of providing a well-standardized measure of self-concept that could easily be administered, was widely applicable, was multi-dimensional, and could be used for counseling and research purposes (Fitts, 1965, p. 1). The author developed scores for twenty-nine scales, some of which were summation, distribution and variability scores for other scales, and some of which were scales

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pertaining primarily to clinical variables not relevant for this study.

According to the manual the Variability scores (V) provide a simple measure of the amount of variability, or inconsistency, from one area of self-perception to another. The Total V score represents the total amount of variability for the entire record. High scores indicate that the person's self-concept is so variable from one area to another as to reflect little unity or integration. High scoring persons tend to compartmentalize certain areas of self and view these areas quite apart from the remainder of self.

The Total Distribution score (D) is a summary score of the way one distributes his answers across the five available choices in responding to the items of the scale. It is also interpreted as a measure of still another aspect of self perception: certainty about the way one sees himself. High scores indicate that the subject is very definite and certain in what he says about himself while low scores mean just the opposite. Low scores are found also at times with people who are being defensive and guarded. They hedge and avoid really committing themselves by employing "3" responses on the answer sheets. Extreme scores on this variable are undesirable in either direction and are most often obtained from disturbed people (Fitts, 1965, p. 4).

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The Total Conflict score (C) is a reflection of conflicting responses to positive and negative items within the same area of self perception. These scores are not to be confused with the Variability score, which reflects fluctuations from one area of self-perception to another. High C scores indicate confusion, contradiction, and general conflict in self perception. The person with extremely low scores is presenting such an extremely tight and rigid self description that it becomes suspect as an artificial, defensive stereotype rather than his true self image.

Reliability.--As reported in the manual the reliability scores for the Total V, Total D, and Total C scores, based on test-retest data for sixty college students over a two-week period were as follows: (1) Total V = .67, (2) Total D = .89, and (3) Total C = .74 (Fitts, 1965, p. 14).

Validity.--Items on the Tennessee Self Concept Scale were selected from a pool of self-descriptive items from other self-concept measures and from written descriptions by patients and nonpatients. A two dimensional 3 x 5 scheme was used by the author to classify the items. The items utilized in the scale were those upon which seven clinical psychologists had reached perfect agreement regarding classification and scoring (Fitts, 1965, p. 17).

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Statistical analyses have been performed in which a large group (369) of psychiatric patients have been compared with the 626 nonpatients of the norm group. These demonstrate highly significant differences between patients and nonpatients for almost every score that is utilized on this scale. In addition to these data other studies (Congdon, 1958; Piety, 1958; Havener, 1961, and Wayne, 1963) demonstrate similar patient versus nonpatient differences. The author has also collected from the other extreme of the psychological health continuum--from people characterized as high in personality integration. The basic hypotheses here was that this group would differ from the norm group in a direction opposite from that of the patient group. This hypothesis was sustained for virtually all scores. Thus the validity of the instrument for discriminating between patients and nonpatients is clearly demonstrated.

Rationale for Use of the Tennessee Self Concept Scale.--The choice of this instrument was motivated primarily by its ability to measure consistency of self-concept. No other instrument now standardized furnishes such information. Since, for purposes of this study, part of the definition of harmony of self-concept was the internal consistency of an individual's evaluation of himself, the Total V, Total D, and Total C scores of the Tennessee seemed particularly appropriate as variables to

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define consistency operationally. In addition, each of the scales attempts to measure different aspects of integration. This provides for an additional dimension to the study.

Strong Vocational Interest  
Blank for Men

The Strong Vocational Interest Blank (SVIB-M), most recently revised in 1969, is a device to identify preference differences from among a wide variety of occupations that college students frequently enter. The SVIB accomplishes this by providing an index of the similarity between a male's interests and those of successful men in each of forty-eight occupations (Strong, 1969, p. 1). For each item on the inventory, the respondent chooses one of the following three responses: (1) like, (2) dislike, (3) indifferent. The data from the SVIB that were used in this study were: (a) the forty-eight Occupational Scales, (b) the Occupational Level scale, (c) the Academic Achievement scale, and (d) the Diversity of Interest scale.

The Occupational scales are designed to map a person's interests into the spectrum of occupations (Strong, 1969, p. 8). Each occupational scale was developed by contrasting SVIB responses of men in a specified occupation (the criterion group) with a group of Men-in-General, a sample of men from many diverse occupations. Each scale contains items that discriminate between the interests of these two groups; thus a person's score on a given occupational scale provides an index of the similarity between

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his interests and the characteristic interests of men in the designated occupation. The Academic Achievement scale (AA) contrasts the interests of those who do well in school, both in high school and college, with those who do poorly, but the results are more related to persistence in school than to level of performance. The Occupational Level scale (OL) was developed in the 1930's by comparing the SVIB responses of men with high and low incomes. It was originally intended to be a measure of economic drive. It has never fulfilled that function--instead, it is best described as a reflection of the "socioeconomic level" of one's interests. In general, professional men and high level executives score high, skilled tradesmen and blue-collar workers lower (Strong, 1969, p. 19). Finally, the Diversity of Interest scale (DIV) was developed to learn something of "breadth of interests." It contains twenty-four statistically unrelated items; if a person answers "like" to a large number of these items, he is reporting preferences for a wide range of activities (Strong, 1969, p. 19).

Reliability.--The stability of the SVIB over long periods of time has been well established, although it does vary both with age tested and the time interval between the two testings (Strong, 1943, 1955; Powers, 1956; Schletzer, 1963; Campbell, 1966). According to the 1969 manual scores on the SVIB Occupational Scales are quite

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stable over short time spans, such as a few weeks; for adults, the same stability holds over much longer intervals, up to several years. Test-retest correlations over thirty days average slightly over .90, dropping to about .75 over twenty years for adults and to .58 over thirty-five years for men first tested at age sixteen. Correlations over the four years of college usually are in the .60's. Two major factors influence the size of these test-retest correlations; the first is the age when first tested, the second is the retest interval. Of the two, the former is more important. When the SVIB is used for those below the age of twenty-one, the possibility of future changes must be recognized.

The stability of the person's answers to the 399 individual SVIB items is lower than the scale stability. Over a thirty-day period, for example, the average respondent will change about 25 per cent of his answers. Virtually all of these changes will be one category shifts, that is, from "like" to "indifferent," from "indifferent" to "dislike" or vice versa. Only 1 or 2 per cent of the shifts will be from "like" to "dislike" or the reverse. These shifts in responses over a short time span have virtually no impact on the profile scores, apparently because many of them cancel each other out (Strong, 1969, p. 21).

Validity.--The 1969 manual states that the item content of the SVIB is heavily oriented toward occupational activities; consequently, when a person reports his feelings toward these, he is clearly reporting information that is relevant to his vocational planning (Strong, 1969, p. 21). The concurrent validity of the SVIB, or its power to make discriminations between various criterion samples, is measured by the inventory's power to separate occupational samples from Men-in-General, and the index usually used is the "per cent of overlap." For the men's form, the overlaps range from 15 to 52, with a median of 31. This median represents a separation between the means of the criterion and reference groups of about twenty standard score points, or roughly 2 standard deviations. The SVIB Occupational scales usually show 2.5 to 3 standard deviations between extreme groups, and some scales show differences as large as 5 standard deviations (Strong, 1969, pp. 21-22). The Strong manual summarizes the predictive validity data on the SVIB by the following statements:

- (1) predictive validity is clearly a function of age tested and length of interval between testing and eventual follow-up.
- (2) The more definite the interest pattern--or stated differently the more deviant from that of the general population--the more predictive.
- (3) For college seniors and high school seniors with definite patterns, over a ten- to twenty-year period the odds are about three to one that the person will be found in an occupation



consonant with his earlier profile. For the general population of college bound high school seniors, the odds are somewhat less, about two to one, for being in an appropriate occupation. (4) Those who are found, upon follow-up, to be in an "appropriate" occupation are more likely to report job satisfaction than those in "inappropriate" occupations (Strong, 1969, pp. 21-22).

Rationale for Use of the SVIB-M.--The SVIB is a most highly respected research and clinical instrument. Since the subjects in this study were all male college students, the instrument was judged appropriate for use in measuring vocational interest patterns. Specifically, the SVIB Occupational scales were analyzed using the Stephenson (1961) objective method of pattern analysis to determine intensity of vocational interests. The difference score between the Occupational and Achievement scales was used to determine realism of vocational interests. The present study hypothesized that differences between OL and AA might logically be an index of realism of vocational interests--one of the experimental variables. Finally, the Diversity scale of the SVIB was used to determine the degree of diversity of an individual's vocational interests.

### Edwards Personal Preference Schedule

The EPPS was devised, according to the manual, primarily as an instrument for research and counseling purposes, to provide quick and convenient measures of a number of relatively independent normal personality variables (Edwards, 1959, p. 5). The measures of the normal personality are loosely based but carefully named after fifteen needs defined by Murray (Murray, 1938). The ipsative structure of the instrument helped minimize the operation of the social desirability factor in the responses of the examinees to the inventory by allowing for the pairing of items which had previously been determined similar in social desirability. The emphasis in constructing the EPPS was on the measurement of those aspects of the personality in which relatively normal people would differ: variations in personal preferences within the normal range of behavior rather than deviations from some norm in the direction of maladjustment.

The present study makes use of the following scales of the EPPS (Edwards, 1959, p. 11):

(1) Aggression: To attack contrary points of view, to tell others what one thinks about them to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

(2) Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the

leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

(3) Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

(4) Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

(5) Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

(6) Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

(7) Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.



(8) Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

Reliability.--Two types of reliability are reported in the manual (Edwards, 1969, p. 19). Split-half reliabilities (coefficients of internal consistency) for the fifteen personality variables, based on the scores of the 1,509 subjects in the normative group, and corrected by the Spearman-Brown formula, ranged from .60 to .87, with the majority clustering in the mid-seventies. Although somewhat lower than would be desired and would be found for ability or aptitude tests, these coefficients are approximately comparable to those for other paper and pencil personality inventories (Super and Crites, 1959, p. 544). The test-retest reliability (stability) coefficients for the EPPS were even more acceptable than the internal consistency estimations. For a group of eighty-nine students at the University of Washington, who were re-examined after a one-week interval, the reliabilities ranged from .74 to .88, with most of the coefficients falling in the eighties.

Validity.--The validity data in the manual are quite meager. However, a number of independent studies have contributed information toward construct validation of several scales. In one such study (Bernadin and

Jessor, 1957), subjects were put through three experimental task situations requiring the explicit demonstration of dependent or independent behavior. Subjects who had scored high on deference and low on autonomy showed more reliance on others for approval and help. No relationship was found, however, between these scale scores and conformity to the opinions and demands of others. Super and Crites (1962, p. 539) suggest that it is probably best to interpret scores on the EPPS as indicating the relative strength of personal preferences for a variety of different activities and interpersonal relationships. Until more extensive validity evidence is available, this procedure should yield interpretations which are as parsimonious and objective as can be made at present, and therefore less subject to error, since they are based upon the face or content validity of the items rather than the "surplus" meanings often associated with the concept of needs. In its present stage, the EPPS is a highly promising research instrument which has contributed several ingenious innovations in test construction (Anastasi, 1961, p. 518).

Rationale for Use of the EPPS.--The choice of this instrument was motivated primarily by its ability to assess relative strengths of personal preferences for a variety of normal activities and interpersonal relationships.

In the present study, the eight needs listed above, were used to assess ego integration--the ability

of an individual to balance or be internally consistent with his psychological needs. This was accomplished by the Trehub (1959) method of scoring of Edwards need scores. The rationale for the use of this particular scoring technique is its ability to be applied to a standardized instrument (EPPS) to assess the degree to which an individual has been able to achieve a balance in his psychological needs. The following four pairs of needs were selected by Trehub on the basis of apparent mutual incompatibility of objectives within each pair: (1) Aggression--Deference, (2) Succorance--Nurturance, (3) Autonomy--Abasement, and (4) Order--Change.

To assess the level of incompatibility of need strengths for each individual on each pair of needs, the two needs scores (expressed in standard score units) were summed and 100 subtracted from each sum (mean standard score being 50 for each need). Positive residuals were considered as indicating the presence of incompatibility of needs and the degree of incompatibility for each indicator pair was considered to be reflected in the magnitude of the positive residual. The total degree of need incompatibility for each subject consisted of the sum of all positive residuals on the incompatibility indicators. Therefore, those subjects with lesser incompatibility scores were considered to have higher degrees of ego integration, or to be more consistent in their evaluation of their psychological needs.

There have not been extensive studies on the validity of Trehub's technique for scoring EPPS profiles. Trehub (1959) did attempt to differentiate among five groups on the basis of his scoring of their EPPS profiles. The subjects were 100 males, with 20 in each of the following five groups: College Students, mean age = 23.8 years; Adolescents, mean age = 15.6 years; Neurotics, mean age = 34.2 years; Character Disorders, mean age = 35.4 years, Schizophrenics, mean age = 31.0 years. His results yielded three significantly different subgroups. The first subgroup consisted of Schizophrenics alone; the second consisted of Character Disorders, Neurotics, and Adolescents; the third consisted of College Students alone.

### Statistical Hypotheses, Preparation of the Data, Analysis Procedures

#### Hypotheses

The review of the literature led to a restatement of the research hypotheses, originally presented in Chapter I. The hypotheses were cast into the following statistically testable forms:

- H<sub>1</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho = 0$

- H<sub>2</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho = 0$

- H<sub>3</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

Symbolically:  $\rho = 0$

- H<sub>4</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>5</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>6</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>7</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>8</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho > 0$

- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>9</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho > 0$





- $H_0$  There will be no relationship between the consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho = 0$

- $H_{10}$  Differences will exist in the degree of consistency of self-concept, as measured by the Total V score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

Legend:  $\mu_1$  = Mean score for vocationally undecided group (juniors/seniors counseling group)

$\mu_2$  = Mean score for vocationally decided: tentative group (juniors/seniors noncounseling group)

$\mu_3$  = Mean score for vocationally decided: established group (doctoral students non-counseling group)

- $H_0$  No differences will exist in the degree of consistency of self-concept, as measured by the Total V score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>11</sub> Differences will exist in the degree of consistency of self-concept, as measured by the Total D score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the degree of self-concept, as measured by the Total D score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>12</sub> Differences will exist in the degree of consistency of self-concept, as measured by the Total C score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the degree of consistency of self-concept, as measured by the Total C score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>13</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be no relationship between consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho = 0$

- H<sub>14</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be relationship between consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho = 0$

- H<sub>15</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be no relationship between consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Symbolically:  $\rho = 0$

- H<sub>16</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to the intensity of their vocational interests, as measured by the Stephenson pattern analysis of the Occupational scales of SVIB profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their intensity of vocational interests, as measured by the Stephenson pattern analysis of the Occupational scales of SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>17</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>18</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho < 0$

- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Symbolically:  $\rho = 0$

- H<sub>19</sub> Differences will exist in the degree of ego integration, as measured by the Trehub scoring of EPPS profiles, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the degree of ego integration, as measured by the Trehub scoring of EPPS profiles, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>20</sub> Differences will exist in the intensity of vocational interests, as measured by the Stephenson pattern analysis of the SVIB, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the intensity of vocational interests, as measured by the Stephenson pattern analysis of the SVIB, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>21</sub> Differences will exist in the diversity of vocational interests, as measured by the DIV score on the SVIB profile, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the diversity of vocational interests, as measured by the DIV score on the SVIB profile, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

- H<sub>22</sub> Differences will exist in the realism of vocational interests, as measured by the discrepancy score between the OL and AA scores on the SVIB profile, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 \neq \mu_2 \neq \mu_3$

- H<sub>0</sub> No differences will exist in the realism of vocational interests, as measured by the discrepancy score between the OL and AA scores on the SVIB, among three groups of males with varying degrees of commitment to a vocational choice.

Symbolically:  $\mu_1 = \mu_2 = \mu_3$

### Preparation of the Data

#### Consistency of Self-Concept Scores

The initial procedure in the preparation of the data involved the acquisition of each individual's Total V, Total D, and Total C scores on the TSC (see Appendix B, Table 12).

### Interest Intensity Patterns

The next step in the preparation of the data involved the pattern analysis of the Strong Vocational Interest Blank profiles for each subject according to the Stephenson objective pattern analysis. The frequencies of primary, secondary, reject, and unclassified patterns were tabulated for each subject. The accuracy of the analysis procedure was verified by a second, independent, scoring (see Appendix B, Table 14).

### Diversity of Vocational Interests

Each individual's diversity of vocational interest score was obtained from his DIV score on his SVIB profile (see Appendix B, Table 14).

### Realism Measure

The score on this measure was computed for each subject by taking the difference between the Occupational Level (OL) and Academic Achievement (AA) scales of the SVIB, subtracting AA from OL (see Appendix B, Table 14).

### Ego Integration Scores

The final procedure in the preparation of the data involved the computation of the ego integration score for each subject using the Trehub method of scoring of the EPPS (see Appendix B, Table 13).

### Analysis

The null form of hypotheses one through nine and thirteen through eighteen were tested for statistical significance by the Pearson product-moment correlation coefficient. The level of significance was set at the .05 level for the testing of all correlational hypotheses in the study.

The null form of hypotheses ten, eleven, twelve, nineteen, twenty, twenty-one, and twenty-two, were tested by analysis of variance. Scheffe (1959) post hoc comparisons were computed to further analyze the data in instances where the null hypothesis was rejected.

The statistical manipulations involved in this study were accomplished by use of a computer, utilizing programs written by the Michigan State University Computer Laboratory.

### Summary

This chapter presented a description of the samples used in this study. The procedures used in the gathering and preparation of the data were presented. Reliability and validity information of the instruments used in measuring the variables pertinent to the study were presented. Finally, the statistical hypotheses for the purpose of testing the research hypotheses outlined in Chapter I were presented.



## CHAPTER IV

### RESULTS

This chapter presents an analysis of the data and reports findings of the hypotheses tested. Each hypothesis is restated and the findings relevant to each hypothesis are presented.

#### Tests of Hypotheses

Table 1 lists the results of the correlational hypotheses. Reference will be made to this table in the

TABLE 1.--Correlations among the TSC scores, the Ego Integration scores, and the SVIB scores.

|                          | TSC V<br>Score | TSC D<br>Score | TSC C<br>Score | Ego<br>Integration<br>Score |
|--------------------------|----------------|----------------|----------------|-----------------------------|
| SVIB INTENSITY<br>Score  | -.015          | .012           | .103           | -.150                       |
| SVIB DIV<br>Score        | -.098          | .207*          | -.201          | -.295*                      |
| SVIB REALISM<br>Score    | -.143          | -.060          | .005           | .129                        |
| EGO INTEGRATION<br>Score | -.045          | -.111          | -.021          | 1.000                       |

\*Significant at the .05 level.

discussion of the results of each of the correlational hypotheses. The tables listing the results of each of the analysis of variance hypotheses will be included separately, within the discussion of each of those hypotheses.

### Test of Hypothesis 1

- H<sub>1</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

As can be seen in Table 1, there was no significant relationship between degree of consistency of self-concept as measured by the TSC V score and intensity of vocational interests. The null hypotheses was retained.

### Test of Hypothesis 2

- H<sub>2</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

As Table 1 indicates, there is no significant relationship between degree of consistency of self-concept as measured by the Total D score on the TSC and intensity of vocational interests ( $r = .012$ ). The null hypothesis was retained.

### Test of Hypothesis 3

- H<sub>3</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their intensity of vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, and the intensity of their vocational interests, as measured by the Stephenson pattern analysis of SVIB Occupational scale scores.

A correlation of .103 between degree of consistency of self-concept as measured by the Total C score on the TSC and intensity of vocational interests does not approach the required level of significance, thus the null hypothesis was retained.

### Test of Hypothesis 4

- H<sub>4</sub> The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

As reported in Table 1, there is no significant relationship ( $r = -.098$ ) between the degree of consistency of self-concept as measured by the Total V score on the TSC and diversity of vocational interests. The null hypothesis was retained.

#### Test of Hypothesis 5

- H<sub>5</sub> The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

As Table 1 indicates, there is a significant relationship ( $r = .207$ ) between consistency of self-concept, as measured by the Total D score on the TSC, and diversity of vocational interests. The null hypothesis was rejected and Hypothesis 5 was confirmed.

#### Test of Hypothesis 6

- H<sub>6</sub> The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Table 1 reveals no significant relationship ( $r = -.201$ ) between degree of consistency of self-concept, as measured by the Total C score on the TSC, and diversity of vocational interests. The null hypothesis was retained.

#### Test of Hypothesis 7

- $H_7$  The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.
- $H_0$  There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

A correlation of  $-.143$  between degree of self-concept, as measured by the Total V score on the TSC, and realism of vocational interests does not approach the required level of significance. The null hypothesis was retained.

#### Test of Hypothesis 8

- $H_8$  The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.
- $H_0$  There will be no relationship between the degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

As reported in Table 1, there is no significant relationship ( $r = -.060$ ) between degree of consistency of self-concept, as measured by the Total D score on the TSC, and realism of vocational interests. The data did not support a rejection of the null hypothesis.

#### Test of Hypothesis 9

- $H_9$  The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be positively related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.
- $H_0$  There will be no relationship between the consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Table 1 reveals no significant relationship ( $r = .005$ ) between degree of consistency of self-concept, as measured by the Total C score on the TSC, and realism of vocational interests. The null hypothesis was retained.

#### Test of Hypothesis 10

- $H_{10}$  Differences will exist in the degree of consistency of self-concept, as measured by the Total V score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

- H<sub>0</sub> No differences will exist in the degree of consistency of self-concept, as measured by the Total V score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.

TABLE 2.--Test of Hypothesis 10: Analysis of variance for differences among groups on the TSC V score.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 905.0346       | 452.5173    | 3.53    | P < .03*           |
| Within Groups       | 66   | 8464.5000      | 128.2500    |         |                    |

\*Significant

Table 2 reports a significant difference which was found among the three groups of males on consistency of self-concept as measured by the total V score on the TSC. The null hypothesis was rejected.

Since the null hypothesis was rejected, the data were further analyzed with Scheffe post hoc comparisons. The confidence intervals for the comparisons that are significant at the .05 confidence level are summarized in Table 3.

TABLE 3.--Significant Scheffe post hoc comparisons for Hypothesis 10: Differences among groups on Total V score on TSC.

1.  $12.41 < \mu_1 + \mu_2 - 2\mu_3 < 16.89$
2.  $.31 < \mu_2 - \mu_3 < 16.67$

The first significant comparison indicates that the two junior/senior groups combined together are significantly different from the group of doctoral level graduate students on degree of self-concept as measured by the Total V score on the TSC. As reported in Table 4 (page 72), the higher mean scores of the combined junior/senior groups suggests that they are more variable, and less consistent in their self-concepts, than the doctoral students with their smaller mean score on the Tennessee V scale. The second significant comparison indicates that the vocationally decided: tentative group is significantly different from the vocationally decided: established group on degree of consistency of self-concept as measured by the Total V score on the TSC. Again, as reported in Table 4, the higher mean score of the junior/senior non-counseling group suggests that they are more variable, and less consistent in their self-concepts, than the doctoral students with their smaller mean score on the Tennessee V scale.

#### Test of Hypothesis 11

- H<sub>11</sub> Differences will exist in the degree of consistency of self-concept, as measured by the Total D score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.
- H<sub>0</sub> No differences will exist in the degree of consistency of self-concept, as measured by the Total D score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.



TABLE 4.--Group means on experimental variables.

|                              | Strong Vocational Interest Blank |                |              | Tennessee Self Concept Scale |         |         | Edwards Personal Preference Scale |
|------------------------------|----------------------------------|----------------|--------------|------------------------------|---------|---------|-----------------------------------|
|                              | Inten-<br>sity                   | Diver-<br>sity | Real-<br>ism | V Score                      | D Score | C Score |                                   |
| Junior/Senior Counseling     | 9.65                             | 53.95          | 9.45         | 46.70                        | 98.25   | 27.85   | 26.95                             |
| Junior/Senior Non-counseling | 9.29                             | 56.03          | 9.51         | 49.03                        | 109.25  | 29.62   | 24.96                             |
| Doctoral Non-counseling      | 9.31                             | 43.86          | 10.27        | 40.54                        | 108.00  | 27.40   | 16.54                             |

As can be seen in Table 5, the probability of occurrence did not approach statistical significance among the three groups of males on degree of consistency of self-concept, as measured by the Total D score on the TSC. The null hypothesis was retained.

TABLE 5.--Test of Hypothesis 11: Analysis of variance for differences among groups on the TSC D score.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 1568.3982      | 784.1991    | 1.8362  | P < .16*           |
| Within Groups       | 66   | 28187.0866     | 427.0771    |         |                    |

\*Non-significant.

#### Test of Hypothesis 12

H<sub>12</sub> Differences will exist in the degree of consistency of self-concept, as measured by the Total C score on the TSC, among three groups of males with varying degrees of commitment to a vocational choice.

H<sub>0</sub> There will be no differences in degree of consistency of self-concept, as measured by the Total C score on the TSC among three groups of males with varying degrees of commitment to a vocational choice.

Table 6 indicates no significant difference among the three groups of males on degree of consistency of

self-concept, as measured by the Total C score on the TSC.  
The null hypothesis was retained.

TABLE 6.--Test of Hypothesis 12: Analysis of variance for differences among groups on the TSC C score.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 68.4732        | 34.2366     | .7973   | P < .45*           |
| Within Groups       | 66   | 2834.0796      | 42.9406     |         |                    |

\*Non-significant

### Test of Hypothesis 13

- $H_{13}$  The degree of consistency of self-concept for male college students, as measured by the Total V score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.
- $H_0$  There will be no relationship between consistency of self-concept for male college students, as measured by the Total V score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

As Table 1 indicates, there is no significant relationship between degree of consistency of self-concept, as measured by the Total V score on the TSC and degree of ego integration. The null hypothesis was retained.

Test of Hypothesis 14

- $H_{14}$  The degree of consistency of self-concept for male college students, as measured by the Total D score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.
- $H_0$  There will be no relationship between consistency of self-concept for male college students, as measured by the Total D score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

Table 1 reported no significant relationship ( $r = -.111$ ) between degree of consistency of self-concept, as measured by the Total D score on the TSC, and degree of ego integration. The null hypothesis was retained.

Test of Hypothesis 15

- $H_{15}$  The degree of consistency of self-concept for male college students, as measured by the Total C score on the TSC, will be inversely related to their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.
- $H_0$  There will be no relationship between consistency of self-concept for male college students, as measured by the Total C score on the TSC, and their degree of ego integration, as measured by the Trehub scoring of EPPS profiles.

A correlation of  $-.201$  between degree of consistency of self-concept, as measured by the Total C score on the TSC, and degree of ego integration does not approach the required level of significance. The null hypothesis was retained.

### Test of Hypothesis 16

- H<sub>16</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to the intensity of their vocational interests, as measured by the Stephenson pattern analysis of the Occupational scales of SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their intensity of vocational interests, as measured by the Stephenson pattern analysis of the Occupational scales of SVIB profiles.

Table 1 reported no significant relationship ( $r = -.150$ ) between the degree of ego integration and intensity of vocational interests. The null hypothesis was retained.

### Test of Hypothesis 17

- H<sub>17</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to their diversity of vocational interests, as measured by the DIV score on SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their diversity of vocational interests, as measured by the DIV score on SVIB profiles.

Table 1 reported a significant relationship ( $r = -.295$ ) between degree of ego integration and diversity of vocational interests. The null hypothesis was rejected and hypothesis 17 was confirmed.<sup>1</sup>

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<sup>1</sup>As noted in Chapter III, the ego integration score is designed such that a high score indicates less

### Test of Hypothesis 18

- H<sub>18</sub> The degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, will be inversely related to their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.
- H<sub>0</sub> There will be no relationship between the degree of ego integration for male college students, as measured by the Trehub scoring of EPPS profiles, and their realism of vocational interests, as measured by the discrepancy score between OL and AA scores on SVIB profiles.

Table 1 reported no significant relationship ( $r = .129$ ) between degree of ego integration and realism of vocational interests. The null hypothesis was retained.

### Test of Hypothesis 19

- H<sub>19</sub> Differences will exist in the degree of ego integration, as measured by the Trehub scoring of EPPS profiles, among three groups of males with varying degrees of commitment to a vocational choice.
- H<sub>0</sub> No differences will exist in the degree of ego integration, as measured by the Trehub scoring of EPPS profiles, among three groups of males with varying degrees of commitment to a vocational choice.

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degree of ego integration than a low score. Therefore, the negative correlation observed for hypothesis 17 indicates that individuals with high ego integration scores are less diverse in their vocational interests than individuals with low ego integration scores. In other words, there is a positive relationship between degree of ego integration and diversity of vocational interests; the more integrated an individual is, the more likely he is to be diverse in his vocational interests.

Table 7 reports a significant difference among the three groups of males on degree of ego integration as measured by the Trehub scoring of the EPPS. The null hypothesis was rejected.

TABLE 7.--Test of Hypothesis 19: Analysis of variance for differences among groups on the Ego Integration score.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 1311.1832      | 665.5916    | 3.0855  | P < .05*           |
| Within Groups       | 66   | 14237.2494     | 215.7159    |         |                    |

\*Significant

Since the null hypothesis was rejected, the data were further analyzed with Scheffe post hoc comparisons. The confidence intervals for the comparisons that are significant at the .05 confidence level are summarized in Table 8.

TABLE 8.--Significant Scheffe post hoc comparisons for Hypothesis 19: Differences among groups on Ego Integration scores.

1.  $15.99 < \mu_1 + \mu_2 - 2\mu_3 < 21.63$
2.  $5.10 < \mu_2 - \mu_3 < 11.72$

Note: Group 1 = vocationally undecided (junior/senior counseling); Group 2 = vocationally decided: tentative (junior/senior non-counseling); Group 3 = vocationally decided: established (doctoral non-counseling).

The first significant comparison indicates that the two junior/senior groups combined together are significantly different from the group of doctoral level graduate students on degree of ego integration as measured by the Trehub scoring of EPPS profiles. As reported in Table 4, the higher mean scores of the combined junior/senior groups suggests that they are less integrated than the doctoral students with their smaller mean score on Ego Integration scale. The second significant comparison indicates that the vocationally decided: tentative group is significantly different from the vocationally decided: established group on degree of ego integration. Again, as reported in Table 4, the higher mean score of the junior/senior non-counseling group suggests that they are less integrated than the doctoral students with their smaller mean score on the Ego Integration scale.

#### Test of Hypothesis 20

- $H_{20}$  Differences will exist in the intensity of vocational interests, as measured by the Stephenson pattern analysis of the SVIB, among three groups of males with varying degrees of commitment to a vocational choice.
- $H_0$  No differences will exist in the intensity of vocational interests, as measured by the Stephenson pattern analysis of the Occupational scale scores of SVIB profiles, among three groups of males with varying degrees of commitment to a vocational choice.



As can be seen in Table 9, there is no significant difference among the three groups on intensity of vocational interests. The null hypothesis was retained.

TABLE 9.--Test of Hypothesis 20: Analysis of variance for differences among groups on intensity of vocational interests.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 1.6854         | .8427       | .5983   | P < .55*           |
| Within Groups       | 66   | 92.9544        | 1.4084      |         |                    |

\*Non-significant

#### Test of Hypothesis 21

H<sub>21</sub> Differences will exist in the diversity of vocational interests, as measured by the DIV score on the SVIB profile, among three groups of males with varying degrees of commitment to a vocational choice.

H<sub>0</sub> No differences will exist in the diversity of vocational interests, as measured by the DIV score on the SVIB profile, between three groups of males with varying degrees of commitment to a vocational choice.

Table 10 reports a significant difference among the three groups of males on diversity of vocational interests as measured by the DIV score on the SVIB. The null hypothesis was rejected.

TABLE 10.--Test of Hypothesis 21: Analysis of variance for differences among groups on diversity of vocational interests.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 1958.5686      | 979.2843    | 11.27   | P < .0001*         |
| Within Groups       | 66   | 5734.4760      | 86.8860     |         |                    |

\*Significant

Since the null hypothesis was rejected, the data were further analyzed with Scheffe post hoc comparisons. The confidence intervals for the comparisons that are significant at the .05 confidence level are summarized in Table 11.

TABLE 11.--Significant Scheffe post hoc comparisons for Hypothesis 21: Differences among groups on Diversity scores.

1.  $10.54 < \mu_1 + \mu_2 - 2\mu_3 < 14.00$
2.  $5.47 < \mu_2 - \mu_3 < 18.89$

Note: Group 1 = vocationally undecided (junior/senior counseling); Group 2 = vocationally decided: tentative (junior/senior non-counseling); Group 3 = vocationally decided: established (doctoral non-counseling).

The first significant comparison indicates that the two junior/senior groups combined together are significantly different from the group of doctoral level students

on diversity of vocational interests. As reported in Table 4, the higher mean scores of the combined junior/senior groups suggests that they are more diverse in their vocational interests than the doctoral students with their smaller mean score on the Diversity scale. The second significant comparison indicates that the vocationally decided: tentative group is significantly different from the vocationally decided: established group on diversity of vocational interests. Again, as reported in Table 4, the higher mean score of the junior/senior non-counseling group suggests that they are more diverse in their vocational interests than the doctoral students with their smaller mean score on the Diversity scale.

#### Test of Hypothesis 22

H<sub>22</sub> Differences will exist in the realism of vocational interests, as measured by the discrepancy score between the OL and AA scores on the SVIB profile, among three groups of males with varying degrees of commitment to a vocational choice.

H<sub>0</sub> No differences will exist in realism of vocational interests, as measured by the discrepancy score between the OL and AA scores on the SVIB, between three groups of males with varying degrees of commitment to a vocational choice.

As can be seen in Table 12, there is no significant difference among the three groups of males on realism of vocational interests as measured by the discrepancy

score between the OL and AA scores on the SVIB. The null hypothesis was retained.

TABLE 12.--Test of Hypothesis 22: Analysis of variance for differences among groups on realism of vocational interests.

| Source of Variation | d.f. | Sum of Squares | Mean Square | F Value | Significance Level |
|---------------------|------|----------------|-------------|---------|--------------------|
| Between Groups      | 2    | 9.2500         | 4.6250      | .0418   | P < .95*           |
| Within Groups       | 66   | 7302.6294      | 111.6459    |         |                    |

\*Non-significant

#### Summary

Five of the twenty-two null hypotheses tested in this study were rejected. The findings of this study indicated that an increase in the degree of ego integration accompanies an increase in the diversity of vocational interests. There was also a positive statistically significant relationship between one of the measures of consistency of self-concept on the Tennessee and diversity of vocational interests.

Significant differences among the three groups were found on diversity of vocational interests (combined junior/senior groups were found to be more diverse than the doctoral students), degree of ego integration (combined junior/senior groups were found to be less integrated

than the doctoral student group), and consistency of self-concept as measured by the Tennessee V score (combined junior/senior groups were found to be less consistent than the doctoral students).

In the next chapter these results will be discussed and implications for further research presented.

## CHAPTER V

### SUMMARY, CONCLUSIONS, LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

From the position of a self-theorist, a major factor influencing vocational development is the degree of harmony of an individual's self-concept--the internal consistency of his self-evaluation. This position has been discussed most thoroughly by Super (1963) who suggested that harmony of self-concept is related to appropriate adjustment, to lack of conflict, and to personality integration. He has also stated that harmony of self-concept and its concomitant "outcomes" are related to the ability to formulate a vocational choice, that is, to see oneself in an occupational role, and to make choices which will result in behaviors bringing that "role" into reality.

In a general sense, the present study attempted to begin an investigation of some of the questions Super (1963) posed in his discussion of harmony of self-concept as a factor influencing vocational development. Two questions asked by Super which have piqued the research

interest of the present writer are: (1) is translating an internally consistent and harmonious system of self-concepts into an occupational preference easier than finding an appropriate role for a conflicted self-concept system? and (2) is implementing a harmonious self-concept system easier than implementing unintegrated ideas of the self?

The present study was designed to investigate the possible relationship between the degree of harmony of self-concept and vocational interest maturity. The study attempted to demonstrate that the variable, "harmony of self-concept" is related to intensity of vocational interests, diversity of vocational interests, and realism of vocational interests.

The purpose of this study was threefold. It first sought to determine whether there was a relationship between the degree of consistency of self-concept for a group of male college students and their level of vocational interest maturity. Secondly, it sought to determine whether there was a relationship between the degree of ego integration for a group of male college students and their level of vocational interest maturity. Thirdly, it sought to detect differences in the degree of harmony of self-concept and vocational interest maturity among three groups of males with varying degrees of commitment to a vocational choice.

Participants who volunteered for the study were sixty-nine male juniors, seniors, and doctoral level

graduate students at Michigan State University. Twenty were juniors or seniors who came to the M.S.U. Counseling Center requesting vocational counseling and stating that they were having difficulty making a vocational choice. Twenty-seven were juniors or seniors enrolled in upper-division majors in the university. Twenty-two were third and fourth year doctoral level graduate students.

Subjects completed the Strong Vocational Interest Blank for Men, the Tennessee Self Concept Scale, and the Edwards Personal Preference Schedule. The Strong profiles were pattern analyzed according to the objective method outlined by Stephenson (1961). The intensity of interests was determined on the basis of the distribution of primary, secondary, and reject patterns. The DIV scale on the Strong was used to assess diversity of vocational interests. A measure of realism was derived as a discrepancy score between the Occupational Level (OL) scale and the Academic Achievement (AA) scale on the Strong. A measure of ego integration was derived from the Trehub (1959) method of scoring the Edwards. Finally, three scales on the Tennessee were independently used to measure consistency of self-concept.

Results of the analysis of the data indicated that an increase in the degree of ego integration accompanies an increase in diversity of vocational interests. There was also a positive, statistically significant, relationship between one of the measures of consistency of



self-concept on the Tennessee and diversity of vocational interests.

Significant differences among the three groups were found on diversity of vocational interests (combined junior/senior groups were found to be more diverse than the doctoral students), degree of ego integration (combined junior/senior groups were found to be less integrated than the doctoral student group), and consistency of self-concept as measured by the Tennessee V score (combined junior/senior groups were found to be less consistent than the doctoral students).

### Conclusions

A general conclusion emerging from this investigation is that a personality factor, harmony of self-concept, does influence vocational development. The fact that there were statistically significant differences between the junior/senior groups and the graduate student group on the variables of consistency of self-concept and ego integration suggests that male college students in the process of making a vocational choice are also, at the same time, struggling to achieve an internally consistent evaluation of themselves and a balance of psychological needs. The differences on the self-concept variable suggest that male college students who are highly committed to a vocational choice are less variable, and more integrated, in their self-concepts than are male college

students with less of a commitment to a vocational choice. The differences on the degree of ego integration suggest that male college students who are highly committed to a vocational choice have achieved a greater balance of their psychological needs than have male college students with less of a commitment to a vocational choice. This would seem, in a general way, to support Super's proposition that harmony of self-concept is related to adjustment, to lack of conflict, to personality integration, and to ability to formulate a vocational choice.

Some implications for counseling practice may be derived from these findings. In Chapter I the early dichotomy made between "vocational counseling" and "personal counseling" was discussed. The findings of this study suggest the obsolescence of the practice of first "curing" a person of his adjustment problems and then referring him to a vocational counselor for the next step in his growth--vocational choice. The personality development of male college students and the vocational development of male college students would seem to be inter-related, based on the findings of this study. Male college students who have made a commitment to a vocational choice appear to have a more harmonious self-concept than male college students with less of a commitment to a vocational choice. This would seem to suggest that helping persons, such as counselors, might want to consider assisting individuals who are in the process of making a vocational

choice by broadening an approach to vocational counseling. In addition to the typical services of vocational interest testing, occupational information dissemination, and occupational exploration, the counselor might want to consider spending time with a client helping him to become clearer in his ability to be aware of his self-concept--the kind of person that he is and how this might affect his vocational choice. Hopefully, as a male college student becomes more aware of himself, and is able to be internally consistent in his evaluation of himself and achieve a balance of his psychological needs, it would be easier for him to see himself in an occupational role and make a vocational choice.

A second, more tentative conclusion, drawn from this study is that diversity of vocational interests is related to consistency of self-concept and degree of ego integration. The low magnitude to the correlations between these variables does not make them useful for predictive purposes. In light of the significant differences between the junior/senior groups and the graduate student group on diversity of vocational interests, the variable does seem to merit additional attention for future theory building. However, the direction of the results of the significant differences among the groups on diversity was opposite to the predicted direction.

The findings seem to suggest that male college students who are highly committed to a vocational choice are less diverse in their vocational interests than male college students with less commitment to a vocational choice. The male doctoral candidate has narrowed the breadth of his interests considerably beyond the male undergraduate student. Because of the specificity of jobs related to the Ph.D., it would seem that the self-concepts of doctoral students would lead them to be specific in the way they see themselves.

Future research could be useful in attempting to link more clearly the variable of diversity of vocational interests to harmony of self-concept. The present study produced tentative evidence for the existence of a link, although the found direction of the diversity for a sample of male college students was opposite to that hypothesized.

This study attempted to relate ego integration to harmony of self-concept and vocational interest maturity. The significant results with the ego integration variable do seem to suggest that the degree to which an individual has been able to balance his psychological needs is of some import in his vocational development. Thus, for the self theorist ego integration, as used by Trehub, seems synonymous with "harmony" of self-concept.

If future research could more clearly differentiate psychological needs and the areas of possible imbalance

there could be significant implications for counseling practice. For example, in working with college students experiencing difficulty making a vocational choice, if counselors could assess specific areas of need imbalance, these areas could be specifically focused on in counseling to help a client resolve the conflict.

Finally, the results of this study seem to warrant the conclusion that future research linking self-concept development and vocational development could prove fruitful. The basic proposition of Donald Super that making a vocational choice is a way of implementing a self-concept is worthy of continued research.

#### Limitations

The major limitation of the present study is the size of the sample and sampling procedures employed. An increase in the size of the sample might be expected to increase the magnitude of a number of the relationships between variables in the study. The findings in this study can be legitimately applied only to a population of male college students. Replication of the study with a non-college population would increase the generalization of the findings. Inclusion of female subjects would also add a further dimension to the study of self-concept and vocational development.

The sampling procedures used to obtain the junior/senior counseling sample might have limited the significance

of the findings. Students use various problems as presenting concerns when requesting counseling services. Sometimes these presenting problems do not accurately reflect the source of a student's difficulty. A future study might want to control more rigidly for degree of disturbance of the counseling sample.

Another limitation in this study could have possibly arisen from the non-validated conceptions of intensity, realism of vocational interests, and degree of ego integration and the non-validated methods of measuring these constructs.

A final limitation of this study is the fact that the data were collected in a cross sectional manner. The assumption was made that the differences among groups were due to maturational factors. This hypothesis cannot be confirmed with the cross sectional data obtained in the present study.

#### Implications for Future Research

Future research linking harmony of self-concept and vocational development could be enhanced by removing some of the limitations of the present study. Larger samples and more rigidly controlled sampling techniques might contribute to a greater magnitude of the relationship between variables observed in the present study. Replication with a non-college population and with female subjects would enhance generalizability of the study.

Future studies might also profitably be devoted to the validation of concepts and measures used in the present study. Validated conceptions and measures of intensity and realism of vocational interests, and ego integration would enhance the precision of research in these areas.

The use of multivariate procedures might prove to be valuable in attempting to further link harmony of self-concept to vocational interest maturity. The univariate design of the present study did not take into account the interaction of variables bearing on vocational development.

Finally, the use of longitudinal rather than cross sectional data would greatly add to the precision of this type of vocational development research.

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## APPENDICES

APPENDIX A

LETTER REQUESTING PARTICIPATION OF COUNSELING  
SUBJECTS FOR THE STUDY

MICHIGAN STATE UNIVERSITY East Lansing • Michigan 48823

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Counseling Center • Student Services Building

Dear Student:

We at the Counseling Center believe that one of the ways we have of becoming increasingly helpful to students like yourself is through careful study of your problems and of our effectiveness in helping you with them. We ask that you help us in our study of student problems by participating in a research project that we are currently undertaking at the Counseling Center.

If you agree to participate, your commitment would consist of completing three tests before seeing your counselor for the first time. Two of the tests are often used in vocational counseling and, if appropriate for your situation, could be interpreted to you by your counselor. The third test is a research instrument which takes about thirteen minutes to complete. It will not be interpreted.

In summary, your participation consists of taking three tests. Two of the tests are ones often used in vocational counseling.

We want to emphasize that your willingness to participate in no way affects your seeing a counselor at the Center. Our most important consideration is to assist you with the resolution of the problems that stimulated you to seek our help. We do want you to know, however, that through the participation of students like yourself in such research projects as this we have an opportunity of studying in a more objective way some of the kinds of problems students encounter and the ways in which we can help the student to a resolution of his difficulties.

Sincerely,

Cecil L. Williams  
Associate Professor

Richard A. Morril  
Intern



APPENDIX B

TABLES 13 TO 15

TABLE 13.--Total V, Total D, and Total C scores on the Tennessee Self Concept Scale for sixty-nine subjects.

| Subject No. | Group No.* | Total V Score | Total D Score | Total C Score | Subject No. | Group No.* | Total V Score | Total D Score | Total C Score |
|-------------|------------|---------------|---------------|---------------|-------------|------------|---------------|---------------|---------------|
| 1           | 1          | 67            | 104           | 37            | 36          | 2          | 52            | 102           | 34            |
| 2           | 1          | 70            | 109           | 24            | 37          | 2          | 48            | 77            | 37            |
| 3           | 1          | 26            | 127           | 32            | 38          | 2          | 44            | 121           | 27            |
| 4           | 1          | 30            | 61            | 18            | 39          | 2          | 54            | 122           | 28            |
| 5           | 1          | 51            | 118           | 28            | 40          | 2          | 29            | 131           | 28            |
| 6           | 1          | 41            | 80            | 27            | 41          | 2          | 61            | 102           | 31            |
| 7           | 1          | 36            | 78            | 19            | 42          | 2          | 79            | 125           | 21            |
| 8           | 1          | 50            | 78            | 28            | 43          | 2          | 63            | 107           | 27            |
| 9           | 1          | 41            | 88            | 18            | 44          | 2          | 57            | 123           | 33            |
| 10          | 1          | 24            | 58            | 26            | 45          | 2          | 52            | 95            | 21            |
| 11          | 1          | 44            | 121           | 26            | 46          | 2          | 54            | 106           | 29            |
| 12          | 1          | 31            | 120           | 30            | 47          | 2          | 60            | 118           | 35            |
| 13          | 1          | 46            | 92            | 22            | 48          | 3          | 34            | 138           | 29            |
| 14          | 1          | 53            | 77            | 28            | 49          | 3          | 42            | 99            | 35            |
| 15          | 1          | 70            | 105           | 34            | 50          | 3          | 31            | 123           | 21            |
| 16          | 1          | 57            | 108           | 45            | 51          | 3          | 53            | 107           | 32            |
| 17          | 1          | 53            | 92            | 36            | 52          | 3          | 45            | 114           | 27            |
| 18          | 1          | 39            | 162           | 33            | 53          | 3          | 39            | 112           | 25            |
| 19          | 1          | 45            | 82            | 22            | 54          | 3          | 33            | 99            | 22            |
| 20          | 1          | 59            | 105           | 24            | 55          | 3          | 41            | 111           | 30            |
| 21          | 2          | 42            | 124           | 28            | 56          | 3          | 46            | 93            | 26            |
| 22          | 2          | 42            | 120           | 22            | 57          | 3          | 47            | 132           | 27            |
| 23          | 2          | 47            | 117           | 45            | 58          | 3          | 43            | 130           | 22            |
| 24          | 2          | 69            | 136           | 49            | 59          | 3          | 56            | 129           | 26            |
| 25          | 2          | 54            | 115           | 29            | 60          | 3          | 37            | 101           | 24            |
| 26          | 2          | 45            | 111           | 36            | 61          | 3          | 36            | 111           | 27            |
| 27          | 2          | 39            | 84            | 25            | 62          | 3          | 40            | 130           | 33            |
| 28          | 2          | 25            | 123           | 21            | 63          | 3          | 29            | 78            | 27            |
| 29          | 2          | 52            | 130           | 27            | 64          | 3          | 48            | 84            | 30            |
| 30          | 2          | 46            | 74            | 22            | 65          | 3          | 44            | 65            | 19            |
| 31          | 2          | 45            | 84            | 25            | 66          | 3          | 29            | 68            | 31            |
| 32          | 2          | 41            | 100           | 27            | 67          | 3          | 34            | 127           | 39            |
| 33          | 2          | 45            | 110           | 41            | 68          | 3          | 29            | 120           | 23            |
| 34          | 2          | 36            | 94            | 19            | 69          | 3          | 56            | 132           | 28            |
| 35          | 2          | 43            | 99            | 33            |             |            |               |               |               |

\*Group 1 = vocationally undecided (junior/senior counseling), males.

Group 2 = vocationally decided (junior/senior non-counseling): tentative, males.

Group 3 = vocationally decided (doctoral non-counseling): established, males.

TABLE 14.--Ego integration scores for sixty-nine subjects.

| Subject No. | Group No.* | Ego Integration Score | Subject No. | Group No.* | Ego Integration Score |
|-------------|------------|-----------------------|-------------|------------|-----------------------|
| 1           | 1          | 9                     | 36          | 2          | 12                    |
| 2           | 1          | 51                    | 37          | 2          | 41                    |
| 3           | 1          | 8                     | 38          | 2          | 42                    |
| 4           | 1          | 38                    | 39          | 2          | 34                    |
| 5           | 1          | 33                    | 40          | 2          | 28                    |
| 6           | 1          | 54                    | 41          | 2          | 15                    |
| 7           | 1          | 28                    | 42          | 2          | 32                    |
| 8           | 1          | 13                    | 43          | 2          | 0                     |
| 9           | 1          | 19                    | 44          | 2          | 28                    |
| 10          | 1          | 53                    | 45          | 2          | 0                     |
| 11          | 1          | 34                    | 46          | 2          | 23                    |
| 12          | 1          | 13                    | 47          | 2          | 5                     |
| 13          | 1          | 14                    | 48          | 3          | 27                    |
| 14          | 1          | 17                    | 49          | 3          | 4                     |
| 15          | 1          | 30                    | 50          | 3          | 3                     |
| 16          | 1          | 15                    | 51          | 3          | 21                    |
| 17          | 1          | 36                    | 52          | 3          | 14                    |
| 18          | 1          | 9                     | 53          | 3          | 52                    |
| 19          | 1          | 23                    | 54          | 3          | 10                    |
| 20          | 1          | 42                    | 55          | 3          | 9                     |
| 21          | 2          | 13                    | 56          | 3          | 18                    |
| 22          | 2          | 13                    | 57          | 3          | 36                    |
| 23          | 2          | 5                     | 58          | 3          | 10                    |
| 24          | 2          | 15                    | 59          | 3          | 6                     |
| 25          | 2          | 52                    | 60          | 3          | 16                    |
| 26          | 2          | 27                    | 61          | 3          | 11                    |
| 27          | 2          | 25                    | 62          | 3          | 22                    |
| 28          | 2          | 23                    | 63          | 3          | 18                    |
| 29          | 2          | 44                    | 64          | 3          | 11                    |
| 30          | 2          | 33                    | 65          | 3          | 22                    |
| 31          | 2          | 23                    | 66          | 3          | 14                    |
| 32          | 2          | 30                    | 67          | 3          | 36                    |
| 33          | 2          | 64                    | 68          | 3          | 2                     |
| 34          | 2          | 9                     | 69          | 3          | 2                     |
| 35          | 2          | 38                    |             |            |                       |

\*Group 1 = vocationally undecided (junior/senior counseling), males.

Group 2 = vocationally decided (junior/senior non-counseling): tentative, males.

Group 3 = vocationally decided (doctoral non-counseling): established, males.

TABLE 15.--Number of primary, secondary, reject, and unclassified patterns, DIV scores, and OL-AA scores for sixty-nine subjects.

| Subject No. | Group No.* | Primary | Secondary | Reject | Unclassified | DIV | OL-AA |
|-------------|------------|---------|-----------|--------|--------------|-----|-------|
| 1           | 1          | 2       | 2         | 6      | 1            | 57  | -11   |
| 2           | 1          | 0       | 1         | 7      | 3            | 50  | 12    |
| 3           | 1          | 0       | 2         | 7      | 2            | 66  | - 4   |
| 4           | 1          | 2       | 1         | 7      | 1            | 55  | 6     |
| 5           | 1          | 2       | 1         | 7      | 1            | 57  | 19    |
| 6           | 1          | 2       | 1         | 7      | 1            | 26  | 21    |
| 7           | 1          | 0       | 0         | 10     | 1            | 55  | 26    |
| 8           | 1          | 2       | 1         | 7      | 1            | 44  | 6     |
| 9           | 1          | 2       | 2         | 6      | 1            | 64  | 16    |
| 10          | 1          | 1       | 0         | 7      | 3            | 43  | 25    |
| 11          | 1          | 2       | 1         | 7      | 1            | 57  | 10    |
| 12          | 1          | 2       | 0         | 8      | 1            | 57  | 17    |
| 13          | 1          | 3       | 1         | 7      | 0            | 52  | 6     |
| 14          | 1          | 0       | 1         | 7      | 3            | 57  | - 2   |
| 15          | 1          | 0       | 0         | 11     | 0            | 57  | 4     |
| 16          | 1          | 0       | 0         | 8      | 3            | 61  | 22    |
| 17          | 1          | 2       | 1         | 6      | 2            | 62  | -12   |
| 18          | 1          | 2       | 1         | 8      | 0            | 66  | 4     |
| 19          | 1          | 1       | 4         | 4      | 2            | 50  | 8     |
| 20          | 1          | 2       | 1         | 8      | 0            | 43  | 16    |
| 21          | 2          | 2       | 2         | 6      | 1            | 62  | 35    |
| 22          | 2          | 1       | 1         | 7      | 2            | 66  | 1     |
| 23          | 2          | 0       | 4         | 6      | 1            | 55  | 23    |
| 24          | 2          | 0       | 2         | 6      | 3            | 48  | 33    |
| 25          | 2          | 0       | 2         | 5      | 4            | 57  | 4     |
| 26          | 2          | 3       | 0         | 6      | 2            | 44  | 10    |
| 27          | 2          | 1       | 0         | 5      | 5            | 41  | 7     |
| 28          | 2          | 0       | 2         | 6      | 3            | 61  | 7     |
| 29          | 2          | 0       | 2         | 9      | 0            | 66  | 9     |
| 30          | 2          | 0       | 2         | 8      | 1            | 75  | 2     |
| 31          | 2          | 0       | 2         | 7      | 2            | 52  | 10    |
| 32          | 2          | 4       | 2         | 5      | 0            | 48  | 22    |
| 33          | 2          | 2       | 2         | 6      | 1            | 57  | 0     |
| 34          | 2          | 1       | 1         | 8      | 1            | 55  | 5     |
| 35          | 2          | 0       | 1         | 8      | 2            | 55  | 9     |
| 36          | 2          | 1       | 0         | 6      | 4            | 62  | 8     |
| 37          | 2          | 1       | 1         | 7      | 2            | 37  | 17    |
| 38          | 2          | 1       | 2         | 7      | 1            | 64  | 15    |
| 39          | 2          | 4       | 1         | 6      | 0            | 61  | 3     |
| 40          | 2          | 3       | 1         | 4      | 3            | 61  | 10    |
| 41          | 2          | 5       | 0         | 6      | 0            | 50  | 23    |
| 42          | 2          | 1       | 1         | 7      | 2            | 44  | 7     |
| 43          | 2          | 2       | 0         | 7      | 2            | 53  | -10   |
| 44          | 2          | 0       | 2         | 8      | 1            | 55  | 2     |
| 45          | 2          | 2       | 0         | 8      | 1            | 77  | 6     |
| 46          | 2          | 0       | 3         | 7      | 1            | 61  | - 4   |
| 47          | 2          | 2       | 1         | 7      | 1            | 46  | 3     |
| 48          | 3          | 2       | 0         | 8      | 1            | 50  | 21    |
| 49          | 3          | 5       | 0         | 6      | 0            | 46  | 2     |
| 50          | 3          | 0       | 2         | 8      | 1            | 46  | 2     |
| 51          | 3          | 0       | 2         | 6      | 3            | 39  | - 4   |
| 52          | 3          | 4       | 0         | 6      | 1            | 35  | 2     |
| 53          | 3          | 0       | 1         | 7      | 3            | 41  | 16    |
| 54          | 3          | 1       | 2         | 6      | 2            | 43  | 22    |
| 55          | 3          | 1       | 0         | 7      | 3            | 48  | - 6   |
| 56          | 3          | 2       | 1         | 7      | 1            | 39  | - 1   |
| 57          | 3          | 0       | 0         | 7      | 4            | 41  | 9     |
| 58          | 3          | 3       | 1         | 7      | 0            | 48  | 17    |
| 59          | 3          | 1       | 1         | 5      | 4            | 52  | 9     |
| 60          | 3          | 2       | 0         | 7      | 2            | 61  | 7     |
| 61          | 3          | 3       | 1         | 7      | 0            | 50  | 17    |
| 62          | 3          | 2       | 1         | 6      | 1            | 48  | 11    |
| 63          | 3          | 0       | 2         | 8      | 1            | 48  | 20    |
| 64          | 3          | 4       | 0         | 6      | 1            | 46  | 1     |
| 65          | 3          | 1       | 2         | 7      | 1            | 50  | 28    |
| 66          | 3          | 4       | 0         | 5      | 2            | 28  | 19    |
| 67          | 3          | 3       | 2         | 4      | 2            | 19  | 7     |
| 68          | 3          | 0       | 3         | 7      | 1            | 48  | 0     |
| 69          | 3          | 0       | 4         | 5      | 2            | 39  | 27    |

\*Group 1 = vocationally undecided (junior/senior counseling), males.

Group 2 = vocationally decided (junior/senior non-counseling): tentative, males.

Group 3 = vocationally decided (doctoral non-counseling): established, males.

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