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AN INVESTIGATION OF DETERMINANTS FOR CAREER
DEVELOPMENT AND ADVANCEMENT

THESIS

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North Texas State University in Partial
Fulfillment of the Requirement

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By

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In response to the challenge of helping clientele function in a productive and personally satisfying fashion, the counseling profession assumed the responsibility for assimilating vocational information. The need was expressed for integrating fragmented vocational information into more meaningful, psychological and sociological theory. More research pertaining to adults is needed to continue the work on this task.

This exploratory and descriptive study's primary objective was to analyze vocational stability, achievement, and job satisfaction variables and their relationships to assessed and inferred personality variables for male college graduates with post college work experience who sought career counseling. Holland's assumption which states that congruency between personality and environment produces stability, achievement, and satisfaction was investigated.

Subjects were clients of a management consulting firm and were 125 in number. Seventeen demographic and forty-two career advancement and personality variables were used. Factor analysis of correlations between the forty-two variables was completed. Fourteen significant factors and 68.41 per cent of explained variance were found.

The average subject was thirty-eight, came from Anglo-German stock, was married, had two children, and his spouse was a housewife. He came from a two-sibling home and was likely to be the oldest child. His father had at least a high school education and worked in an occupation classified as realistic or enterprising. This client may have changed majors while in college, with one of the fields of Business Administration or Engineering being his final choice.

Income on his last job was \$14,000. He expressed a desire for an increase in income of \$1,700 during the immediate future. He has had four jobs with annual increases of salary of \$750. Average work experience per job was three and one-half years. This client evidenced some responsibility for supervising others.

While this client's home-parental and self-sentiments were lower than expected, his other motivations, as well as his temperament traits, approximated test norms. His value system emphasized economic and not social orientation, with other values being represented by the norms. In general, this individual could have been classified as the enterprising type.

Choice of factor titles was on a tentative basis. They were selected as constructs which would be fundamental if used in career counseling activities to summarize personality patterns, and therefore provide a basis for pragmatic use of results.

The number of shared factor loadings between inferred personality and career advancement variables, as compared with assessed personality variables, was disproportionately high. This indicated that Holland's personality classifications have merit. It was concluded that combinations of enterprising and conventional, together with realistic and intellectual, plus the separate social and artistic classifications (a total of four) would have been sufficient for this study. It should be noted that if inferred personality measures had been used exclusively, the number of counseling hypotheses pertaining to personality patterns would have been drastically reduced.

Only two factor loading relationships were found between the primary personality and job congruency variable and career development variables. Based on this finding, the conclusion was reached that the data did not support the congruency assumption. However, the data did tend to support an exciting alternate hypothesis that incongruency does tend to inhibit career performance. Recommendations for future research are made pertaining to this and other conclusions derived from this investigation.

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CHAPTER I

INTRODUCTION

Man in the world of work has received progressively more attention from the helping professions since the advent of the industrial revolution. The importance of this augmented attention is apparent even to the casual observer who is aware of the ever increasing complexities of an urban, technologically oriented culture.

Physical, economic, and social forces have generated progressively stronger pressures on the helping professions to (1) understand to a better extent the needs and desires of man, (2) have an awareness of environmental requirements, and (3) help individuals to function optimally in a productive and personally satisfying fashion. Increasing rates of changes as well as an increasing need for change in man's style of interaction with the environment have produced a sense of urgency which magnifies the challenge inherent in the commitment made by the helping professions to achieve these objectives (4, 25).

As a response to this challenge, the counseling profession has assumed responsibility for assimilating information acquired in practice or through research, in order to be of better service to clientele. In an effort to integrate this information, theories of vocational choice and career development have emerged.

Vocational choice theory and vocational interest measurement research have had a history of coexisting within the same conceptual framework. This relationship was criticized by Holland (15) as being too narrow in scope and to some extent an artifact which leads people to perceive vocational interests as being independent of personality. A review of the literature revealed a large body of fragmented research which was thought to be disorganized and isolated from the mainstream of psychology and sociology. Darley and Hagenah (5) agreed with this view when they noted theoreticians have attempted to isolate man's occupational life from his total life and life style.

Some theories related to general psycho-social constructs provided information which lent credence to viewing vocational choice as a component of the career development process, which evolves from experiential and hereditary antecedents (20, 21, 22, 24, 26, 28, 29, 30).

Contemporary theoreticians have begun to develop holistic constructs that include the thought that man's motivations for work involvement are a function of personality characteristics. Research based primarily upon high school and college populations have been conducted to study various issues stemming from this more global approach to theory constructions (1, 3, 6, 9, 12, 16, 17, 18, 31, 32).

Statement of the Problem

The research objective was to analyze vocational stability achievement and job satisfaction variables and their relationships to assessed and inferred personality variables in or among a group of male college graduates with post-college work experience who seek career counseling. An investigation was made of the validity of Holland's congruency assumption (15, p. 6).

Purposes of the Study

The purposes of this study were (1) to describe a group of male college graduates with post-college work experience who sought career counseling in terms of (a) demographic data, (b) vocational stability, achievement, and job satisfaction variables, and (c) assessed and inferred personality variables; (2) to analyze the relationships between (a) vocational stability, achievement, and job satisfaction variables; and (3) to investigate Holland's congruency assumption, which states that vocational stability, achievement, and job satisfaction are functions of the congruency between the personality and the environment (15).

Since this was a descriptive study, no hypothesis was tested. The research questions which this study was designed to answer are as follows:

1. Who is the individual who feels he needs career counseling?
2. What are the relationships between variables?

3. Is congruency between personality and job classifications related to vocational stability, achievement, and job satisfaction?

Background and Significance of the Study

Specific background for this study comes from the theoretical formulations and research by Holland (15). The supposition was made that when a person chooses his vocation, he is doing so as a result of hereditary, experiential, and environmental influences. Expressed differently, human-environment interaction over time is the determinant for developing a particular life style. This life style is perceived as being a personality pattern or personal orientation which directs the individual toward an occupational environment that will satisfy his particular needs. Holland describes the person and the environment by employing personality types, a typology of life styles and/or personality patterns. The same constructs are employed to describe both person and environment. The underlying assumptions for this deduction include (1) different social environments are made up by the dominating personality types; (2) work environments which people seek are primarily social in nature; and (3) congruence between personality and environmental type facilitates vocational stability, achievement, and career satisfaction. The specific types developed by this theoretical approach and its related research at present are (1) the realistic, (2) the intellectual,

(3) the social, (4) the conventional, (5) the enterprising, and (6) the artistic.

Studies related to hypotheses generated by Holland's theory have taken one of four empirical approaches during the past ten years (32). First, studies have been conducted concerning the relationship between personal orientation as measured by Vocational Preference Inventory and other inventories and educational choice (16, 17, 23). Second, the range of personal orientation found within a variety of groups has been investigated (7, 14). Third, the relationship between Holland's VPI scale scores and self-ratings has been explored (10, 16, 17). Fourth, comparisons have been made between personal orientation scale scores and various external criteria (1, 3, 8, 16, 23, 31, 32). These studies are interpreted as offering tentative support for Holland's assumptions. In one of Holland's most recent studies, (11) he noted that employment of a person's expressed choices, as opposed to his selection of occupational titles, may have greater prediction efficiency.

During the last two years, a critical issue has developed as a result of this theory. In response to Astin's book, Who Goes Where to College (2), Elton and Rose (6) conducted a study concerned with personality assessments compared to personality inferred from occupational choices. They obtained personality measures of the freshman classes in the four universities studied by Astin. Derived factors were compared

with inferred personality patterns by the use of the canonical correlation technique. It was concluded that sufficient contradiction existed to justify questioning the validity of Astin's constructs. Elton and Rose responded positively, however, to the environment assessment technique which Astin employed.

Holland (11) has stated that partial success of his theory as a way of interpreting student-institutional interactions provides a theoretical system for the study of employee-organizational interactions, with specific attention being placed on tenure (vocational stability) and job satisfaction. Holland expressed the opinion that his personality typology and environment formulations provide a way to control and interpret such interactions.

One of the existing issues related to the aforementioned theoretical assumptions concerns the populations on which data have been gathered. If one assumes that high school and college students are in the career development process, as opposed to the adult worker's career advancement process, questions arise concerning the limitations of these studies as far as their ability to provide answers about the effects of work experience. Information based on data from populations who are in the career advancement process has been needed to better understand the effects of work experience in concert with vocational choice and personality characteristics (11).

This investigation focused primary attention on gathering data from subjects with work experience beyond their college education. Thus far, minimal research has been done relative to working populations concerning vocational choice, career development, career advancement, and the functions of personality characteristics as they are related to these. For this reason, these endeavors have been exploratory in nature.

The theoretical significance of this study has been assumed in the acceptance of the objective to investigate variables related to Holland's congruency assumption. Information obtained about vocational stability, achievement, and job satisfaction variables and their relations to (1) variables which represent inferred personality patterns and (2) assessed personality variables contributed to the clarification of concepts pertaining to the underlying assumption. A better understanding of these relationships is a prerequisite to the prediction of career success. Research programs designed to develop predictive ability are assumed to be of major importance and value, as the counselor needs to know as much as possible about the clients and their future.

Applied research programs historically have had difficulty with the quantification of variables concerned with success or failure. The problem for this study was no exception. The lack of availability of empirically derived measures limited the refinement of the study. However, Holland (15) and Darley and Hagenah (5) urge researchers to continue

their efforts if the theoretical issues warrant, even though difficulties are encountered. For this reason, this study's general value lies in its exploration of concepts concerning a working population that has been experiencing career problems.

Definition of Terms

The terms employed in this study were defined in the following manner.

1. Career advancement.--This term was used for the purpose of concept clarification. Career advancement includes the career development concept, with the added function of work experience. Delineation in concepts is achieved by the operational definition of career development as preparation for a career. Therefore, the career advancement concept includes preparation for a career, as well as experience in career.

2. Vocational stability.--This term was operationally defined as consisting of the following variables:

- a. Average work experience time per job.--Total time since college graduation was divided by the number of jobs to obtain a score.

- b. Stability of job classification.--Holland's (16) occupational and college major coding systems were used to classify college major and all jobs held since graduation. The number of changes in classification was used as the score.

b. Acceptance of responsibility.--Number of people and types of jobs supervised were inspected independently by three judges. If an individual progressed in responsibility from one job to another, he was given a score of one. Otherwise, a score of zero was given. The sum was then divided by the number of job changes since graduation to obtain a ratio score.

c. Career accomplishments.--This variable included specific career accomplishments since college graduation. Publications, awards received, and personal achievements recognized by others were the specified criteria. The number of specific career accomplishments listed by the subject was the score.

4. Job satisfaction.--To assume individuals who seek assistance in solving career problems are satisfied with their careers did not seem rational. For this reason, the assumption was made that these people are in some way dissatisfied. Inspection of stated career problems and reasons for leaving former jobs was important to understanding differences in felt dissatisfaction. Career satisfaction was operationally defined as consisting of the following variables:

a. Goal expression.--The assumption was made that individuals who like their work involvements tend to set future goals as compared with those who dislike their work. Therefore, this variable was assumed to be discrete. Subjects expressed goals or they did not. Three judges inspected independently written statements of problems and specific work

summaries, and then classified statements as having a score of zero or one. Scores reflecting expression of goals for each job, together with goals expressed in statement of problem, were summed and divided by the number of jobs held to obtain the ratio score.

b. Expressed reason(s) for leaving former job.--

Each reason was rated independently by three judges and scored zero for repelled and one for attracted. A ratio score was obtained by summing scores for each reason and dividing by the number of job changes since college graduation.

5. Personality-environment congruency.--Holland (15) developed The Personal Survey. Each item in this survey has been coded as representing one of six personality classifications. Sums of classified item responses were used to obtain dominant (highest score), secondary (second highest score), and tertiary (third highest score) personality patterns. These patterns in combination with job classifications (which were assumed to be environmental classifications) were used to quantify the following congruency variables:

a. Dominant personality pattern and job congruency.--

Each job classification was compared with the dominant personality classification and, if congruent, was given a score of one. Otherwise, a score of zero was given. The sum of these scores was divided by the number of jobs held to obtain a ratio score.

b. Secondary personality pattern and job congruency.--Each job classification was compared with the secondary personality classification and, if congruent, was given a score of one. Otherwise, a score of zero was given. The sum of these scores was divided by the number of jobs held to obtain a ratio score.

c. Tertiary personality pattern and job congruency.--Each job classification was compared with the tertiary personality classification and, if congruent, was given a score of one. Otherwise, a score of zero was given. The sum of these scores was divided by the number of jobs held to obtain a ratio score.

Limitations

This study was limited to male subjects who had at least one year of work experience, had a college degree, and obtained career counseling. Other limits were imposed through choosing certain assessment instruments and techniques, as they restricted the possibility of measuring all possible personality variables which could have been found in this population.

Basic Assumptions

The assumption was made that subjects would respond honestly to all instruments. Measurement scales and scoring procedures used were assumed to reliably measure the respective constructs. Procedures of instrument presentation and scoring were further assumed to be uniform for all subjects.

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CHAPTER II

REVIEW OF THE LITERATURE

Career development and advancement are constructs which encompass man's work behavior over time. The complexity of these constructs is verified by the many variations found in theoretical formulations pertaining to this behavior. Research specialists, theory builders, and practitioners recognize generally that concepts pertaining to the determinants of career development and advancement are interdisciplinary in nature, stemming from schools of business, education, and counseling practices as well as the more formal disciplines of economics, sociology, and psychology. In recent years, practitioners as well as theorists have experienced the need to evolve integrated models or theories so that some degree of order, rationality, and validity of practice can be achieved (4, 49).

A review of the concepts used in career counseling provides one method of ordering information about determinants of career advancement. Justification for using this approach stems from the fact that a search of the literature has revealed minimal information about working populations and the effects of work experiences on the determinants of career development and advancement. Also, a discussion of concepts within this frame

of reference seems to enhance the significance of the theoretical formulations and corresponding research.

Theory and research pertaining to determinants of career development and advancement have taken one of two basic approaches. First, some theorists have emphasized the study of determinants involved in decision making, i.e., vocational choice. Second, some theorists have focused on ontogenetic and/or experiential factors pertaining to vocational behavior and careers. Current formulators of theory have begun to explore hypotheses involving interactions between the person and his environment. These interactions have been viewed as the key to understanding the determinants of career development and advancement.

The forthcoming discussions include a review of (1) career counseling concepts, (2) theoretical constructs for vocational choice and career development, and (3) research related to specific theoretical formulations pertaining to this study. These three sources of information were assumed to be the basic references for research which investigated the determinants of career development and advancement.

Career Counseling Concepts

The concept of the team approach to solving problems and taking effective action is a relatively old concept. The forces behind the evolvment of professional teams is rooted in industrial, medical, legal, and educational technologies

associated with the industrial revolution and urban development. Rapid changes in technological concepts have produced a need for specialization in professional work; thus, the concept of the team approach has developed as an effort to counterbalance corresponding tendencies of fragmentation inherent in the existing state of specialization.

The career counseling process can be viewed as a specific model which attempts to (1) take advantage of a rational order of events and (2) programme the treatment of events by various team members. Whether the client's problem is vocational, educational, emotional, or a combination of problems, the process used for developing a plan often involves a team or staff of professional individuals (12, 39, 62).

Sequencing of events and activities conducted by team members was clearly established during the 1940's and 1950's in vocational rehabilitation work. Diagnostic work is done by physicians, psychologists, educators, and social workers; planning and counseling is conducted by generalists, such as rehabilitation counselors; and finally, utilization of resources in the environment is necessary to achieve rehabilitation objectives. This process has resulted in the evolution of clearly defined program steps (39).

An additional team member was identified by Chowdry and Newcomb (12) when they incorporated the ability of leaders and non-leaders to estimate opinions. Utilization of client abilities in the problem solving process is viewed as (1) incorporation of self-assessment, (2) a key method for information

disseminations, (3) a method of validating existing information, and (4) a procedure for acquiring new information. These concepts seemingly clarify the use of the cybernetics network for the purpose of effective communication.

Two basic assumptions seem evident in the use of team members. First, various disciplines are required to provide services designed to solve career problems. Second, the need for different specialists implies that determinants of career information used by these team members, therefore, can be viewed as career determinants.

Use of background and assessment information has been and remains a major basis for work conducted by most of the helping professions. Super and Crites (53, pp. 6-12, 351-352), Neff (42, pp. 172, 187, 188, 191), McGowan and Porter (39, pp. 67-68, 76-77), Hadley (21, pp. 596-599), and Tyler and Sunberg (62, pp. 86-87, 117-118, 131, 508-510), indicate that biographical, physical, psychological, social, educational, and vocational data are of major importance. These authors generally agree that all data categories are important, regardless of whether the problem presented is one of career management, personal development, improvement in family relations, or medical care.

Professional workers usually assimilate and utilize data during preparation for counseling sessions. The assumption is made that these data (1) increase effective use of counseling time and (2) function as tools which assist the client

and the counselor to determine how the client has developed, how he is presently functioning, and what are his future potentials (62, 56, 14).

Counseling sessions or interviews provide the major mechanism necessary for the client and counselor to evaluate experiential and other types of background information. The process of achieving agreement between the counselor and the client with regard to personality characteristics, motivations, abilities, and limitations is assumed to serve two purposes. First, it helps to crystalize information and increase understanding relative to career problems, and second, this information (determinants) provides the basis of setting goals for the future (66, 60, 14).

Helping another individual set goals and/or personal improvement objectives requires adequate information about the person as well as the environment. Williamson (67) began construction of a theoretical model which expressed this concept over thirty years ago. He listed six steps in counseling, including setting goals and investigating alternatives (66). Many authors, including Super and Crites (53), Super (52), Triandis (61), Betz et al (6), and Zytowski (69) emphasized the integration of environmental and personal factors for the purpose of achieving career goals.

During the last fifteen years, behavioral theories of counseling have emerged which reinforce the functional value of goal setting as it is related to environmental conditions.

Krumboltz (36), Krumboltz and Thoreson (37), and Wolpe et al (38) emphasized the use of the environment and goal setting for the purpose of experimentation, which is necessary for behavioral change. These authors noted that developing a contract, coupled with the client's commitment to the contract, generally improves the probability of goal achievement.

During the past twenty-five years, governmental agencies that conducted vocational rehabilitation services evolved programs which were contingent upon developing plans and carrying them out (39). This step logically follows setting of goals and development of alternatives. Development of a plan increases the probability for taking effective action (23, 69, 37, 45).

Frank Parsons (44), the father of vocational guidance, used his personal knowledge about environmental factors to direct youth to job opportunities. Information required during the present era requires more formalized approaches.

The environmental study, as prescribed in the plan, is designed to locate potential work markets that fit client needs and goals. Information about work markets is based upon knowledge about occupations and careers. Analysis of environmental factors has been and remains a major concern for counselors, sociologists, and psychologists (60, 7, 69, 41).

When work opportunities are presented to the client and counselor, their objective includes reviewing the extent to which the opportunity will be satisfactory (fit client goals) and meet his needs. Acceptance of the opportunity which meets

these criteria is felt to be the optimum solution (4, 5, 22, 37, 36, 38, 69).

In summary, personality characteristics, environmental variables, and the interactions between people seem to be receiving the greatest amount of attention from the helping professions at this time. Tousky and Durbin (60) investigated the effects of managerial mobility on identity in career. The principle of supply and effect and its impact on career development was reviewed in terms of sociological theory by Blou (7). Zytowski (69) and Miller (41) emphasized the need to integrate knowledge about the client with information about careers and the specific environments pertaining to them in order to increase the probability that the client's needs and goals will be fulfilled.

Theoretical Constructs for Vocational Choice and Career Development

Theoretical concepts related to the study of determinants of vocational choice, career development, and career advancement stem from several academic disciplines. Concepts from economics, sociology, psychology, and education formed a foundation for the specific theoretical issues related to this study.

Economics theory stresses that vocational choice is primarily a function of wage rates. Clark (13) noted that differences in wage rates move people from one job to another. For this reason, occupational selection was recognized as being dependent upon the availability and demand for certain jobs. Clark further noted that this principle of supply and

demand is a critical factor which affects the business cycle; he, therefore, stated that the business cycle is a secondary factor which affects an individual's vocational choice.

Sociological theory postulates that man is a product of society and culture. Specific determinants of this theory include the family, peer group, and community factors. Hollingshead (33) stated in general terms that a cultural milieu determines what occupations people choose. Further, the social class in which one finds himself is a critical factor. The underlying concept for this assumption includes the thought that a person will choose that with which he is familiar.

Other supporters of sociological theory, specifically Caplow (11) and Miller and Form (40), maintained that factors beyond the control of the individual are frequently the determinants of vocational activity. They implied that most people do not choose the occupation in which they work. Factors such as class, ethnicity, residential district, and school and classroom conditions were specified as causal factors underlying career activity. Birth into a particular setting was recognized as a random or chance determinant.

Writers in the fields of education and psychology have generated hypotheses pertaining to developmental, motivational, and emotional determinants of vocational choice and career development. The general hypothesis maintained by these theoreticians states that human behavior is caused by a desire "to be more comfortable or less comfortable, more

satisfied, or less frustrated, in short via our desire to feel better than we do" (34, p. 113).

Occupational theory which first encompassed development concepts was expressed by Ginzberg et al (20). These theorists felt that vocational development has three basic stages-- the fantasy period, the tentative period, and the realistic period. In the fantasy period, the child does not evaluate his career choices within the framework of reality. He feels he can be whatever he chooses to be. The tentative period is one in which the child realizes decisions must be made. The realistic period includes a state of recognition which involves compromise between personal preference and available opportunities. These writers assumed (1) occupational choice is a process which extends over a fairly long period of time; (2) the crystallization of occupational choice has the quality of compromise; and (3) the process is basically irreversible.

Super (52, 54, 55) can be described as a development theorist who postulated one major construct as the determinant of vocational activity. He expressed the thought that the self-concept is a result of the development process and, therefore, is the determinant of vocational behavior. Super rejected the term "vocational choice" primarily because he felt it is misleading with regard to time. He indicated that developmental psychology literature includes many discussions of maturity, with attention to emotional, intellectual, physical, and social maturity. He saw psychology's failure to

develop theories and measures of vocational development as a major weakness. Super recognized vocational development as having distinctive and common characteristics. He perceived work as a medium, like social life and intellectual activity, through which the total personality can manifest itself.

Super's conceptual framework included development stages which can be classified as growth, exploratory, establishment, maintenance, and decline stages. He subdivided the exploratory stage to include the Ginzberg group's categories--fantasy, tentative, and realistic substages. The establishment stage includes a trial period which evolves into a stable substage. The maintenance stage includes that occupational field in which the individual established himself earlier in life. The last stage, the declining period, was identified as having two parts, with the deceleration substage evolving into retirement.

Super and Overstreet (55) used the aforementioned assumptions in a research program which attempted to measure degrees of vocational development. Assumptions specified for and in this research integrate specific constructs. First, the assumption was made that vocational behavior evolves over time and includes growth and learning processes.

Second, vocational behavior can be viewed as evolving from simple, ineffective behavior to more complex and effective behavior. More reality oriented and specific vocational behavior is to be expected with increases in age.

Third, each life stage makes characteristic demands on the developing person. The person responds by acquiring behavior required to cope with these demands. Progression from one stage to another includes readiness for more complex behavior, and the environmental press for developing this behavior.

Fourth, vocational development can be measured by determining developmental tasks which are characteristic of various stages. The behavior of other persons who are coping with developmental tasks can be reviewed to evaluate the complexity and effectiveness of an individual's development.

Fifth, this theoretical model assumed that more effective behavior is a function of the degree to which it has been developed. For this reason, vocational maturity was judged to be a predictor for vocational adjustment.

Sixth, some determinants were assumed to be more important than others. Determinants vary, depending upon the life stage. Interaction of a variety of determinants affect vocational behavior.

Seventh, Super and Overstreet recognized that vocational behavior cannot be explained completely by classifying achievement of vocational development tasks. This last assumption seems to imply that these researchers were very much aware of the incompleteness of their theory.

Super and Overstreet recognized (1) that a variety of determinants affect vocational behavior, (2) different determinants exist for different stages, and (3) determinants vary

in degree of importance. This viewpoint interfaces with constructs developed by Roe (48). Roe's work is generally classified as a developmental theory which attempts to explain vocational decisions through understanding need systems.

Maslow's (38) motivation constructs prompted Roe to construct a rationale for identifying motivational determinants (46, 47, 48). She stated that the importance of a specific need will vary among individuals, depending upon their early orientation as well as their patterns (style) of interpersonal relations.

Roe emphasized that needs continuously change and as certain needs are fulfilled, a higher order of needs takes their place. She felt that physiological needs vary little among human beings as compared with higher order needs, such as need for beauty, understanding, and self-actualization.

Acceptance of Maslow's hierarchy of needs is fully recognized in the construct which states that lower order needs must be satisfied before higher order needs can be met. In this theoretical system the key to the development of vocational interests and involvement is the determinant described as accomplishment of needs. This implies that the stronger the need, the greater the likelihood that job satisfaction will depend upon the fulfillment of that need.

Introduction of the idea that total personality and motivation systems are work behavior factors brings forth the implication that unconscious determinants are involved when one chooses and then participates in a particular career.

Evidence for this assumption was found when Forer (17) discovered correlations between scores derived from projective instruments and vocational interest measures. He also discovered relationships between occupational selections and psychiatric classifications. Since projective instruments and psychiatric classifications both take into consideration the unconscious process, the hypothesis exists that unconscious determinants are involved in vocational selection and career development.

Brill (10) and Kline and Schneck (35) are also proponents of unconscious determinants of occupational choice. Brill stated that most sensible people will intuitively make the appropriate choice while "fools" fail in spite of guidance. Kline and Schneck proposed that changes in the organization of personality affect occupational choice as well as job adjustment. They further stated the best approach to vocational maladjustment is often psychotherapy. Supporters of psychoanalytic theory have made the following observations about career counseling: (1) in some cases psychotherapy must preempt vocational counseling as poor emotional adjustment makes it difficult to adjust to any job; (2) while emotional adjustment is sometimes difficult to obtain, occupational adjustment sometimes occurs by simply a change in employment; (3) there are times when poor vocational adjustment causes poor emotional adjustment; and (4) an emotionally well-adjusted person has a better chance to be vocationally well-adjusted and vice versa.

Bordin, Nachman, and Siegal (8), also proponents of unconscious determinants, attempted to articulate a framework for vocational development based upon determinants which are traceable to infantile physiological functions. As an introduction to this concept, they noted that a major issue raises the question whether this field of inquiry has to do with choice or development. They expressed the view that Super and Tiedeman, as well as supporters of their constructs, tend to emphasize development whereas Roe and Holland emphasize "the prediction of the role that the individual is fulfilling at a particular moment in time" (p. 107).

The Bordin group continued by saying that all vocational choice and development theorists agree that choice is a component of the development process. The development process is terminated only by death. They identified the value of theory as "dependent upon its capacity to account for all of the major turnings in the individual's journey through the occupational world . . ." (p. 108).

The theoretical approach by Tiedeman and O'Harra (57, 58, 59) is perceived as being an appropriate summary of concepts which have been presented. These authors have attempted to integrate various determinants involved in vocational choice and career development. They perceived career development as a continuing process of differentiation and integration, these processes being the basis for the development of ego identity. Early childhood experiences, psycho-social crises

encountered at various states, congruence between society's and the individual's needs, aptitude and interest systems, and emotional and/or unconscious concomitants were identified as key determinants.

Theoretical Constructs and Related Research Pertaining to This Study

The major construct explored in this investigation was extracted from the theoretical formulations of John L. Holland (29). This construct expresses the view that congruency between the personality pattern (life style) of the person and his work environment produces vocational stability, achievement, and job satisfaction. For this reason, Holland's theory and related research have been presented.

Holland began theory construction with the development of his Vocational Preference Inventory (27). The ideas that he employed were (1) an individual's choices from a list of occupational titles have significant sociological and psychological meaning and (2) vocational preference inventories have no greater prediction efficiency than stated preferences.

The rationale underlying this theoretical posture included several salient points. First, Holland maintained that occupational choice reflects the individual's motivation, personality, knowledge, and abilities. Second, interaction between the person and his environment establishes a limited number of ways of coping with personal and environmental problems. The individual's favorite ways of coping were considered to be his desired choices;

if allowed to use them as his coping style, satisfactory and efficient behavior is the result. Holland expressed the thought that negatively perceived styles of coping do exist in conjunction with the favorite styles, and when forced to cope using these methods, threatening or distasteful situations result.

The third construct presented expressed the view that vocational adjustment requires accurate discrimination between potential environments. Correlary constructs exist for this premise. The first supporting construct maintains that the preferred occupation is a function of a number of personality variables. "Specifically, the total number of preferred occupations is a function of dependency, aggressiveness, mood, degree of cultural introception, self-control, sociability, and defensiveness" (27, p. 337).

The second correlary construct notes that inability to discriminate between occupations is a function of disorganization within self and/or internal conflict. "In this sense conflict is defined as divergent, inaccurate, or irreconcilable views about one's abilities, needs, and sources of gratification; and is accompanied by the chronic emotional upset which results from such conflict" (p. 337).

Holland felt that it was important to assume the viewpoint that interest inventories are personality inventories. He concluded the presentation of his rationale by stating that both types of inventories reveal how individuals perceive themselves and their surroundings.

Inventory construction began with a review of vocational choice literature in order to identify personality factors for each scale. The second procedure was to choose occupational titles to represent these personality characteristics. This produced the first form. The employed personality variables were physical activity, intellectuality, responsibility, conformity, verbal activity, emotionality, reality, orientation, and acquiescence.

The second form was a revision of the first form with six personality variables added. These scales were control, aggressiveness, masculinity-femininity, status, heterosexuality, and infrequency.

The statistical procedure employed included an internal consistency analysis. All scales were intercorrelated with a cluster analysis being done for the purpose of reducing the number of scales and clarifying scale definition. As a result Holland retained ten scales.

The third revision employed these ten scales to gather data from 300 male and female college freshmen. He compared the upper 25 per cent on each scale. This comparison was made in order to select the most discriminating items. Internal consistency of the third revision was achieved by correlating the first part against the second part, using samples of 100 male and female college freshmen. The correlations on the various scales ranged from .72 to .95 for males and .68 to .90 for females.

Holland (29) reported that after the fifth revision of the Vocational Preference Inventory, useful reliability and validity were achieved. An abbreviated statement of the working hypothesis for this research is as follows:

The choice of an occupation is an expressive act which reflects the person's motivation, knowledge, personality, and ability. Occupations represent a way of life, an environment rather than a set of isolated work functions or skills. To work as a carpenter means not only to use tools but also to have a certain status, community role, and a special pattern of living. In this sense, the choice of an occupational title represents several kinds of information: the S's motivation, his knowledge of the occupation in question, his insight and understanding of himself, and his abilities. In short, item responses may be thought of as limited but useful, expressive or projective protocols (29, p. 4).

This general, working hypothesis was reduced to several basic assumptions. The first one states, "Vocational stereotypes have reliable and important psychological and sociological meanings" (29, p. 5). One of the major concepts introduced in support of this assumption involves the validity of vocational interest measures in general. The deduction was made that this assumption is part of the working hypothesis which exists for most inventories. Holland presented the research to develop his inventory as supporting evidence (26, 27).

Typology or stereotyping was assumed to include the postulate which states, "The members of a vocation have similar personalities and similar histories of personal development" (29, p. 5). Supporting evidence for this assumption comes from several sources (27, 32, 48, 54).

"Because people in a vocational group have similar personalities, they will respond to many situations and problems in similar ways, and they will create characteristic interpersonal environments" (29, p. 5). This assumption was subjected to no direct test prior to theory construction. Even so, Holland inferred validity by interpreting what students would say about their college and fellow students. Astin instituted related research programs (1, 2, 3).

The next assumption and its justification are as follows:

Vocational satisfaction, stability, and achievement depend on the congruency between one's personality and the environment (composed largely of other people) in which one works. Just as we are more comfortable among friends whose tastes, talents, and values are similar to ours, so we are more likely to perform well in a vocation in which we "fit" psychologically. The Strong and other generally accepted vocational inventories are based in part on this assumption. Moreover, the vocational literature is filled with evidence that supports this assumption, although that evidence is not usually interpreted as relating to the interaction between a particular personality and a particular environment (29, p. 6).

Holland summarized these basic assumptions by stating that people are characterized according to their resemblance to one or more personality types. Second, he felt the environments, which consist primarily of people, can be stereotyped as well. Third, the person and environment pairing was assumed to be the basis of predicting outcomes.

Holland's theory of vocational behavior and personality is as follows:

In our culture, most persons can be categorized as one of six types--Realistic, Intellectual,

Social, Conventional, Enterprising and Artistic... There are six kinds of environments: Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic. . . . People search for environment and vocations that will permit them to exercise their skills and abilities, to express their attitudes and values, to take on agreeable problems and roles, and to avoid disagreeable ones. . . . A person's behavior can be explained by the interaction of his personality pattern and his environment (29, pp. 9-12).

Studies related to hypotheses generated by Holland's theory have taken one of four empirical approaches during the past ten years. First, studies have been conducted concerning the relationship between personal orientation as measured by the Vocational Preference Inventory (VPI), other inventories, and educational choice. Second, the range of personal orientation found within a variety of groups has been investigated. Third, the relationships between Holland's VPI scale scores and self ratings have been explored. Fourth, comparisons have been made between personal orientation scale scores and various external criteria (65, p. 348).

Comparisons between personal orientation and educational choice were conducted by Osipow, Ashby, and Wall (43). They took a sample from newly enrolled students at Pennsylvania State University and obtained from these freshmen self-ratings based on the six personality patterns developed by Holland. These subjects were classified and grouped as being decided (81 males and 27 females), tentative (79 males and 12 females), and undecided (26 males and 3 females) about their college majors. These students came from various colleges at this university.

The Chi Square obtained between self-description and vocational choice for the realistic and intellectual types was consistent with Holland's theory. The conventional respondents' choices overlapped the realistic and intellectual respondents' choices.

A comparison between personality ratings and occupational choice categories was made by an analysis of variance, using the sample of students who were decided about their college majors. When the means were tested, they varied among each other significantly on realistic, social, enterprising, and artistic types.

Discriminant analysis for ratings was done with a Wilks Lambda being achieved of .762 ($p < .001$). This was interpreted as "indicating that although the variables examined one at a time reveal little to differentiate the six types, taken together, they are demonstrably different from one another" (43, p. 42).

Osipow and his fellow workers criticized the methodology employed in this study and noted that mixing students who had not chosen majors with those who had, while employing two personality classification schemes, limited the refinement of the study. Even so, the crudeness in design coupled with their general findings, were presented as evidence for the merits of Holland's theory.

Wall, Osipow, and Ashby (63) conducted another study for the purpose of exploring the relationship between the Strong

Vocational Interest Blank (SVIB) and the personality classifications of Holland. The subjects were 186 male freshmen. They were given descriptions of each of the six personality classifications and asked to rank these descriptions on a one-to-five scale according to how these descriptions fit. The vocational choices given were classified according to Holland's vocational grouping by personality type. Discriminant analysis between SVIB group scores and personality rank, and then occupational choice, was completed by the Wilks Lambda method. In both cases the differences between groups were significant of the .001 level. The conclusion was reached that Holland's theory possesses "considerable construct validity with respect to SVIB scores and vocational choices of college students" (p. 205).

Wall, Osipow, and Ashby commented about the number of persons undecided about their vocations who participated in this investigation. The commonality between their sample and those persons who seek vocational counseling was expressed. The deduction was made that personality rating might provide one means by which the counselor can help facilitate client decision making. This speculation provided the thrust for developing exploratory research presented in this thesis.

Holland (27) reviewed the range of his personal orientation classification scales by comparing responses from several populations. These research endeavors were completed in conjunction with the development of the VPI.

His first comparison was to test the relation of VPI scales to age and intelligence. He obtained heterogeneous samples of high school and college students and employed adults. The males ranged in age from fifteen to seventy-seven, while females ranged from seventeen to sixty. Holland reported that insignificant or low-order relationships were found.

Second, Holland compared a control group with psychiatric patients found at a Veteran's Administration psychiatric hospital, with samples of one hundred for each group. The bulk of subjects was matched as closely as possible for age, status, and occupation. His findings were congruent with stereotypes of normality and psychiatric status.

Third, a comparison was made between normals, public offenders, and tuberculosis and psychiatric patients. Holland reported the samples were crudely comparable for age, socioeconomic status, and intelligence. Similarity in distribution of principal occupations was found in each of the four groups.

Holland (30) tested his hypothesis concerning vocational choice and personality types in a four year longitudinal study. He analyzed data by comparing students (personality types) with different college environments. The conclusion was that congruency between the student type and college type enhanced stability of vocational choice over the extended period.

Expansion of this research program was accomplished by developing a classification scheme for vocations and college majors (29). Data were gathered from approximately 23,000

college freshmen, using the VPI. Holland expressed the opinion that this sample approximated the typical college freshman.

The following statements reflect the work which was done:

Vocations were assigned first to one of six vocational classes . . . depending upon the highest average VPI scale obtained by its aspirants. Vocations were also assigned to subgroups within a vocational class depending upon the second and third highest average VPI scale scores of its aspirants (p. 280).

Holland was thereby able to derive empirically a method for classifying vocations. This work provided the first of two key methods employed in the exploratory research reported in this thesis. (Classification of jobs held by subjects was accomplished with the use of this instrument.)

Other studies have compared personal orientation scale scores with environment assessment measures. Astin (3) conducted research to test the construct validity of the environment assessment technique. The questionnaire which was submitted to student bodies of seventy-six universities consisted of eighteen items; two categories other than Holland's six categories were used to construct this questionnaire. The size and ability level of the student body were added. Two items were developed for each of the eight categories.

After four years of college, the students were asked to complete a second questionnaire consisting of twenty-one items. Intercorrelational techniques were used. Fourteen of the eighteen predicted relationships were accepted, "even though the items were selected to test relatively remote hypotheses about each EAT variable" (3, p. 225).

During the last two years a critical issue has developed as a result of Astin's research. In response to Astin's book, Who Goes Where to College (2), Elton and Rose (16) conducted a study concerned with personality assessments as compared with personality inferred from personal orientation scales. They obtained personality measures of the freshman classes in four of the universities studied by Astin. Derived factors were compared with inferred personality patterns by the use of the canonical correlation technique. It was concluded that sufficient contradiction existed to justify questioning the value of a high school counselor accepting Astin's constructs as valid, and offering guidance to college bound youth. Eldon and Rose positively responded, however, to the environment assessment techniques which Astin employed.

Walsh and Lacey (65) conducted an investigation to determine whether male seniors in college felt they had changed in a manner consistent with the expected behavior of their respective personality types during their college careers. Subjects were assigned to one of Holland's personality types on the basis of college major. The Personal Survey, an experimental instrument, was used to identify an individual's personal orientation. The subjects came from chemistry, psychology, economics, political science, engineering, and fine arts college major groups.

The results indicated substantial overlap between social, conventional, and enterprising types. Stated differently, developmental trends toward expected personal orientation of

these types were not demonstrated. The research hypothesis was accepted for the realistic, intellectual, and artistic scales. Walsh and Lacey pointed out that their study was limited because they did not give consideration to secondary and tertiary personality characteristics. This statement generated the thought that lack of differentiation between the social, conventional, and enterprising groups was a function of these secondary and tertiary characteristics.

Walsh and Lacey (66) did a follow-up study using a female population. The intellectual, artistic, and social-conventional types felt they had changed in a direction consistent with the profile of their personality classifications.

The use of the Personal Survey by Walsh and Lacey to obtain personal orientation scores precipitated identification of the second key procedure which was employed in the present research. Vocational classifications coupled with personal orientation scores provided the means to explore the congruency assumption.

Holland (24) reported more recent research findings which pertain to his general theory. Large, diverse samples of college students were classified according to types and then studied for the purpose of exploring the extent to which they exhibited expected characteristics. Creativity, competency, interpersonal relations, dogmatism, social, non-conformity, intellectual orientation, and vocational concern were constructs for which various instrument measures were used to collect data. Holland concluded that stability of vocational choice is most closely associated with the congruence between the student's

vocational choice and the corresponding environment classification variable.

Holland (24) stated that partial success of his theory as a way of interpreting student-institutional interactions provides a theoretical system for the study of employee-organizational interactions, with specific attention placed on tenure (vocational stability) and job satisfaction. Further, he expressed the opinion that his personality typology and environment assessment techniques provide a way to control and interpret such interactions.

An appropriate conclusion of this review of the literature includes the expressed, personal orientation of Holland, as well as his motivation to pursue programmatic research:

The impetus for my work came partly from my dissatisfaction with current thinking about vocational behavior. To put it bluntly, theoretical formulations about vocational behavior have usually been truisms concerning personal development and vocations. These cliches can be applied to all behavior; they lack content and so cannot be subjected to scientific examination; for example, "Vocational choice is developmental." So, one might add, is the choice of a wife or a dog. Again: "Vocational choice is the implementation of a self-concept." But which self-concepts lead to which choices? In short, typical theoretical statements about vocational choice have been unspecific and devoid of definition and psychological content (29, pp. vii-viii).

Holland expressed his need to synthesize information and build a theory, even though he went beyond the validating research. His defense for this posture included the opinion that within the culture of the social sciences, tendencies

exist which induce people to criticize theory and produce evidence of their research competencies, as opposed to developing useful tools. Holland presented the notion that theory should be viewed as a tool for problem solving, as much as empirical methodologies (29, p. ix).

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CHAPTER III

METHODS AND PROCEDURES

This exploratory research study was conducted to describe a group of male college graduates who had work experience and desired career counseling. The description of this population required acquisition of environmental, assessed, and inferred personality data. Research objectives included analysis of the relationships between variables. Holland's congruency assumption was investigated to determine whether vocational stability, achievement, and job satisfaction were a function of congruency between the personality and the environment.

Subjects

Clients in a career counseling program of a management consulting firm comprised the population used in this investigation. This firm serves primarily the Southwest region of the United States, although a review of the records revealed some clients were from places such as Canada, New York, and other geographic areas. The largest client group of non-Texas residents came from adjacent states. Even so, most of the clients served by this firm have been residents of Texas, and specifically, North Texas.

During the time period when data were being collected for this study, 193 clients received career counseling services.

From this group data were collected for the purpose of (1) instituting and conducting counseling services and (2) conducting research involved in this study. Some of the clients did not have a college degree and at least one year of post-college experience and, therefore, were excluded from the research sample. Other clients were omitted because certain research data were not obtained. As a result, the sample of clients which became subjects in this investigation was reduced from a possible number of 193 to 125.

Description of Instruments

Data were collected with the use of several instruments. Personal and work history information were collected by employing the Biographical Information and Work History instruments. Holland's Personal Survey and occupational classification methods were used (9). All scales of the Motivation Analysis Test (4), Guilford-Zimmerman Temperament Survey (6), and Study of Values, Third Edition (1) were utilized as well.

The Biographical Information and Work History instruments, developed by the participating consulting firm, were used to obtain descriptive and background information. The Biographical Information instrument, which can be found in Appendix A, is a form designed to obtain marital, family, physical, educational, financial, and other types of personal and work information. Also, this instrument obtains a statement of the problem for which the client seeks counseling. The demographic variables

utilized in this study were those Biographical Information items judged to give as much concise background information as was deemed feasible. (Consideration was given to the large number of variables chosen for use in this study.) Selection of items was guided by a review of determinants identified in sociological theory (10) and principles underlying interviews designed for clinical history-taking (12). Biographical Information and Work History data obtained for descriptive purposes only are as follows:

- D₁ Age at referral
- D₂ Race, ethnic, or national extraction
- D₃ Marital status
- D₄ Number of children
- D₅ Spouse's occupation (Holland's classifications)
- D₆ Spouse's educational level (number of years)
- D₇ Number of siblings
- D₈ Subject's order of birth
- D₉ Father's educational level (number of years)
- D₁₀ Father's occupation (Holland's classifications)
- D₁₁ Number of years in advanced training (Graduate school)
- D₁₂ Advanced degrees (None - 0, Masters - 1, Doctorate - 2)
- D₁₃ Change in college major (Yes, No)
- D₁₄ Income level on last job (Yearly income)
- D₁₅ Desired and actual income discrepancy (Yearly rate)
- D₁₆ Commute 100 miles for counseling (Yes, No)
- D₁₇ Number of jobs held since graduation

The Biographical Information form was also used to collect data for variables which were specified when terms for this study were operationally defined in Chapter I, pages 7 to 11. College major and statement of problem for which subjects sought counseling were instrument items used to collect data for two of these variables.

The Work History form was designed to identify specific information relevant to work experience. This form was

designed in such a manner as to secure information concerning work experience pertaining to each job held since graduation. Information obtained with the use of this instrument facilitated data gathering on the seventeenth demographic variable, number of jobs held since graduation, as well as those variables specified in the definition of terms. The Work History has been placed in Appendix A.

The Personal Survey was designed to obtain personal orientation scores commensurate with the personality classifications identified by Holland's theoretical formulations (9). This instrument was chosen as the instrument to use in this study for the purpose of operationally defining personal orientations. As a result, quantitative scores have been derived with the use of this instrument on each subject for each personality classification. Holland has stated that the Personal Survey has useful reliability, particularly for dominant, secondary, and tertiary personality classifications.

Walsh and Lacey (13, 14) used the Personal Survey to investigate personal orientations for college students. Test-retest reliability coefficients were obtained for 54 male college seniors. The obtained coefficients are as follows: (1) realistic equals .81, (2) intellectual equals .73, (3) social equals .76, (4) conventional equals .80, (5) enterprising equals .72, and (6) artistic equals .70 (13, p. 350).

Walsh and Lacey also reviewed intercorrelations between scales and discovered some low order but significant correlations. The correlation coefficient between the conventional

and realistic scales was .32. The conventional and intellectual correlation coefficient was .21. The conventional and social correlation was .47. The enterprising and social correlation was .60. These investigators interpreted these correlations as being evidence of some overlap between the scales (13, p. 350).

Descriptive adjectives for each Personal Survey scale were developed by Holland (9). Walsh and Lacey condensed Holland's inferred personality characteristics to the following descriptions (13, p. 349):¹

1. Realistic - enduring, frank, insensitive, masculine, mechanical ability, practical, not absent-minded, not cultured, not self-understanding, unassuming, uninsightful, and unsociable.

2. Intellectual - curious, independent, introverted, masculine, math ability, not popular, precise, radical, research ability, scientific ability, and slow moving.

3. Social - capable, conservative, cooperative, dependent, dominant, enthusiastic, feminine, friendly, idealistic, inflexible, insightful, kind, liking to help others, persuasive, religious, sociable, and understanding of others.

4. Conventional - clerical ability, conforming, conscientious, conservatism, dependent, efficient, inflexible, neatness, persistent, practical, and suspicious.

5. Enterprising - adventurous, argumentative, dependent, dominating, energetic, enthusiastic, impulsive, leadership, persuasive, pleasure seeking, popular, popular with opposite sex, self-confident, and social striving.

6. Artistic - aloof, artistic ability, expressiveness, feminine, introverted, intuitive, original, and unconventional.

¹These descriptions were taken verbatim but transformed from a tabled presentation.

Holland's occupation classification methods were used to classify college major and jobs held since graduation (8). These classifications were used in conjunction with the Personal Survey to obtain congruency scores, as defined in the definition of terms. Holland developed these classifications by using the Vocational Preference Inventory (7) and then presented them as an approach to classifying occupations.

This coding system was chosen to represent the environment because classifications of "jobs held" represent work settings and environmental conditions described in the Work History. Personal-environmental interactions were assumed, therefore, to have been adequately represented by utilizing this method of occupational classification in conjunction with the Personal Survey information.

The Motivation Analysis Test was selected for use in this study primarily because emphasis has been placed by theorists upon the function of conscious and unconscious motivations. Theoretical formulations summarized in the review of literature, Chapter II, indicate that human motivations are major determinants of vocational behavior. Several of the constructs defined by this instrument appear to resemble those constructs used by Holland to differentiate between personality classifications; therefore, a secondary reason existed for choosing to use this instrument.

The Motivation Analysis Test was developed by Cattell, Horn, Sweeney, and Radcliff (4). Scales were derived by using factor analytic methods. This instrument is of significant

value in the measurement of attitudes and motivations, as it "uses objective devices instead of the usual self-evaluative, verbal-preference, opinionaire methods" (4, p. 3). Reliability coefficients reported varied from population to population. Dependability coefficients of .51 to .81 were reported, based upon a number of 156 Air Force enlisted men. Alpha coefficients ranging from .39 to .71 were reported, based upon a number of 227 adults from various walks of life.

The total sten score was used for each of the ten motivation scales. Each of these scores reflects the combination of "unintegrated" (unconscious) and "integrated" (conscious) scores for each scale. The decision was made to use only the total scores because of the large number of scales employed in this investigation.

The Guilford-Zimmerman Temperament Survey (6) was an instrument chosen for use because of the apparent similarity between constructs measured by it and the various personality characteristics inferred by stereotyping personality patterns. The Guilford-Zimmerman scales were developed by factor analysis of a pool of items. The norms for this instrument were based primarily upon college students; however, Buros (3) stated this survey has had extensive usage in industrial settings. Split-half reliability coefficients were reported, ranging from .77 to .85. The C Scores for each of the ten scales were employed for descriptive and data analysis purposes.

The Study of Values, Third Edition was utilized for similar reasons as those given for the Motivation Analysis Test.

and the Guilford-Zimmerman Temperament Survey. This instrument was designed to obtain in ipsative fashion six scores. (Even though a statistical problem occurred as a result of ipsative measurement, the decision was made to use this instrument in order to obtain scale scores which represented values.) Internal consistency and stability coefficients were specified as ranging from .77 to .95. The instrument has been used as an assessment instrument for older youth and adult populations (1).

Seventeen demographic scales, ten operationally defined scales, twenty-six standardized instrument scales, and six inferred personality classifications were employed for descriptive and data analysis purposes. Variable titles for scales treated in data analysis are as follows:

Operationally Defined Scales

- X₁ Average work experience time per job
- X₂ Stability of job classification
- X₃ Average change in earnings per year
- X₄ Acceptance of responsibility
- X₅ Career accomplishments
- X₆ Goal expression
- X₇ Expressed reason(s) for leaving former job
- X₈ Dominant personality pattern and job congruency
- X₉ Secondary personality pattern and job congruency
- X₁₀ Tertiary personality pattern and job congruency

Motivation Analysis Test

- X₁₁ Career sentiment
- X₁₂ Home-parent sentiment
- X₁₃ Fear erg
- X₁₄ Narcissism-comfort erg
- X₁₅ Self-sentiment
- X₁₆ Superego sentiment
- X₁₇ Mating erg

- X18 Assertiveness erg
- X19 Pugnacity-sadism erg
- X20 Sweetheart-spouse erg

Guilford-Zimmerman Temperament Survey

- X21 General activity (energy)
- X22 Restraint (seriousness)
- X23 Ascendance
- X24 Emotional stability
- X25 Social interest
- X26 Objectivity
- X27 Friendliness
- X28 Thoughtfulness
- X29 Personal relations
- X30 Masculinity

Study of Values

- X31 Theoretical
- X32 Economic
- X33 Aesthetic
- X34 Social
- X35 Political
- X36 Religious

Personality Orientation Classification

- X37 Realistic
- X38 Intellectual
- X39 Social
- X40 Conventional
- X41 Enterprising
- X42 Artistic

Procedures for Collection of Data

This investigation was developed to blend with the data gathering procedures used by the participating consulting firm. A review of this firm's data collection procedures revealed that they were appropriate for the study. This decision was based upon the fact that data gathering and scoring functions were conducted by a trained person who was supervised by a

professional standards committee. This committee consisted of two individuals who had doctoral degrees and two who had masters degrees in the area of counseling and psychology. The directions for data gathering were formally specified. These directions have been placed in Appendix B.

Biographical Information and Work History forms were completed by subjects during initial contact with the firm. Completion of these forms was the first data gathering procedure.

After the client (subject) had agreed to use counseling services, he set the date at which time he took tests and completed various inventories. This was the second step.

About ten days after assessments had been completed, subjects began counseling with a team which consisted of a professional counselor and a business consultant. These counseling sessions took the form of (1) personal assessment conferences and (2) marketing conferences that were conducted by respective team members. The objectives for these sessions included (1) understanding self and exploration of life style, (2) setting realistic goals, and (3) learning and employing effective marketing procedures to achieve immediate goals.

The Personal Survey was mailed to subjects after they had completed the personal assessment portion of the counseling program. Mailing at this time provided uniformity and blended with the functions of the ongoing counseling program. Obtaining the completed Personal Survey was the third and last step in data gathering.

Analysis of Data

Several variables required judges' ratings. This dictated completion of a pilot study prior to final scoring of all data. A sample of fifty case folders was examined by three judges for the purpose of obtaining inter-judge reliability coefficients. The minimum inter-judge reliability coefficient of .70 was achieved for the following variables: (1) acceptance of responsibility, (2) goal expression, and (3) expressed reason(s) for leaving former job.

The data were tabulated and translated to data processing cards. The continuous data were analyzed for distribution characteristics. The discrete data found with the use of demographic variables were excluded from this procedure.

The statistical problem related to ipsative measurement in The Study of Values, Third Edition, concerned treating the data with statistical procedures requiring the assumption of independence of scores. Since ipsative measurement by this instrument achieves unity in the combination of scores, utilization of the instrument created the problem. The decision was made to factor analyze the data two times, dropping out the social scale in the second analysis. This was done to determine whether the ipsative measurement affected the obtained factors.

An inspection of demographic variables was made after data had been collected to determine the best way to describe the population. Percentages, means, and standard deviations

were employed to achieve this description. Data gathered with the use of assessment instruments, procedures (explained in definition of terms), and personality classifications were included in this treatment of data (5).

Personality, stability, achievement, satisfaction, congruency, and personality orientation scores were intercorrelated by using the product-moment correlation method. These correlations were factor analyzed by the principal axis method with unity employed in the diagonal. Factors were rotated by using the varimax technique. All factors with a latent root of less than one were excluded (11).

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CHAPTER IV

RESULTS AND DISCUSSION

The research objective was to analyze vocational stability, achievement, and job satisfaction variables and their relationships to assessed and inferred personality variables for a group of male college graduates with post college work experience who were seeking career counseling. The results and discussion presented in this chapter were governed by the research questions developed in conjunction with the purposes of this investigation. First, descriptive measures were employed to identify the typical male college graduate with work experience who felt he needed career counseling. Second, the relationships between career advancement and inferred and assessed personality variables were analyzed via statistical treatment. Third, the congruency between personality and job classifications was explored in light of data analysis results.

Percentages, means, and standard deviations were used to describe this client-subject population. Factor Analyses of Pearson Product Moment Coefficients of Correlation (r) were completed, and the results are presented in reference to the relationships between personality and career advancement variables. Also, results of factor analysis have been utilized to present data concerning the personality-environment congruency assumption.

The total number of subjects participating in this study was 125. The ages of these men varied from 24 to 67 years, with a mean of 38.240 and a standard deviation (SD) of 9.683. Twelve individuals, 9.6 per cent of the sample, were over 51 years of age at the time data were gathered. Positive skewness in the age distribution was the result of the sample consisting of a number of subjects over 50.

In Table I the report ethnic or national extraction of subjects can be found. As might have been expected, the large majority of subjects came from Anglo-German stock. The two people identified as Jewish did not report this information until counseling interviews; these data were taken from interview reports.

TABLE I
FREQUENCY AND PER CENT OF TOTAL
FOR ETHNIC EXTRACTION
(N=125)

Ethnic Extraction	Frequency	Per Cent of Total
American Born		
Anglo-German	117	93.60
Jewish (German-Slavic)	2	1.60
Slavic	1	.80
Czechoslovak	1	.80
Indian (American)	1	.80
Italian	1	.80
Spanish-Italian	1	.80
Foreign Born		
Anglo (Reared in China)	1	.80
	N=125	100.00%

Table II presents the marital status of the subjects. The majority of subjects indicated they had been married one

time. The number of reported divorces and remarriages appeared to be rather small when compared to national averages.

TABLE II
FREQUENCY AND PER CENT OF TOTAL
FOR MARITAL STATUS
(N=125)

Marital Status	Frequency	Per Cent of Total
Never married	14	11.20
Married	100	80.00
Separated	1	.80
Divorced	4	3.20
Remarried	4	3.20
Widowed	2	1.60
	N=125	100.00%

Number of children of subjects is found in Table III. The average number of children per married client was approximately two (1.9). Number of children of subjects tended to vary in normal fashion.

TABLE III
FREQUENCY AND PER CENT OF TOTAL
FOR NUMBER OF CHILDREN
(N=111)*

Number of Children	Frequency	Per Cent of Total
Zero	19	17.12
One	17	15.31
Two	38	34.23
Three	26	23.42
Four	8	7.21
Five	3	2.73
	N=111	100.00%

*Fourteen Subjects had never married; therefore the frequency and percentages were based upon an N of 111.

The wives' occupational classifications can be found in Table IV. Slightly more than half of the subjects reported that their wives did not work, thus indicating the primary occupation to be housewife. Most of those who did work outside the home were teachers or nurses (social), secretaries (conventional), and businesswomen (enterprising), who either owned small retail stores or were involved in sales.

TABLE IV
OCCUPATION OF SPOUSE, USING HOLLAND'S OCCUPATIONAL
CLASSIFICATIONS TO OBTAIN FREQUENCY AND PER
CENT OF TOTAL FOR MARRIED SUBJECTS
(N=105)

Occupational Classes	Frequency	Percent of Total
Housewife	62	59.02
Realistic	3	2.86
Intellectual	2	1.90
Social	10	9.52
Conventional	16	15.24
Enterprising	10	9.52
Artistic	2	1.90
	N=105	99.99%

The educational level of wives according to the number of years of training varied from 12 to 18 years, with a mean of 13.971 and SD of 1.641. Educational levels achieved by these women can be found in Table V. Those who completed college are almost equal in number to those who did not go to college. The others began college training but apparently did not finish.

TABLE V
 SPOUSE'S EDUCATIONAL LEVEL BY FREQUENCY
 AND PER CENT OF TOTAL
 (N=105)

Category	Frequency	Percent of Total
High School Graduate	32	30.48
Some College Training	42	40.00
College Degree	28	26.67
Some Graduate Training	1	.95
Graduate Degree	2	1.90
	N=105	99.90%

The number of siblings of subjects can be found in Table VI. The first three categories include most of the subjects while the last seven constitute 21.8 per cent of the sample. Just over half of the subjects reported they came from homes having one or two children.

TABLE VI
 NUMBER OF SIBLINGS BY FREQUENCY AND
 PER CENT OF TOTAL
 (N=125)

Number of Siblings	Frequency	Per Cent of Total
Zero	21	16.80
One	49	39.20
Two	28	22.40
Three	17	13.60
Four	4	3.20
Five	2	1.60
Six	2	1.60
Seven	1	.80
Eight	0	.00
Nine	1	.80
	N=125	100.00%

Table VII represents the subjects' order of birth. The majority of subjects were first or second born. Just over 11 per cent of subjects were fourth or over in order of birth.

TABLE VII
ORDER OF BIRTH BY FREQUENCY AND
PER CENT OF TOTAL
(N=125)

Order of Birth	Frequency	Per Cent of Total
One	59	47.20
Two	39	31.20
Three	13	10.40
Four	8	6.40
Five	4	3.20
Six	1	.80
Seven	1	.80
	N=125	100.00%

The educational level of subjects' fathers ranged from 5 to 22 years of training; the mean and SD were 12.160 and 4.069 respectively. Over 20 per cent of the fathers were identified as having college degrees. Several fathers had doctoral level degrees.

Occupational classifications of subjects' fathers can be found in Table VIII. Realistic and enterprising classifications comprise 84 per cent of the total. Three fathers were physicians, two were college professors, and four were ministers. The largest number of fathers classified as practitioners in professions were involved in engineering or the practice of law.

TABLE VIII
 FATHER'S OCCUPATION, USING HOLLAND'S OCCUPATIONAL
 CLASSIFICATION BY FREQUENCY AND PER
 CENT OF TOTAL
 (N=125)

Occupational Classes	Frequency	Per Cent of Total
Realistic	61	48.80
Intellectual	4	3.20
Social	9	7.20
Conventional	5	4.00
Enterprising	44	35.20
Artistic	2	1.60
(Six Classes)	N=125	100.00%

Two-thirds of the subjects did not pursue college training beyond their bachelor degrees, as evidenced by the frequency distribution found in Table IX. Inspection of the data revealed that subjects who pursued college training beyond their bachelor degrees tended to earn advanced degrees.

TABLE IX
 SUBJECT'S YEARS OF ADVANCED TRAINING, BY NUMBER
 OF YEARS, FREQUENCY AND
 PER CENT OF TOTAL
 (N=125)

Number of Years	Frequency	Per Cent of Total
Zero	86	68.80
One	16	12.80
Two	11	8.80
Three	7	5.60
Four	0	.00
Five	1	.80
Six	1	.80
Seven	1	.80
Eight	2	1.60
(9 Groups)	N=125	100.00%

Table X presents the frequency of subjects earning advanced degrees. Included in those who earned doctoral degrees was one Medical Doctorate, while the others were Doctorate of Philosophy degrees.

TABLE X
ADVANCED DEGREES EARNED BY SUBJECTS ACCORDING
TO FREQUENCY AND PER CENT OF TOTAL
(N=125)

Degree Level	Frequency	Per Cent of Total
No advanced degrees	105	84.00
Masters Degree*	15	12.00
Doctorate Degree	5	4.00
	N=125	100.00%

*Includes LLB

Table XI consists of the number of individuals who changed or did not change majors during college. When the data were tabulated, the arbitrary decision was made to include in the changed major category those subjects who completed one undergraduate degree and then earned another undergraduate degree in a different field. Just over half of the sample reported that they did not change majors while in college.

TABLE XI
CHANGE IN COLLEGE MAJORS OF SUBJECTS ACCORDING TO
FREQUENCY AND PER CENT OF THE TOTAL
(N=125)

Change in Major	Frequency	Per Cent of Total
No change	67	53.60
Changed majors	58	46.40
	N=125	100.00%

The different fields of study pursued by subjects while in college can be found in Table XII. The decision was made to classify majors according to the last degree earned.

TABLE XII
COLLEGE MAJOR AND HOLLAND'S CLASSIFICATION OF MAJOR
BY MAJOR, CLASSIFICATION, FREQUENCY,
AND PER CENT OF TOTAL
(N=125)

College Major	Classifi- cation	Frequency	Per Cent of Total
Accounting	4	8	6.40
Agriculture	1	3	2.30
Anthropology	2	1	.80
Art	6	2	1.60
Biology	2	2	1.60
Business Administration (including Management)	5	16	13.60
Chemistry	2	5	4.00
Commercial Art	6	1	.80
Divinity	3	1	.80
Economics	4	5	4.00
Education	3	2	1.60
Engineering*	1	28	22.40
English	6	2	1.60
Finance	4	3	2.40
Geology	2	4	3.20
Government	5	4	3.20
Industrial Arts	1	1	.80
Journalism	6	3	2.40
Language (German-French)	6	1	.80
Law	5	3	2.40
Marketing	5	12	9.60
Math	2	2	1.60
Medicine	3	1	.80
Music	6	2	1.60
Personnel Administration	5	3	2.40
Physics	2	4	3.20
Psychology	3	4	3.20
Sociology	3	1	.80
Zoology	2	1	.80
(29 Major Categories)		N=125	100.00%

*All types except sales engineering.

Twenty-nine college majors classifications were identified, with the largest frequencies found in business and engineering classifications. When Accounting, Business Administration, Marketing, and Personnel Administration frequencies were combined, the per cent of total subjects became 31.20 per cent. The frequency of subjects majoring in fields other than business and engineering varied from one to five, with the combined per cent of total being 41.50 per cent.

Table XIII presents college majors in terms of the frequency in which these majors occurred when Holland's classification system was used. Variations in frequency are noted, with the social classification being identified as having the fewest in number. The enterprising (business) and realistic (engineering) classifications were found to have the largest frequencies.

TABLE XIII

COLLEGE MAJOR USING HOLLAND'S CLASSIFICATIONS BY
CATEGORY, FREQUENCY, AND PER CENT OF TOTAL

Occupational Classes	Frequency	Per Cent of Total
Realistic	32	25.60
Intellectual	19	15.20
Social	9	7.20
Conventional	16	12.80
Enterprising	38	30.40
Artistic	11	8.80
(Six Classes)	N=125	100.00%

Tables XII and XIII provide data important to partially answer the research question regarding the description of the

subject-client population. The twenty-nine major categories were collapsed to fit Holland's classification system, resulting in all six classifications being represented by subjects in this sample. However, inspection of these tables indicates that the fine arts and the social sciences are represented by frequencies which are smaller than would be expected, based upon national norms. The smallest frequencies found in Table XIII provided the base for this qualitative analysis.

Data gathered with use of demographic variable I4 (D₁₄), income on last job held, ranged from \$5,400 to \$50,000 per year, with a mean of 13,982.25 and a SD of 6,440.64. Positive skewness in the distribution was observed.

The discrepancy between desired and actual income, D₁₅, ranged from -\$17,000 to \$14,000, with a mean of 1,694.72 and a SD of 4,036.06. Review of data revealed that 21 subjects expressed a desired (expected) income which was less than that earned on the last job held. The reasons for this willingness to take a loss in income were frequently expressed in the reason for obtaining counseling help. Changes in industry and dissatisfaction with career appeared to be the two major themes reported by subjects.

The number of jobs held by subjects since college graduation, D₁₆, varied in number from 1 to 14. The mean number of jobs held was 4.104 with a SD of 2.501. When data were tabulated, military service was omitted, except in those cases

where the subject chose to make it a career. This decision was based on the assumption that military service was mandatory as opposed to being a vocational choice.

The number of subjects who traveled at least 100 miles in order to obtain counseling services can be found in Table XIV. When data tabulation was done, the notation was made that three individuals commuted by airplane, coming from Calgary, Canada; New York; and Saudia, Arabia. Other individuals who came from out-of-state points resided in New Mexico, Oklahoma, Kansas, and Louisiana.

TABLE XIV
 FREQUENCY AND PER CENT OF TOTAL FOR SUBJECTS
 COMMUTING OVER ONE HUNDRED MILES FOR
 COUNSELING
 (N=125)

Distance	Frequency	Per Cent of Total
Less than 100 miles	96	76.80
More than 100 miles	29	23.20
	N=125	100.00%

Ten operationally defined variables were constructed in order to have data which represented (1) career advancement experiences of subjects and (2) constructs pertaining to personality patterns and job congruency. Definitions for these variables can be found on pages seven through eleven.

The first group of variables, seven in number, represent work stability, achievement, and job satisfaction constructs.

The last three variables represent constructs related to congruency between primary, secondary, and tertiary personality patterns and job classifications. The means and SDs for these ten variables are reported in Table XV.

TABLE XV
MEANS AND STANDARD DEVIATIONS FOR OPERATIONALLY
DEFINED VARIABLES
(N=125)

Variables	Mean	Standard Deviation
X ₁ Average work experience per job	3.562	2.422
X ₂ Stability of job classification	1.336	1.344
X ₃ Average change in earnings per year	\$743.63	\$730.04
X ₄ Acceptance of responsibility	4.376	2.887
X ₅ Career accomplishments	6.096	5.436
X ₆ Goal expression	4.744	2.840
X ₇ Expressed reason(s) for leav- ing former job	4.728	2.447
X ₈ Dominant personality pattern and job congruency	4.648	3.238
X ₉ Secondary personality pattern and job congruency	2.688	2.610
X ₁₀ Tertiary personality pattern and job congruency	1.776	1.777

Variable X₁ employed number of years as the measurement unit. Scores ranged from 1 to 15 years; this range, coupled with the mean and SD, indicated the presence of positively skewn distribution. Variable X₂, number of job classification changes, varied from 0 (no changes) to 7; therefore, some degree of positive skewness was apparent for this variable as well.

Variable X_3 , average change in earnings per year, required that a constant be added for data processing purposes in order to eliminate negative scores. The constant was subtracted prior to presentation. The range for X_3 varied from -\$4,199 to \$4,747.

Variable X_5 , career accomplishments, had a score range which varied from 0 (none reported) to 23. Positive skewness in the score distribution was observed. Variables X_4 (acceptance of responsibility), X_6 (goal expression), X_7 (expressed reason for leaving former job), X_8 (dominant personality pattern and job congruency), X_9 (secondary personality pattern and job congruency), and X_{10} (tertiary personality pattern and job congruency) were used to obtain scores which ranged from 1 to 9.

Variables X_8 , X_9 , and X_{10} were observed to fluctuate in the characteristic fashion of ipsative measurement. Even so, unity for sums of these variable scores did not exist because only the top 3 personality orientation scores were used to obtain scores for these variables. When the ranges, means, and SDs are reviewed, evidence is found to indicate X_9 and X_{10} have distributions which are positively skewed.

Variables X_{11} through X_{20} include scale scores obtained with the use of the Motivation Analysis Test. Because sten scores were used in data tabulation, the potential range for each variable was from 1 to 10. The means and SDs for this group of variables can be found in Table XVI.

Variables X₁₂, X₁₅, X₁₇, and X₁₈ have means which were observed to be below the mean norm reported for the instrument. Inspection of sten score ranges, means, and SDs indicate variables X₁₂ and X₁₅ were positively skewed, while score on the other variables varied in normal fashion.

TABLE XVI
MEANS AND STANDARD DEVIATIONS FOR THE
MOTIVATION ANALYSIS TEST
(N=125)

Variables	Means	Standard Deviations
X ₁₁ Career sentiment	5.840	2.683
X ₁₂ Home-parent sentiment	3.368	2.142
X ₁₃ Fear erg	4.808	2.409
X ₁₄ Narcism-comfort erg	5.864	2.707
X ₁₅ Self-sentiment	3.680	2.425
X ₁₆ Superego sentiment	4.768	2.754
X ₁₇ Mating erg	4.352	2.240
X ₁₈ Assertiveness erg	4.328	2.478
X ₁₉ Pugnacity-sadism erg	4.752	2.663
X ₂₀ Sweetheart-spouse sentiment	4.688	2.336

Scale scores obtained with the use of the Guilford-Zimmerman Temperament Survey made up the variable group consisting of X₂₁ through X₃₀. C scores were used when data were tabulated, thus providing a potential score range for each of these variables with a minimum score of 0 and a maximum of 10. The means and SDs for these scores are reported in Table XVII.

The mean score blank identified by the norms for this instrument includes C scores of 4, 5, or 6. All means for this group of variables follow the reported norms of the instrument. After reviewing ranges, means, and SDs for each variable, the distribution of scores was judged to vary in normal fashion.

TABLE XVII
 MEANS AND STANDARD DEVIATIONS FOR
 THE GUILFORD-ZIMMERMAN
TEMPERAMENT SURVEY
 (N=125)

Variables	Means	Standard Deviations
X21 General activity (energy)	5.816	2.270
X22 Restraint (seriousness)	6.496	1.579
X23 Ascendance	6.072	2.103
X24 Emotional stability	5.256	2.036
X25 Social interest	6.152	2.040
X26 Objectivity	5.680	2.022
X27 Friendliness	5.368	1.812
X28 Thoughtfulness	6.072	1.927
X29 Personal relations	5.872	1.959
X30 Masculinity	5.160	2.077

Variables X₃₁ through X₃₆ include data obtained with the use of The Study of Values, Third Edition. The means and SDs found in this investigation are shown in Table XVIII.

TABLE XVIII
 MEANS AND STANDARD DEVIATIONS FOR THE
STUDY OF VALUES, THIRD EDITION*
 (N=125)

Variables	Means	Standard Deviations
X31 Theoretical	40.752	6.623
X32 Economic	49.736	7.079
X33 Aesthetic	30.064	7.620
X34 Social	34.432	6.348
X35 Political	41.968	6.649
X36 Religious	43.128	9.899

*Raw scores were used.

Correction figures were added to the raw score means to compare this group of subjects with the instrument's "average"

profile for males. The theoretical and religious scales' points were the same, 44 and 38 respectively. The mean scale score on X₃₂, economic, was 6 points above the average score of 42. The aesthetic mean score was 2 points higher than the expected, while the social mean score was 4 points below the average. The mean score for the political scale was 2 scale points higher than the average. With the exception of the economic and social scale means, the profile of means found in this investigation resembles the profile developed from instrument norms.

Table XIX presents means and SDs for variables X₃₇ through X₄₂. The Personal Survey was used to obtain data on these variables. Inspection of ranges, means, and SDs indicate X₄₁ and X₄₂ to be positively skewed. Enterprising and social means reflect the highest scores while the artistic and intellectual means were the lowest.

TABLE XIX
MEANS AND STANDARD DEVIATIONS FOR THE
PERSONAL SURVEY*
(N=125)

Variables	Means	Standard Deviations
X ₃₇ Realistic	9.016	4.265
X ₃₈ Intellectual	7.312	3.832
X ₃₉ Social	10.640	3.518
X ₄₀ Conventional	9.688	3.534
X ₄₁ Enterprising	12.976	7.620
X ₄₂ Artistic	5.560	4.428

*Raw scores were used.

Analysis of relationships between career advancement, inferred and assessed personality variables, consisted of treating the data by factor analysing product moment coefficients found to exist between variables for this sample. The correlation matrix and factor matrices can be found in Appendices D, E, and F.

A second factor analysis was completed as a check on the stability of factors and factor loadings, with one variable removed. Variable X₃₄, social, was excluded in the second analysis in order to break the effect of unity inherent in the construction of The Study of Values, Third Edition.

Fourteen factors with latent roots of at least one were found in both analyses. The second analysis did show the effects of removing X₃₄ by changing the relative positions of the factors. Factor VIII in the first analysis became Factor I in the second. Factor I changed to become Factor III in the second analysis. Factor III became Factor IV, Factor V became Factor VIII, Factor IX became Factor V, Factor X became Factor IX, Factor XIV became Factor X, and Factor IV became Factor XIV. Factors II, VI, VII, XI, and XIII remained in their relative positions.

Inspection of differences between factor loadings for the two analyses revealed some degree of modification. Even so, the factors were distinctly recognizable by their factor loadings.

Tablex XX through XXXIV, found on the following pages, present the varimax rotated factor loadings for the first factor

analysis which involved 42 variables. Factor loadings of less than .25 were omitted. Tentative titles for factors were developed and presented in these tables.

The decision was made to retain those factor loadings of .25 or greater in order to review trends. A choice could have been made to maintain a more conservative approach which includes study of significant factor loadings only. The average correlation coefficient was .11. The standard error of the mean based on this average established that factor loadings above .214 occur thirty-two times in a hundred, by chance. If the conservative approach had been taken, no factor loading which was less than .64 would have been included. This more rigorous approach would not have allowed the exploratory research for trends.

TABLE XX
 FACTOR I, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor I* Economic Striving and Social Advancement
X ₁₉ Pugnacity-sadism	.33
X ₂₁ General activity	.56
X ₂₃ Ascendance	.82
X ₂₄ Emotional stability	.69
X ₂₅ Social interest	.43
X ₂₇ Friendliness	-.28
X ₃₂ Economic (value)	.33
X ₃₃ Aesthetic (value)	-.36
X ₃₉ Social	.35
X ₄₀ Conventional	.60
X ₄₁ Enterprising	.68
Percent of total variance measured by Factor	9.41
*Factor loadings less than .25 were omitted.	

TABLE XXI
 FACTOR II, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor II* Positive Masculine Social Interaction
X ₂₅ Social interest	.57
X ₂₆ Objectivity	.86
X ₂₇ Friendliness	.63
X ₂₉ Personal relations	.82
X ₃₀ Masculinity	.46
Percent of total variance measured by Factor 8.43	
*Factor loadings less than .25 were omitted.	

TABLE XXII
 FACTOR III, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor III* Sensitivity to Authority Need for Power
X ₁ Average work experience time per job	-.81
X ₄ Acceptance of responsibility	-.30
X ₁₅ Self-sentiment	-.44
X ₂₁ General activity (energy)	.32
X ₃₅ Political (value)	.46
X ₃₇ Realistic	.39
X ₄₁ Enterprising	.27
Percent of total variance measured by Factor 6.74	
*Factor loadings less than .25 were omitted.	

TABLE XXIII
 FACTOR IV, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor IV*	
	White, Anglo-Saxon, Protestant	Work Ethnic
X11 Career sentiment		.61
X13 Fear erg		.51
X16 Superego sentiment		.35
X18 Assertiveness erg		.68
X30 Masculinity		.42
X34 Social (value)		-.31
X35 Political (value)		.39
Percent of total variance measured by Factor		6.46
*Factor loadings less than .25 were omitted.		

TABLE XXIV
 FACTOR V, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor V*	
	Cognitive Productivity,	A Response to Fear
X3 Average change in earnings per year		.39
X5 Career accomplishments		.39
X13 Fear erg		.45
X30 Masculinity		.28
X31 Theoretical (value)		.61
X37 Realistic		.49
X38 Intellectual		.77
Percent of total variance measured by Factor		5.29
*Factor loadings less than .25 were omitted.		

TABLE XXV
 FACTOR VI, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor VI* Stoic Pursuit of Career to Achieve Earnings
X3 Average change in earnings per year	.48
X4 Acceptance of responsibility	.61
X6 Goal expression	-.66
X7 Expressed reason(s) for leaving former job	.67
X14 Narcism-comfort erg	-.25
X22 Restraint (seriousness)	.25
X34 Social (value)	-.31
Percent of total variance measured by Factor 4.49	
*Factor loadings less than .25 were omitted.	

TABLE XXVI
 FACTOR VII, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor VII* Personality and Job Classification Congruency
X8 Dominant personality pattern and job congruency	.77
X9 Secondary personality pattern and job congruency	-.85
X12 Home-parent sentiment	.25
X37 Realistic	.30
Percent of total variance measured by Factor 4.20	
*Factor loadings less than .25 were omitted.	

TABLE XXVII
 FACTOR VIII, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor VIII* Uninhibited Need Gratification
X ₃ Average change in earnings per year	.26
X ₁₄ Narcism-comfort erg	.58
X ₁₆ Superego sentiment	.36
X ₁₇ Mating erg	.71
X ₁₉ Pugnacity-sadism erg	.61
X ₂₂ Restraint (seriousness)	-.32
X ₂₅ Social interest	-.25
X ₃₃ Aesthetic (value)	.29
X ₃₇ Realistic	-.25
X ₃₉ Social	-.29
<hr/>	
Percent of total variance measured by Factor	4.13
.Factor loadings less than .25 were omitted.	

TABLE XXVIII
 FACTOR IX, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor IX* Introspection of Self, Concern for Others
X ₁₅ Self-sentiment	.26
X ₂₁ General activity	-.27
X ₂₂ Restraint (seriousness)	.42
X ₃₁ Theoretical (value)	-.42
X ₃₂ Economic (value)	-.30
X ₃₃ Aesthetic (value)	-.42
X ₃₅ Political (value)	-.26
X ₃₆ Religious (value)	.85
X ₃₉ Social	.45
<hr/>	
Percent of total variance measured by Factor	3.81
*Factor loadings less than .25 were omitted.	

TABLE XXIX
 FACTOR X, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor X* Personality Pattern Job Incongruency
X ₅ Career accomplishments	-.34
X ₈ Dominant personality pattern and job congruency	-.29
X ₁₀ Tertiary personality pattern and job congruency	.82
X ₁₄ Narcism comfort erg	-.33
X ₁₅ Self-sentiment	.28
X ₄₀ Conventional	-.28
Percent of total variance measured by Factor 3.29	
*Factor loadings less than .25 were omitted.	

TABLE XXX
 FACTOR XI, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor XI* Vocational Artistic Expression
X ₅ Career accomplishments	.38
X ₂₂ Restraint (seriousness)	.30
X ₃₂ Economic (value)	-.47
X ₃₃ Aesthetic (value)	.53
X ₃₉ Social	.37
X ₄₁ Enterprising	.25
X ₄₂ Artistic	.75
Percent of total variance measured by Factor 3.50	
*Factor loadings less than .25 were omitted.	

TABLE XXXI
 FACTOR XII, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor XII* Introjected Familial Constraints
X ₂ Stability of job classification	.76
X ₈ Dominant personality pattern and job congruency	-.27
X ₁₂ Home-parent sentiment	.53
X ₂₅ Social interest	-.32
X ₃₅ Political (value)	-.27
Percent of total variance measured by Factor	3.02

*Factor loadings less than .25 were omitted.

TABLE XXXII
 FACTOR XIII, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor XIII* Preplanned Social Interaction
X ₁₂ Home-parental sentiment	.26
X ₂₁ General activity (energy)	.33
X ₂₇ Friendliness	-.26
X ₂₈ Thoughtfulness	.75
X ₃₂ Economic (value)	-.45
X ₃₄ Social (value)	.51
X ₃₇ Realistic	-.25
Percent of total variance measured by Factor	2.91

*Factor loadings less than .25 were omitted.

TABLE XXXIII
 FACTOR XIV, VARIMAX ROTATED (ORTHOGONALLY)
 WITH FACTOR LOADINGS (ABOVE .25)
 FOR FORTY-TWO VARIABLES
 (N=125)

Variables	Factor XIV* Close Marital Relationship Involvement
X ₃ Average change in earnings per year	-.38
X ₁₁ Career sentiment	.31
X ₁₆ Superego sentiment	.52
X ₂₀ Sweetheart-spouse sentiment	.82
X ₃₀ Masculinity	-.27
X ₃₅ Political (value)	-.34
X ₃₉ Social	-.28
Percent of total variance measured by Factor	2.73

*Factor loadings less than .25 were omitted.

Each of the 42 variables loaded on at least one factor. There was a total of 17 variables that loaded on just one factor. Seven variables loaded on two factors, eight on three, seven on four factors, two on five factors, and one on six factors.

The career advancement variables, X₁ through X₇, loaded on a total of eight variables, which included Factors III, V, VI, VIII, X, XI, XII and XIV. Since these variables were used to operationally define vocational stability, achievement, and job satisfaction, an inspection of factors was made to determine whether each group of variables tended to load on the same factor.

The stability variables, X₁ and X₂, loaded on Factors III and XII respectively. Achievement variables, X₃ through X₅, had the widest range of factor loadings. Variable X₃ loaded on

Factors V, VI, VIII, and XIV. Variable X_4 was found to load on Factors III and VI. Variable X_5 loaded on Factors V and VI. Job satisfaction variables X_6 and X_7 loaded on one factor, it being Factor VI.

Factor VI had four career advancement variables as factor loadings, two achievement variables, and two job satisfaction variables. Also, the job satisfaction variables loaded in opposite directions, with X_6 having a negative loading and X_7 a positive one.

Variable scores obtained by the administration of the Motivation Analysis Test were found to have at least one factor loading on 12 of the 14 factors as follows:

Variable X_{11} loaded on Factors IV and XIV
 Variable X_{12} loaded on Factors VII, XII, and XIII
 Variable X_{13} loaded on Factors IV and V
 Variable X_{14} loaded on Factors VI, VIII and X
 Variable X_{15} loaded on Factors III, IX and X
 Variable X_{16} loaded on Factors IV and VIII
 Variable X_{17} loaded on Factor VIII
 Variable X_{18} loaded on Factor IV
 Variable X_{19} loaded on Factors I and VIII
 Variable X_{20} loaded on Factor XIV

Motivation Analysis Test variables shared commonality in factor loadings with several career advancement variables. Self-sentiment had the same directional loadings on Factor III as did average work experience, time per job, and acceptance of responsibility. Factor V revealed average change in earnings per year and career accomplishments shared with fear erg in the make-up of the factor loadings. On Factor VI, narcissism-comfort erg shared a negative loading relationship with goal expression and reversed relationships with change in earnings

per year, acceptance of responsibility, and expressed reason(s) for leaving former job.

Narcism-comfort erg, superego sentiment, mating erg, and pugnacity-sadism erg shared loading relationships with average change in earnings per year on Factor VIII. On Factor X narcissism-comfort erg shared a negative loading relationship with career accomplishments, while self-sentiment shared a reversed loading relationship with the same variable. Factor X revealed commonality in factor loadings for stability of job classifications and home-parental sentiment. (A high score of stability of job classifications represents a number of job classification shifts.) Career sentiment, superego sentiment, and sweetheart-spouse sentiment shared reversed loading relationships with average change in earnings per year on Factor XIV.

The Guilford-Zimmerman Temperament Survey was used to obtain variable scores for X₂₁ through X₃₀. At least one of these variables loaded on 12 of the 14 factors as follows:

Variable X₂₁ loaded on Factors I, III, IX, and XIII
 Variable X₂₂ loaded on Factors VI, VIII, IX, and XI
 Variable X₂₃ loaded on Factor I
 Variable X₂₄ loaded on Factor I
 Variable X₂₅ loaded on Factors I, II, VIII, and XIII
 Variable X₂₈ loaded on Factor XIII
 Variable X₂₉ loaded on Factor I
 Variable X₃₀ loaded on Factors II, IV, V, and XIV

This group of variables, X₂₁ through X₃₀, shared factor loading relationships with career advancement variables on seven factors. General activity (energy) shared a reversed

loading relationship with average work experience, time per job, and acceptance of responsibility on Factor III. Factor IV revealed loading relationships between masculinity and average change in earnings per year, as well as career accomplishments. Restraint (seriousness) shared commonality in loading with average change in earnings per year and acceptance of responsibility on Factor VI. Restraint and social interest had reversed loading relationships with average change in earnings per year on Factor VIII. Factor loadings on Factor XI indicate a commonality of loadings between restraint and career accomplishments. A reversed loading relationship between social interest and stability of job classification was found on Factor XII. (Since the job classification changes represent the high score, the direction of factor loadings was negated.) Factor XIV revealed commonality in factor loadings between masculinity and average change in earnings per year.

Variables X₃₁ through X₃₆ consisted of scores obtained with the use of The Study of Values, Third Edition. At least one of these variables loaded on 10 of the 14 factors as follows:

Variable X₃₁ loaded on Factors V and IX
 Variable X₃₂ loaded on Factors I, IX, XI and XIII
 Variable X₃₃ loaded on Factors I, VIII, IX and XI
 Variable X₃₄ loaded on Factors IV and VI
 Variable X₃₅ loaded on Factors III, IV, IX, XII, XIII and XIV
 Variable X₃₆ loaded on Factor IX

The Study of Values variables shared commonality of factor loadings with some of the career advancement variables. Factor III revealed reverse loading relationships between political value and average work experience, time per job, as well as acceptance

of responsibility. Theoretical value shared loading relationships with average change in earnings per year and career accomplishments on Factor V. On Factor VI, social value had reversed loading relationships with average change in earnings per year, acceptance of responsibility, and expressed reason(s) for leaving former job, while having a unidirectional relationship with goal expression. Realistic value had a loading relationship with average change in earnings per year on Factor VIII. On Factor XI, economic value had a reversed loading relationship with career accomplishments, while aesthetic value had a unidirectional one. Political value had a reversed loading relationship with stability of job classification on Factor XII. (When the stability classification scores are reversed to coincide with degrees of stability, this relationship becomes unidirectional.) Factor XIV revealed unidirectional factor loadings for political value and average change in earnings per year.

Personality classification scores were obtained with the use of The Personal Survey. These scores were represented by X₃₇ through X₄₂, and at least one of these was found to load on eight of the 14 factors as follows:

Variable X₃₇ loaded on Factors III, V, VI, VIII and XIII
 Variable X₃₈ loaded on Factor V
 Variable X₃₉ loaded on Factors I, VIII, IX, XI and XIV
 Variable X₄₀ loaded on Factors I and X
 Variable X₄₁ loaded on Factors I, III and XI
 Variable X₄₂ loaded on Factor XI

Several factor loading commonalities were found to exist on six factors between personality classification variables and career advancement variables. Realistic and enterprising

classifications had reversed loading relationships with average work experience, time per job, and acceptance of responsibility on Factor III. Factor IV contained common factor loadings for realistic and intellectual classification and average change in earnings per year, as well as career accomplishments. Factor VI had reversed loading relationships between realistic and social classifications and average change in earnings per year. An unidirectional loading relationship existed on Factor X between the conventional classification and career accomplishments. Social, enterprising, and artistic classifications shared commonality in loadings with career accomplishments on Factor XI. On Factor XIV, social classification and average change in earnings per year shared the same unidirectional commonality of loadings.

Variables X_8 , X_9 , and X_{10} have been omitted thus far in the discussion because they pertain to the last research question. This research question involved exploring congruency of personality and job classifications as it is related to vocational stability, achievement, and job satisfaction. Variables X_8 , X_9 , and X_{10} represent congruency scores for primary, secondary, and tertiary personality classifications so far as they agree with job classifications.

These three variables loaded on three factors, Factor VII, X, and XII. Factors X and XII each contained one career advancement loading while Factor VI did not. On Factor VII reversed factor loadings occurred for primary personality

pattern and job congruency and secondary personality pattern and job congruency. These two variables shared commonality of factor loadings on this factor with home-parental sentiment and realistic classification.

On Factor X, dominant personality pattern and job congruency shared a unidirectional commonality of loadings with career accomplishments, while tertiary personality pattern and job congruency and stability of job classification shared a reversed loading relationship on Factor XII. (This relationship is construed to be unidirectional when scores on stability of job classifications are revised to conform with increasing levels of stability as opposed to increasing levels of instability.)

In this investigation the primary objective for employing statistical procedures was to analyze vocational stability, achievement, and job satisfaction variables and their relationships to assessed and inferred personality variables. The factor analysis revealed that career advancement variables had factor loadings on 8 of the 14 factors. Commonality between career advancement factor loadings and all personality variables (including personality and job classification congruency variables) was found to exist in 56 instances on those 8 factors. The 7 career advancement variables loaded on factors 13 times. On the same factors assessed personality variables had 29 loadings. Inferred personality variables (personality classification and congruency variables) had 14 loadings.

CHAPTER V

SUMMARY AND CONCLUSIONS WITH RECOMMENDATIONS

The need for research related to human behavior and the world of work is apparent in the ever increasing complexity of cultural factors related to urban, technologically oriented modes of living. Increasing rates of change have produced challenges for the helping professions to (1) understand to a better extent the needs and desires of man, (2) have an awareness of environmental requirements, and (3) help individuals to function optimally in a productive and personally satisfying fashion. In response to this challenge, the counseling profession has assumed the responsibility for assimilating and integrating vocational information in order to be of better service to clientele.

Reviews of literature revealed a large body of fragmented research concerning vocational choice and measurement. The need for integrating this information into today's mainstream of psychology and sociology has been expressed. Even though holistic constructs are beginning to emerge, the vast majority of research programs concerning vocational choice and development theory pertain to youth who are in the process of preparing for careers. More research programs which gather data on working populations were assumed, therefore, to be needed.

Summary and Conclusions

The objective of this investigation was to analyze vocational stability, achievement, and job satisfaction variables and their relationships to assessed and inferred personality variables for a group of male college graduates with post college work experience who seek career counseling. The purposes of the investigation were (1) to describe the group of subjects by using demographic career advancement and personality variables; (2) to analyze the relationship between career advancement and personality variables; and (3) to investigate an assumption which states that congruency between personality patterns and environments produce vocational stability, achievement, and job satisfaction (career advancement criteria).

The theoretical significance of the present study lay in investigating the congruency assumption. The pragmatic significance included (1) obtaining data for the purpose of describing a group of male subjects with college degrees who are experiencing career problems and (2) analyzing relationships between career advancement and personality variables in order to help future clients who come from similar populations.

Clients in a career counseling program of a management consulting firm made up the population on which data were gathered. The sample of subjects who participated in the study was 125 in number. Seventeen demographic variables and forty-two career advancement and personality variables were used to describe the sample. Percentages, means, and standard deviations were used for descriptive purposes.

A factor analysis was completed, using product moment coefficients of correlation between the forty-two career advancement and personality variables. The treatment of data was employed for the purpose of analyzing the relationships between career advancement and personality variables. Also, results of this analysis were used to investigate the congruency assumption.

Factors with latent roots of less than one were excluded. Fourteen factors were found with 68.41 per cent of variance explained by them. These factors were presented with variable loadings of less than .25 being omitted. A review of factors revealed that career advancement variables had at least one factor loading on eight factors. A total of fifty-six shared loading relationships was found between career advancement variables and personality variables. The seven career advancement variables loaded on the factors thirteen times. Assessed personality variables had a total of twenty-nine loadings on the same factors. Inferred personality variables (personality classifications and congruency variables) had fourteen loadings.

The first research question posited for this investigation required that descriptive data be developed in order to identify the individual who feels he needs career counseling. To answer this question, percentages, means, and/or standard deviations were reviewed for all variables.

It is likely that the career counseling client who has a college degree is around 38 years old, comes from Anglo-German extractions, and is married. He probably has two children and a wife, whose career includes being a mother and housewife. If she should work outside the home, she would choose to work as a teacher, nurse, secretary, or as a saleswoman. His wife probably has some college training and possibly has a college degree.

The client is a person who generally comes from a home where he had one or two siblings. He may be the oldest or second oldest child from that family. His father had at least a high school education and worked in an occupation classified as realistic or enterprising.

College training for this client was usually terminated when he completed his undergraduate degree. If he did choose to continue in college, he completed work on an advanced degree. He may or may not have changed majors while in school, the odds being about even that he did change. His major field of interest while in college probably encompassed a major in one of the fields of Business Administration or Engineering.

Income on the last job held was probably \$14,000. This client's desired income in the immediate future represents an increase of approximately \$1,700. He has had four jobs and, in addition, yearly increases in salary of approximately \$750. He would prefer to obtain career advancement services near him as opposed to driving more than 100 miles.

Average work experience per job is most likely to be three and one-half years. This average client probably changed in job classification one time prior to seeking counseling. He has a tendency of assuming some responsibility for supervising others. He more than likely will express six career accomplishments if the request is made.

In terms of motivations, this person appears to have lower home-parental sentiment and self-sentiment than one would expect, based on test norms. Other motivations seem to approximate those of a larger population, as do temperament traits. This client's value system appears to emphasize economic as opposed to social values. His other value orientations seem to be appropriately represented by the larger population norms.

If one attempted to categorize the individual in terms of personality patterns, the enterprising stereotype would be the preferred guess, with social and conventional patterns making up secondary and tertiary classifications.

Analysis of variable relationships was the objective established to answer the second research question. The factor analysis completed in this study identified fourteen factors with latent roots of at least one.

Choice of variable titles provided the basis for sharing one set of conclusions based on analyses completed in this investigation. These titles are recognized as very tentative and may or may not have validity. Even so, they were selected

as constructs which would make sense if one were to use the results of this investigation in career counseling activities. They seem to facilitate the development of useful hypotheses concerning human needs which can be explored with clients for the purpose of resolving career problems. These fourteen factors, per cent of total variance measured by the factors and factor titles, can be found in Table XXXIV (see following page).

Clinical usage of these factored variable patterns encompasses reviewing a client's assessment data and comparing these with various factors. If factor patterns exist within the assessment data, the counselor can explore these patterns in counseling sessions with the client to determine the extent to which these patterns help describe the client's personality.

The personality factor patterns which have been validated via counseling sessions can be studied to determine what needs are being or not being met in work situations. For example, a design engineer has a job which requires him to work on projects by himself for extended periods of time. If the assessment data reveal that his scoring pattern resembles that found in Factor II, his need for positive, masculine social interactions may not be met in the work situation and, therefore, includes negative feelings about the job.

Factors I, II, and IV comprised 24.25 per cent of the explained variance, but did not have any career advancement variables loading on them. Based on this finding, the conclusion has been reached that important personality dimensions were measured by both assessed and inferred personality variables

which were not associated with the variables representing vocational stability, achievement, and job satisfaction. This precipitated reviewing the extent to which career advancement variables scattered themselves throughout the factors.

TABLE XXXIV
FACTORS, LATENT ROOTS, PER CENT OF TOTAL
VARIANCE MEASURED BY FACTORS AND
TENTATIVE FACTOR TITLES

Factors	Latent Roots	Per Cent of Total Variance Measured by Factor	Factor Titles
Factor I	3.954	9.41	Economic Striving and Social Advancement
Factor II	3.539	8.43	Positive, Masculine Social Interaction
Factor III	2.831	6.74	Sensitivity to Authority Need for Power
Factor IV	2.712	6.46	White, Anglo-Saxon Protestant Work Ethic
Factor V	2.220	5.29	Cognitive Productivity A Response to Fear
Factor VI	1.889	4.49	Stoic Pursuit of Career to Achieve Earnings
Factor VII	1.761	4.20	Personality and Job Classification Congruency
Factor VIII	1.738	4.13	Uninhibited Need Gratification
Factor IX	1.597	3.81	Introspection of Self, Concern for Others
Factor X	1.471	3.29	Personality and Job Classification Incongruency
Factor XI	1.382	3.50	Vocational Artistic Expression
Factor XII	1.269	3.02	Introjected Familial Constraints
Factor XIII	1.221	2.91	Preplanned Social Interaction
Factor XIV	1.148	2.73	Close, Marital Relationship Involvement
Total Amount of Variance Measured by Fourteen Factors		68.41	

A review of Factors VI indicated that the two measures of job satisfaction shared commonality in loadings with two achievement variables. In addition, the job satisfaction variables were reversed in direction of loading. This information provided the basis for concluding that additional work should be done to improve the quality of job satisfaction representation.

A review of other variables has identified the career sentiment variables as perhaps a useful alternative representative to the job satisfaction variables. Since this variable reportedly measures levels of interest in career, it might prove to be a useful substitute in future research. (Incidentally, this variable did load on Factor IV.)

The number of shared factor loadings between inferred personality variables and career advancement variables, as compared with those for assessed personality variables, appears to be disproportionately high. This was determined after reviewing the number of shared loadings in relation to the number of variables represented by each variable group. This would seem to indicate personality classifications, as measured by the Personal Survey, have merit, particularly when the six scores are used together.

If inferred personality measures had been used exclusively, the opinion exists that the number of counseling hypotheses would have been drastically reduced. Secondly, such overlap between personality classifications, such as that noted on Factors I, III, IV, VIII, and XI, serve to confuse the underlying personality dimensions which these classifications represent.

Factor loadings have been reviewed in order to compare personality classifications and assessed personality variables. Factor I included loadings of .60 and .68 for conventional and enterprising classifications. For this reason, this factor might be perceived as representing a combination of enterprising and conventional personality orientations. The association of these factor loadings with other variables has been interpreted as supporting some of the descriptive terms inferred by these personality classifications. The following conclusions seem to be appropriate, based on loading relationships found in this factor:

A. Descriptive terms supported by findings:

1. Enterprising = argumentative, dominating, energetic leadership, persuasive, popular, self-confident, social striving.
2. Conventional = conforming, conservative, persistent, practical, suspicious.

B. Descriptive terms unconfirmed by findings:

1. Enterprising = adventurous, enthusiastic, dependent, impulsive, pleasure seeking, popular with opposite sex.
2. Conventional = clerical ability, conscientious, dependent, efficient, inflexible, neat.

Intellectual and realistic classifications loaded on Factor V at levels of .77 and .49 respectively. Since these loadings were the highest found for each of these classifications

among the several factors, this factor seemed to represent these classifications in combination. This combination made sense because the sample included a relatively large number of engineers. While engineering has been classified as a realistic occupation, the skills and educational requirements appear to involve intellectual characteristics such as math ability, preciseness, research ability, and scientific ability.

The factor loading relationships in Factor V support the viewpoint that both realistic and intellectual classifications are masculine. Since this factor was partially comprised by the theoretical value variable, research and scientific abilities (intellectual characteristics) seem to be supported. Even so, no other characteristics for these classifications seem to be confirmed by the data obtained in this study.

The social classification, like the realistic and enterprising classifications, loaded on several factors. The highest factor loading was found in Factor IX. The reversed loading relationships between political and religious values in this factor seemed to support the notion that social orientation involves a need to help and understand others, two inferred personality characteristics for the social classification. If this assumption is valid, friendliness and kindness were also characteristics which can be supported by the data. Other descriptive terms were unconfirmed.

In Factor XI the artistic classification had a factor loading of .75. This was the only factor on which this classification loaded. The most noteworthy loading relationship for

this classification involved the aesthetic value. However, the extent to which personality characteristics associated with artistic and aesthetic interests are valid, could not be determined with the findings of this investigation.

The four personality classification patterns just presented would indicate the four, rather than six, personality classifications could be used to describe the sample for this study.

The research question concerning the congruency assumption has been reserved for the last item to discuss in this section. Results of data analysis revealed that the primary personality pattern and job congruency variable did share commonality of factor loadings with stability of classifications when the later score has been corrected to coincide with levels of stability. It also shared a unidirectionality of factor loadings with career accomplishments while tertiary patterns and job congruency shared a reversed loading relationship. Since these were the only relationships found in this study between measures of congruency and career advancement variables, the conclusion is reached that the data does not tend to support the assumption that congruency between personality and environment produces vocational stability, achievement, and job satisfaction. This conclusion is not one which came as a surprise in lieu of the fact that the population consisted of individuals who were dissatisfied with their careers to the extent that they sought help.

The results of this study have generated, instead, an exciting alternate hypothesis for this client-subject population.

In view of the finding that the tertiary personality pattern and job congruency had a reversed factor loading relationship with career accomplishments, it is hypothesized incongruency (tertiary pattern as opposed to primary pattern) does tend to inhibit career performance.

Recommendations

Research designed to improve the measurement of vocational stability, achievement, and job satisfaction variables is the first recommendation which needs to be made. Second, analysis of personality variables as they are related to these career advancement variables should be conducted with sufficiently large populations so that comparative analyses can be made between occupational groups. Third, studies should be conducted, so that the effects of career counseling can be studied in relation to defined personality patterns and career advancement experiences. Fourth, research with working populations who are experiencing career problems related to incongruency between personality and job classifications should be conducted to determine the specific effects on career advancement. Fifth, research designed to clarify issues related to personality characteristics inferred by each classification needs to be conducted to eliminate overlap between classifications.

APPENDIX A

PROCEDURES FOR ADMINISTRATION OF ASSESSMENT INSTRUMENTS

Testing Considerations

In the administration of this assessment battery it is important that the directions in the Assessment Procedure Manual be followed closely. The procedures described therein are designed to yield a reliable estimate of behavior. Acquiring valid and reliable results from the use of this battery demands strict adherence to directions, while variations from these established methods will result in erroneous data gathering procedures.

To ensure proper administration, it is necessary that the materials be organized, suitable testing conditions be provided, and finally, that the administrator be well versed in procedure. The administrator will be thoroughly familiar with the directions and special considerations obtaining for each test. We would suggest that he practice the steps in administration before the real testing sessions. In this way he will be prepared to record responses, cope with possible client reactions, and provide for a smooth assessment operation.

The administrator should attempt to develop and maintain good rapport with the client. An effort should be made to secure the client's cooperation and maintain his motivation. Appropriate kinds of remarks which do not indicate success or failure on the part of the client are good; thus remarks

like, "Well, that didn't take you long." or "This one may be more interesting for you." would be appropriate. It is up to the examiner to exercise tact in these situations.

Finally, the request is made that instruments be administered in the sequential order of appearance in the administration manual. This consistency is needed to ensure maintenance of good test procedures. The assessment instruments have been arranged so as to provide the client with some variability and optimal use of his time.

Guide Lines for Behavior of the Administrator

1. Unconditional acceptance of the client is important.
2. Directions should be read from this manual, clearly and distinctly lest the client suffer from your poor pronunciation.
3. Be alert to everything that is said or done whether verbally or by facial expression, gesture, etc.
4. Keep additional testing material, stopwatches and your written comments from the easy scrutiny of the client.
5. Record all data accurately and legibly; review all computations, conversions and transfer of data.
6. Remember, the client is a human being; he may be apprehensive, curt, flirtatious or want to talk; any behavior may occur.
7. Finally, be diligent in making any notes of unusual behavior which may be of interest to the counselor.

APPENDIX B

BIOGRAPHICAL INFORMATION SHEET

Mr. _____
 Mrs. _____ Date _____
 Miss _____
 Dr. _____
 Address _____ City _____ State _____
 Phone _____ Birthplace _____ Age _____
 National Extraction _____ First Language Spoken _____

MARITAL INFORMATION

Never Married _____ Married _____ Separated _____
 Divorced _____ Remarried _____ Widowed _____

Give dates for each item checked _____

Names and ages of children _____

Spouse's name (include maiden name) _____ Spouse's Age _____

Spouse's occupation (include volunteer work) _____

Where employed _____ Earnings _____

Spouse's educational level _____ Describe your spouse _____

Describe your family situation and way of life _____

FAMILY INFORMATION

Names, ages and occupations of brothers and sisters: _____

Describe your father _____

How are you like him _____

Describe your mother _____

How are you like her _____

Which of your brothers or sisters are most like your father _____

Like your mother _____

Father's occupation and educational level _____

Do you live with your or your spouse's parents or do they live with you _____

Parent's state of health now and during your childhood _____

Were you reared by parents or others _____

What was your family situation and way of life as a child _____

What were the important things to you as a child _____

PHYSICAL DATA

Height _____ Weight _____ General condition of health _____

Please check appropriate blank for each item:

	No Problem	Problem	Describe Problem Conditions
Oral	_____	_____	_____
Muscular (includes hernia)	_____	_____	_____
Bone	_____	_____	_____
Skin	_____	_____	_____
Respiratory	_____	_____	_____
Cardio Vascular	_____	_____	_____
Gastro-Intestinal	_____	_____	_____
Genito-Urinary	_____	_____	_____
Glandular and Weight	_____	_____	_____
Nerve System	_____	_____	_____
Sight	_____	_____	_____
Hearing	_____	_____	_____
Other (describe)	_____	_____	_____
Operations, Illnesses and Accidents (with dates) _____			

Describe your sleeping habits _____

Do you have any birthmarks, scars or tattoos? Describe _____

SCHOLASTIC INFORMATION

Total years of education _____ At what age did you complete high school _____ College _____

What was your general scholastic standing? _____

List of schools and primary courses of study with degrees obtained _____

Additional training, special schooling or occupational training _____

Extra curricular activities _____

Did you hold office in any organization? _____

Describe _____

Did you change your goals while in college? _____

Why? _____

What did you enjoy most during your scholastic years? _____

What did you enjoy least? _____

SELF ASSESSMENT

Give a brief description of yourself _____

Which do you feel are your personal assets? _____

Which do you feel are your personal liabilities? _____

Which of your personal characteristics are sometimes criticized? _____

Which are complimented? _____

What famous person represents your ideal? _____

Of people you know, whom do you most admire and want to be like?

Why? _____

Are you currently engaged in any self improvement? _____

Explain _____

What are your plans? _____

Have you ever had a psychological assessment, appraisal or
counseling? _____ Describe _____

What is your present career situation, and the problems for
which you seek counsel? _____

FAMILY FINANCIAL DATA (If you consider any item too personal,
 you may omit it.)

Rent home _____ Homeowner _____ Apartment _____ Room _____

Other _____ Explain _____

Describe your automobile _____

Describe your personal insurance program _____

Describe any sources of income other than your job _____

What was last year's total family income? _____

What does it cost you to live? _____

What are your debts? _____

What would you consider as satisfactory earnings presently? _____

_____ in one year _____

five years _____ ten years _____

INTERESTS AND ACTIVITIES

Describe past and present memberships and offices held in
 service, professional and social organizations _____

Describe your liesure interests and activities, past and present. Indicate those in which you would like to engage, but do not now. _____

Identify books and periodicals you read regularly or have read recently _____

Preference in Art _____ Foods _____ Music _____ Alcoholic Beverages _____

WORK ATTITUDES

What are your qualifications for a better job, more responsibility, and the resulting rewards? _____

What are your strongest qualifications as an executive? _____

What are your strongest qualifications as a salesman? _____

What do you enjoy most about selling? _____

What do you dislike most about selling? _____

What qualities do you most admire in supervisors and managers?

_____ in your associates _____ in subordinates _____

Maximum amount of time per month you would travel _____

Explain _____

Will you relocate? _____ Geographical preferences _____

_____ Explain _____

Describe any situations or problems at work which have created problems or trouble for you in the past _____

ADDITIONAL COMMENTS

Use this space for any comments you feel would be pertinent _____

WORK HISTORY

Please fill in the requested information completely on the following pages for all positions you have held. Additional sheets are available if needed. Start with the most recent or present position and work back. You should include Military service, if any. Check () those employers you do not wish contacted.

Your Name _____

WORK RESUME OF _____

Company Name and Address _____

(Start) (Finish)

Your Position _____ Earnings _____

Dates of Employment from _____ To _____

Type of Business and Number of employees _____

Name and title of Supervisor _____

Reason for leaving _____

Number of people supervised _____ Job level of those supervised _____

Use space below and back of this sheet to describe fully your job functions in this position.

APPENDIX C

THE PERSONAL SURVEY

by

John L. Holland

Name _____ Age _____ Sex _____
(M-F)

A. Describe yourself by checking the adjectives that describe what you are like. Check as many as you wish. Try to describe yourself as you are, not as you would like to be.

- | | |
|---|---|
| <input type="checkbox"/> 1. Aloof | <input type="checkbox"/> 24. Masculine |
| <input type="checkbox"/> 2. Argumentative | <input type="checkbox"/> 25. Nonconforming |
| <input type="checkbox"/> 3. Arrogant | <input type="checkbox"/> 26. Not artistic |
| <input type="checkbox"/> 4. Capable | <input type="checkbox"/> 27. Not cultured |
| <input type="checkbox"/> 5. Commonplace | <input type="checkbox"/> 28. Not idealistic |
| <input type="checkbox"/> 6. Conforming | <input type="checkbox"/> 29. Not popular |
| <input type="checkbox"/> 7. Conscientious | <input type="checkbox"/> 30. Original |
| <input type="checkbox"/> 8. Curious | <input type="checkbox"/> 31. Pessimistic |
| <input type="checkbox"/> 9. Dependent | <input type="checkbox"/> 32. Pleasure-seeking |
| <input type="checkbox"/> 10. Efficient | <input type="checkbox"/> 33. Precise |
| <input type="checkbox"/> 11. Enduring | <input type="checkbox"/> 34. Rebellious |
| <input type="checkbox"/> 12. Energetic | <input type="checkbox"/> 35. Reserved |
| <input type="checkbox"/> 13. Feminine | <input type="checkbox"/> 36. Scholarly |
| <input type="checkbox"/> 14. Friendly | <input type="checkbox"/> 37. Slow-moving |
| <input type="checkbox"/> 15. Generous | <input type="checkbox"/> 38. Social |
| <input type="checkbox"/> 16. Helpful | <input type="checkbox"/> 39. Stable |
| <input type="checkbox"/> 17. Inflexible | <input type="checkbox"/> 40. Striving |
| <input type="checkbox"/> 18. Insensitive | <input type="checkbox"/> 41. Strong |
| <input type="checkbox"/> 19. Introverted | <input type="checkbox"/> 42. Suspicious |
| <input type="checkbox"/> 20. Intuitive | <input type="checkbox"/> 43. Thorough |
| <input type="checkbox"/> 21. Irritable | <input type="checkbox"/> 44. Unassuming |
| <input type="checkbox"/> 22. Kind | <input type="checkbox"/> 45. Unconventional |
| <input type="checkbox"/> 23. Mannerly | |

B. Rate yourself on each of the following traits as you really think you are as compared with other people of your age. We want the most accurate estimate of how you see yourself. Circle the appropriate number.

	Top 10 Per Cent	Above Average	Average	Below Average
Absent-mindedness	0	0	1	1
Artistic ability	1	1	0	0
Clerical ability	1	1	0	0
Conservatism	1	1	0	0
Cooperativeness	1	1	0	0
Expressiveness	1	1	0	0
Leadership	1	1	0	0
Liking to help others	1	1	0	0
Mathematical ability	1	1	0	0
Mechanical ability	1	1	0	0
Originality	1	1	0	0
Popularity with the opposite sex	1	1	0	0
Research ability	1	1	0	0
Scientific ability	1	1	0	0
Self-confidence (social)	1	1	0	0
Self-understanding	0	0	1	1
Understanding of others	1	1	0	0
Neatness	1	1	0	0

C. Indicate the importance you place on the following kinds of accomplishments, aspirations, goals, etc.

	Essen- tial	Very Impor- tant	Some what Impor- tant	Little Impor- tance
Becoming happy and content	1	1	0	0
Inventing or developing a useful product or device	1	1	0	0
Helping others who are in difficulty	1	1	0	0
Becoming an authority on a special subject in my field	1	1	0	0
Becoming an outstanding athlete	1	1	0	0
Becoming a community leader	1	1	0	0
Becoming influential in public affairs	1	1	0	0
Following a formal religious code	1	1	0	0
Making a theoretical contribution to science	1	1	0	0
Making a technical contribution to science	1	1	0	0
Writing good fiction (poems, novels, short stories, etc.)	1	1	0	0

	Essen- tial	Very Impor- tant	Some what Impor- tant	Little Impor- tance
Being well read	0	0	1	1
Producing a lot of work	1	1	0	0
Contributing to human welfare	1	1	0	0
Producing good artistic work (painting, sculpture, decorating, etc.)	1	1	0	0
Becoming an accomplished musician (performer or composer)	1	1	0	0
Becoming an expert in finance and commerce	1	1	0	0
Finding a real purpose in life.	1	1	0	0

D. From the following list of 12 famous people, check the one whose life you would most like to emulate.

- | | |
|---|--|
| <input type="checkbox"/> 1. Jane Adams | <input type="checkbox"/> 7. Thomas Edison |
| <input type="checkbox"/> 2. Bernard Baruch | <input type="checkbox"/> 8. T. S. Eliot |
| <input type="checkbox"/> 3. Admiral Byrd | <input type="checkbox"/> 9. Henry Ford |
| <input type="checkbox"/> 4. Andrew Carnegie | <input type="checkbox"/> 10. Pablo Picasso |
| <input type="checkbox"/> 5. Madame Curie | <input type="checkbox"/> 11. John D. Rockefeller |
| <input type="checkbox"/> 6. Charles Darwin | <input type="checkbox"/> 12. Albert Schweitzer |

E. Circle "L" for those school subjects you like and "D" for those you dislike.

- | | | | | | |
|---|---|--------------------|---|---|--------------------|
| L | D | 1. Art | L | D | 5. Industrial Arts |
| L | D | 2. Business | L | D | 6. Modern History |
| L | D | 3. Chemistry | L | D | 7. Physics |
| L | D | 4. General Science | L | D | 8. Social Studies |

F. I most enjoy the following (circle one):

- | | |
|---|---|
| Reading and thinking about solutions to problems | 1 |
| Keeping records and doing computations | 2 |
| Holding a position of power | 3 |
| Teaching or helping others | 4 |
| Working with my hands, using tools, equipment,
apparatus | 5 |
| Using my artistic talents | 6 |

G. My greatest ability lies in the following area (circle one only):

Business	1
Arts	2
Science	3
Leadership	4
Human relations	5
Mechanics	6

H. I am most incompetent in the following area (circle one only):

Mechanics	1
Science	2
Human relations	3
Business	4
Leadership	5
Arts	6

I. Which one of the following activities, if you must perform it, would you find most frustrating, or would make you feel the most uncomfortable? (Circle one only):

Having a position of little responsibility	1
Preparing a textbook on some abstract topic	2
Taking patients in mental hospitals on recreational trips	3
Teaching others	4
Keeping elaborate and accurate records	5
Leading or persuading others about a course of action	6
Writing a poem	7
Doing something requiring patience and precision	8
Participating in very formal social affairs	9

J. Complete the following statements as explicitly as you can:

1. My present career choice is (if possible name an occupation): _____
2. If I could not have my first choice (above) I would select the following occupation: _____
3. If I could not have my first two choices, my third choice would be: _____
4. I have been elected to one or more social, political, or academic offices. (Circle one): 0 1 2 3 4 5 6 7 8 9 or more.

- 7. I have received one or more awards, honors, or special recognition for civic, religious or welfare services. (Circle one): 0 1 2 3 4 5 6 7 8 9 or more
- 8. I have received one or more awards, letters, honors, prizes, or special recognition for my athletic ability. (Circle one): 0 1 2 3 4 5 6 7 8 9 or more
- 9. I have received one or more awards, honors, or special recognition for my artistic, musical, or literary accomplishments. (Circle one): 0 1 2 3 4 5 6 7 8 9 or more.
- 10. List below all the vocations you have ever considered in thinking about your future. List the vocations you have daydreamed about as well as those you have talked to others about. Try to give a history of your tentative choices and daydreams. Put your present choice on line 1 and work backward to the first vocation you ever considered.

Vocation	At	About	What	Age
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____

APPENDIX D

PRODUCT MOMENT COEFFICIENT OF
CORRELATION MATRIX

		X1	X2
	Average work experience time per job	X1	1.00
	Stability of job classification	X2	-.18
	Average change in earnings per year	X3	1.00
	Acceptance of responsibility	X4	
	Career accomplishments	X5	
	Goal expression	X6	
	Expressed reason(s) for leaving former job	X7	
	Dominant personality pattern and job congruency	X8	
	Secondary personality pattern and job congruency	X9	
	Tertiary personality pattern and job congruency	X10	
	Career sentiment	X11	
	Home-parent sentiment	X12	
	Fear erg	X13	
Mat	Narcism-comfort erg	X14	
	Self-sentiment	X15	
	Superego sentiment	X16	
	Mating erg	X17	
	Assertiveness erg	X18	
	Pugnacity-sadism erg	X19	
	Sweetheart-spouse sentiment	X20	
	General activity	X21	
	Restraint	X22	
	Ascendance	X23	
	Emotional Stability	X24	
G-2	Social interest	X25	
	Objectivity	X26	
	Friendliness	X27	
	Thoughtfulness	X28	
	Personal relations	X29	
	Masculinity	X30	
	Theoretical	X31	
	Economic	X32	
Values	Aesthetic	X33	
	Social	X34	
	Political	X35	
	Religious	X36	
	Realistic	X37	
	Intellectual	X38	
Personality	Social	X39	
Classifi-	Conventional	X40	
cation	Enterprising	X41	
	Artistic	X42	

	X35	X36	X37	X38	X39	X40	X41	X42
X1	-.30**	.14	-.09	.06	-.18*	-.04	-.23*	-.09
X2	-.12	-.04	.10	-.02	.13	.09	.06	.07
X3	.13	-.01	.02	.14	.03	.06	.13	.03
X4	-.02	.11	-.01	.02	.06	.04	.01	.04
X5	-.06	.04	.10	.33*	.14	-.04	.13	.26**
X6	.28**	-.10	.03	-.15	-.01	.17	.10	-.06
X7	.06	-.01	-.02	-.02	.12	.07	.09	.03
X8	.09	-.03	.24*	.18*	-.20*	-.02	.13	.02
X9	-.14	.01	-.12	-.20*	.01	.08	-.09	-.13
X10	.11	.05	-.02	-.03	.11	-.06	-.01	.03
X11	.11	-.06	.01	.10	-.05	.08	.11	-.01
X12	-.17	.09	.02	.06	-.01	-.09	-.12	.05
X13	.08	-.04	.22*	.29**	-.07	-.18*	-.12	.08
X14	.07	-.15	-.13	.13	-.16	.08	.14	.01
X15	-.21*	.24**	-.09	.22*	.06	.01	-.02	.03
X16	-.07	.04	-.12	.19*	-.10	-.12	-.13	.10
X17	-.02	.05	-.09	.12	-.23*	-.10	.00	.06
X18	.15	-.15	-.02	-.02	-.10	-.06	-.07	-.04
X19	.23*	-.03	-.17	.16	-.01	.18*	.26*	.07
X20	-.18*	.07	.09	-.00	-.13	-.02	-.07	.01
X21	.28*	-.23*	.08	.10	.12	.24*	.33**	.04
X22	-.12	.28**	-.01	.02	.25*	.04	-.09	.17
X23	.20*	-.09	-.11	.01	.26**	.28**	.44**	.05
X24	.02	.15	-.09	-.10	.26**	.20*	.30**	-.03
X25	.13	-.05	.11	.04	.14	.05	.16	.07
X26	-.00	.05	.13	.04	-.01	-.09	-.12	.04
X27	-.20*	.12	.21*	.15	.06	-.28**	-.18*	.08
X28	.06	.07	-.14	.08	.01	-.05	.03	.07
X29	.10	.04	.01	.01	.05	-.07	-.21*	.03
X30	.28**	-.21*	.20*	.22*	.17	-.11	.01	-.05
X31	-.07	-.46**	.24**	-.38**	-.00	-.10	-.18*	.10
X32	.08	-.32**	.04	-.14	-.19*	.22*	-.01	-.23*
X33	-.17	-.29**	-.10	.03	-.22*	-.18*	-.17	.28**
X34	-.16	.08	-.17	-.09	.05	.04	.05	.02
X35	1.00	-.44**	.07	-.08	.10	-.01	.30*	-.11
X36		1.00	-.03	-.07	.27**	.01	.01	-.06
X37			1.00	.22*	.04	-.12	-.01	-.04
X38				1.00	-.13	-.05	-.06	.18*
X39					1.00	.14	.40**	.16
X40						1.00	.46**	.04
X41							1.00	.21*
X42								1.00

** Significant at the 1 per cent level of confidence (.24)

* Significant at the 5 per cent level of confidence (.18)

APPENDIX E

FACTOR MATRIX, EIGENVALUES OF ONE OR MORE
AND FACTOR LOADING FOR VARIANCES

		I	II
** Cumulative Proportion of Total Variance		.094	.178
* Eigenvalues		3.954	3.539
Average work experience time per job	X1	-.12	.41
Stability of job classification	X2	-.01	-.14
Average change in earnings per year	X3	.29	-.01
Acceptance of responsibility	X4	.17	.17
Career accomplishments	X5	.10	.31
Goal expression	X6	.32	-.12
Expressed reason(s) for leaving former job	X7	.17	-.07
Dominant personality pattern and job congruency	X8	.06	.14
Secondary personality pattern and job congruency	X9	-.16	-.17
Tertiary personality pattern and job congruency	X10	.15	-.12
Career sentiment	X11	.34	.22
Home-parental sentiment	X12	-.06	.28
Fear erg	X13	.07	.30
Narcism-comfort erg	X14	-.19	-.04
Self sentiment	X15	-.09	.24
Superego sentiment	X16	-.23	.26
Mating erg	X17	-.40	.00
Assertiveness erg	X18	.13	.18
Pugnacity-sadism erg	X19	.25	-.15
Sweetheart-spouse sentiment	X20	-.10	.14
General activity (energy)	X21	.53	-.31
Restraint (seriousness)	X22	.04	.31
Ascendance	X23	.65	-.23
Emotional stability	X24	.49	-.24
Social interest	X25	.68	.32
Objectivity	X26	.30	.48
Friendliness	X27	-.00	.70
Thoughtfulness	X28	-.13	-.02
Personal relations	X29	.18	.57
Masculinity	X30	.53	.40
Theoretical	X31	.27	.49
Economic	X32	.50	-.04
Aesthetic	X33	-.44	.07
Social	X34	-.43	-.32
Political	X35	.44	-.26
Religious	X36	-.22	.04
Realistic	X37	.17	.29
Intellectual	X38	.06	.41
Social	X39	.30	-.46
Conventional	X40	.30	-.41
Enterprising	X41	.43	-.47
Artistic	X42	-.00	.11

APPENDIX E - continued

	III	IV	V	VI	VII	VIII	IX
	.246	.310	.363	.408	.450	.492	.530
	2.831	2.220	1.889	1.761	1.738	1.738	1.597
X1	-.20	.00	.15	-.18	-.23	-.22	-.46
X2	-.12	-.04	.00	.07	.66	.02	-.03
X3	.18	.03	-.39	-.16	.03	-.02	-.23
X4	-.03	.09	-.34	-.49	.01	-.09	-.20
X5	.06	.24	-.42	.22	.09	-.02	-.19
X6	.05	-.14	-.35	-.42	.23	.28	.04
X7	.05	.04	-.46	-.43	.13	.09	.02
X8	.45	.08	-.19	.15	-.64	-.21	.04
X9	-.27	-.16	.18	-.08	.35	.20	-.11
X10	-.22	.13	.07	-.13	.20	.05	.26
X11	.17	.41	.36	-.40	.10	-.11	-.03
X12	.28	-.05	.28	.24	.03	.16	-.06
X13	.30	.30	.17	.14	.00	.14	-.36
X14	.41	.21	.22	.20	.08	.26	-.34
X15	-.20	.55	.24	.02	-.04	-.18	-.05
X16	.19	.54	.13	-.26	.04	.17	.18
X17	.30	.34	.04	.03	-.17	.28	-.07
X18	.32	-.03	.23	-.24	.10	.01	.19
X19	.30	.48	.04	-.18	.02	.21	.21
X20	.05	.30	.28	-.08	-.02	.04	.12
X21	.22	.19	-.02	.15	.07	-.06	.17
X22	-.42	.20	-.30	-.22	.11	-.14	.01
X23	-.18	-.28	.27	.24	-.06	.06	-.07
X24	-.24	-.34	.22	.28	.15	-.12	.03
X25	-.23	-.00	.01	.04	-.21	.21	.02
X26	.48	-.26	-.06	.13	.17	-.19	.46
X27	-.23	-.05	-.13	.13	-.08	.21	.01
X28	-.04	.37	-.17	-.25	.18	-.04	.25
X29	-.29	-.07	.09	.00	.03	.47	.00
X30	.11	-.10	.02	.11	.15	.01	.22
X31	.49	.27	-.27	-.07	.15	.33	-.17
X32	.06	-.39	.44	-.19	.07	-.14	-.26
X33	.07	.32	.01	-.15	.10	.10	.47
X34	-.32	-.23	.24	-.00	.18	-.05	-.03
X35	.41	-.08	-.05	-.08	-.08	.17	.38
X36	.04	-.60	.34	-.12	-.10	-.28	-.23
X37	.14	-.21	-.16	.27	-.01	-.32	.27
X38	.36	.29	-.14	.28	.14	-.24	-.11
X39	-.46	.22	-.32	.23	-.22	-.07	.12
X40	-.11	.17	.01	-.00	-.02	-.01	-.45
X41	.03	.36	-.20	.27	-.09	.05	-.13
X42	.04	.34	-.36	.40	.23	.18	-.11

APPENDIX E - continued

	X	XI	XII	XIII	XIV
	.530 1.471	.564 1.382	.597 1.269	.657 1.221	.684 1.148
X1	-.20	.01	-.20	-.20	-.10
X2	.03	-.36	.31	.11	.04
X3	-.36	.19	.25	.00	.28
X4	-.03	-.11	-.08	-.08	-.05
X5	.22	.08	.11	-.02	.01
X6	.03	-.10	-.03	.16	.13
X7	.13	-.16	.04	-.09	.10
X8	.10	-.19	.10	-.10	.00
X9	.18	.57	.01	.04	.30
X10	-.55	-.25	-.10	.34	-.04
X11	.08	-.08	.06	.16	-.12
X12	-.20	-.36	.31	-.28	-.08
X13	.07	.29	-.09	.23	-.11
X14	.01	.13	.20	-.16	-.15
X15	-.21	-.01	-.15	-.01	-.04
X16	.23	.16	.13	.17	.06
X17	-.17	.08	.21	.14	.12
X18	.29	.10	.16	-.24	-.31
X19	-.14	.17	.20	.22	.01
X20	.51	-.36	-.06	.03	.31
X21	.07	-.05	-.14	-.20	.35
X22	.20	.15	-.19	.01	-.10
X23	-.02	-.11	-.24	-.03	-.04
X24	-.09	.08	.02	.09	.08
X25	.07	.03	-.26	.10	.07
X26	-.10	-.00	.10	-.11	.17
X27	.14	.14	.19	.18	-.06
X28	-.15	.02	-.02	-.51	.17
X29	-.00	-.10	.17	-.16	.06
X30	-.10	.16	.02	-.28	-.10
X31	-.10	.02	-.18	-.06	.13
X32	.18	-.11	.09	.08	.05
X33	-.01	-.25	-.30	.07	-.12
X34	.06	.10	-.12	-.22	.23
X35	-.14	.21	.01	-.00	-.24
X36	.01	.05	.04	.08	-.02
X37	.14	-.16	.26	.31	.19
X38	-.17	.09	-.05	.09	.28
X39	.09	.09	.10	-.02	-.31
X40	.24	-.06	.06	-.10	.10
X41	.15	.02	.15	-.01	-.21
X42	.10	-.16	-.29	.09	-.20

APPENDIX F

VARIMAX ROTATED (ORTHOGONALLY) FACTOR MATRIX
AND FACTOR LOADING

		I	II
Average work experience time per job	X1	-.10	.10
Stability of job classification	X2	.01	-.08
Average change in earnings per year	X3	.11	.02
Acceptance of responsibility	X4	-.03	-.02
Career accomplishments	X5	.03	.15
Goal expression	X6	.07	.11
Expressed reason(s) for leaving former job	X7	-.02	-.04
Dominant personality pattern and job congruency	X8	-.01	-.03
Secondary personality pattern and job congruency	X9	-.03	.00
Tertiary personality pattern and job congruency	X10	.09	.01
Career sentiment	X11	.24	.02
Home-parental sentiment	X12	-.04	.22
Fear erg	X13	-.10	-.14
Narcism-comfort erg	X14	.04	-.05
Self sentiment	X15	.13	.04
Superego sentiment	X16	-.16	.02
Mating erg	X17	-.20	-.02
Assertiveness erg	X18	-.10	.08
Pugnacity-sadism	X19	.33	-.06
Sweetheart-spouse sentiment	X20	.05	.06
General activity (energy)	X21	.56	-.07
Restraint (seriousness)	X22	-.05	.11
Ascendance	X23	.82	.11
Emotional stability	X24	.69	.14
Social interest	X25	.43	.57
Objectivity	X26	.08	.86
Friendliness	X27	-.28	.63
Thoughtfulness	X28	-.01	-.03
Personal relations	X29	-.06	.82
Masculinity	X30	.13	.46
Theoretical	X31	-.07	.18
Economic	X32	.33	.02
Aesthetic	X33	-.36	-.02
Social	X34	-.04	-.20
Political	X35	.18	-.01
Religious	X36	-.01	.02
Realistic	X37	-.14	.11
Intellectual	X38	-.02	.02
Social	X39	.35	.05
Conventional	X40	.60	-.20
Enterprising	X41	.68	-.17
Artistic	X42	.09	.01

APPENDIX F - continued

	III	IV	V	VI	VII	VIII	IX
X1	-.81	-.01	.04	-.01	.08	-.06	.06
X2	.22	-.06	.03	.04	-.22	-.02	.12
X3	.03	-.12	.39	.48	-.02	.26	.01
X4	-.30	.12	.05	.61	.06	-.09	.08
X5	.02	.01	.39	.16	.05	.05	.20
X6	.22	-.08	-.16	-.66	.07	.01	-.08
X7	.13	.03	-.04	.67	.00	-.07	.00
X8	.06	-.01	.16	.04	.77	.11	.01
X9	.08	-.08	-.03	-.09	-.85	.04	.03
X10	.04	-.04	-.04	.06	-.02	-.00	.03
X11	-.21	.61	.12	.17	.04	.18	.05
X12	-.23	.16	.02	-.16	.25	.11	.09
X13	.02	.51	.45	-.18	-.01	-.02	.07
X14	-.09	.14	-.02	-.25	-.03	.58	-.23
X15	-.44	.06	.18	-.22	.03	.15	.26
X16	-.03	.35	.08	.03	-.14	.36	.13
X17	.02	-.12	.02	-.10	.08	.71	.04
X18	.08	.68	-.11	.02	.05	-.01	-.13
X19	.24	.11	.22	-.05	.61	.04	.15
X20	.93	.06	-.01	-.01	.07	.02	-.01
X21	.32	-.00	.23	.11	.08	-.10	-.27
X22	-.22	.13	.09	.25	-.21	-.32	.42
X23	-.03	.08	-.03	-.11	.07	-.09	-.14
X24	-.02	-.05	-.04	-.11	-.10	.01	.16
X25	-.04	.08	.13	.18	.02	-.25	-.04
X26	.02	-.06	.01	-.07	.04	.01	-.01
X27	-.04	.07	.20	-.02	-.01	.31	-.12
X28	-.04	.11	.04	.22	-.01	.04	.03
X29	-.13	.03	-.05	.08	-.07	-.01	-.01
X30	-.06	.42	.28	-.01	.07	-.23	-.18
X31	-.20	.10	.61	.06	-.04	-.22	-.42
X32	-.08	.24	.01	.11	-.08	-.22	-.30
X33	-.03	-.19	-.15	-.01	.06	.29	-.42
X34	.14	-.31	-.18	-.31	-.13	-.01	.20
X35	.46	.39	-.09	.12	.15	.09	-.26
X36	-.18	-.16	-.12	-.00	.04	.03	.85
X37	.39	-.02	.49	-.05	.30	-.25	.12
X38	-.09	.00	.77	-.07	.12	.18	-.06
X39	.19	.06	-.04	.01	-.10	-.29	.45
X40	-.08	-.14	-.11	.20	-.10	.05	.02
X41	.27	.03	-.09	.07	.16	.15	.16
X42	.00	-.06	.14	.04	.05	.02	-.04

APPENDIX F - continued

	X	XI	XII	XIII	XIV
X1	-.06	-.07	-.10	-.06	-.06
X2	.12	.09	.76	-.07	.05
X3	.00	-.18	.01	.08	-.38
X4	.02	.08	.00	.04	-.03
X5	-.34	.38	.06	-.01	-.02
X6	.10	-.08	-.24	-.12	.00
X7	-.05	.09	.10	.15	.04
X8	-.29	-.08	-.27	-.02	.08
X9	-.16	-.16	-.06	.01	.02
X10	.82	.02	.15	.02	-.09
X11	.22	-.09	.10	-.09	.31
X12	.11	-.04	.53	.26	.09
X13	.10	.02	-.17	-.05	.09
X14	-.33	.13	.16	-.00	-.08
X15	.28	.09	-.02	.22	.22
X16	.09	.22	-.22	.17	.52
X17	.01	.04	-.06	.07	.11
X18	-.24	-.10	.05	.06	.05
X19	.15	.02	-.03	-.00	-.02
X20	-.10	-.00	.11	.05	.82
X21	-.01	-.08	-.05	.33	.11
X22	-.00	.30	-.12	.08	.08
X23	.18	.08	-.05	-.01	.04
X24	.19	-.15	-.05	-.06	-.04
X25	.13	.06	-.32	-.18	.05
X26	.06	-.07	-.07	.03	.02
X27	-.12	.18	-.05	-.26	.02
X28	.02	.00	.08	.75	.02
X29	-.04	.03	.18	-.02	.06
X30	-.01	-.03	.00	.17	-.27
X31	-.09	.06	.10	-.13	-.15
X32	-.07	-.47	.17	-.45	.06
X33	.01	.53	.01	-.06	.14
X34	-.03	.04	-.12	.51	.20
X35	.15	-.07	-.27	.08	-.34
X36	.02	-.09	.05	.06	.05
X37	-.00	-.13	.11	-.25	.10
X38	-.00	.15	-.01	.10	.04
X39	.03	.37	.16	.08	-.28
X40	-.28	-.02	.13	-.08	.05
X41	-.17	.25	.03	-.01	-.19
X42	.02	.75	.06	.01	.05

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