A STUDY IN HUMAN RESOURCES UTILIZATION: A CRITICAL EXAMINATION OF THE ROLE OF THE SELF-CONCEPT IN THE VOCATIONAL CHOICE PROCESS OF COLLEGE STUDENTS

APPROVED:

Graduate Committee:

Frank M Rachel
Major Professor

Minor Professor

Committee Member

Sam B. Dalton
Committee Member

Barry B King
Dean of the College of Business Administration

Robert B. Toulouse
Dean of the Graduate School

Davis, Jefferson Jackson, A Study in Human Resources Utilization: A Critical Examination of the Role of the Self-Concept in the Vocational Choice Process of College Students. Doctor of Philosophy (Management), December, 1971, 143 pp., 7 tables, 1 illustration, bibliography, 90 titles.

This study investigated Super's theory that the developing and implementing of a self-concept is essential in choosing a vocation. The population studied was the undergraduate students of Western State College of Colorado, Gunnison, Colorado, during the 1970-1971 academic year. One out of five of the population was surveyed with a ten-question Scalogram Analysis instrument which measured vocational decidedness. Students were ranked in descending order according to their scores on the survey. Those scoring highest indicated extreme decidedness about vocational choice, and those scoring lowest indicated extreme undecidedness. These two extreme groups were given Block's seventy-item Form III California Q-Sort, an instrument for measuring the self-concept. The highly decided group was found statistically to have a significantly more positive self-concept than the highly undecided group. The two groups were also found to differ significantly on the basis of fourteen items of the Q-Sort.

The research also involved the use of vocational counseling as an independent variable to determine its effect upon the dependent variable of the self-concept of the undecided group. The undecided group was divided into two sections, an experimental or counseled section and a control section. Matched-pairing for the two sections was not possible since about half of the undecided group did not desire counseling. The counseled section had to be composed of volunteers. The counseling was performed over a four-month period by the Director of the Guidance and Counseling Center at Western State College.

The additional findings of the research were the following: (1) the undecided students of the experimental section had as high a positive self-concept as did the decided students; (2) the undecided students of the control section had a significantly lower positive self-concept compared to both the decided group and the experimental section of the undecided group; (3) counseling did not increase the degree to which the experimental section positively viewed themselves; (4) counseling did significantly increase the vocational decidedness of the experimental section; and (5) the control section of the undecided group improved the degree to which they positively viewed themselves.

The main conclusion of the study was that Super's theory concerning the role of the self-concept in the vocational choice process was supported. Additional conclusions of the

study were these: (1) for the highly undecided undergraduate student, developing and implementing a high positive self-concept occurs before the choosing of a vocation and serves as a foundation for choosing, but this developing and implementing of a high positive self-concept does not insure the immediate choice of a vocation; (2) there are two stages in the developing and implementing of the self-concept of extremely undecided undergraduate college students, a low positive self-concept stage and a high positive self-concept stage; (3) vocational counselors need to recognize at which of the two stages of self-conceptual development and implementation the extremely undecided student is in order to counsel effectively this type of student; and (4) some outside factor or factors other than vocational counseling act upon the highly undecided student who has a low positive self-concept to raise the self-concept to a somewhat higher positive level.

A STUDY IN HUMAN RESOURCES UTILIZATION: A CRITICAL EXAMINATION OF THE ROLE OF THE SELF-CONCEPT IN THE VOCATIONAL CHOICE PROCESS OF COLLEGE STUDENTS

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Jefferson Jackson Davis, B.A., M.B.A.
Denton, Texas

December, 1971

TABLE OF CONTENTS

Page

LIST OF TABLES v

LIST OF ILLUSTRATIONS vi

Chapter

I. PRESENTATION OF PROBLEM AND HYPOTHESES 1

Introduction
The Vocational Choice of the College Student
Vocational Counseling in College
The Self-Concept of College Students in the Vocational Choice and Counseling Processes
Statement of the Problem
Statement of the Hypothesis
Value of the Study
Limitations of the Research
Summary

II. BACKGROUND DISCUSSION AND JUSTIFICATION OF RESEARCH 25

Introduction
Human Resources Utilization: A Task of Human Resource Management
U.S. Vocational Instability
Vocational Instability of the College-Trained
The Effectiveness of Vocational Counseling in College
Review of Literature
Summary

III. RESEARCH DESIGN AND METHODOLOGY 63

Introduction
Research Design and Method
Research Design and Method Rationale
Research Sample and Tools
Summary

Page

IV. PRESENTATION AND ANALYSIS OF THE DATA 80

Introduction
Scalogram Analysis
Test of Hypothesis
Effect of Counseling on Vocational Decidedness of Experimental Section Members
Summary

V. CONCLUSIONS AND RECOMMENDATIONS 99

Conclusions of Research Regarding Hypothesis
Recommendations for Future Research
Summary

APPENDIX 112

BIBLIOGRAPHY 136

LIST OF TABLES

Table		Page
I.	Percentage of College Graduates Employed in Undergraduate Major Field Five Years after Graduation	35
II.	Composite Q-Sort Scores of the Self-Concepts of Decided and Undecided Groups	84
III.	Composite Q-Sort Scores of the Self-Concepts of Undecided Students, by Section, before Counseling	86
IV.	Composite Q-Sort Scores of the Self-Concepts of the Decided Group and the Control Section before Counseling	87
V.	Significant Adjectives (.05) in Item Analysis of California Q-Sort, Comparing Decided Group Items with Undecided Group and Two Sections	90
VI.	Change in Decidedness of Experimental Section--Scalogram Analysis Scores	95
VII.	Summary of Statistical Findings of Research	100

LIST OF ILLUSTRATIONS

Figure Page

1. Vocational Decidedness Extremes 70

CHAPTER I

PRESENTATION OF PROBLEM AND HYPOTHESES

Introduction

The turnover of college graduate trainees in American industry is currently a major problem for management.[1]

> Every June many thousands of college graduates enter industrial organizations to seek their fortunes in a management or staff career. Within four or five years roughly 50% of these men have voluntarily moved, either to another company or back to school.[2]

One of the major functions of the personnel department of an organization is the selection of employees, including the college graduates.[3] But when a 50 percent turnover of the college graduate trainees hired is the outcome of the selection process for an organization, the process has been less than successful.

There are three stages in the analysis of the selection process involving the hiring organization and the college

---

[1]Thomas H. Patten, Jr., "The College Graduate Trainee: Behavioral Science Perspectives on Management's Prime Personnel Problem," Personnel Journal, XLVIII (August, 1969), 581.

[2]Edgar H. Schein, "How to Break in the College Graduate," Harvard Business Review, XLII (November-December, 1964), 68.

[3]Wendell French, The Personnel Management Process: Human Resources Administration (Boston, 1964), p. 4.

graduate being hired: (1) the graduate's selecting the vocation he will enter, (2) the graduate's selecting the organization for which he is willing to work, and (3) the organization's selecting a particular college graduate for a specific position. The common understanding of the process of employee selection is the third stage. It is quite apparent, however, that the prospective college graduate employee is unknowingly active in the selection process in what may be viewed as its first and second stages.

The first stage of vocational selection by the college graduate is the subject of this dissertation research. The general subject is more appropriately termed vocational choice. Although vocational choice is most likely not thought of in conjunction with personnel selection, this study will elaborate on how it is a most relevant topic for students of human resource management. The cost for the turnover of the college graduate is of great concern to the management of any organization. Obviously, this turnover may occur because the college graduate unwisely chose his vocation. Hence, poor vocational choice results in poor selection and costly turnover.

It is logical to reason that if a college graduate has selected a vocation which is ill suited to him (for whatever reason), proper selection at the later two stages is jeopardized. Consequently, it would seem a premium is to be placed in the selection process on the graduate's making a

wise choice of a vocation. Vocational choice is, then, a part of human resource management which deserves to be studied in more depth. Chapter I explores the college graduate's vocational choice as a research topic. The role of counseling in the vocational choice process of the college student is discussed. The narrow area of the choice process which is to be researched, that of the self-concept of college students, is identified. Also, exact statements of what problem is to be investigated and what hypotheses are to be used in this investigation are given. Last, the value of the study as well as the limitations of the research are described.

The Vocational Choice of the College Student

Vocational choice is becoming a familiar concept to almost everyone in the United States. "In modern society practically every individual, surely every male and an increasing number of females, must choose an occupation."[4] Even with this increasing familiarity, however, vocational choice is not becoming less difficult. Two conditions in the current way of life make vocational choice particularly perplexing: (1) a free enterprise system within a democratic political framework and (2) a highly specialized, technical, and expanding economic system. The free

---

[4]Eli Ginzberg and others, Occupational Choice (New York, 1951), p. 3.

enterprise system adds to the difficulty in making a vocational choice in that every person in America's capitalistic system has the right to choose his life's work. He [the American] is as unfettered as anyone can be when it comes to choosing the type of work he will do.[5] The second condition creates even greater perplexity in that there is a wide diversity in the kinds of vocations which can be undertaken. The 1965 edition of The Dictionary of Occupational Titles gives descriptions of 21,741 separate occupations with 35,550 different occupational titles.[6] Thus in the United States it is feasible that a person can choose a job from one of more than 35,000 possibilities with each one having several variations. Vocational choice in the United States, then, is both extensive and complex.

There are several reasons why this study examines the vocational choice of college students: (1) The education and training of a nation's young people develops a scarce and valuable resource.[7] (2) According to Peter F. Drucker, "An abundant and increasing supply of highly educated people has become the absolute prerequisite of social and economic

---

[5] Ibid.

[6] U.S. Department of Labor, Bureau of Employment Security, Dictionary of Occupational Titles (Washington, D.C., 1965), p. xv.

[7] Ginzberg, Occupational Choice, p. 4.

development in our world."[8] (3) Walter L. Slocum has pointed out that there is a direct relationship between educational attainment and occupational placement and that there is an increasing emphasis upon education as the primary means of preparing for an occupation.[9] (4) The impact of the vocational choice of college students is greatly increased when the population of this group in the United States is considered. "More than 5.4 million were enrolled in 1965 compared to 3,610,000 in 1960 and 2,659,000 in 1950."[10] It has been projected that the college enrollment for 1975 will be between 8.6 and 9.9 million and for 1980 between 9.7 and 11.2 million.[11] As the number in this special group grows, the greater the significance of their vocational choices will become.

A major problem in human resource allocation possibly could arise in this country if too many of these students made poor decisions about their vocations. This possibility may not be too unrealistic. Alexander W. Astin and

---

[8]Peter F. Drucker, Landmarks of Tomorrow (New York, 1959), p. 114.

[9]Walter L. Slocum, Occupational Careers (Chicago, 1966), pp. 145-146.

[10]Ibid., p. 188.

[11]U.S. Department of Commerce, Bureau of the Census, "Population Estimates--Revised Projections of School and College Enrollment in the United States to 1985," Current Population Reports (Washington, D.C., May 5, 1967), pp. 4-5.

Robert J. Panos have described this country's method of placing people in jobs in the following way:

> In the United States, this critical task of selecting and training high-level talent is not accomplished, as in many other countries, by means of a highly centralized and homogeneous system of institutions, but rather by means of the largely uncoordinated efforts of a great many diverse and independent institutions.[12]

It would appear that this uncentralized system is in keeping with a democratic way of life. This wide latitude may, however, be a severe hindrance to human resource allocation. With a dynamic free enterprise economy, the precise supply and demand forces in the economy's labor market are difficult to forecast because of changes in technology, in earnings in the different occupations, or in the manpower and economic policies of the federal government.[13] These statements are not meant to minimize the past success of the American economy. They do perhaps suggest that the system needs to improve its methods in such areas as vocational selection in order to attain more flexibility and to meet labor demands in a rapidly changing, technologically-oriented economic environment.

---

[12]Alexander W. Astin and Robert J. Panos, The Educational and Vocational Development of College Students (Washington, D.C., 1969), p. 1.

[13]Leonard A. Lecht, Manpower Needs for National Goals in the 1970's (New York, 1969), pp. 120-121.

Vocational counseling, a method that may permit the more effective allocation of labor resources, is one of the methods that may be used in colleges to assist students in making their vocational choices. James A. Davis has pictured the predicament of many college students:

> As the bewildered college freshman shuffles docilely through the endless lines of his first registration, he stands at one of the crucial points in the long series of decisions that lead toward an ultimate vocational choice.[14]

Trained vocational counselors could undoubtedly be of service at these crucial points of decision. The further discussion of the role and need of college vocational counseling as a means toward more effective vocational selection is continued in the next section.

Vocational Counseling in College

College vocational counseling was defined by a 1937 committee of the National Vocational Guidance Association as "the process of assisting the individual to choose an occupation, to prepare for, to enter upon, and to progress in it."[15] A college occupational program designed to help students with their employment after graduation is ideally divided into the three stages of (1) gathering and

---

[14] James A. Davis, Undergraduate Career Decisions: Correlates of Occupational Choice (Chicago, 1965), p. 4.

[15] Dugald S. Arbuckle, Student Personnel Services in Higher Education (New York, 1953), p. 86.

disseminating of occupational information, (2) vocational counseling, and (3) placement and follow-up.[16] Thus vocational counseling in college assumes the role of being an early step in assisting the collegian to choose a major field of study and a compatible vocation. The objectives of the counseling are to help the student decide on a satisfying job without using a trial and error approach which increases turnover and economic waste and to provide greater utilization of this country's highly educated human resources.

It is doubtful whether the usefulness of counseling has yet been fully appreciated because the opportunity for collegiate vocational counseling in this country has developed slowly from a historical perspective. Vocational counseling was provided in a few colleges in the 1890's, and Parsons established vocational counseling as it has become known in American schools in the latter part of the same decade.[17] But colleges generally concerned themselves before World War II with curriculum choices rather than vocational choices.[18] There are several reasons for this situation. There were fewer college students before World War II, and

---

[16] Ibid., p. 87.

[17] E. G. Williamson, "An Historical Perspective of the Vocational Guidance Movement," Personnel and Guidance Journal, XLII (May, 1964), 854.

[18] Richard Fitzpatrick, "The History of College Counseling," The Counseling of College Students, edited by Max Siegel (New York, 1968), p. 10.

these usually trained for the professions, such as law or medicine. Many were from wealthy families and did not have to worry about making a living, while college study for women was directed more at furthering social standing. Since World War II, however, technology has rapidly expanded and with it the number of possible vocations.[19]

Even though technology may have magnified the role that vocational counseling can play, there is doubt that counseling is being fully utilized. Support for such a conclusion comes from a comment by Frederick H. Harbison and Charles A. Myers who state that the

> lack of knowledge of alternative job opportunities and inadequate advice about career possibilities are weaknesses in the labor market as an allocator of manpower even in . . . advanced countries. For example, professional positions are filled as much by informal, word-of-mouth means as by referrals from public or private employment exchanges. Generally, public employment services have been less effective in professional than in blue-collar job placements. Vocational guidance, particularly in the public schools in the United States, has not been as effective as its proponents have claimed. Counselors have not been well trained, they have been addicted to a pseudo science of matching traits of people and jobs, and they have not considered adequately the possibility that jobs in the future in an advanced industrial society may be vastly different than present employment patterns.[20]

---

[19]Arbuckle, Student Personnel Services, p. 86.

[20]Frederick H. Harbison and Charles A. Myers, Education, Manpower and Economic Growth (New York, 1964), p. 165.

There are two definite implications for vocational counseling in the above statement. First, vocational counseling, as a professional field, may not be as effective as it could be. A discussion of the proficiency of vocational counseling is presented in Chapter II. Second, Americans have not yet fully understood and accepted the role and usefulness of vocational counseling.

The need for vocational counseling at the college level can be supported by at least six criteria: (1) the right of free choice in our society, (2) the importance of the highly educated person to social and economic progress, (3) the growing college population, (4) the expansion of technology, (5) the difficulty of decision concerning a major course of study by the undergraduate student, and (6) educational efficiency. The first three points have already been mentioned in this paper in other contexts, and it would seem that no more elaboration is necessary to show their impact on the need for vocational counseling in colleges. Since it may be less apparent how the fourth, fifth, and sixth points affect the vocational choice process and, in turn, vocational counseling, these three points will be discussed further.

Dugald S. Arbuckle's statement that technology has vastly expanded since World War II and with it the number of

available vocations has been presented previously.[21] He explains thoroughly how point four, technological expansion, has greatly enlarged the vocational world and emphasized the need for vocational counseling:

> When our society was less complex . . . the choice of a career was still important, but it was a much simpler process if for no other reason than that there was not much of a choice. As society became more complex, the number of jobs available multiplied to fantastic proportions.

And he has added,

> many college students are quite unaware, both before and after they start college, of the multiplicity of job opportunities that lie before them. If no vocational-guidance services are available, the chances are that the occupational choice of a large number of college students will be on a very haphazard basis. If students are to come to know their potentialities and their liabilities in our complex and highly competitive world of today, an effective guidance program is essential.[22]

The fifth point, indecision by students concerning their major course of study, underscores the need for college vocational counseling. Davis surveyed 33,982 of the June, 1961, graduates in the year they received their degrees. One of his major findings was that about one-half of the graduating seniors reached a decision or shifted their educational career plans at some time during the four years of

---

[21] Arbuckle, Student Personnel Services, p. 86.

[22] Ibid., pp. 84-85.

their undergraduate period.[23] This finding tends to show indecision among a considerable number of students about their choice of a major. A later study again highlights this circumstance. Astin and Panos obtained data from approximately 36,000 students from 246 institutions, class of 1965, at the time of matriculation in 1961 and again during the year of graduation. They found that

> Initial choices of major fields and of careers proved to be highly unstable during the four years following matriculation, though fields varied considerably in their holding power. Only one-fourth of the students reported the same career choice in 1965 as they had in 1961. In general, those students who changed their career plans during the undergraduate years tended to switch to fields related to their initial choices.[24]

The information provided by Davis and by Astin and Panos seems to indicate that a substantial portion of college students in the nation are unsure sometime during their undergraduate period what major and, consequently, what vocation they will select.

The sixth and final point emphasizing the need for counseling in college involves efficiency in education. When incorrect decisions are made by students about major fields of study, there is waste for both the students and the colleges. It has been pointed out earlier in this study

---

[23]Davis, Undergraduate Career Decisions, p. 31.

[24]Astin and Panos, Educational and Vocational Development, p. 140.

that colleges generally assume that their responsibility for vocational guidance is fulfilled when the student chooses a major. But this choice also means that the student invests time, effort, and money and that the college invests time and resources. "When the choice made is inappropriate for the individual there is likely to be a waste of resources by both parties."[25] The student, his education, and the college are frustrated in many ways when a poor vocational choice is made. The frequency of this frustration depends to a considerable extent upon the amount and quality of vocational counseling available to the many students who change their minds about vocational objectives.

To this point, Chapter I has investigated the vocational choice of college students and the role and need of vocational counseling in the college undergraduate period when serious vocational decisions take place. A narrower discussion of one aspect of these two areas is necessary before it is possible to identify the specific problem with which this research deals. This common aspect is the student's self-concept, considered to be a crucial factor in making a vocational choice. Understandably, vocational counseling is concerned with any factor affecting vocational choice.

---

[25]Robert L. Burton and Eugene L. Hartmann, "A Study of Post-Choice Vocational Counseling with the SVIB," Vocational Guidance Quarterly, XVIII (March, 1970), 195.

The Self-Concept of College Students in the Vocational Choice and Counseling Processes

There are many theories of vocational choice with no one of them having yet proven to be the most valid and useful in understanding the process.[26] One of the more prominent theories concerning vocational choice is one which uses the self-concept as the principal means for explaining how these choices are made. According to Joseph Samler, the self-concept theory represents "the best of our thinking" when it comes to how a counselor can help a client understand the world of work.[27] It has been reported that since the early 1950's "visible progress has been made toward a theory of vocational development" which utilizes the self-concept or personality organization as the means of explaining why one occupational role is adopted over another.[28]

Regardless of the level of refinement and validity of the self-concept theory, this theory seems to be widely accepted by those in the vocational counseling field. John A. Bailey conducted a study in order to identify those

---

[26]Robert Carkhuff, Mae Alexik, and Susan Anderson, "Do We Have a Theory of Vocational Choice?" Personnel and Guidance Journal, XLVI (December, 1967), 335.

[27]Joseph Samler, "Occupational Exploration in Counseling: A Proposed Reorientation," Man in a World at Work, edited by Henry Borow (Boston, 1964), p. 411.

[28]Edward S. Bordin, Barbara Nachmann, and Stanley J. Segal, "An Atriculated Framework for Vocational Development," Journal of Counseling Psychology, X (Summer, 1963), 107.

career-development concepts which are most essential to the professional counselor. He gathered 240 concepts relating to career-development understandings. These were condensed to 40 major statements. These 40 concepts were then ranked according to their degree of relative importance by trustees of four professional vocational counselors' associations. The concept which ranked first was concerned with people's having widely varying makeups. The concept ranked second was stated in this manner:

> The degree of satisfaction an individual obtains from his life work is proportionate to the degree to which it enables him to implement his self concept and to satisfy his outstanding needs.[29]

Currently, neither the self-concept theory nor any other vocational development theory is widely validated, but the self-concept theory appears to be widely used in the counseling field.

The idea of the self as a singular personality construct goes back almost to the beginning of the study of psychology in America when William James in 1890 wrote of the self as being a person's combined physical being, his interrelations with others, and his activities.[30] A more current definition by Donald E. Super notes that

---

[29]John A. Bailey, "Career Development Concepts: Significance and Utility," Personnel and Guidance Journal, XLVII (September, 1968), 24-26.

[30]Donald E. Super and Martin J. Bohn, Jr., Occupational Psychology (Belmont, California, 1970), p. 106.

> A self-concept has usually been considered to be the picture a person has of himself. This specific term is partly an outgrowth of phenomenological psychology, which states that a person reacts to reality as he sees it. That is, all that a person experiences goes through his own interpretation system. Especially in regard to his own personality, an individual organizes, interprets, and understands what he knows of himself in terms that are acceptable to him.[31]

Super has also implied that the self-concept may be explained in terms of adolescent adjustment, the effect of education, and the objective of vocational guidance. It is during adolescence that a person's self-concept emerges, and it evolves by continuous adjustments to the realization of certain behavior potentials. Super has expressed this view:

> Much early behavior is imitative: it stems from identification with those who can grant or withhold gratification. As the child's range of interpersonal experiences and relations widens, so his identifications become more varied and more diverse. Finding that he is both like and unlike the objects of his identifications, he begins to develop a concept of himself as a distinct person, as self rather than other. This self has some characteristics like those of still others, and some, perhaps, which seem to be peculiarly his own.[32]

Also, education influences the self-concept in terms of a person's discovering his intelligence, aptitudes, and interests. After these discoveries are made, then, adjustment to the world of work is easier. Super states that

---

[31] Ibid.

[32] Donald E. Super, The Psychology of Careers (New York, 1957), p. 81.

> a well-formulated self-concept, which takes into account the realities of the working world, makes for an easier transition from school to work than does a hazy or unrealistic concept of the self. Here, then, is a major goal for education: the development of clear, well-formulated, and realistic self-concepts.[33]

Super sees the role of vocational guidance as being very similar to that of education's:

> Vocational guidance is the process of helping a person to develop and accept an integrated and adequate picture of himself and of his role in the world of work, to test this concept against reality, and to convert it into reality, with satisfaction to himself and benefit to society.[34]

One of the first to relate the self-concept to vocational behavior was Carter, who in 1940 wrote that the self-concept was a product of a person's efforts to make effective adjustments to his environment. Carter also theorized that a person identifies with others in a specific occupation.[35] Super's views of a self-concept theory of vocational choice appear to follow Carter's major conclusions:

> As a person considers the kind of individual he is, and as he considers the types of people in different jobs, he comes to the conclusion that he is more like some workers than like others, that some persons in some occupations have characteristics similar to his own. Also, students come to see themselves as similar to men in occupations to which they aspire. . . . A person's self-concept, his picture of himself, influences his actions and helps determine the

---

[33] Ibid., p. 111.

[34] Ibid., p. 197.

[35] Super and Bohn, Occupational Psychology, p. 107.

> occupations he prefers, the kind of training he undertakes, and the degree of satisfaction he experiences on the job.[36]

Super has been instrumental in the development of the self-concept theory of vocational choice. He authored one earlier such theory in 1953.[37] Samler,[38] Henry Borow,[39] and Edward S. Bordin, Barbara Nachmann, and Stanley J. Segal,[40] have indicated that his is perhaps the leading theory on the topic. In the presentation of his theory in 1953, Super wrote that it was founded upon the view that "work is a way of life, and that adequate vocational and personal adjustment are most likely to result when both the nature of the work itself and the way of life that goes with it . . . are congenial to the aptitudes, interests, and values of the person in question."[41] The basic element of his theory is found in the following proposition:

> The process of vocational development is essentially that of developing and implementing a self-concept: it is a compromise process in which the self-concept is a product of the interaction of inherited aptitudes, neural and

---

[36] Ibid., pp. 107-108.

[37] Donald E. Super, "A Theory of Vocational Development," American Psychologist, VIII (May, 1953), 185-190.

[38] Samler, "Occupational Exploration in Counseling," p. 411.

[39] Henry Borow, "An Integral View of Occupational Theory and Research," Man in a World at Work, edited by Henry Borow (Boston, 1964), pp. 364-388.

[40] Bordin, Nachmann, and Segal, pp. 107-116.

[41] Super, "A Theory of Vocational Development," p. 189.

> endocrine make-up, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.[42]

Statement of the Problem

College students during their four-year undergraduate period are going to make decisions of one kind or another which eventually result in their choosing particular vocations. The problem for these students, for vocational counselors who may try to advise them, and for our society which is dependent upon the effective utilization of our highly educated human resources is one of understanding how wise choices are made. Super has suggested that the "developing and implementing a self concept"[43] is the essential condition in choosing a vocation. Therefore, from a research standpoint, the problem has been reduced to determining whether developing and implementing the self-concept is essential in the vocational choice process of college students.

The specific problem confronted by this dissertation research is this: Do college students who are quite decided about their vocational choices have more developed and implemented self-concepts than do college students who are quite undecided about their vocational choices? If the decided students have more developed and implemented

---

[42] Ibid.

[43] Ibid.

self-concepts than the undecided students, it can be logically reasoned that the developing and implementing of the self-concept is essential in the vocational choice process of college students. The purpose of this study is to resolve the problem concerning the possible self-conceptual differences between highly decided and highly undecided college students.

Statement of Hypothesis

The hypothesis of this research is the following: There is a significant difference between the self-concepts of decided and undecided students in relation to their choice of vocations. The developing and implementing of a self-concept is essential in the vocational choice process of college students.

This hypothesis is to be accepted if the analysis of the self-concepts of one group of college students who are most vocationally decided shows a significant difference from the self-concepts of another group of college students who are most vocationally undecided.

The specific statistical criteria used in accepting this hypothesis is discussed in Chapter III.

Value of the Study

The more immediate value of this study is twofold. First, the study will provide knowledge about the empirical functioning of the vocational-choice process of college

students. Second, the study's information can possibly provide insights which will lead to a more valid and useful theory of the vocational-choice process. A section of Chapter II reviews the literature concerning the knowledge of and the theories about the self-concept in the vocational choice process. The review of the literature reveals the need for more empirical research information and for a more valid theory of this process.

If the study contributes material information which assists in the formulating of a more accurate theory of vocational choice, the value of the study becomes larger and longer-ranged. Vocational counselors with a more realistic theory of the vocational-choice process can be of greater assistance to students when they seek guidance on vocational questions. The students who acquire more useful information are better able to plan their educations and careers. Of course, the eventual and most lasting value of the study is that it could contribute to the more effective allocation of this country's human resources which would, in turn, enable this country to fulfill more effectively its national goals.

Limitations of the Research

This study has unique conditions and characteristics which must be clearly recognized in order to prevent misinterpretation and misuse of its findings. The special conditions of this research fall into the five categories

of (1) population, (2) theory to be investigated, (3) instrument to measure self-concept, (4) counseling, and (5) empirical nature of study.

The subjects of this study are undergraduate male and female students at Western State College of Colorado in Gunnison, Colorado. The school is a liberal education college with a fairly stable student population of about 3,000. No restriction for participating in the study was made on the basis of a student's major field of study. Most students on the campus are Caucasian, although there are small minorities of Negro, Mexican-American, Oriental, and American Indian students. Approximately three out of every four students are residents of Colorado, and it would have to be assumed that the total student body comes under the influence of the values and cultural environment peculiar to the western region of the United States.

Although there are others in the field of occupational behavior who have published theories on the self-concept as a factor in vocational choice, Super's unique semantic approach to the self-concept's part in the vocational-choice process has been adopted for this study. It is assumed the essential condition in the vocational-choice process is developing and implementing a self-concept.

The means to measure the self-concepts of the subjects is the California Q-Sort constructed by Block. It is designed and recognized as an instrument for determining the

self-concepts of people; but, as with any instrument dealing with psychological constructs, it must be assumed to have unusual and special features. These features may result in different measurement outcomes when another instrument is used in any similar study.

Vocational counseling of individual students in a selected group is a part of this study. The counseling was provided by the Director of the Guidance and Counseling Center at Western State College. The method and content were solely products of this one counselor's efforts. Because of the spontaneous nature of this counseling, the ability to reproduce this exact counseling could not be expected in later studies.

Last, this study takes place from about December 1, 1970, to May 15, 1971, on the campus of Western State College. The students were investigated over this time period in the normal activity of their daily campus life. Every effort was made to avoid any interference with the typical routine of the students. The objective was to view the self-concepts of the students in real life and on an empirical basis.

Summary

Turnover of college graduate trainees in American industry is currently a serious problem. The basis of this turnover may revolve around the vocational-choice process of

these well-educated individuals. Super maintains that the developing and implementing of a self-concept is essential in the choosing of a vocation. The problem confronted by this dissertation research is to determine if there are self-conceptual differences between one group of college students who are highly decided about their vocational choices and another group who are extremely undecided.

The hypothesis of this research is that there is a significant difference between the self-concepts of decided and undecided students in relation to their choice of vocations and, consequently, that the developing and implementing of a self-concept is essential in the vocational-choice process of college students. If the hypothesis is accepted, Super's theory on the vocational-choice process is supported by this research.

CHAPTER II

BACKGROUND DISCUSSION AND JUSTIFICATION OF RESEARCH

Introduction

The utilization of its human resources is of vital concern to a nation.

> Progress is basically the result of human effort. It takes human agents to mobilize capital, to exploit natural resources, to create markets, and to carry on trade. The builders of economies are elites of various kinds who organize and lead the march toward progress. These elites may be revolutionary intellectuals, nationalist leaders, or members of a dynastic or rising middle class. Their effectiveness as prime movers depends not only on their own development but on the knowledge, skills, and capabilities of those whom they lead as well. Thus, in a very real sense the wealth of a nation and its potential for social, economic, and political growth stem from the power to develop and effectively utilize the innate capacities of people.[1]

Chapter II develops more fully the idea that college graduates are a valuable resource to society. There is an elaboration upon vocational instability and the part played by poor vocational choosing in the resultant economic waste. Also covered in more detail is the vocational-counseling process, but the emphasis is placed on its effectiveness

---

[1]Harbison and Myers, Education, Manpower and Economic Growth, pp. 13-14.

rather than on its role or need. Finally, the self-concept's place in the vocational-choice process is more thoroughly examined by reviewing relevant research.

Human Resources Utilization: A Task of Human Resource Management

Several economists since the eighteenth century have recognized the importance of the human being as a resource. Adam Smith has written:

> The acquisition of . . . talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belongs.[2]

Alfred Marshall described education "as a national investment" and has further said "the most valuable of all capital is that invested in human beings."[3] American economists of the present day have also noted the significance of the human being as a valuable resource. Theodore Schultz pointed out that it is a grave mistake for economists not to view human resources "as a form of capital, as a produced means of production, as the product of investment. . . ."[4]

---

[2]Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations, edited by Edwin Canaan (New York, 1937), pp. 265-266.

[3]Alfred Marshall, Principles of Economics, 8th ed. (London, 1930), pp. 216, 564.

[4]Theodore W. Schultz, "Investment in Human Capital," The American Economic Review, LI (March, 1961), 3.

And one group of economists headed by Eli Ginzberg concluded that

> The basic resource of any society is the quantity and quality of the people who compose it. Some individuals inherit special talents and aptitudes and develop them through training. These talents represent scarce resources, and no society can be indifferent about their utilization.[5]

For those involved in the study of the field of management, especially the area of personnel management, these economists have broadly underscored the grave responsibility that students of personnel management face in helping the United States to advance toward its economic and social goals. Personnel management has been defined as "the recruitment, selection, utilization and development of human resources by and within the enterprise."[6] Harbison and Myers have stated that this development and utilization of human resources is a necessary condition for achieving not only the economic goals of a modern society but its political, social, and cultural goals as well.[7] This last statement conveys the importance that personnel management does play in the growth of human resources. In other words, the task of personnel management is ensuring the growth of human resources.

---

[5]Ginzberg, Occupational Choice, pp. 4-5.

[6]French, Personnel Management Process, p. 4.

[7]Harbison and Myers, Education, Manpower and Economic Growth, p. 13.

Human resource growth may be divided into the two broad categories of development and utilization. The classification of the major problems associated with these two categories have, in turn, been divided into two sectors. They are, respectively, manpower shortages involving advanced and critical skills or, stated in another way, the building of brainpower, knowledge, and skills and manpower which is unutilized or underutilized.[8]

The broad problem confronted by this dissertation research is that of human resource utilization. The more specific problem of the research is manpower underutilization. The manpower is of a special kind, the college-trained, and the underutilization is of a singular nature, employment instability or turnover.

United States Vocational Instability

Selection is a principal part of the personnel department of an organization. Poor or ineffective selection is indicated when there is excessive employee turnover which may have a grave effect upon the operation of the organization. As suggested by one writer, "The effectiveness of the selection procedures will often determine the long-run ability of the organization to achieve its objectives. . . . Selection itself will not insure organizational success but

---

[8] Ibid., p. 15.

is a critical first step toward obtaining it."[9] Assuming then that there is organizational inefficiency with ineffective selection and that excessive turnover leads to the human resource underutilization spoken of earlier, two questions appear pertinent: (1) What is the extent of job turnover in the United States, and (2) what are its costs?

Concerning the first question of the extent of turnover in the United States, Smith, an industrial psychologist at Michigan State University, has written that millions of people change their jobs annually because firms try to find better workers and employees try to find better jobs.[10] A 1970 report has given the annual turnover rates for the retail chain store industry as 35.5 percent for full-time employees and 99.4 percent for part-time employees.[11] For the manufacturing sector of the economy the Monthly Labor Review indicated that the total separations annual average percentage for the three years 1966, 1967, and 1968 was 4.6. It rose to 4.9 percent in 1969. The 1969 annual employment in the United States manufacturing sector may be placed at approximately 20 million, which is more than 28 percent of

---

[9]Everett G. Dillman, "A Behavioral Approach to Personnel Selection," Journal of the Academy of Management, X (June, 1967), 185.

[10]Henry Clay Smith, Psychology of Industrial Behavior (New York, 1955), p. 63.

[11]Jerry Levine, "Labor Turnover," Personnel Administration, XXXIII (November-December, 1970), 32.

the employment in the country.[12] Multiplying manufacturing's average annual employment by its average total separations rate for 1969 (20 million times 4.9 percent) gives the average turnover for this area as approximately 980,000 employees. If the 4.9 percent rate is applied to the total 1969 employment in the United States of more than 70 million, then the national turnover would have amounted to well over three million. Using manufacturing's turnover rate as the national mean adds credibility to Smith's estimate that millions of American workers change their jobs annually.

Smith noted that employee turnover cost is difficult to estimate. He has, however, put the cost at more than $500 in order for the typical company to replace the typical worker.[13] In the area of textiles, "one four plant company calculated that an annual employee turnover of 20% cost the company $115,000 per year, or roughly $500 per lost employee."[14] The previously mentioned study involving the chain store industry speculated that the direct visible cost for each turnover ranges from $78 to $134.[15] Ferdinand F. Fournies has incorporated in the cost per turnover such

---

[12] U.S. Department of Labor, Monthly Labor Review, XCIII (December, 1970), 73-74.

[13] Henry Clay Smith, p. 63.

[14] "What Does Employee Turnover Cost?" Textile World, CXIX (May, 1969), 99.

[15] Levine, "Labor Turnover," p. 32.

expense as loss of production, recruiting and selection outlays, errors and damage by untrained personnel, and additional bookkeeping. He wrote that "the true costs of turnover to a company" to replace a technical or clerical employee is between $500 and $2,000 and to replace a sales or administrative employee involves between $2,000 and $5,000.[16]

No guidelines seem to have been established by any labor authority concerning the point at which a certain percentage or number of turnovers is dangerous to this nation's economy. But it is possible to assume that no employer wishes to incur the cost of several hundred dollars, certainly not several thousand dollars, to replace an employee. Similarly, no employee wants to find himself going through the hardships of finding and adjusting to a new job. In summary, from the information reviewed in this section, it would appear that numerically there is a large amount of labor turnover in the United States and that this can be quite costly to an employer.

Vocational Instability of the College-Trained

Recognizing that vocational instability or turnover is possibly a broad and costly problem for employers in the United States provides an incentive to explore more deeply its degree of seriousness with the college-trained. This

---

[16]Ferdinand F. Fournies, "The Real Reasons People Quit," Administrative Management, XXX (October, 1969), 45.

may be done first by noting the value to a modern nation of the well-educated and highly trained. Then, by examining the compatibility of the graduates' educations with later jobs (that is, is a person with a chemistry degree usually a chemist, or is a holder of a teaching degree likely to be a teacher) and by identifying the amount and cost of job turnover among college graduates, the nature of the seriousness of the misemployment or underutilization of the college-trained may be better known.

Harbison and Myers have examined the value of the well-educated to a modern nation. In their research on current world-wide human resource development, they placed countries at four progressive levels. At the highest level are those countries generally having advanced industrial economies, such as Germany, the Soviet Union, Japan, and the United States. These countries have a relatively abundant supply of "high-level manpower, particularly scientists, engineers, and managerial and administrative personnel" because these nations have made heavy commitments to education, "especially to higher education, and to human resource development" in general.[17] The United States is able to make great discoveries, breakthroughs, and innovations in science, technology, and organizational activity because it places major

---

[17]Harbison and Myers, Education, Manpower and Economic Growth, p. 131.

emphasis upon higher education.[18] The findings of these researchers add substantiation to the statements of those economists discussed earlier in this chapter. The utilization of the highly trained cannot be taken for granted if a nation is to advance.

Reviewing the compatibility of college graduates' educations with the jobs later held by them is perhaps a preliminary way of looking at the vocational instability of this group. It is possible that such incompatibility could contribute to vocational instability. Another way of studying the compatibility question is to investigate the frequency with which collegians change their major field of study to determine if such changes provide insight into later vocational instability.

In 1960, the National Science Foundation surveyed over 40,000 June, 1958, college graduates concerning several aspects of their employment after graduation. One area dealt specifically with the matching of jobs and studies. The majority of those replying saw a close relationship between their educational backgrounds and the demands of their jobs. Feelings of underutilization, although not prevalent, were, however, reported. These feelings occurred within those who felt their educations were not a prerequisite for the job:

---

[18] Ibid.

> This was especially the case for those who found employment in business: about a third of the men in banking, finance, and business and management positions indicated that the work they were doing could also be done by someone who had less education. This also held true--to a lesser extent--of mathematicians, economists, social scientists, writers, newspaper reporters, artists and musicians; about one-fourth of the respondents in these occupations felt that their jobs did not call for college-level skills. Among engineers, too, there was a sizeable minority (close to 20 per cent) who felt that the jobs they were doing did not require the high level of training they had obtained.[19]

The main finding of this National Science Foundation study is that there is a close relationship between the college graduates' educations and the actual demands found with their jobs. But the report did state, "Jobs which seem unrelated to their major fields of study were found chiefly among those who had majored in the humanities and social sciences."[20] The circumstances of underutilization and some mismatching of education and later jobs indicated in this report might be a basis for vocational instability of some college graduates.

In a similar 1966 study of 16,551 1958 college graduates, Sharp and Krasnegor made an investigation to determine the number of persons who were employed in their undergraduate major fields five years after graduation. Table I

---

[19] National Science Foundation, Two Years after the College Degree: Work and Further Study Patterns (Washington, D.C., 1963), pp. 58-60.

[20] Ibid., p. 60.

summarizes the findings. On the average, one out of four male and about one out of five female graduates did not work

TABLE I

PERCENTAGE OF COLLEGE GRADUATES EMPLOYED IN UNDERGRADUATE MAJOR FIELD FIVE YEARS AFTER GRADUATION[21]

Major	Men		Women	
	N Employed Full-time	% Same Field	N Employed Full-time	% Same Field
Health	253	91	266	84
Education	1,476	84	1,586	92
Engineering	2,656	80	23	87
Natural science	1,605	72	345	73
Business and commerce	2,815	70	198	82
Humanities and arts	1,195	70	804	74
Social science	2,138	68	545	77
Agriculture	366	65	. . .	. . .
Home economics	. . .	. . .	197	76
All majors	12,504*	74	3,964**	83

*Excludes 2,028 respondents unemployed in 1960, 221 with missing data, and 59 enrolled in "general courses."

**Excludes 265 respondents unemployed in 1960, 82 with missing data, and 24 enrolled in "general courses."

in the field in which they were educated. It is also interesting to note that 2,679 (or about 16 percent of the 16,551 included in the data) were excluded because they were

[21]Douglas R. Whitney, "Predicting from Expressed Vocational Choice: A Review," Personnel and Guidance Journal, XLVIII (December, 1969), 283, citing L. M. Sharp and R. B. Krasnegor, Five Years after the College Degree, Part II: Employment (Washington, D.C., 1966), p. 58.

"unemployed," "missing," or "taking courses." It is not possible to know how much these 2,679 would alter the data on the compatibility of the job taken with the degree held, but this number does indicate underutilization of college-trained personnel.

Thus the information provided by the National Science Foundation report and the Sharp and Krasnegor study affords a possible basis for vocational instability in the college graduate before he enters the job market. (This point will be especially relevant during the discussion on vocational counseling in college in the following section.) In addition, this information emphasizes the role that vocational counseling in college may play in reducing vocational instability.

Another way of examining the possible early bases for vocational instability of the college graduate is to analyze the amount of changing major fields of study that college students do. Davis has stated, "The decision to attend college is in itself a crucial vocational choice, for in modern America being a 'college man' is pretty good insurance against entry into the blue-collar, service, and agricultural jobs held by two-thirds of the nation's workers."[22] Douglas R. Whitney has explained further the importance of the selection of a major field of study after a student has

---

[22]Davis, Undergraduate Career Decisions, p. 4.

entered college. "A college student's major field choice is a form of action commitment to a vocational preference."[23]

It would seem from the National Science Foundation and Sharp and Krasnegor data that a student will tend to enter a profession corresponding to his major field of study. There is also the general observation that changes nationwide may take place in a regular pattern for college students. Helen S. Astin has found that in the United States from 1957 to 1961 college students who switched their majors generally did so from studies in engineering and science to studies in business and education.[24] Even though it has been shown that college tends to channel students toward certain occupations and the changing of a major may follow a definite nationwide pattern, the amount of changing a major field of study by college students appears extensive. The data from Davis' 1965 survey and from Astin and Panos' report have already been given in Chapter I. Davis found indecision about or switching of career intentions in about one out of every two college students, and Astin and Panos discovered that three out of four college students changed their career choices. This condition of large percentages of students in college switching their major field of study

---

[23]Whitney, "Predicting from Expressed Vocational Choice," p. 284.

[24]Helen S. Astin, "Pattern of Career Choices over Time," Personnel and Guidance Journal, XLV (February, 1967), 542-544.

or of not having one adds credence to the idea that vocational instability for college graduates may begin for some during the college period itself.

To this point the effort has been to show the importance of the highly trained to the advancement of a nation and to indicate the possibility that vocational instability may begin with the type of education received and with indecision about what kind of education to obtain. The last area to be examined is the amount of and cost for the college graduate's vocational instability.

Thomas H. Patten, Jr. pointed out that precise statistics on the turnover of college graduate trainees are difficult to obtain.[25] One study does report 80 percent turnover of college graduates within three and a half years after they went into sales work.[26] John D. William noted that retailing has an unusually high turnover among its junior executives. In one period, 23 percent of the executive recruits left their firms the first year while 51 percent had quit within three years.[27] Edgar H. Schein viewed the high turnover of recently hired college graduates as "a considerable waste of human resources" and said that roughly

---

[25]Patten, "The College Graduate Trainee," p. 581.

[26]Andrall E. Pearson, "Sales Power Through Planned Careers," Harvard Business Review, XLIV (January-February, 1966), 105.

[27]John D. Williams, "Dealing with Junior Executive Turnover," Management Review, LIV (March, 1965), 50.

one out of every two college graduates entering an industrial organization will have moved from his original position within four or five years.[28]

Some information on college graduate turnover has been developed in relation to industrial training programs. One such research project dealt with an industrial organization which used a three-year training program for the company's recruits who had bachelor's or master's degrees in science and engineering. The first year the recruits went to class three days a week while working in a technical department two days a week. The second year this arrangement was reversed. The third year the recruits attended class only one day a week. The trainees in the study were from the classes of 1960 and 1961, and the dropout or turnover rate for this group for the three-year program was 39 percent. The estimated rate for other companies with similar training programs was put as high as 50 percent.[29] The National Industrial Converence Board conducted a study of twenty-two companies' training programs for newly hired college graduates. Recruits hired in 1955, 1956, 1957, 1958, and 1959 were involved. The turnover was based on the first twenty-four months of employment. The study stated that

---

[28]Schein, "How to Break in the College Graduate," p. 68.

[29]William M. Evan, "Peer-Group Interaction and Organizational Socialization: A Study of Employee Turnover," American Sociological Review, XXVIII (January-February, 1966), 436.

> Turnover percentages were reported for twenty training courses. In ascending order the turnover figures are 5, 6, 9, 10, 10, 10, 12, 12, 16, 18, 19, 20, 20, 20, 25, 25, 30, 30, 32, and 32%. The mean is 18%; the median 18½%. It is believed these figures represent favorable experience as many other companies report higher losses during the first two years.[30]

This data on the turnover of college graduates involve only business or industrial organizations with none coming from such areas as education or government service. It also does not indicate those who change a job with a particular firm but who get a similar job in the same field with another company. A turnover rate of about 50 percent within four years does, however, appear to be probable for American college graduates, and this possible average turnover rate when viewed in terms of dollar cost per turnover is somewhat startling.

Only limited information is available on turnover cost, particularly for the college graduate. Frederick J. Gaudet has found, "The cost of labor turnover has been given only sporadic attention since the Minneapolis Conference and 326-page volume, Annals of Political and Social Science, which was published the following year (May, 1917)."[31] Gaudet has expressed great dissatisfaction with this lack of

---

[30]Stephen Habbe, College Graduates Assess Their Company Training (New York, 1963), pp. 55-56.

[31]Frederick J. Gaudet, "What Top Management Doesn't Know About Turnover," Personnel, XXXIV (April, 1958), 57.

data and the unconcern of employers over this kind of cost.[32] Some recent information, however, is available on the subject of college graduate turnover cost. Williams has reported

> Firms complain increasingly that they are laying out as much as $10,000 a man to recruit and train talented college graduates for management posts in the $7,500-to-$10,000-a-year range--and then losing about half of them within three to five years.[33]

The Placement Director at Northwestern University has provided the same cost figure of $10,000 for finding and training the college graduate.[34] The Armstrong Cork Company of Lancaster, Pennsylvania has placed its cost at $6,000 for the recruiting and training for five months of each of its management trainees, and the company has estimated that it has invested $23,000 in each of the trainees before he becomes fully productive after two years.[35] The recruiting cost alone for an aircraft company's hiring 193 engineers and scientists during one year amounted to $907,000 or an average of about $4,700 per college-educated technician.[36]

---

[32] Ibid.

[33] John D. Williams, "Dealing with Junior Executive Turnover," p. 49.

[34] Frank S. Endicott, A College Student's Guide to Career Planning (New York, 1967), p. 81.

[35] John D. Williams, "Dealing with Junior Executive Turnover," p. 51.

[36] Gaudet, "What Top Management Doesn't Know," p. 58.

None of these figures could have taken into consideration the inflation occurring in the United States from 1967 to 1971, and, as a result, these costs could have easily risen. Thus it would seem possible to put the cost at $10,000 or more when a college graduate leaves his job within a year's time. This estimate is perhaps scientifically hazardous given the lack of current cost research for the turnover of graduates with specific degrees having held particular jobs in definite vocational fields or industries.[37] If a company hires 100 college graduates in one year, it is feasible, from the information presented, to believe that the firm will have lost one-half billion dollars or more within three or four years because of the turnover of this group of personnel. Undoubtedly, any company would want to avoid or eliminate such a cost.

This section concerning the vocational instability of the college trained has presented information on the importance of the college degree holder to the progress of a modern nation, on two possible early causes of vocational instability for the college educated, and on the frequency and cost of the turnover of these personnel. Vocational counseling at the college level ostensibly attempts to alleviate the problem of college-graduate turnover and to

---

[37] Ibid., pp. 54-57.

utilize more effectively the country's highly educated human resources.

The Effectiveness of Vocational Counseling in College

The effectiveness of vocational counseling may be explored by examining (1) the number of college counselors, (2) their training, (3) the financial and moral support from college officials, and (4) the empirical research concerning the theoretical aspects of the vocational-choice process in the United States.

Bruce Shertzer and Shelley C. Stone indicated that in the United States there was a lack of secondary-school counselors in the first half of the 1960 decade, pointing out that the nation's high school counselor-pupil ratio in 1964-65 was 1 to 507. The recommended ratio is one full-time counselor to every 300 secondary students[38] and one for each 750 college students. No information is provided on the actual ratio existing in the 1964-65 period for the nation's colleges. In 1968, however, North Texas State University had only one full-time counselor for its approximate 14,000 student population.[39] As of the 1970-71 school year, Western State College of Colorado had only one full-time

---

[38] Bruce Shertzer and Shelley C. Stone, Fundamentals of Guidance (Boston, 1966), pp. 78, 81.

[39] Interview with A. MacKenzie Conekin, director, Guidance Office, North Texas State University, Denton, Texas, April 13, 1970.

counselor for its 3,000 students. The chances for increasing the number of qualified counselors at both the secondary and undergraduate levels nationwide do not appear good. C. Gilbert Wrenn pointed out that a shortage of college teachers of counseling is aggravating the shortage of counselors.

> About two-thirds of the graduate institutions reported by the U.S. Office of Education have requirement of practicum internships or supervised practice as part of their masters or doctors programs. Many institutions, however, do not have adequate provisions for supervised practice regardless of their inclusion of it in their catalogue statements.
>
> The great problem has been the shortage of prepared supervisors in the schools or other agencies where practice is to be secured. Furthermore, supervision of this kind is costly. Large blocks of time are required of the graduate staff member . . . if he is to secure the necessary feedback from the graduate student. . . .[40]

If the trend for high school counseling holds for counseling in college, as appears likely, then it is quite possible that a shortage of counselors will impair the effectiveness of counseling in colleges.

Another problem confronting vocational counseling in the United States is the training or qualification of counselors. According to Shertzer and Stone, a close look in 1960 at the thirty-five states and territories having counselor certification requirements gives the impression that these states have only a "minimal level of expectation" in

---

[40] C. Gilbert Wrenn, The Counselor in a Changing World (Washington, D.C., 1962), p. 174.

those requirements.[41] In addition, they have noted that in 1966

> 475 colleges and universities have listed course offerings and/or programs of counselor preparation. Not more than one-fourth of these institutions represent clearly recognized, well established graduate programs of counselor preparation.[42]

Wrenn has also cast serious doubt on the curriculum and certification requirements of counseling programs. He stated that the greatest problem existing with counselors' education is the lack of social science and cultural courses; concerning certification requirements, he has said most states' requirements "are generally limited, unimaginative, and tied to the past."[43] And, a recent study of the twenty-eight-member staff of the Counseling and Testing Center at Southern Illinois University provides some additional unfavorable information about the vocational counseling process on the college campus. The study's purpose was to assess students' reactions toward the university's vocational and educational counseling. Two hundred and ninety-five students who received counseling during the 1968-1969 academic year were given a twenty-nine-item questionnaire. It was found that the majority of the students who were counseled by advanced trainees or doctoral staff saw counseling as a positive experience. However, the findings clearly suggested

---

[41] Shertzer and Stone, p. 97.

[42] Ibid., p. 79.

[43] Wrenn, p. 176.

"weaknesses in vocational counseling facilities, counselors' skills, and training of beginning practicum students." Moreover, "a large proportion" of the students felt that counselors (regardless of level of training) did not give adequate information about either vocational opportunities or their requirements.[44]

A third effect on college vocational counseling is the degree of support received from college administrators. No project is able to succeed without financial funding, and moral backing can certainly aid any endeavor. It is difficult to assess the prevalent thinking of college presidents on the subject of student vocational guidance. There is, however, some indication that this sector of student services has been placed on a low priority. In an address by T. R. McConnell, former Chancellor of Buffalo University, to the American Personnel and Guidance Association in 1954, he said that

> There has been more than a little indication of late that a good many college and university presidents intend to cut student personnel down to size. . . . Counseling and other phases of the personnel program, they say, are really only peripheral, or marginal, to the central purpose and the focal activities of education. Whatever is purely ancillary is in considerable part expendable in a period of budgetary stringency. If student personnel services are marginal, the university president can trim the budget for

---

[44]Ronald W. Graff and G. Donald MacLean, "Evaluating Educational-Vocational Counseling: A Model for Change," Personnel and Guidance Journal, XLVIII (March, 1970), 568-574.

> them without impairing the institution's essential educational activities. In fact, he may announce that by diminishing personnel work he is exalting teaching, or restoring it to its rightful preeminence. In other instances, I should guess it is more or less unconscious rationalization of what the president has to do or thinks he has to do anyhow.[45]

Wrenn has emphasized that school administrators are deeply involved in the standards of not only counselor performance but also counselor education and development.[46] It is then that vocational counseling and other personnel services for students may be diminished or made less effective by college administrators, particularly in times when colleges face austere financing of their diverse programs.

The fourth factor in the effectiveness of vocational counseling in reducing the job turnover of college graduates has to do with the theoretical underpinnings of the counseling itself. As revealed in the following section, the guidance and counseling field apparently does not have principles to assist it in advising students about a vocational choice. Several writers in the field of vocational counseling, highly critical of this lack of a general theory of vocational choice, are strongly encouraging further

---

[45]Milton E. Hahn and Malcolm S. MacLean, Counseling Psychology (New York, 1955), p. 291, citing Address by T. R. McConnell, former chancellor, Buffalo University, American Personnel and Guidance Association convention, 1954.

[46]Wrenn, p. 176.

research on the empirical factors involved with the vocational choice process, including the self-concept.

The lack of knowledge concerning these empirical factors apparently is the most damaging circumstance to the effectiveness of vocational counseling. Even if more counselors were available, the greater number would not be able to help without a sounder theory of the vocational-choice process. Certainly, more support would be forthcoming from college officials if vocational counseling's effectiveness were enhanced through a more useful theory. A review of the literature related to the researching of the vocational-choice process reveals the seriousness of the need for more empirical research and for a more valid theory of the process.

Review of Literature

The review of the literature concerning the vocational-choice process is divided into three area: (1) the need for a more valid general theory, (2) research of vocational choice and the self-concept, and (3) research related to Super's theory.

Several authorities in the field of counseling have agreed that the field lacks a general theory of the vocational choice process. Borow infers that there is no general theory of vocational choice in the field because of its "bigness and disjointedness," and he adds

> Investigators in diverse scholarly disciplines (e.g., counseling psychology, clinical psychology,

> industrial psychology, occupational and industrial sociology, labor economics) have built relatively independent conceptions of occupational man, each with its own judgments of what is important, its own methodology, and its own professional argot. There is indifferent intercourse between these domains of inquiry, and the establishment of a coherent image of occupational behavior is impeded accordingly.[47]

Samler is more direct in his assessment of the status of a general theory: "Vocational counseling and its use of occupational information are based upon a theory which is unsatisfactory and incomplete."[48] Robert Carkhuff, Mae Alexik, and Susan Anderson have expressed the opinion that no suitable vocational-choice theory exists. This group of investigators has written that, "The very real question confronting the counseling and guidance professions today is: 'Do we have a "theory" of vocational choice?'"[49] They have examined the theories of Roe, the Michigan group, Tiedeman and O'Hara, Super, and Holland and concluded that none of these well-known theories are acceptable in light of inductive-deductive theory-building criteria. The group has further concluded that "Many of the efforts suffer from their authors' need to continually relate their data to

---

[47]Borow, "An Integral View of Occupational Theory," p. 371.

[48]Samler, "Occupational Exploration in Counseling," p. 413.

[49]Carkhuff, Alexik, and Anderson, "Do We Have a Theory of Vocational Choice?" p. 335.

pre-conceived formulations which do not change with the acquisition of data."[50]

Carl E. Thoresen and William A. Mehrens have also investigated the question of an effective theory concerning vocational choice. They, after reviewing the modern vocational-development theories of Ginzberg, Super, Tiedeman, and Holland, commented that

> These theories of vocational development are incomplete and not explanatory in a specific sense as to how the individual makes sequential decisions relative to vocational development. Because the principles of career development are not known, the specifics of how an individual makes choices and plans remains obscure. The basic problem . . . is the paucity of our knowledge derived from experimental research in knowing specifically just how the individual actually behaves in realistic vocational situations. . . . Our ignorance, due in part to the inadequacies of inchoate vocational theories, prevents effective modification of procedures now used in vocational counseling.[51]

Victor H. Vroom has analyzed why the guidance and counseling field has not developed an effective theory of vocational choice and identified two methods of studying the choice process. One is the "normative" which deals with how choices ought to or should be made. This method is often used by economists and statisticians. The second is the "empirical" or "descriptive" which is concerned with

---

[50] Ibid.

[51] Carl E. Thoresen and William A. Mehrens, "Decision Theory and Vocational Counseling: Important Concepts and Question," Personnel and Guidance Journal, XLVI (October, 1967), 165.

with explaining how choices are made. Psychologists are generally quite interested in using the empirical method to study the area of choice behavior. This distinction is important because counseling itself is essentially normative in nature, using interviewing and psychological testing techniques, while the choice process is basically empirical from the psychological standpoint.[52] It would appear that counselors have emphasized the normative but have overlooked the empirical process involved with the study and practice of a vocational choice. Vroom has observed:

> An empirical approach to occupational choice is concerned with how persons make vocational decisions. The objective is to determine the factors which explain the occupational choices that are made.
>
> A great deal more attention has been directed toward the normative than to the empirical study of occupational choice. Vocational guidance has flourished as a field of knowledge and specialization for over fifty years. Yet the study of the variables affecting vocational decisions is comparatively recent.
>
> It can be argued that ultimately the technology of vocational guidance must be based on a sound conception of occupational choice. If we are to alter effectively the vocational decisions of individuals, we must understand the dynamics of the process by which decisions are made. In a sense, the methods of the vocational counselor represent attempts to modify the values of variables which influence occupational choice. If the nature of the variables and their manner of

---

[52]Victor H. Vroom, Work and Motivation (New York, 1964), p. 51.

> interaction are clearly understood, the task of the counselor may be appreciably aided.[53]

The lack of a general theory has hindered the studying of the empirical factors involved with the vocational-choice process. This lack does not, however, eliminate the need for research of an empirical factor such as the self-concept.

Thoresen and Mehrens, even though dissatisfied with the incomplete status of a general theory, urge the conducting of experimentation and research of the "relevant facets of decision processes," especially of the self-concept:

> Decision theory suggests that the way in which information is processed by the individual is strongly influenced by expectations and attitudes he has about himself, i.e., certain self concepts.
>
> . . . . . .
>
> The basic knowledge and understanding that will emerge from a series of research studies in the specific facets of the career decision process can be used in modifying and expanding counseling procedures. Now is the time to begin these studies.[54]

The conclusion by Thoresen and Mehrens concerning the modifying or expanding of counseling procedures takes on added significance when viewed with Bailey's finding that counselors consider the implementing of the self-concept as their second most important conceptual model. In addition, Carkhuff, Alexik, and Anderson, who are displeased with the state of vocational counseling's general theory formulation,

---

[53] Ibid., pp. 51-52.

[54] Thoresen and Mehrens, "Decision Theory and Vocational Counseling," pp. 169-171.

have recommended specific empirical research. They have concluded, "For the present, the continuing empirical and longitudinal efforts and the lower-level generalizations that they produce seem to offer the greatest promise for a comprehensive model of vocational development and choice."[55] It is in this way, according to Borow, that the unverified propositions of Super's theory may be confirmed and thereby serve "the cause of a science of occupational man."[56]

There are several studies which have investigated the role of the self-concept in the vocational choice process. Meryl E. Englander obtained with an eighty-item Q-Sort instrument the self-descriptions of a group of college students majoring in elementary education and those of another group who were non-education majors. He found, when comparing the self-descriptions of the two groups, that there was more similarity among the self-descriptions or self-concepts of the education majors than among those outside that occupational choice.[57]

In 1955 Richard R. Stephenson surveyed 368 applicants who had not been admitted to the University of Minnesota

---

[55]Carkhuff, Alexik, and Anderson, "Do We Have a Theory of Vocational Choice?" p. 335.

[56]Borow, "An Integral View of Occupational Theory," p. 380.

[57]Meryl E. Englander, "A Psychological Analysis of Vocational Choice: Teaching," Journal of Counseling Psychology, VII (Winter, 1960), 257-264.

School of Medicine between 1947 and 1951. When the 1955 occupation of these 368 persons was ascertained, Stephenson concluded:

> Since the largest single occupational group was medical doctor, general practice; since two-thirds of the total applicant group were eventually admitted to a medical school, and since the overwhelming majority (80 per cent) of all persons eventually were found in medical or related occupations; the findings were interpreted as evidence that the self-concept of the pre-medical student has crystallized prior to making application to a school of medicine.[58]

Using an adjective check list, Donald H. Blocher and Richard A. Schutz had a group of senior high school boys complete two sets of self-descriptions, showing how they actually viewed themselves and how they would like ideally to view themselves. The group was also asked to choose an occupation which most interested him and one which least interested him. Later each boy was asked to describe the typical member of these two occupations. It was found that the seniors' descriptions of the most interesting occupation showed significantly higher similarity to the descriptions of themselves, actual and ideal, than to the descriptions of people in the least interesting occupation.[59]

---

[58]Richard R. Stephenson, "Occupational Choice as a Crystallized Self-Concept," Journal of Counseling Psychology, VIII (Fall, 1961), 211-216.

[59]Donald H. Blocher and Richard A. Schutz, "Relationships among Self-Descriptions, Occupational Stereotypes, and Vocational Preferences," Journal of Counseling Psychology, VIII (Winter, 1961), 314-317.

With a fifty-item Q-Sort, Richard L. Morrison compared the self-descriptions of nursing trainees with those of education majors. The nursing trainees' self-descriptions were significantly more similar to their descriptions of nurses than to their descriptions of teachers. It was also found that the self-concepts or descriptions of education majors were significantly more similar to their descriptions of teachers than to their descriptions of nurses.[60]

Ernest A. Oppenheimer studied the relationship between the self-concepts and occupational choices of eighty-one students at Rutgers University. A modified semantic differential was used to measure these students' self-concepts. The findings demonstrated that the students preferred occupations which were congruent with their self-concepts. In general, the findings agreed with Super's self-concept theory of vocational development.[61]

Vroom, as well as Richard A. Hunt, used somewhat different methods from those in the above studies to investigate the role of the self-concept in the vocational-choice process. Vroom had undergraduate college students rank five occupations in order of preference and identify their chosen

---

[60]Richard L. Morrison, "Self-Concept Implementation in Occupational Choices," Journal of Counseling Psychology, IX (Fall, 1962), 255-260.

[61]Ernest A. Oppenheimer, "The Relationship Between Certain Self Constructs and Occupational Preferences," Journal of Counseling Psychology, XIII (Summer, 1966), 191-197.

occupation. Vroom then measured each student's actual self-concept, ideal self-concept, and his concepts of the six occupations with a Q-Sort instrument. Correlations were highest for the chosen occupation and decreased in definite order with the ranking of the five other occupations.[62]

Hunt had four groups of professional men judge self- and vocational-concepts on semantic differential scales. A multiple-discriminant analysis using normalized D scores produced three significant functions among the various groups. Hunt concluded that, "As suggested by Super, an individual tends to express his self-concept through his complex, real-life decisions, such as in the case of vocational choice and decision."[63]

The studies by Englander, Blocher and Schutz, Morrison, Oppenheimer, Vroom, and Hunt indicated that there are self-conceptual differences between those people who have definitely chosen one vocation and those who have chosen or preferred another vocation. These studies compared the decided with the undecided. It would seem that the undecided must be included in any study of the vocational choice process.

Leonard L. Baird pointed out that "The theories of vocational choice have little to say directly about the

---

[62]Vroom, Work and Motivation, pp. 74-75.

[63]Richard A. Hunt, "Self and Other Semantic Concepts in Relation to Choice of a Vocation," Journal of Applied Psychology, LI (June, 1967), 242-246.

undecided student."[64] He stated that studies of students with vocational choice uncertainty are few and fragmentary and that the evidence of these few studies suggests "the undecided students differ little from other students."[65] Baird has also reported the findings of two of his studies on vocationally undecided college or college-bound students. His first study in 1964 involved more than 6,000 male and more than 6,000 female college freshmen from 31 institutions. Almost all of these 12,000 students were divided into decided and undecided categories as to vocational choice. When these two groups of decided and undecided were compared on the basis of more than 14 variables, Baird concluded:

> While the comparisons suggest that the male student who is undecided is slightly less interested in science than decided students and that both undecided men and women are not "vocationally oriented," the overwhelming conclusion is that there is no real difference between the student who has decided upon a vocation and the student who has not.[66]

In his second study in 1965-1966, Baird examined the differences among almost 60,000 college-bound high school students. More than 13,000 were undecided about a vocation while almost 46,000 were decided. More than six variables were involved in the study, but the self-concept was not one of these. Baird summarized,

---

[64] Leonard L. Baird, "The Undecided Student--How Different Is He?" Personnel and Guidance Journal, XLVII (January, 1969), 433.

[65] Ibid., p. 429.

[66] Ibid., p. 432.

> The only differences of any size concern college goals. Undecided students more often than decided students emphasize the college goal of developing their minds and intellectual abilities and choose the goal of vocational or professional training less frequently.[67]

As to the overall comparison of these large dichotomized groups of undecided and decided students, Baird concluded that no evidence exists to support the belief that most undecided students are maladjusted or abnormal and that there is any difference between the vocationally undecided and other students.[68]

In 1965 Jefferson D. Ashby, Harvey W. Wall, and Samuel H. Osipow studied 228 male and female freshmen at Pennsylvania State University who were divided into three groups of vocational decidedness. One group of 108 was quite certain about its choice, a second group of 91 was tentatively certain, and the third group of 29 was undecided. This study did examine personality aspects of the decided and undecided students. The only one of six personality ratings showing a difference indicated that the decided were more intellectually oriented than were the undecided. And the only one of three variables of the Bernreuter Personality Inventory showing a difference revealed the undecided were more dependent than the decided.[69]

---

[67] Ibid.

[68] Ibid., p. 433.

[69] Jefferson D. Ashby, Harvey W. Wall, and Samuel H. Osipow, "Vocational Certainty and Indecision in College Freshmen," Personnel and Guidance Journal, XLIV (June, 1966), 1037-1041.

Indecision about what vocation to undertake is the initial phase in the vocational-choice process. To study the self-concept's role in the vocational-choice process necessarily requires examining the self-concepts of undecided students. Yet, no examination of the self-concepts of this type of student appears to have taken place. The implication of Baird's studies would seem to be that no difference exists between the self-concepts of decided and undecided students.

Other studies had findings which are confusing in light of Super's theory on the vocational-choice process. Baird has suggested that bright students who are undecided about a vocation and who have the capacity to do many activities well are undecided because of the many alternatives open to them rather than because of any confusion about these alternatives.[70] It is possible that such bright and versatile undecided students as these have as well-developed and implemented self-concepts as decided students.

The possibility that self-concepts may be developed and implemented before a vocational choice is necessary is suggested by the research of Robert L. Williams and Spurgeon Cole. They implied that children in the sixth grade are involved in the developing and implementing of self-concepts.

---

[70]Leonard L. Baird, "The Indecision Scale: A Reinterpretation," Journal of Counseling Psychology, XV (March, 1968), 174-179.

> The academic reinforcement consistently received by the brighter student but infrequently by the less bright undoubtedly affects the self-concept. While the slow learner may be adversely affected by existing educational practices, it is assumed that a negative self-concept could be significantly ameliorated by a productive school experience.
> . . . . . .
> . . . Few factors are more fundamental to a child's success and happiness than his evaluation and acceptance of himself.[71]

It is logical to assume that a child's adjustment to the stresses of life means the developing and implementing of a stable and positive self-concept. This condition, however, appears to contradict Super's theory.

The outcome of a study by Robert Calvert, Jr. adds further weight to the implications of Baird and Williams and Cole that a person's self-concept can be developed and implemented before a vocational choice is reached. During 1963 and 1964, Calvert surveyed male liberal arts graduates from the classes of 1948, 1953, and 1958. The sample was drawn from 100 institutions which prepared students in the liberal arts field. Calvert found that

> The graduates tended to dispel one myth about career selection: that is, the theory that career choices are made in the late teens or early college years. While many alumni recommended early selection of a career goal, the record shows that half selected their current career targets after graduation from college.

---

[71]Robert L. Williams and Spurgeon Cole, "Self-Concept and School Adjustment," Personnel and Guidance Journal, XLVI (January, 1968), 478-481.

> In fact, even middle-aged college graduates were still in the process of shifting their career goals.[72]

Furthermore, the delaying of the vocational choice did not appear to disturb the graduates since three-fourths of them replied that their liberal education prepared them well for vocational life. Also, four-fifths of them stated that they would major in liberal arts if they had to go through college again.[73]

Thus, there have been several studies showing self-conceptual differences among people with a high degree of decidedness about their vocational choices. In contrast, few studies have been published concerning the undecidedness phase of the vocational-choice process, and none of these have been directed at an examination of the self-concept. A study which investigates the role of the self-concept in the undecided, as well as in the decided phase of the vocational-choice process, could perhaps help to explain research findings which appear to disagree with Super's theory on the role of the self-concept in choosing a vocation.

---

[72]Robert Calvert, Jr., "Liberal Arts Graduates: They Would Do It Again," Personnel and Guidance Journal, XLIX (October, 1970), 129.

[73]Ibid., p. 123.

Summary

A modern nation cannot disregard the utilization of its human resources, particularly its well-educated, without losing some of its ability to achieve advanced social and economic goals. Vocational turnover or instability of the college trained creates considerable economic loss. Vocational counseling is a means to alleviate vocational instability and to assure more effective utilization of this country's human resources. Its effectiveness is apparently hampered by a lack of empirical research concerning the factors involved with the occupational-choice process. Some empirical research is, however, being conducted on the effect of the self-concept factor.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

Chapter III explains the general way in which the experimentation unfolds and discusses the tools and procedures utilized in this research. The initial part of the chapter outlines the research so that a general understanding of the overall research design may be gained. The section which follows presents the reason for constructing the research design and method as it has been done. The last section of the chapter identifies the sample and sampling procedure of the study. It also includes descriptions of the instruments which measure the vocational decidedness and the self-concepts of the decided group and undecided group of students.

Research Design and Method

The design and structure of the experimentation of this study involved five phases: (1) the identifying of one group of college students who were extremely decided about their vocational choices and a second group of college students who were extremely undecided about their vocational choices, (2) the measuring of the self-concepts of the members of these two groups, (3) vocational counseling of

one section of the undecided group, (4) remeasuring the self-concepts of the undecided group, and (5) measuring the effect of the counseling upon the undecidedness of one section of the undecided group.

The first phase of this research was supposed to identify two groups of college students who represented the extremes in the vocational-choice process. One group was to be highly decided about their choices whereas the second group was to be highly uncertain. Scalogram Analysis was used to determine these two groups. Five hundred and eighty-two undergraduates at Western State College were surveyed with the ten-item Scalogram Analysis questionnaire found in Appendix A. Three hundred and sixty-eight students replied to the survey. The scores of the survey replies allowed a possible range of 10 to 42. A low score indicated undecidedness about a vocational choice while a high score indicated certainty. The actual range of scores was 12 to 35. Those who scored 19 and below were placed into the highly undecided group. Those who scored 31 and above were placed in the highly decided group. More explanation of the sampling and Scalogram Analysis is given in a later section of this chapter which discusses the tools of this research.

There were 54 students who scored 19 and below on the questionnaire. These 54 members of the undecided group amounted to about 15 percent of the total who completed and returned the survey. Of the 54, 37 were males, and 17 were

females. The division of the group by class was the following: 30 freshmen, 11 sophomores, 6 juniors, and 7 seniors.

Thirty-six students, about 10 percent of those who replied to the survey, scored 31 or above on the questionnaire. Twenty in this decided group were males, and 16 were females with the class breakdown being 13 freshmen, 7 sophomores, 7 juniors, and 9 seniors.

The second stage of the experimentation consisted of measuring the self-concepts of the decided group and of the undecided group. The seventy-item Form III California Q-Sort shown in Appendix C was used for the measuring of these self-concepts. The instruction sheet in Appendix C explains the manner in which the Q-Sort was completed by the members of the two groups. The methods by which the Q-Sorts were scored will be discussed in a later section of Chapter III.

The third phase involved one section of the undecided group who received vocational counseling for four months. Twenty-two members of this group, 16 males and 6 females, volunteered to undertake the counseling, and they were referred to as the experimental section of the undecided group. The four classes numbered 11 freshmen, 5 sophomores, 4 juniors, and 2 seniors. The average score for this experimental section on the Scalogram Analysis survey was 16.3

The other twenty-two members of the undecided group who continued in the study served as a control section for those undergoing vocational counseling. (Ten members of the undecided group removed themselves from the study during the four-month counseling period for reasons of health, withdrawal from school, poor grades, or other personal reasons.) The control section was composed of 13 males and 9 females with the membership by class 10 freshmen, 5 sophomores, 2 juniors, and 5 seniors. The average score on the Scalogram Analysis survey was 17.3.

The method of control for this research requires elaboration because of the unexpected results obtained with the control section of the undecided group. John C. Townsend believes that one of the major issues involved with any experimental effort in arriving at factual knowledge is the "control" issue. "If a control group is not used, and only the experimental group received the independent variable, an investigator can never be sure but what the same change in the dependent variable would have occurred in the absence of the independent variable."[1] In this research effort, control of the dependent variable of the self-concept was established by dividing the undecided group into the experimental and control sections by matched-grouping. Townsend suggests that members of the two sections be equated on the basis of

---

[1]John C. Townsend, Introduction to Experimental Method (New York, 1953), pp. 58, 61.

matched-pairing, matched-grouping, or randomized-grouping.[2] It was not possible to use matched-pairing or randomized-grouping because it was discovered that not everyone who was extremely undecided about a vocation desired vocational counseling. Thus the two sections of the undecided group were divided on the basis of matched-grouping with the only known difference between the two sections being that those in the experimental section desired counseling while many of those in the control section did not. As discussed in Chapter IV, Presentation and Analysis of Data, this difference in the matching greatly affected the results of the study. Desire for counseling was itself a variable.

After the four months of counseling, the fourth phase of the experimentation involved remeasuring the self-concepts of the two sections of the undecided group. The measurement device was again the seventy-item Form III California Q-Sort.

The fifth and last phase was the measuring of the undecidedness of the experimental section and the control section following the conclusion of counseling. The first six questions of the Scalogram Analysis survey were used to determine any change in the degree of undecidedness.

Research Design and Method Rationale

The reasons for designing the research as it was done can be divided into five categories: (1) expected outcome

---

[2] Ibid., pp. 62-63.

of the overall experimentation, (2) use of Scalogram Analysis in studying vocational decidedness, (3) the extremes of vocational decidedness, (4) the self-concepts of undecided college students as the dependent variable, and (5) vocational counseling as the independent variable.

If the experimentation is to result in the accepting of the hypothesis identified in Chapter I and, consequently, in supporting Super's theory of the vocational-choice process, several outcomes are to be expected from this specific arrangement of the research design. The decided group members should possess self-concepts which are significantly different from those of the undecided group in that they are more developed and more implemented. Both sections of the undecided group are expected to be equally lower than the decided in self-concept development and in implementation. After counseling, the self-concepts of the experimental section are expected to become more like those of the decided group and less like those of the control section; the control section should, however, remain at its before-counseling level of development and implementation. Also after counseling, the experimental section should be at a higher level on the decidedness scale while the control section should stay at its low before-counseling level of decidedness. The self-concepts of the decided group serve as the standard or ideal throughout the experimentation for the development and

implementation of the self-concepts of the experimental section.

Scalogram Analysis is used in the design to determine whether "vocational choice" has the same meaning for college students, that is, whether it is considered to be a single variable in their minds. This "unidimensionality" characteristic of such an attitudinal factor as vocational choice is significant in this research because it determines whether the research is dealing with only one or with more than one variable. Not having unidimensionality in this research for "vocational choice" means that students are thinking of more than one subject from an attitudinal standpoint when they see the term "vocational choice."

A more important objective of Scalogram Analysis in this research is to rank a college student sample according to degrees of vocational decidedness so that the extremes of this vocational decidedness can be isolated and studied. It is assumed with Scalogram Analysis that with an attitudinal factor such as vocational choice decidedness a range from low, to intermediate, to high decidedness or certainty will exist. Scalogram Analysis pictures this statistically, as well as graphically. This vocational choice decidedness ranking or scaling is illustrated in Figure 1 using the sample of this research. To use students in this research who are in the middle of the vocational-decidedness ranking or spectrum or who may be considered partly decided-partly

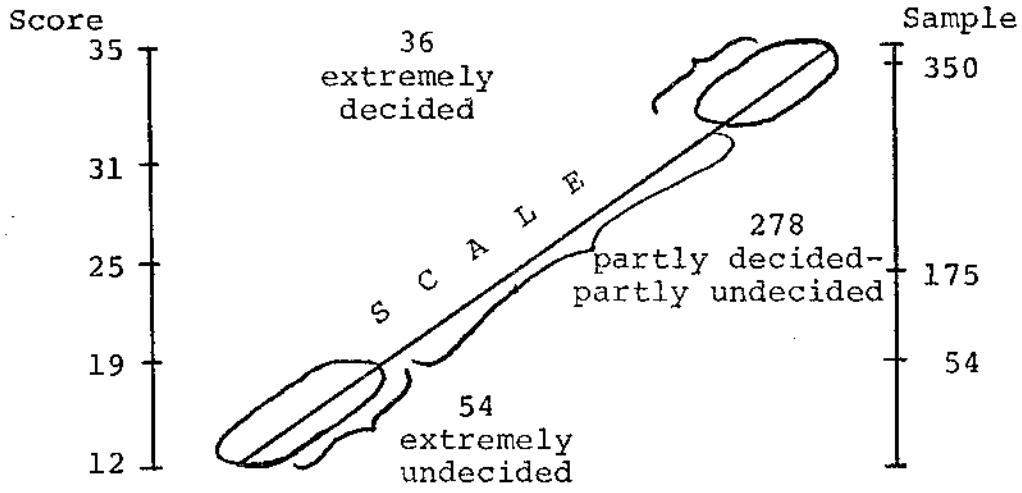

Fig. 1--Vocational decidedness extremes

undecided would insert students who blend possibly opposing characteristics. Noticeable differences in extreme decidedness-extreme undecidedness would be difficult to determine. Baird's two studies dealing with vocational-choice uncertainty were discussed in Chapter II. Baird found little if any differences between decided and undecided students. This outcome may have resulted from his including partly decided-partly undecided with extremely undecided students. Using the extreme groups identified by Scalogram Analysis avoids any distortion of characteristics that may be caused by the middle range of vocational decidedness.

An additional advantage provided by Scalogram Analysis's identifying vocational-decidedness extremes is that it may improve the findings of the research of Englander, Blocher and Schutz, Morrison, and the others mentioned in Chapter II who dealt only with the decided phase of the vocational

choice process. These researchers examined the self-concepts of people after choices of particular vocations had been made. No evaluation of the self-concepts of these people before their choices were reached took place. The undecided phase of the vocational-choice process was not involved in their studies of self-concepts of particular vocations in which nurses were compared with teachers, lawyers with plumbers, or managers with ministers. Scalogram Analysis permits the inclusion of the undecided phase of vocational decidedness whereas these above mentioned studies do not. A more complete investigation of the self-concept's role in the vocational choice process is possible through the use of Scalogram Analysis.

The experimental design of this research uses the self-concepts of undecided college students as the dependent variable. The self-concepts of the experimental section are expected to be more developed and implemented after these students have received vocational counseling. The self-concepts of the control section are expected to remain at their before-counseling level of development and implementation. Otherwise, any change in the self-concepts of the control section will indicate the influence of factors other than vocational counseling. Under these circumstances, the development and implementation of the self-concepts of these undecided students can be scrutinized. The development

and implementation can be explained scientifically using experimental methodology.

Vocational counseling serves as the independent variable in this experimental design and is expected to influence positively the self-concepts of the experimental section of the undecided group. The development and implementation of the self-concepts within the experimental section as a result of counseling can be accurately determined by utilizing the independent variable scientific procedure.

Research Sample and Tools

This section discusses the method used to obtain the sample of college students investigated as well as the Scalogram Analysis technique and the seventy-item Form III California Q-Sort, the principal tools utilized in this study.

The population examined by this study was that of the undergraduate student body of Western State College of Colorado, Gunnison, Colorado, during the 1970-1971 school year. Some description of the college and its student body has already been given in the research limitations section of Chapter I. The college's official enrollment for the 1970 fall quarter was 3,144;[3] approximately 250 of these students were graduate students. An IBM 360-Model 30

---

[3] On the Campus, Western State College, Vol. I, No. 3, Gunnison, Colorado, November 3, 1970, p. 4.

computer was used to select every fifth student from the school's undergraduate roster for the fall quarter. This representative sampling provided 582 undergraduates (about 20 percent of the school's population) to be surveyed in December, 1970, using the Scalogram Analysis survey. Representative sampling is felt to give a fair view of a population as long as no condition exists within the population which repeats itself with regularity and which would be included in the representative sampling. If such a condition did exist when representative sampling was used, then the sample would reflect a prejudiced view of the population.[4] No such prejudicial condition appears, however, to have existed with this sample. The breakdown of the sampling for the four undergraduate classes by number and by percentage of sample population was the following: 240 freshmen (41 percent), 134 sophomores (23 percent), 97 juniors (17 percent), and 111 seniors (19 percent). A total of 368 of these students (about 63 percent of those surveyed) completed and returned the questionnaire. The division of these replies by number and percentage of class was 162 freshmen (44 percent), 90 sophomores (25 percent), 60 juniors (16 percent), and 56 seniors (15 percent).

Scalogram Analysis has been used as a tool in this study to determine the extremes of college students on

---

[4]Frederick F. Stephan and Philip J. McCarthy, Sampling Opinions (New York, 1958), pp. 32-33.

vocational decidedness and the extent to which "vocational choice" is considered a single or unidimensional variable in the minds of the Western State College students. The ten-item questionnaire in Appendix A was the basis for the Scalogram Analysis.[5] Each question was designed to measure an aspect of the student's vocational-choice status and to measure the student's attitudinal or psychological viewpoint concerning his vocational choice. The student's answer to each question was viewed as his expression of an opinion, not a fact.

The scoring of the questionnaire consisted of first giving each question's answer a value of one to four or one to five depending upon how many possible answers there were. A higher value indicated a higher degree of decidedness. The ten values for the ten questions were then added to obtain a total score. The range of possible scores for this particular scalogram questionnaire was ten to forty-two.

The next step in the Scalogram Analysis of this survey was to arrange the 368 students from highest scores to lowest. This ranked all 368 students from most decided to least decided concerning vocational choice. Appendix B shows the ranking or the "scaling" of these students. At

---

[5]For an explanation of the construction of Scalogram Analysis questions, see Samuel A. Stouffer and others, Measurement and Prediction (New York, 1950), pp. 9-19.

this point the spectrum of vocational decidedness was observable, and the extremes of this decidedness were identified.

The ranking was followed by determining which answers of each question on the survey were to be considered positive and which were to be considered negative. For example, if a student answered question 1 "a" or "b," this was considered to be a positive answer. To have answered "c" or "d" was considered to be a negative answer. The "X's" that are found in Appendix B adjacent to each student's score display the number of answers for which the student gave a positive response. At this point also, the ten questions were arranged in descending order according to the frequency with which they were positively answered. The new order was 10, 8, 2, 7, 4, 5, 1, 3, 6, and 9. Question 10 had the fewest and Question 9 had the most positive answers.

The new arrangement of the positive answers is used to indicate "errors" in the students' answers. In Scalogram Analysis it is expected that students who are scaled highest will answer all or most questions positively, that those who are scaled in the middle will not answer positively the first several questions, and that those who are scaled lowest will answer positively only the last one or two questions on the scale arrangement. Errors occur when positive answers are omitted by a high-ranked student, when middle-ranked students answer one of the first questions positively or

fail to answer one of the later questions positively, or when a low-ranked student answers one of the earlier questions positively. Respective examples of these errors as indicated in Appendix B are the second student's failing to answer question 7 positively, the 168th student answering questions 2 and 7 positively and failing to answer questions 1 and 3 positively, and the 366th student answering question 5 positively.

Determining of the unidimensionality of the questionnaire variable "vocational choice" is possible by summing all of the errors followed by computing the "Coefficient of Reproducibility." This coefficient is the main criterion for testing a scalogram for unidimensionality.[6] The results of the computing of the coefficient are given in Chapter IV, Presentation and Analysis of Data.

The tool or instrument used to measure the self-concepts of the Western State College students was the Form III seventy-item self-descriptive California Q-Sort (abbreviated C Q-Sort or C Q-Set). It is shown in Appendix C. The instrument or device was developed by Jack Block, Ph.D., of the University of California at Berkeley.[7] A Q-Sort instrument has been used to measure the self-concepts of individuals

---

[6] Ibid., pp. 117-119.

[7] For a complete and definitive exposition of this instrument, see Jack Block, The Q-Sort Method in Personality Assessment and Psychiatric Research (Springfield, Illinois, 1961).

in the vocational choice research of Englander, Morrison, and Vroom which was discussed in Chapter II. Anne Anastasi has described the Q-Sort device as "suitable for investigating self-concepts."[8]

Block characterized the Q-Sort method "as an appropriate, simple, and useful method for the complex person-centered description of an individual in a form suitable for quantitative, statistical evaluation and comparison."[9] Block's Q-Sort method has been influenced by the work of Stephenson whom Block considers the primary protagonist of this method. Block began the development of the California Q-Sort in 1952, and the Form III California Q-Sort was evolved by 1957. The evolvement of the California Q-Sort through Form I, Form II, and its final Form III was aided by numerous psychologists and psychiatrists in addition to Block.[10] According to Block, as of 1961 the California Q-Sort was being used in research projects

> at the Institute of Personality Assessment and Research, at the Institute of Human Development, in the Veterans Administration, at the Palo Alto Medical Research Foundation, in various projects of the state of California, at the University of California Medical School, as a teaching device at the University of California and in a number of individual researches at universities, medical schools and hospitals in this country.[11]

---

[8]Anne Anastasi, Psychological Testing, 3rd ed. (London, 1968), p. 533.

[9]Block, p. 44.

[10]Ibid., pp. 47-59.

[11]Ibid., p. 61.

The simplicity of the seventy-item instrument can be seen upon examining it in Appendix C. It can be easily and quickly administered either to an individual or a group. In order to score the California Q-Sort so that a discriminating composite score was achieve, a scoring method devised by Samuel H. Cox, Ph.D., of North Texas State University was used. This revised method simply switched the scores of negatively termed adjectives to that the scores reflected positive values. (Appendix D identifies the positive or negative status of each of the seventy items.) Thus if a student placed a "2" by "absent-minded," this score was changed to a value of "6" (by adding 8 and subtracting the score of "2" originally given by the student). Instead of the student's being shown as "not very absent-minded," he was shown to "remember quite well." If the standard scoring method for the California Q-Sort had been used, then the total or composite score for each student would have been 280. No other outcome was possible under the forced choice-limited value method constructed by Block. However, with the rearranging of the negative adjectives to a positive position, total scores varied as low as 274 and as high as 390 (Appendix E). No alteration of the scoring was necessary when analyzing each of the seventy items of the Q-Sort. The scores of the students, as they were originally completed, were used in the item analysis.

For the reasons of simplicity, ease of scoring, and research applicability, the seventy-item Form III California Q-Sort was selected to measure the self-concepts of the decided and undecided groups of this research.

Summary

The design and method employed in this research involved the following steps: (1) identifying two groups of college students who were the extremes of vocational decidedness, (2) measuring the self-concepts of these two groups of students, (3) vocational counseling of one section of the extremely undecided group, (4) remeasuring the self-concepts of the undecided group, and (5) measuring the effect of vocational counseling upon one section of the undecided group. Scalogram Analysis allows for specific research improvement over previous studies involving the self-concept's role in the vocational choice process. The use in this research of the self-concepts of college students as the dependent variable and of vocational counseling as the independent variable brings the scrutiny and rigor of scientific methodology to the results and conclusions of this study. The sampling method employed in this study was representative sampling. The principal research tools of this study were Scalogram Analysis and the seventy-item Form III California Q-Sort.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

Chapter IV reveals the results of the research and relates these to the hypothesis. A close examination of the Scalogram Analysis is made; then, the composite scores of the groups' and sections' Q-Sorts are detailed and analyzed statistically. The identification and examination of the scores of each of the items in the Q-Sort for the groups and sections also take place. Last, the effect of vocational counseling on the undecided students is analyzed.

Scalogram Analysis

The scoring of the 368 replies to the December, 1970, survey for the Scalogram Analysis has been explained in its essence in Chapter III. The final outcome of the scoring of the ten-question survey, of the ranking of all students in descending order according to their total survey scores, and of the placing of either a positive or negative value on each of the answers by the students is shown in the scalogram found in Appendix B.

The key concern in the analysis of the scalogram is the number of errors which occurs with each student. It may be recalled that students who were ranked higher were expected

to answer all or almost all (except possibly the first three) questions positively. Those who ranked in the middle were expected to answer the last four, five, or six questions positively. And, those who were ranked lower were expected to answer only the last few questions with a positive response. In order to determine which questions a student was to have answered positively, the student was arbitrarily assigned a scale type, level, or classification which corresponded to his general score on the scale. There are ten levels to this scalogram survey, one level for each possible positive answer. Thus, higher-ranked students were assigned scale types of ten to seven, middle-ranked students were given scale types of six to four, and the lower ranked were placed on scale types or levels of three to zero (see Appendix B).

Errors are determined by the following conditions: (1) when a higher-ranked or scale typed student, such as a scale type nine, does not answer positively one of the later questions, such as the last question; (2) when one of the middle-scale typed students, such as a scale type five, answers positively a question he should not have (such as the first question; or (3) when he fails to answer positively a question he should have (such as the last question); and (4) when a lower scale type, such as scale type one, answers a question positively he should not have, such as the first

question. The errors associated with each student's scale type were totaled. This total was 427 errors.

The primary method of determining whether a scalogram measures a single dimension or variable is the Coefficient of Reproducibility (C.R.). The formula for determining the Coefficient of Reproducibility is the following:

$$C.\ R. = 1 - \frac{\text{number of errors}}{\text{number of questions X number of respondents}}.$$ [1]

Substituting the proper numbers within the formula results in the Coefficient of .889. To achieve unquestionable or ideal scaling and to know that the scale survey is dealing with only a single variable, it is believed by Stouffer and his colleagues that the Coefficient of Reproducibility should reach the .90 level.[2]

This circumstance of more than one variable existing in the minds of the students when they consider the term "vocational choice" is reinforced by another criterion of Scalogram Analysis: five or more consecutive subjects' giving incorrect responses on the same question. After the final arrangement by scalogram scores and frequency of positive answers, it is theoretically held that some factor other than vocational choice is being considered when five or more consecutive subjects give incorrect responses on the same question.[3] This condition occurs twice with this

---

[1] Stouffer and others, pp. 117-119.

[2] Ibid.

[3] Ibid.

research scalogram. Beginning with the 162nd student, five students answered question 2 positively when their answers should have been negative. Also, beginning with the 335th student, five students answered question 9 negatively when their answers should have been positive. Question 2 deals with the number of times the student has changed his vocational choice, while question 9 involves present need for vocational counseling. Variables which students may be considering when they think of vocational choice could be money, status, geographical location of work, military obligation, and marriage. Such variables as these might account for the high number of errors in the scale, for consecutive errors, and for the absence of "ideal" or "pure" unidimensionality.

Even though pure or theoretical unidimensionality has not been achieved, the scaling has permitted the identification of two extreme groups of college students regarding their vocational decidedness. The data concerning their self-conceptual measurements is presented in the next section.

Test of Hypothesis

Q-Sort composite scores.--The self-concepts of the decided and the undecided groups of Western State College students were measured by the Form III California Q-Sort found in Appendix C. The method used to score the Q-Sort so that a total or composite score could be obtained for each

student of the two groups has been explained in Chapter III. It may be recalled that a score represents the degree of positive evaluation that a student holds of himself. The higher the score, the more positive the self-evaluation or the self-concept that a student has of himself.

The total or composite score for each member is listed by group or section in Appendix E. Members of the experimental section and the control section have two composite scores because of before and after counseling Q-Sort measurements. Average scores by group and section are also shown in Appendix E.

The data presented in Appendix E provide the information needed to test statistically the hypothesis of this research. Table II summarizes the statistics of the group Q-Sort composite scores which are used for testing the hypothesis.

TABLE II

COMPOSITE Q-SORT SCORES OF THE SELF-CONCEPTS OF DECIDED AND UNDECIDED GROUPS

Mean Decided Group	Mean Undecided Group	*t* Value	Level of Significant Difference
359.1	342.9	3.102	.01

The hypothesis is as follows:

The developing and implementing of a self-concept is essential in the vocational-choice process of college students.

The data of Table II show that there is a significant difference at the .01 level between the Q-Sort composite mean scores of the two groups. The decided group has a higher positive self-concept as a group than does the undecided group. The developing and implementing of a positive self-concept do appear to be essential in the vocational-choice process of college students. Therefore, the hypothesis is accepted.

Fisher's t test for the difference between means is the statistical method used to analyze the data for the composite scores of the decided and undecided groups.[4] This t test is used, even though the sample is greater than thirty, because it is felt to be a more rigorous method of analysis.

Even though the t test of the means of the two groups is the major statistical comparison dealing with the self-concept composite scores, there are other composite score means to be subjected to the Fisher t test. These additional tests provide more insight into the role of the self-concept in the vocational-choice process, particularly the

---

[4] J. P. Guilford, Fundamental Statistics in Psychology and Education, 4th ed. (New York, 1965), pp. 183-184.

effect of vocational counseling upon the self-concept and the choice of a vocation.

Comparing the means of the composite self-concept scores of the experimental and control sections before counseling reveals an unusual circumstance.[5] Table III presents these statistics. The t value is 2.234 which indicates a

TABLE III

COMPOSITE Q-SORT SCORES OF THE SELF-CONCEPTS OF UNDECIDED STUDENTS, BY SECTIONS, BEFORE COUNSELING

Before Counseling			
Mean Experimental Section	Mean Control Section	t Value	Level of Significant Difference
351	336.7	2.234	.05

significant difference at the .05 level. Furthermore, the t test of the composite Q-Sort scores of the decided group and the experimental section before counseling reveals that there is no difference between these scores. It would appear that there is a likelihood that the group self-conceptual difference between the decided group and the undecided group comes from the students in the control section of the undecided group who did not desire the information and feedback accompanying vocational counseling. Of course, it is possible that the inclusion in the experimental section of part

[5]Block, The Q-Sort Method, p. 96.

or all of the ten students of the undecided group who withdrew from the study might have considerably lowered the before-counseling composite Q-Sort mean of the experimental section.

Table IV reveals the level of significant difference between the composite Q-Sort scores of the decided group and the control section.

TABLE IV

COMPOSITE Q-SORT SCORES OF THE SELF-CONCEPTS OF THE DECIDED GROUP AND THE CONTROL SECTION BEFORE COUNSELING

Before Counseling			
Mean Decided Group	Mean Control Section	*t* Value	Level of Significant Difference
359.1	336.7	3.384	.01

The effect of the independent variable, vocational counseling, upon the dependent variable, the self-concepts of the experimental section, was not significant according to the *t* test. The *t* test revealed no significant difference in the before and after-counseling mean composite scores of the experimental section. Vocational counseling does not appear to have influenced the positive composite score of the experimental group. Also, no significant difference was indicated for the before and after-counseling composite Q-Sort mean scores of the control section. Some outside factor or factors did, however, appear to influence

the dependent variable (the self-concepts) of the control section. The t test of the before-counseling mean composite scores of the experimental section and of the control section showed a significant difference at the .05 level. This significant difference between the two sections did not exist after counseling. Therefore, it would seem that some outside factor or factors influenced the self-concepts of the control section enough to bring it out of a significant difference with the experimental section before counseling to one of no difference after counseling. It may be assumed from this data outcome that a factor or factors--such as time, the experiences of college, or changes in personal situations--had a noticeable effect upon the positive self-conceptual outlook of the members of the control section.

Q-Sort item scores.--In addition to the composite Q-Sort scores, the statistical analysis of each of the seventy items of the Q-Sort serves as a major method of examining the self-conceptual differences between the decided group and the undecided group. According to Block, this analysis should not be omitted: "For each Q-item, the test of differences in item placement between the groups being compared must be done."[6] Again, the statistical test used is Fisher's t test.

---

[6] Ibid.

No alteration in the scoring was necessary for this item analysis. The usual forced-choice and limited-response framework was maintained. Thus the mean of the decided group's responses for the item "absent-minded" is compared to the mean of the undecided group's responses or to either section's responses for the same item using Fisher's t test. Comparisons of each of the other sixty-nine items of the Q-Sort are made between the decided and the undecided groups or to either the experimental or control sections. The decided group items were used as the standard in all of these item statistical comparisons.

Table V lists the items found to be significant different between the decided group and the other group or sections. The decided group versus the undecided group had fourteen significantly different items; the decided group versus the experimental section (pre-counseling) had six; the decided group versus the experimental section (post-counseling) had eight; the decided group versus the control section (pre-counseling) had sixteen; and the decided group versus the control section (post-counseling) had nine.

The decided group-undecided group item analysis appears to agree with the decided group-undecided group composite score analysis that the hypothesis should be accepted. Block was informed of the fourteen items which differentiated between the decided and undecided groups, and he commented:

TABLE V

SIGNIFICANT ADJECTIVES (.05) IN ITEM ANALYSIS OF CALIFORNIA Q-SORT COMPARING DECIDED GROUP ITEMS WITH UNDECIDED GROUP AND TWO SECTIONS

Undecided Group (14)	Experimental Section		Control Section	
	Pre-Counseling (6)	Post-Counseling (8)	Pre-Counseling (16)	Post-Counseling (9)
3. more ambitious			3. more ambitious	
			6. calmer	
9. more confident			9. more confident*	
14. more dependent		14. more dependent		
15. less disorderly*			15. less disorderly	15. less disorderly
16. less dissatisfied*		16. less dissatisfied	16. less dissatisfied	16. less dissatisfied
	22. less fair-minded*	22. less fair-minded		
23. more feminine				
24. less frank			24. less frank	
31. less impulsive				

TABLE V--Continued

Undecided Group (14)	Experimental Section		Control Section	
	Pre-Counseling (6)	Post-Counseling (8)	Pre-Counseling (16)	Post-Counseling (9)
			33. more versatile*	33. more versatile*
			36. less lazy	
	38. less persevering		38. more persevering	
41. less rebellious*	41. less rebellious		41. less rebellious	
			43. more reserved	43. more reserved*
44. less restless*	44. less restless	44. less restless	44. less restless*	
46. more poised*			46. more poised*	46. more poised*
				47. more self-controlled
			49. less selfish	
55. more sophisticated*		55. more sophisticated*	55. more sophisticated*	55. more sophisticated

TABLE V--Continued

Undecided Group (14)	Experimental Section		Control Section	
	Pre-Counseling (6)	Post-Counseling (8)	Pre-Counseling (16)	Post-Counseling (9)
		60. more touchy		
62. less uncon-ventional*	62. less uncon-ventional	62. less uncon-ventional*		62. less uncon-ventional
63. less undecided*	63. less undecided*	63. less undecided*	63. less undecided*	63. less undecided*

*Significant at .01 level.

> The Q-items that you list as distinguishing between your two groups of students impress me as having a coherent basis. . . . I am impressed by the sense of assurance and of identity that characterizes the individuals relatively certain about their vocational choices. They know what they want to do, they sense themselves as being able to do it, they see the world as providing the opportunities that they require. Individuals who are undecided about a vocation see the world as chaotic and unmanageable and themselves also in these terms.[7]

As with the composite score analysis, however, the large number of significantly different items in the undecided group appears to come from the control section, those students who did not choose to volunteer for vocational counseling. The experimental section before counseling had only six significantly different items, whereas the before-counseling control section had sixteen. Again, the impact of the ten students who withdrew from the project is a large unknown.

The effect of the independent variable, vocational counseling, upon the dependent variable, the self-concepts of the experimental section's members, does not appear consequential. One desirable and one negative item disappeared after counseling, but another desirable and three other negative items appeared in the post-counseling phase. Some unknown factor or factors seemed to be operative with the control section in reducing the significantly different items

---

[7]Letter from Jack Block, Professor of Psychology, University of California at Berkeley, May 7, 1951.

between the decided group and the control section from sixteen to nine. It is interesting to note that in May, 1971, regardless of the section, the counseling, the factors of four months time and additional college experience, the vocationally undecided students still looked at themselves as more dissatisfied, more restless, less sophisticated, more unconventional, and more undecided and confused than did the vocationally decided students.

Effect of Counseling on Vocational Decidedness of Experimental Section Members

Even though the self-concepts of those students in the experimental section do not appear to have been positively influenced by vocational counseling, the counseling appears to have been helpful from a practical standpoint. The students did indicate from a retaking of an abridged version of the Scalogram Analysis survey that they were more decided with respect to vocational-choice decisions and alternatives.

Members of the experimental and control sections completed questions 1 through 6 of the Scalogram Analysis survey after the counseling had ended. Appendix F identifies the scored outcome along with the December, 1970, responses of the decided group and the two sections to these six questions.

Fisher's t test was again used to test statistically any significant changes in the group or section mean data.

The experimental section's mean on undecidedness changed from 11.45 before counseling to 15.50 after counseling. This change is significant beyond the .01 level as shown in Table V.

TABLE VI

CHANGE IN DECIDEDNESS OF EXPERIMENTAL SECTION--SCALOGRAM ANALYSIS SCORES

Experimental Mean Before Counseling	Experimental Mean After Counseling	t Value	Level of Significant Difference
11.45	15.50	6.269	.01

The mean of the control section for these six questions changed from 10.77 before counseling to 12.27 at the end of the four-month counseling period. This is not a significant change at the .05 level. The counseling appears to have been of practical use to the students of the experimental section since they did improve their decidedness about a vocation. On the other hand, the counseling did not improve the decidedness of the experimental section to a level equal to that of the decided group. The mean of the decided group was significantly different at the .01 level from that of the experimental section after counseling. In any case, it appears that undecided students with high positive self-concepts can utilize practical information to become more decided about vocational choices. Likewise, it would seem

that students with low positive self-concepts are prevented from utilizing such practical information in order to become more decided. It is, therefore, reasonable to assume that students with low positive self-concepts must improve their self-concepts before they can become more decided about a vocational choice.

Additional data which support the concept that extremely undecided students may fall into two categories pertaining to vocational counseling are derived from questions 8, 9, and 10 of the Scalogram Analysis survey which determine the desire for counseling. Appendix G presents the December, 1970, scores of these three questions for the experimental and control sections. The Fisher t test reveals a significant difference at the .01 level between the means of these two sections. Those who composed the experimental section volunteered for the counseling. Those in the control section had the opportunity to volunteer for the counseling. The data revealed from the three questions indicate lower desire for counseling by the control section, those students with lower positive self-concepts. Those undecided students with high positive self-concepts volunteered and actively participated in vocational counseling. This information, as did that in the above paragraph, leads to the conclusion that extremely undecided students must have high positive self-concepts in order to utilize practical information involved with reaching a decision about a vocation. It is

also logical to reason from these data that extremely undecided students with low positive self-concepts cannot be helped by the vocational-counseling process in the uplifting of their low positive self-concepts because these students will not seek the assistance of counseling. The research implications of these findings are discussed in Chapter V.

Summary

The examination of the two extreme groups (identified by the Scalogram Analysis) with the California Q-Sort shows a significant difference in the two groups' self-concepts not only on a composite score basis but also through item analysis. These findings lead to the accepting of the hypothesis of this study. Several unusual circumstances affecting the hypothesis exist with additional findings. Undecided students who do not wish to receive vocational counseling feedback may contribute more to self-conceptual differences than undecided students who volunteer for counseling and who actively seek advisory help. Vocational counseling did not appear to develop and implement in a more positive way the self-concepts of the students in the experimental section. Some other factor or factors did appear to develop and implement in a positive way the self-concepts of the control section. The members of the control section were not, however, helped in a practical sense with their vocational choice since their undecidedness on a choice remained about the same, as measured by the Scalogram Analysis

survey. On the other hand, students who received counseling improved significantly in their decidedness about a vocational choice.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions of Research Regarding the Hypothesis

The results of the statistical analysis presented in Chapter IV are summarized in Table VII. The hypothesis of this research has been the following:

There is a significant difference between the self-concepts of decided and undecided students in relation to their choice of vocations. The developing and implementing of a self-concept is essential in the vocational choice process of college students.

This hypothesis is accepted in accordance with the findings presented in Table VII.

The principal conclusion of this research, considering its limitations, is compatible with Super's theory. For a college student the initial stage in the process of vocational choice is essentially that of developing and implementing a self-concept. This conclusion is supported by the statistical analysis of the group composite Q-Sort scores. The individual items Q-Sort data statistical analysis is also in concurrence with this conclusion. The composite Q-Sort scores show a significant difference between the self-concepts of the decided group of students and those of

TABLE VII

SUMMARY OF STATISTICAL FINDINGS OF RESEARCH

Statistic	Significant Difference		No Significant Difference
	.05	.01	
A. Group or Section composite Q-Sort scores			
1. Decided versus undecided		X	
2. Experimental versus control, both before counseling	X		
3. Decided versus experimental before counseling			X
4. Decided versus control before counseling		X	
5. Experimental before and after counseling			X
6. Control before and after Counseling			X
7. Experimental versus control after counseling			X
B. Abridged vocational decidedness scale scores			
1. Control before and after counseling			X
2. Experimental before and after counseling		X	
3. Decided versus experimental after counseling			X
C. Individual items of Q-Sort			
1. Decided versus undecided	6 items	8 items	56 items
2. Decided versus experimental before counseling	4 items	2 items	64 items
3. Decided versus experimental after counseling	5 items	3 items	62 items
4. Decided versus control before counseling	11 items	5 items	54 items
5. Decided versus control after counseling	5 items	4 items	61 items
6. Decided versus all sections of undecidedness	3 items	2 items	65 items

the undecided group. The individual Q-Sort items indicate the possibility that the two groups may differ on the basis of seven characteristics and that the two groups almost certainly differ from the standpoint of five self-conceptual items. An examination of Table V shows that at three stages or more of the research the decided students viewed themselves as being less disorderly, less dissatisfied, less rebellious, less restless, less unconventional, less undecided, and more sophisticated than the undecided students. At four stages or more, the decided students considered themselves less dissatisfied, less restless, less unconventional, less undecided, and more sophisticated than the undecided students. The frequency with which these characteristics appear suggests consistently significant differences, although only less undecided appears at all stages as differentiating between decided and undecided students.

The data in the composite Q-Sort scores sector had been expected to support the acceptance of the hypothesis in other ways. Specifically, it was anticipated that the experimental section of the undecided group would be significantly different from the decided group before counseling, that the experimental section would have increased their positive self-concepts after counseling, and that after counseling the experimental section would display a significant difference self-conceptually from the control section. With the individual Q-Sort items data, it was also expected

that before counseling the two sections of the undecided group would differ from the decided group on the basis of the same items.

As revealed by the analysis of the composite Q-Sort scores in Appendix E, the above expectations did not materialize; and, consequently, the following additional conclusions are offered:

General Conclusion 1

For the extremely undecided college student, developing and implementing of a self-concept occurs before the choosing of a vocation. The extremely undecided student can have as high a positive self-concept as that held by the extremely decided college student. The achieving of a high positive self-concept does not insure that a vocational choice will immediately occur for the college student. Rather the developing and implementing of a self-concept serves as a foundation from which a vocational choice may be reached.

The experimental section had positive self-concepts which were as high as the self-concepts of the decided group. This circumstance supports General Conclusion 1. It appears that the self-concept may be a hygienic or catalytic factor in the vocational-choice process. The college student presumably is not able to make a realistic choice of a vocation unless he has a high positive view of himself. The developing and implementing of the positive self-concept is the

fundamental or first stage in the vocational-choice process, but it is not the complete process itself.

General Conclusion 2

There are two stages to extreme vocational undecidedness: (a) low development and implementation of the positive self-concept and (b) high development and implementation of the positive self-concept.

The experimental section before counseling had significantly higher positive self-concepts than did the control section before counseling. In addition, the experimental section before counseling had fewer significantly different items from the decided group than the control section had before counseling (six as compared to sixteen). These circumstances lead to General Conclusion 2. This information tends to indicate a progression or evolution to high positive self-conceptual development and implementation for the extremely undecided student. It is possible that an extremely undecided student with a lower positive self-concept is prevented from objectively and positively placing himself in a vocational role. He is quite likely more intent on discovering what he can do well rather than how he will be able to actualize unknown positive abilities in a vocation.

In contrast, an extremely undecided student with a high positive self-concept is perhaps better able to view decidedly and optimistically possible vocational roles

fitting into what he has learned that he can do well. Such a student can receive practical information concerning vocations from a counselor, evaluate it, and become more decided about a choice. A high positive self-concept does not, however, necessarily result in a vocational choice. This upper stage of positive self-conceptual development for extremely undecided students may assist in explaining why some bright and successful students are undecided for a lengthy period, why Baird found no major differences between undecided and decided students, and why liberal arts graduates are able to wait several years before reaching a vocational choice.

General Conclusion 3

Vocational counselors need to recognize at which of the two stages of self-conceptual development and implementation the extremely undecided college student is in order to counsel effectively this type of student. The counselor's emphasis on self-conceptual aspects of vocational choice perhaps can be better employed when an extremely undecided student is at the lower stage of self-conceptual development and implementation; whereas for the extremely undecided student with a high self-conceptual development and implementation, the counseling can be more effective when directed at practical information about vocations.

This conclusion is an outcome of the results of the interaction of the independent variable (vocational

counseling) with the dependent variable (college students' self-concepts). The counseling process may not have been able to help the experimental group's positive composite Q-Sort score because it was already quite high. The counseling may have resulted in the experimental group's increasing the number of significantly different items with the decided group from six to eight. Consequently, at this higher level it may be wiser for the counseling process to avoid the complexities of the self-concept and concentrate on practical vocational information such as supply and demand factors, educational requirements, compensation, locations, advancement, and so forth. In this research project the counseling was able to help the experimental section in this area of vocational decidedness. Of course, with students from the lower positive self-conceptual level, the counseling process may need to concentrate on the uplifting of the student's positive self-evaluation. One possible difficulty in the counseling of the extremely undecided student who has a lower positive self-concept is his lack of desire for counseling.

General Conclusion 4

There is a noticeable effect of some outside factor or factors upon the self-concept development of the control section. Factors in normal college living act upon extremely undecided students who have lower positive self-concepts to

increase these lower self-concepts to a somewhat higher level.

The effect of some outside factor or factors on the self-concepts of the control section is indicated by the before and after counseling composite Q-Sort scores of the control section and by the number of significantly different items of the control section with the decided group before and after counseling. The composite score of the control section did move upward enough after counseling to result in the control section no longer being significantly different from the experimental section. The number of significant items between the control section and the decided group was reduced from sixteen to nine. This development and implementation of a somewhat more positive self-concept without counseling is significant in light of the finding that extremely undecided students with lower positive self-concepts did not generally desire vocational counseling. The development and implementation of higher self-concepts which take place in the daily environment of the college student are beyond the control of the counselor. But the counselor can perhaps identify which other individuals (such as parents, friends, teachers) and activities (such as academics, sports, other extracurricular functions) are serving to help the student increase his positive self-evaluation. The counselor can then perhaps assist these other individuals

in their role of uplifting the student's positive view of himself.

Super's theory is supported by this research and by the above conclusions. There are, however, two unique aspects to the findings of this research in relation to his theory: (1) there are two levels of self-conceptual development and implementation of extremely undecided college students and (2) the role of vocational counseling may have to be varied according to the level of positive self-conceptual development and implementation of the extremely undecided student. These unique aspects add further understanding to Super's theoretical formulations and provide empirical evidence for their validation.

Recommendations for Future Research

The usefulness of the information developed with this study can be more readily recognized if it is verified through other research with varying objectives. The research design of this study is felt to be unique in that Scalogram Analysis enables the investigator to view clearly and empirically noticeable differences between the vocationally decided and undecided. This technique of Scalogram Analysis is earnestly recommended to future researchers studying the role of the self-concept in the vocational choice process.

Recommendations for specific future research fall into three areas: (1) research dealing with the study of the

self-concept in the vocational choice process, (2) research by clinical psychologists to determine the meaning of the item differences between decided and undecided students, and (3) research concerned with vocational counseling.

In the first area, research is felt to be needed concerning the role of the self-concept in the vocational-choice process which will bring together not only the research design of Englander, Blocher, and Schutz and others dealing with specific vocations but also the design of this research involving the extremes of vocational decidedness. With such a research design, the self-concept of the undecided student can be viewed in the undecided stage, observed in the decided stage, and compared to those who have previously chosen that specific vocation. For example, a student who is undecided about a vocational choice is measured by a self-concept instrument, is measured again when he decides on a vocation, and is compared self-conceptually with those in the vocation he has selected. In this way the role of the self-concept in the vocational choice process can be known or understood for specific vocations.

Other recommendations for research in this area include (1) the duplication of this research on other college campuses and at the high school level, (2) research of a longitudinal nature which could follow for several years the development and implementation of the self-concepts of students in relation to the vocational-choice process, and

(3) the use in the above recommended studies of self-conceptual measuring instruments which give more complete descriptions of the self-evaluations of students.

In the area dealing with clinical research, it is suggested that psychologists investigate the meaning and the significance of the item differences between highly decided and highly undecided students. In this research project, variations in the differences in Q-Sort items occurred at several points. The meaning of these various differences and the reasons for their variation appear to fall into the research purview of the clinical psychologist.

Several recommendations arise concerning the third area of counseling. First, studies are needed to examine the extent to which counseling, using practical information, can move extremely undecided subjects toward the decidedness level of extremely decided subjects. Counseling did result in significant movement for the experimental group on the Scalogram survey of this research. Perhaps, counseling of greater duration could cause movement to the same level of the highly decided students. Second, studies are also needed to examine the differences, including self-conceptual, of extremely undecided subjects who desire counseling and those who do not. Such studies could verify the existence of two (or more) types of undecidedness as indicated in this current research. Last, studies are needed to determine the degree to which vocational counselors are able to alter in a

positive way the self-concepts of the vocationally undecided. It has been found that the positive communication between parents and a child concerning the ability of the child resulted in a significant increase in the child's self-perception of his ability, whereas communication from experts and counselors did not have a significant effect.[1] Williams and Cole suggest that communication from a peer group may also have a positive effect upon a person's self-concept.[2] The question of whether counseling communication (on such a topic as self-concept) might be effective may hinge on the trust, confidence, acceptance, warmth, and empathy between those communicating.[3] These conditions of trust and empathy are established perhaps more easily with parents and peer groups than with experts and counselors. This situation could possibly explain why the control group of this experiment made positive self-conceptual improvement but the experimental group did not.

---

[1]Robert L. Williams and Spurgeon Cole, "Self-Concept and School Adjustment," Personnel and Guidance Journal, XLVI (January, 1968), 479, citing W. B. Brookover and others, "Self-Concept of Ability and School Achievement," paper read before the Sixth World Congress of International Sociological Association, Evian, France, September, 1966.

[2]Williams and Cole, "Self-Concept and School Adjustment," p. 479.

[3]Carl R. Rogers is one of the leading theoreticians concerning this approach to counseling communication. See Carl R. Rogers, Client-Centered Therapy: Its Current Practice, Implications, and Theory (Boston, 1951).

Summary

The hypothesis of this research that there is a significant difference between the self-concepts of decided and undecided students in relation to their choice of vocations and, consequently, that the developing and implementing of a self-concept is essential to the vocational-choice process of college students is accepted. Super's theory on vocational choice is supported.

Other conclusions are these: (1) developing and implementing a high positive self-concept occurs before the choosing of a vocation and serves as a foundation for the making of that choice; (2) there are two stages to extreme vocational undecidedness of lower positive self-concept and higher positive self-concept; (3) vocational counselors need to be aware of the level of positive self-evaluation of undecided students; and (4) some outside factor or factors other than counseling affect the lower positive self-concepts of undecided students.

APPENDIX A

SCALOGRAM ANALYSIS SURVEY

Name: Date:
Age: College Address:
Major:
College Level: Home Address:

Check the answer of each question which is most applicable to you.

1. Concerning a choice of vocation, what kind of decision have you made?

   ___(a) Definitely know what you want to do.
   ___(b) You have narrowed the field down to two or three vocations.
   ___(c) Have an interest in several vocations at this time.
   ___(d) You are not sure of what you want to do.

2. How many times have you changed your mind about a career or vocation after you felt you had made a serious choice?

   ___(a) None.
   ___(b) Once.
   ___(c) Two or three.
   ___(d) More than three.

3. When were your present vocational or career plans made?

   ___(a) Junior High School.
   ___(b) High School.
   ___(c) Since coming to college.
   ___(d) Still undecided.

4. What kind of analysis have you made about your vocational talents, abilities, or aptitudes?

   ___(a) You are very aware of your vocational aptitudes.
   ___(b) You are fairly certain of what vocational aptitudes you possess.
   ___(c) You have some idea about your vocational abilities.
   ___(d) You have not given it too much consideration.

5. To what extent have you identified your interest or enthusiasm for particular vocational fields?

___(a) Know precisely where your interests lie.
___(b) Fairly certain about your interests.
___(c) Have some idea of your interests.
___(d) Really have not thought about it too much.

6. What kind of evaluation have you made of your personality and how it will be suited to a particular vocation?

___(a) Have made a thorough evaluation.
___(b) Have given it a good deal of thought.
___(c) Have considered it slightly.
___(d) Have not thought about it at all.

7. To what degree do you feel that others, such as parents or teachers, have aided you in reaching a clear decision about a vocational choice?

___(a) Extensively.
___(b) Moderately.
___(c) Very little.
___(d) None.

8. What do you feel has been your past need for vocational and career counseling?

___(a) None.
___(b) Little.
___(c) Some.
___(d) Moderate.
___(e) Great.

9. What do you feel is your present need for vocational and career counseling?

___(a) None.
___(b) Little.
___(c) Some.
___(d) Moderate.
___(e) Great.

10. If given the opportunity to be counseled by a trained counselor concerning your vocational choice, would you undertake such counseling?

___(a) No possibility.
___(b) A slight chance.
___(c) A strong likelihood.
___(d) Definitely would.

APPENDIX B

SCALOGRAM FINAL ARRANGEMENT, WESTERN STATE COLLEGE STUDENTS, 1970-1971

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
35	1	X	X	X	X	X	X	X	X	X	X	10	0
35	2	X	X	X	-	X	X	X	X	X	X	10	1
35	3	X	X	X	X	X	X	X	X	X	X	10	0
34	4	X	X	X	-	X	X	X	X	X	X	10	1
34	5	-	X	X	X	X	X	X	X	X	X	9	0
33	6	-	X	X	X	X	X	X	X	X	X	9	0
33	7	-	X	X	X	X	X	X	X	X	X	9	0
33	8	X	X	X	X	X	X	X	X	X	X	10	0
33	9	-	-	X	X	X	X	X	X	X	X	8	0
33	10	-	X	X	X	X	X	X	X	X	X	9	0
33	11	X	X	X	-	X	X	X	X	X	X	10	1
33	12	-	-	X	X	X	X	X	X	X	X	8	0
33	13	X	X	X	-	X	X	X	X	X	X	10	1
32	14	X	X	X	X	X	X	X	X	X	X	10	0
32	15	-	X	X	X	X	X	X	X	X	X	9	0
32	16	X	X	X	X	X	X	X	X	X	X	10	0
32	17	-	-	X	X	X	X	X	X	X	X	8	0
32	18	X	X	X	X	X	X	X	X	X	X	10	0
32	19	-	-	X	-	X	X	X	X	X	X	6	1
32	20	-	X	X	X	X	X	X	X	X	X	9	0
32	21	-	X	X	X	-	X	X	X	X	X	9	1
32	22	X	X	X	X	X	X	X	X	X	X	10	0
32	23	-	X	X	X	X	X	X	X	X	X	9	0
32	24	X	X	X	-	X	X	X	X	X	X	10	1
32	25	-	X	X	X	X	X	-	X	X	X	9	1
32	26	-	-	X	X	X	X	X	X	X	X	8	0
32	27	-	-	X	-	X	X	X	X	X	X	6	1
31	28	X	-	X	X	X	X	X	X	X	X	8	1
31	29	X	X	X	X	X	X	X	X	X	X	10	0
31	30	X	X	X	-	X	X	X	X	X	X	10	1
31	31	-	X	X	-	X	X	X	X	X	X	9	1
31	32	X	X	-	X	X	X	X	X	X	X	10	1
31	33	-	-	X	-	X	X	X	X	X	X	6	1
31	34	-	-	X	X	X	X	X	X	X	X	8	0
31	35	-	-	X	X	X	X	X	X	X	X	8	0

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
31	36	-	-	X	X	X	X	X	X	X	X	8	0
31	37	-	X	X	-	X	X	X	X	X	X	9	1
31	38	-	X	X	-	X	X	X	X	X	X	9	1
31	39	X	X	X	X	X	X	X	X	X	X	10	0
30	40	-	X	X	X	X	X	X	X	X	X	9	0
30	41	-	-	X	-	X	X	X	X	X	X	6	1
30	42	-	-	X	X	-	X	X	X	X	X	8	1
30	43	-	-	X	X	X	X	X	X	X	X	8	0
30	44	-	-	X	-	X	X	X	X	X	X	6	1
30	45	X	X	X	-	X	X	X	X	-	X	10	2
30	46	-	X	X	X	X	X	X	X	-	X	9	1
30	47	-	-	X	X	X	X	X	X	X	X	8	0
30	48	X	X	X	-	X	X	X	X	X	X	10	1
30	49	X	-	X	X	X	X	X	X	X	X	8	1
30	50	-	X	X	X	X	X	X	X	X	X	9	0
30	51	-	-	X	-	X	X	X	X	X	X	6	1
30	52	-	-	-	X	X	X	X	X	X	X	7	0
30	53	X	X	X	-	X	X	X	X	X	X	10	1
30	54	-	X	X	X	X	X	X	X	X	-	9	1
30	55	X	-	X	X	X	X	X	X	X	X	8	1
30	56	-	-	X	X	X	X	X	X	X	X	8	0
30	57	X	-	X	-	X	X	X	X	X	X	6	2
30	58	-	-	X	X	X	X	X	X	X	X	8	0
30	59	X	X	X	-	X	X	X	X	X	X	10	1
30	60	-	-	X	X	X	X	X	X	X	X	8	0
30	61	-	-	X	-	X	X	X	X	X	X	6	1
30	62	X	X	X	-	X	X	X	X	X	X	10	1
29	63	-	X	X	X	X	X	X	X	X	X	9	0
29	64	-	X	X	X	X	X	X	X	X	X	9	0
29	65	-	X	X	-	X	X	X	X	X	X	6	2
29	66	X	X	-	X	-	X	X	X	X	X	10	2
29	67	-	X	X	X	X	X	X	X	X	X	9	0
29	68	X	-	X	X	X	X	X	X	X	X	8	1
29	69	-	X	X	X	X	X	X	X	X	X	9	0
29	70	-	-	X	X	X	X	X	X	X	X	8	0
29	71	-	-	X	X	X	X	X	X	X	X	8	0
29	72	-	-	X	X	X	X	X	X	X	X	8	0
29	73	X	X	-	-	X	X	X	X	X	X	6	2
29	74	X	X	X	X	X	X	-	X	-	X	10	2
29	75	X	X	-	X	X	X	X	X	X	X	10	1
29	76	-	X	X	X	-	X	X	X	X	X	9	1
29	77	-	-	X	X	X	X	X	X	X	X	8	0

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
29	77	-	-	X	X	X	X	X	X	X	X	8	0
29	78	X	-	X	X	X	X	X	X	X	X	8	1
29	79	-	-	X	X	X	X	X	X	X	-	8	1
29	80	-	X	X	X	-	X	X	X	X	X	9	1
29	81	X	X	X	-	X	X	X	X	X	X	10	1
29	82	X	X	X	-	X	X	X	X	-	X	10	2
29	83	-	-	X	X	X	X	X	X	X	X	8	0
29	84	-	-	X	X	X	X	X	X	X	X	8	0
29	85	-	X	X	-	-	X	X	X	X	X	5	2
29	86	-	X	X	X	X	X	X	X	X	X	9	0
29	87	-	X	X	-	-	X	X	X	X	X	5	2
29	88	-	X	X	-	X	X	X	X	X	X	9	1
29	89	-	X	X	-	X	X	X	X	X	X	9	1
28	90	-	-	X	X	-	X	X	X	-	X	8	2
28	91	-	-	-	X	X	X	X	X	X	X	7	0
28	92	-	-	X	X	X	X	X	X	X	X	8	0
28	93	X	-	X	X	X	X	X	X	X	X	8	1
28	94	-	-	X	-	X	X	X	X	X	X	8	1
28	95	X	X	X	-	X	X	X	X	-	X	10	2
28	96	-	-	X	X	X	X	X	X	X	X	8	0
28	97	-	-	-	X	X	X	X	X	X	X	7	0
28	98	-	X	X	-	X	X	X	X	X	X	9	1
28	99	-	X	-	X	X	X	X	X	X	X	7	1
28	100	-	-	X	X	X	X	X	X	X	X	8	0
28	101	-	-	X	X	X	X	X	X	X	X	8	0
28	102	X	X	X	X	X	X	X	X	X	X	10	0
28	103	-	-	-	X	X	X	X	X	X	X	7	0
28	104	-	X	-	X	X	X	X	X	X	X	7	1
28	105	-	-	X	-	X	X	X	X	X	X	6	1
28	106	-	-	-	X	X	X	X	X	X	X	7	0
28	107	-	X	X	-	X	X	X	X	-	X	9	2
28	108	-	-	X	X	X	X	X	X	X	X	8	0
28	109	-	-	X	-	X	X	X	X	X	X	6	1
28	110	-	-	X	X	X	X	X	X	X	X	8	0
28	111	-	-	X	X	X	X	X	X	X	X	8	0
28	112	X	-	X	-	X	X	X	X	X	X	6	2
28	113	-	-	X	X	X	X	X	X	X	-	8	1
28	114	-	-	-	X	X	X	X	X	X	X	7	0
28	115	-	-	X	-	X	X	X	X	X	X	6	1
28	116	X	X	X	-	-	-	X	X	X	X	4	3
28	117	-	-	X	-	X	X	X	X	X	X	6	1
28	118	-	-	X	X	X	X	X	X	X	X	8	0

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
28	119	-	-	X	X	X	X	X	X	X	X	8	0
28	120	-	-	X	X	X	X	X	X	X	X	8	0
28	121	-	-	X	X	X	X	X	X	X	X	8	0
28	122	-	-	X	-	X	X	X	X	X	X	6	1
28	123	-	-	X	X	X	X	X	X	X	X	8	0
28	124	-	-	X	X	-	X	X	X	X	X	8	1
28	125	-	-	-	X	X	X	X	X	X	X	7	0
28	126	-	X	-	X	X	X	X	X	X	X	7	1
28	127	-	-	X	X	X	X	X	X	X	-	8	1
27	128	-	X	-	-	X	X	X	X	X	X	6	1
27	129	-	X	X	-	-	X	-	X	X	X	5	3
27	130	-	X	X	X	X	X	-	X	-	X	9	2
27	131	-	-	-	-	X	X	X	X	X	X	6	0
27	132	-	X	X	-	X	X	X	X	X	X	9	1
27	133	X	X	-	-	X	X	X	X	-	X	6	3
27	134	X	-	X	X	X	X	X	X	X	X	8	1
27	135	-	-	X	X	X	X	X	X	X	X	8	0
27	136	-	-	X	X	X	X	X	X	X	X	8	0
27	137	-	-	X	-	X	X	X	X	X	X	6	1
27	138	-	-	X	X	X	X	X	X	X	-	8	1
27	139	-	-	X	X	-	X	X	X	X	-	5	3
27	140	-	-	X	X	X	X	X	X	X	X	8	0
27	141	X	X	-	X	X	X	-	X	X	X	10	2
27	142	-	-	X	X	X	X	X	X	X	X	8	0
27	143	-	-	X	-	X	X	X	X	X	X	6	1
27	144	-	-	X	-	-	X	X	X	X	X	5	1
27	145	-	-	-	X	X	X	X	X	X	X	7	0
27	146	-	-	X	X	X	X	X	X	X	X	8	0
27	147	-	-	X	X	X	X	X	X	X	X	8	0
26	148	-	-	-	X	X	X	X	X	X	X	7	0
26	149	-	-	X	X	-	X	X	X	X	X	8	1
26	150	-	X	X	-	X	X	X	X	X	X	9	1
26	151	-	-	-	-	X	X	X	X	X	X	6	0
26	152	-	-	-	X	X	X	X	X	X	X	7	0
26	153	-	-	-	X	X	X	-	X	X	X	7	1
26	154	X	-	-	X	X	X	X	X	X	X	7	1
26	155	-	-	X	X	X	X	X	X	X	-	8	1
26	156	-	-	-	-	X	X	X	X	X	X	6	0
26	157	-	-	X	X	-	X	X	X	X	X	8	1
26	158	-	X	X	-	-	X	X	X	X	X	5	2
26	159	-	-	X	X	X	X	X	X	X	X	8	0
26	160	-	X	X	-	-	X	X	X	-	X	5	3

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
26	161	-	X	-	-	X	X	X	X	X	X	6	1
26	162	X	-	X	-	X	X	X	X	X	X	6	2
26	163	-	-	X	-	X	X	X	X	-	X	6	2
26	164	-	-	X	-	X	X	X	X	X	X	6	1
26	165	-	-	X	-	X	X	X	X	X	X	6	1
26	166	-	-	X	-	X	X	X	X	X	X	6	1
26	167	-	X	X	-	X	X	X	X	X	X	9	1
26	168	X	X	-	-	X	X	-	-	X	X	6	4
25	169	-	-	-	-	X	X	X	X	X	X	6	0
25	170	-	-	X	X	X	X	X	X	X	X	8	0
25	171	-	-	X	-	X	X	X	X	-	X	6	2
25	172	-	-	X	-	X	X	X	X	X	X	6	1
25	173	-	-	X	X	X	X	X	X	X	-	8	1
25	174	X	-	X	X	X	X	X	X	-	X	8	2
25	175	X	X	X	-	X	X	-	X	X	-	10	3
25	176	X	-	X	X	X	X	X	X	-	X	8	2
25	177	-	-	X	X	X	X	X	X	X	-	8	1
25	178	-	-	X	X	X	X	-	X	X	-	8	2
25	179	-	-	X	X	-	X	X	X	X	X	8	1
25	180	-	-	-	X	X	X	X	X	X	X	7	0
25	181	-	-	-	X	X	X	X	X	X	X	7	0
25	182	-	-	X	-	X	X	X	X	X	X	6	1
25	183	-	X	X	-	X	X	X	X	-	X	9	2
25	184	-	X	-	-	-	X	X	X	X	X	5	1
25	185	X	-	-	X	X	X	X	X	-	X	7	2
25	186	-	-	-	X	X	X	X	X	X	X	7	0
25	187	-	-	-	X	X	X	X	X	X	X	7	0
25	188	-	-	X	-	X	X	X	X	X	-	6	2
25	189	-	-	-	-	X	X	X	X	X	X	6	0
25	190	-	-	X	-	X	X	X	X	X	X	6	1
25	191	-	-	X	X	X	X	X	X	X	X	8	0
25	192	-	-	X	X	-	X	X	X	X	X	8	1
25	193	-	-	-	X	X	X	X	X	X	X	7	0
25	194	-	-	X	-	X	X	X	X	X	X	6	1
24	195	-	X	X	-	-	X	X	X	X	X	5	2
24	196	-	-	-	X	X	X	X	X	X	X	7	0
24	197	-	-	X	-	-	-	X	X	X	X	4	1
24	198	-	X	X	-	-	X	-	X	X	X	5	3
24	199	-	-	-	X	X	-	X	X	X	X	7	1
24	200	-	-	-	X	X	-	-	X	X	X	7	2
24	201	X	X	-	-	X	X	X	X	-	X	6	3
24	202	-	-	X	X	-	X	X	X	X	X	8	1

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
24	203	-	-	X	-	X	X	X	X	X	X	6	1
24	204	-	-	-	X	X	X	X	X	X	-	7	1
24	205	-	-	X	-	X	X	X	X	X	X	6	1
24	206	-	-	-	-	X	X	X	X	X	X	6	0
24	207	-	-	X	X	X	X	X	X	X	-	8	1
24	208	-	X	-	X	-	X	X	X	-	X	5	3
24	209	-	X	-	-	X	-	-	-	X	X	2	2
24	210	-	-	X	-	X	X	X	X	X	X	6	1
24	211	-	X	-	X	-	-	X	X	X	X	4	2
24	212	-	-	X	X	X	X	X	X	X	-	8	1
24	213	-	-	X	X	X	X	X	X	X	-	8	1
24	214	-	-	X	X	X	X	X	X	-	-	8	2
24	215	-	-	-	-	X	X	X	X	X	X	6	0
24	216	X	-	X	X	X	-	X	X	-	X	8	3
24	217	-	-	-	X	X	X	X	X	X	X	7	0
24	218	-	X	X	X	X	X	X	-	X	X	9	1
24	219	-	X	-	X	X	X	-	-	X	X	7	3
23	220	-	-	-	-	-	X	X	X	X	X	5	0
23	221	-	-	-	-	X	X	X	X	X	X	6	0
23	222	-	X	-	-	-	-	X	X	-	X	4	2
23	223	X	-	-	-	X	-	-	X	X	X	3	2
23	224	-	-	-	X	X	-	X	X	X	X	7	1
23	225	-	-	X	X	X	X	-	X	X	-	8	2
23	226	-	-	X	-	X	X	X	-	-	X	6	3
23	227	-	-	-	X	X	X	X	X	X	-	7	1
23	228	-	-	-	X	X	X	-	X	X	X	7	1
23	229	-	-	-	X	X	X	X	X	X	X	7	0
23	230	-	-	X	X	-	X	X	X	X	-	8	2
23	231	-	-	X	-	-	X	X	X	X	X	5	1
23	232	-	-	-	X	X	-	-	-	X	X	2	2
23	233	-	-	-	X	-	X	X	X	X	X	5	1
23	234	-	-	-	X	X	X	X	X	X	X	7	0
23	235	-	-	-	X	-	X	-	X	X	X	5	2
23	236	-	-	-	X	-	X	X	X	-	X	5	2
23	237	-	-	-	X	X	X	X	X	-	-	7	2
23	238	-	-	X	-	X	X	X	X	X	X	6	1
23	239	-	-	X	-	X	X	X	X	X	-	6	2
23	240	-	X	X	-	-	X	X	X	X	-	5	3
23	241	-	X	-	-	X	X	-	-	X	X	6	3
23	242	-	-	-	X	X	X	X	X	X	-	7	1
23	243	-	-	-	-	X	X	-	X	X	X	6	1
23	244	-	-	X	X	X	X	-	X	X	X	8	1

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
23	245	-	-	-	X	X	X	-	-	X	X	7	2
22	246	-	-	-	-	X	X	X	X	X	-	6	1
22	247	-	-	X	-	-	X	X	X	X	X	5	1
22	248	-	-	X	X	-	-	-	X	X	X	3	2
22	249	-	-	X	X	-	-	-	X	X	X	3	2
22	250	-	-	X	-	-	X	X	X	X	X	5	1
22	251	-	X	-	-	X	X	X	X	-	-	6	3
22	252	-	X	-	-	-	-	-	X	X	X	3	1
22	253	-	-	-	-	X	X	X	X	X	X	6	0
22	254	-	-	-	-	-	X	-	X	-	X	5	2
22	255	-	-	-	-	X	X	X	X	-	X	6	1
22	256	-	-	X	-	X	-	X	X	X	X	4	2
22	257	X	-	-	-	X	X	-	-	X	X	6	3
22	258	-	-	X	-	-	X	X	X	X	X	5	1
22	259	-	-	-	X	X	X	-	X	X	X	7	1
22	260	-	-	-	X	X	-	-	X	X	X	3	2
22	261	-	-	-	-	X	X	X	X	X	X	6	0
22	262	-	-	-	X	X	X	X	X	X	X	7	0
22	263	-	-	-	-	X	X	X	X	X	X	6	0
22	264	X	-	-	X	-	X	X	X	-	X	5	3
22	265	-	-	-	-	-	X	X	X	X	X	5	0
22	266	X	X	-	-	-	X	-	-	-	X	1	3
21	267	-	-	X	X	-	-	X	X	-	-	4	4
21	268	-	-	-	X	X	X	-	-	X	X	7	2
21	269	-	-	X	-	X	X	-	X	X	X	6	2
21	270	-	-	-	X	-	X	X	X	-	X	5	2
21	271	-	X	-	-	X	X	-	-	-	X	1	3
21	272	-	-	-	X	-	X	X	X	-	X	5	2
21	273	-	-	-	-	X	X	-	-	X	X	6	2
21	274	-	-	-	X	X	-	-	X	X	X	3	2
21	275	-	-	X	-	-	-	-	X	-	X	3	2
21	276	-	-	-	-	-	X	X	X	X	-	5	1
21	277	-	X	-	-	X	X	-	-	X	-	6	4
21	278	-	-	-	X	-	X	X	X	X	-	5	2
21	279	-	-	-	X	-	-	X	X	-	-	4	3
21	280	-	-	-	-	X	X	X	X	X	X	6	0
21	281	-	X	-	-	-	-	X	X	X	X	4	1
21	282	-	-	X	-	-	X	X	X	X	X	5	1
21	283	-	X	-	-	-	-	-	-	X	X	2	1
20	284	X	-	-	-	-	-	-	-	X	X	2	1
20	285	-	X	X	-	-	-	-	-	X	X	2	2
20	286	-	-	X	X	-	-	-	X	-	X	3	3

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
20	287	-	-	-	-	X	X	-	-	X	-	6	3
20	288	-	X	-	-	-	-	-	-	-	X	1	1
20	289	-	-	-	X	-	X	X	X	-	-	5	3
20	290	-	-	X	-	-	-	X	X	-	X	4	2
20	291	-	-	-	X	X	X	-	-	X	X	7	2
20	292	-	-	-	-	X	X	X	X	-	X	6	1
20	293	-	X	-	X	-	-	-	X	-	-	0	3
20	294	-	X	-	X	-	-	-	-	-	X	1	2
20	295	-	-	-	X	X	X	-	-	X	X	7	2
20	296	-	-	-	-	X	-	X	X	X	-	4	2
20	297	-	-	-	X	-	X	-	X	X	-	5	3
20	298	-	-	X	X	-	X	-	-	-	X	1	3
20	299	-	-	X	X	-	-	-	X	X	-	3	3
20	300	-	-	X	-	X	X	X	X	X	-	6	2
20	301	-	-	-	-	X	X	X	X	X	-	6	1
20	302	-	-	X	-	-	X	X	X	X	-	5	2
20	303	-	-	-	-	X	-	-	X	-	X	3	2
20	304	-	-	-	-	X	X	-	-	X	X	6	2
19	305	-	-	-	X	X	-	-	-	X	X	2	2
19	306	-	X	-	-	-	-	-	-	X	X	2	1
19	307	-	-	-	X	-	-	X	X	X	X	4	1
19	308	-	-	-	-	X	-	-	-	X	X	2	1
19	309	-	-	-	-	X	-	-	-	X	X	2	1
19	310	-	-	-	-	X	-	-	X	X	-	3	2
19	311	-	X	-	-	X	-	-	-	X	-	2	3
19	312	-	-	-	-	-	-	-	X	X	-	3	1
19	313	-	-	-	-	-	X	-	-	X	X	2	1
19	314	-	-	-	X	-	-	X	X	X	-	4	2
19	315	-	-	-	X	-	-	-	X	X	X	3	1
19	316	X	-	X	-	-	X	-	-	-	X	1	3
19	317	-	-	-	X	-	X	-	-	X	X	2	2
19	318	-	-	-	X	-	-	-	-	X	X	2	1
19	319	-	-	-	-	X	X	-	X	-	X	6	2
19	320	-	-	-	X	-	-	-	-	X	X	2	1
19	321	-	X	-	-	X	X	-	-	-	-	0	3
18	322	-	-	-	X	-	-	-	X	X	-	3	2
18	323	-	-	-	-	-	-	-	X	X	X	3	0
18	324	-	-	-	-	X	X	-	X	-	-	0	3
18	325	-	-	-	X	X	-	-	-	X	-	2	3
18	326	-	-	-	-	X	-	-	-	-	X	1	1
18	327	-	-	-	-	-	-	-	-	X	X	2	0
18	328	-	X	-	-	-	-	-	-	-	X	1	1
18	329	-	-	X	X	-	-	-	X	-	X	3	3

APPENDIX B--Continued

Score	Student	10ab	8ab	2ab	7ab	4ab	5ab	1ab	3abc	6ab	9abcd	Scale Type	Errors
18	330	X	-	-	-	-	-	-	X	X	X	3	1
18	331	-	-	X	-	-	-	X	X	-	-	4	3
17	332	X	-	-	-	-	-	-	-	-	X	1	1
17	333	-	-	X	-	-	-	-	-	X	X	2	1
17	334	-	-	-	X	-	X	X	-	-	-	0	3
17	335	-	-	-	X	-	-	-	-	X	-	2	2
17	336	-	-	-	-	-	-	-	-	X	-	2	1
17	337	-	-	X	X	-	-	-	-	X	-	2	3
17	338	-	-	-	X	X	X	-	-	X	-	7	3
17	339	-	-	-	-	-	X	-	-	X	-	2	2
17	340	X	X	-	-	-	-	-	-	-	X	1	2
17	341	-	-	-	-	X	-	-	-	X	-	2	2
17	342	-	-	-	-	-	X	-	-	-	X	1	1
17	343	X	X	-	-	-	-	-	-	-	X	1	2
17	344	-	-	-	-	-	-	-	X	X	-	3	1
17	345	-	-	-	-	-	-	X	-	X	-	4	2
16	346	-	-	-	X	-	X	-	-	X	-	2	3
16	347	-	X	-	-	-	-	-	-	-	-	0	1
16	348	-	-	-	-	-	-	-	-	X	X	2	0
16	349	-	-	-	-	-	X	-	-	-	X	1	1
16	350	-	-	-	X	-	-	-	-	X	-	2	2
16	351	-	-	-	X	-	-	-	-	-	X	1	1
16	352	-	-	-	-	X	-	-	-	X	-	2	2
16	353	-	-	-	-	-	-	-	X	-	X	3	1
16	354	-	-	-	-	-	-	-	-	X	X	2	0
15	355	-	-	-	-	-	-	-	X	-	-	0	1
15	356	-	X	-	-	-	-	-	-	X	-	2	2
15	357	-	-	-	-	X	-	-	-	-	-	0	1
15	358	-	-	-	-	-	-	-	-	X	-	2	1
15	359	-	-	-	-	-	-	-	-	X	X	2	0
15	360	-	-	-	-	-	-	-	-	-	X	1	0
15	361	-	-	-	-	-	-	-	-	X	-	2	1
15	362	-	-	-	-	-	X	-	-	-	X	1	1
14	363	-	-	-	-	-	-	-	-	X	-	2	1
13	364	-	-	-	-	-	-	-	-	-	-	0	0
13	365	-	-	-	-	-	-	-	-	X	-	2	1
13	366	-	-	-	-	-	X	-	-	X	-	2	2
13	367	-	-	-	-	-	-	-	-	X	-	2	1
12	368	-	-	-	-	-	-	-	-	-	-	0	0
Total													427

APPENDIX C

BLOCK'S FORM III 70-ITEM CALIFORNIA Q-SORT

In this exercise you are asked to describe yourself as you honestly see yourself. You do this by using the adjectives found on the page following these instructions. Please read the instructions through several times because it is very important that the procedure be followed in detail.

Look through the list of 70 adjectives and notice that a good many of them are descriptive of you, to a greater or lesser degree. Some of the adjectives are quite undescriptive of you and are even the opposite of the way you see yourself. Your task is to indicate the various degrees with which each adjective describes you.

As a first step, look through the list and then pick out the ten adjectives or phrases you feel are most characteristic or descriptive of you. Put the number "7" in front of these words. Now, look through the list again and pick out the ten words which you feel are quite characteristic of you (excluding from consideration those words by which you have already placed the number "7"). Write the number "6" in front of these words. Now of those words that remain, pick out the ten adjectives that you feel are fairly descriptive of you and place the number "5" in front of them.

Now work from the opposite end toward the middle. Of those words not yet numbered, pick out the ten adjectives that are most uncharacteristic of you and give them the number "1". Pick out the ten adjectives that you feel are quite uncharacteristic of you and give them the number "2." Now choose the ten adjectives fairly uncharacteristic of you and give them the number "3."

As a check, count the words that still have no numbers. If the total is ten then you have followed the procedure properly. If the total is different, then a mistake has been made and you must check to see if you have ten words numbered "7," ten "6's," ten "5's," ten "3's," ten "2's," and ten "1's." If you are correct, place the number "4" in front of the ten remaining words without numbers and your task is finished.

You may find it difficult to place the required number of adjectives in each of the categories. You may discover you have more than ten or fewer than ten words for a category. In either case, finish with the required ten words, either by eliminating those that can most sensibly be moved out or by moving in those words that are most appropriate. Even though you may feel that someof your word placements are forced or awkward, please follow as best you can this designated procedure. There are definite reasons for using this method.

Please remember that the accuracy of this measuring instrument and the research connected with its use is dependent upon how well and conscientiously you fill out the list of adjectives. Numbering the adjectives as described above is perhaps tedious, but when honestly done the results can be quite useful. However, an analysis of the adjectives which have been jokingly numbered or very cautiously responded to would prove to be worthless. Thank you for your cooperation.

____absent-minded

____affected

____ambitious

____assertive, dominant

____bossy

____calm

____cautious

____competitive

____confident

____considerate

____cooperative

____cruel, mean

____defensive

____dependent

____disorderly

____dissatisfied

____dramatic

____dull

____easily embarrassed

____easily hurt

____energetic

____fair-minded, objective

____feminine

____frank

____friendly

____guileful, tricky

____helpless

____hostile

____idealistic

____imaginative

____impulsive

____intelligent

____versatile

____introspective

____jealous

____lazy

____likable

____persevering

____personally charming

____reasonable

____rebellious

____resentful

____reserved, dignified

____restless

____sarcastic

____poised

____self-controlled

____self-indulgent

____selfish

____self-pitying

____sense of humor

____sentimental

____shrewd, clever

____sincere

____sophisticated

____stubborn

____suspicious

____sympathetic

____timid, submissive

____touchy, irritable

____tactless

____unconventional

____undecided, confused

____unhappy

____uninterested, indifferent

____unworthy, inadequate

____warm

____withdrawn, introverted

____worried and anxious

____wise

APPENDIX D

POSITIVE AND NEGATIVE VALUATION OF CALIFORNIA Q-SORT ITEMS

- absent-minded
- affected
+ ambitious
+ assertive, dominant
- bossy
+ calm
+ cautious
+ competitive
+ confident
+ considerate
+ cooperative
- cruel, mean
- defensive
- dependent
- disorderly
- dissatisfied
- dramatic
- dull
- easily embarrassed
+ friendly
- guileful, tricky
- helpless
- hostile
+ idealistic
+ imaginative
- impulsive
+ intelligent
+ versatile
- introspective
- jealous
- lazy
+ likeable
+ persevering
+ personally charming
+ reasonable
- rebellious
- resentful
+ reserved, dignified
- selfish
- self-pitying
+ sense of humor
+ sentimental
- shrewd, clever
+ sincere
+ sophisticated
+ stubborn
- suspicious
+ sympathetic
- timid, submissive
- touchy, irritable
- tactless
- unconventional
- undecided, confused
- unhappy
- uninterested, indifferent
- unworthy, inadequate
+ warm

- easily hurt
+ energetic
+ fair-minded objective
+ feminine
+ frank
- restless
- sarcastic
+ poised
+ self-controlled
+ self-indulgent
- withdrawn, introverted
- worried and anxious
+ wise

APPENDIX E

COMPOSITE Q-SORT SCORES FOR THE GROUPS AND SECTIONS

Subject Number	Decided Group	Undecided Group	Experimental Section before Counseling	Control Section before Counseling	Experimental Section after Counseling	Control Section after Counseling
1	390	338	333	338	368	358
2	370	312	372	364	353	362
3	378	364	374	326	364	338
4	312	326	364	348	355	320
5	386	333	348	338	338	318
6	382	376	370	350	356	376
7	304	304	342	340	352	352
8	314	348	364	336	312	350
9	365	372	354	323	370	339
10	378	338	362	342	374	338
11	366	350	324	316	336	355
12	348	374	304	319	336	338
13	306	340	314	306	318	296
14	358	364	350	330	348	304
15	386	336	380	334	360	382
16	329	323	380	368	378	362
17	316	372	326	366	362	332
18	366	348	352	306	356	374
19	390	370	338	312	342	298
20	388	342	342	368	354	372
21	384	342	365	370	353	386
22	356	316	364	307	366	274
23	360	319	. .	. .	. .	. .
24	326	364	. .	. .	. .	. .
25	384	358	. .	. .	. .	. .
26	346	354	. .	. .	. .	. .
27	332	362	. .	. .	. .	. .
28	364	324	. .	. .	. .	. .
29	356	304	. .	. .	. .	. .
30	358	352	. .	. .	. .	. .
31	388	334	. .	. .	. .	. .
32	384	314	. .	. .	. .	. .

APPENDIX E--Continued

Subject Number	Decided Group	Undecided Group	Experimental Section before Counseling	Control Section before Counseling	Experimental Section after Counseling	Control Section after Counseling
33	361	306	. . .	. . .	. . .	. . .
34	380	350	. . .	. . .	. . .	. . .
35	369	380	. . .	. . .	. . .	. . .
36	346	380	. . .	. . .	. . .	. . .
37	. .	347	. . .	. . .	. . .	. . .
38	. .	330	. . .	. . .	. . .	. . .
39	. .	334	. . .	. . .	. . .	. . .
40	. .	368	. . .	. . .	. . .	. . .
41	. .	326	. . .	. . .	. . .	. . .
42	. .	352	. . .	. . .	. . .	. . .
43	. .	352	. . .	. . .	. . .	. . .
44	. .	324	. . .	. . .	. . .	. . .
45	. .	366	. . .	. . .	. . .	. . .
46	. .	306	. . .	. . .	. . .	. . .
47	. .	312	. . .	. . .	. . .	. . .
48	. .	342	. . .	. . .	. . .	. . .
49	. .	365	. . .	. . .	. . .	. . .
50	. .	368	. . .	. . .	. . .	. . .
51	. .	370	. . .	. . .	. . .	. . .
52	. .	306	. . .	. . .	. . .	. . .
53	. .	307	. . .	. . .	. . .	. . .
54	. .	364	. . .	. . .	. . .	. . .
Mean	359.1	342.9	351	336.4	352.3	342

APPENDIX F

SCORES ON ABRIDGED SCALE SURVEY, QUESTIONS 1-6

Subject Number	Decided Group	Experimental Section before Counseling	Experimental Section after Counseling	Control Section before Counseling	Control Section after Counseling
1	22	11	14	11	9
2	19	12	20	11	12
3	22	15	17	9	12
4	22	8	8	8	9
5	23	14	16	12	11
6	23	9	16	12	10
7	23	12	17	12	10
8	20	11	13	13	15
9	19	12	14	11	17
10	19	11	13	13	12
11	20	10	16	11	20
12	24	14	17	9	9
13	22	11	15	11	15
14	22	11	13	7	9
15	22	10	18	11	16
16	21	12	18	11	10
17	22	13	17	11	10
18	21	13	15	12	18
19	22	11	18	9	7
20	22	10	14	12	10
21	21	12	15	12	19
22	21	10	17	9	10
23	23	. . .	. . .	. . .	. . .
24	22	. . .	. . .	. . .	. . .
25	21	. . .	. . .	. . .	. . .
26	21	. . .	. . .	. . .	. . .
27	19	. . .	. . .	. . .	. . .
28	20	. . .	. . .	. . .	. . .
29	20	. . .	. . .	. . .	. . .
30	22	. . .	. . .	. . .	. . .
31	20	. . .	. . .	. . .	. . .
32	18	. . .	. . .	. . .	. . .

APPENDIX F--Continued

Subject Number	Decided Group	Experimental Section before Counseling	Experimental Section after Counseling	Control Section before Counseling	Control Section after Counseling
33	20	. . .	. . .	. . .	. . .
34	22	. . .	. . .	. . .	. . .
35	21	. . .	. . .	. . .	. . .
36	20	. . .	. . .	. . .	. . .
Mean	21.14	11.45	10.77	15.50	12.27

APPENDIX G

SCORES ON ABRIDGED SURVEY, QUESTIONS 8-10, BEFORE COUNSELING

Subject Number	Experimental Section	Control Section
1	14	8
2	11	11
3	14	10
4	13	9
5	14	13
6	13	11
7	13	13
8	10	13
9	14	10
10	14	12
11	14	12
12	14	11
13	13	13
14	13	6
15	14	10
16	12	11
17	13	6
18	14	11
19	11	7
20	14	12
21	13	12
22	12	8
Mean	13.0	10.8

APPENDIX H

SURVEY LETTER SENT TO SAMPLE OF WESTERN STATE COLLEGE STUDENTS

Box 236
Western State College
December 1, 1970

Dear Western State College Student:

The attached survey is part of my doctoral dissertation research. The research is designed to study the way college students make decisions about jobs and vocations. Many students, such as yourself, find it difficult during the undergraduate years to make a definite vocational choice. This uncertain vocational outlook may prevent their education from corresponding to the eventual jobs taken. It may also result in vocational instability. This survey and the overall study of which it is a part are aimed at helping college students make wiser and more appropriate job and vocational choices. Because the general purpose of this research is to aid in the better utilization of our nation's college-trained, I genuinely seek your cooperation in completing and returning this survey as soon as possible.

There is nothing confidential or personal in the nature of the questions of the survey. The questions call for you to express an opinion or an attitude. Please answer as honestly and carefully as you can in light of the choices provided. I ask that you be sure to complete the information requested at the top of the first page of the survey.

To return the questionnaire, fold it so my name and college address are visible and bring it by the mail room on the south-side ground level of Taylor Hall or place it in any drop-off point in the intra-campus mailing system. If you have any questions, please call me at 943-2179 or 641-1384. I greatly appreciate your help in this research effort.

Sincerely,

J. Jackson Davis
Assistant Professor of Business Administration
Western State College

APPENDIX I

LETTER SENT WITH Q-SORT TO HIGHLY DECIDED WESTERN STATE COLLEGE STUDENTS

Box 236
Taylor Hall
Western State College
January 21, 1971

Dear

The results of the questionnaire which you recently filled out for me indicate that you are very decided about your vocational outlook. As I mentioned with the questionnaire, this research involves my Ph.D. dissertation. My objective is to compare a group of college students, such as yourself, who are very certain about their vocational choices with a group who are definitely undecided. The comparison is made using the attached pencil and paper exercise. I earnestly request that you complete the exercise as the success of this research is dependent upon it. Instructions are provided on the next page.

To return this material, I would appreciate your bringing it to my office, G19D, in Taylor Hall and sliding it under my door if I am not there. My office is at the north end of Taylor Hall. Thank you for your help.

Sincerely,

J. Jackson Davis
Assistant Professor of Business Administration

APPENDIX J

LETTER SENT WITH Q-SORT TO CONTROL SECTION, HIGHLY UNDECIDED WESTERN STATE COLLEGE STUDENTS

Box 236
Taylor Hall
Western State College
January 21, 1971

Dear

The results of the questionnaire which you recently filled out for me indicate that you are undecided about the choice of a vocation. As I mentioned with the questionnaire, this research involves my Ph.D. dissertation. My objective is to study the effectiveness of vocational counseling (in a certain area) with students who state they are undecided about a vocation. In order to do this properly, I must have two groups, one group undergoing the counseling and one group serving as a control for the influence of outside variables. For those in the control group, their counseling will take place after that of the first group. You have fallen into the control group, and for the success of this research I would like to ask you to complete the attached paper and pencil exercise. Instructions on how to complete it follow on the next page.

To return the material, I would appreciate your bringing it by my office, G19D, in the north end, ground floor, of Taylor Hall. Just slide it under my door if I am not there.

I hope you understand the reason for the delay in the beginning of your counseling if you do want it. Your role at this time is very important, however, in possibly improving the counseling process itself. The scheduling of your counseling should take place in a few months. Thank you for your help.

Sincerely,

J. Jackson Davis
Assistant Professor of Business Administration

BIBLIOGRAPHY

Books

Anastasi, Anne, Psychological Testing, 3rd ed., London, The MacMillan Company, 1968.

Arbuckle, Dugald S., Student Personnel Services in Higher Education, New York, McGraw-Hill Book Company, 1953.

Astin, Alexander W. and Robert J. Panos, The Educational and Vocational Development of College Students, Washington, D.C., The American Council on Education, 1969.

Block, Jack, The Q-Sort Method in Personality Assessment and Psychiatric Research, Springfield, Illinois, Charles C. Thomas, Publisher, 1961.

Borow, Henry, "An Integral View of Occupational Theory and Research," Man in a World at Work, edited by Henry Borow, Boston, Houghton Mifflin Company, 1964.

Campbell, David P., The Results of Counseling: 25 Years Later, Philadelphia, W. B. Saunders Co., 1965.

Davis, James A., Undergraduate Career Decisions: Correlates of Occupational Choice, Chicago, Aldine Publishing Company, 1965.

Drucker, Peter F., Landmarks of Tomorrow, New York, Harper and Brothers, 1959.

Endicott, Frank S., A College Student's Guide to Career Planning, New York, Rand McNally & Company, 1967.

Fitzpatrick, Richard, "The History of College Counseling," The Counseling of College Students, edited by Max Siegel, New York, The Free Press, 1968.

French, Wendell, The Personnel Management Process: Human Resources Administration, Boston, Houghton Mifflin Company, 1964.

Ginzberg, Eli, The Development of Human Resources, New York, McGraw-Hill Book Company, 1966.

Ginzberg, Eli and others, Occupational Choice, New York, Columbia University Press, 1951.

Guilford, J. P., Fundamental Statistics in Psychology and Education, 4th ed., New York, McGraw-Hill Book Company, 1965.

Hahn, Milton E. and Malcolm S. MacLean, Counseling Psychology, 2nd ed., New York, McGraw-Hill Book Company, 1955, citing Address by T. R. McConnell, former Chancellor, Buffalo University, American Personnel and Guidance Convention, 1954.

Harbison, Frederick H. and Charles A. Myers, Education, Manpower and Economic Growth, New York, McGraw-Hill Book Company, 1964.

Hoel, Paul G., Elementary Statistics, New York, John Wiley & Sons, Inc., 1960.

Lecht, Leonard A., Manpower Needs for National Goals in the 1970's, New York, Frederick A. Praeger, Publishers, 1969.

Marshall, Alfred, Principles of Economics, 8th ed., London, Macmillan & Co., Ltd., 1920.

Rogers, Carl R., Client-Centered Therapy: Its Current Practice, Implications, and Theory, Boston, Houghton Mifflin Company, 1951.

Samler, Joseph, "Occupational Exploration in Counseling: A Proposed Reorientation," Man in a World at Work, edited by Henry Borow, Boston, Houghton Mifflin Company, 1964.

Shertzer, Bruce and Shelley C. Stone, Fundamentals of Guidance, Boston, Houghton Mifflin Company, 1966.

Slocum, Walter L., Occupational Careers, Chicago, Aldine Publishing Company, 1966.

Smith, Adam, An Inquiry into the Nature and Causes of the Wealth of Nations, edited by Edwin Canaan, New York, Random House, Inc., 1937.

Smith, Henry Clay, Psychology of Industrial Behavior, New York, McGraw-Hill Book Company, 1955.

Stephan, Frederick F. and Phillip J. McCarthy, Sampling Opinions, New York, John Wiley & Sons, Inc., 1958.

Stouffer, Samuel A. and others, Measurement and Prediction, New York, John Wiley & Sons, Inc., 1950.

Super, Donald E., The Psychology of Careers, New York, Harper & Brothers, 1957.

_____ and Martin J. Bohn, Jr., Occupational Psychology, Belmont, California, Wadsworth Publishing Company, Inc., 1970.

_____ and John O. Crites, Appraising Vocational Fitness, New York, Harper & Brothers, 1962.

Townsend, John C., Introduction to Experimental Method, New York, McGraw-Hill Book Company, Inc., 1953.

Vroom, Victor H., Work and Motivation, New York, John Wiley & Sons, Inc., 1964.

Wrenn, C. Gilbert, The Counselor in a Changing World, Washington, D.C., American Personnel and Guidance Association, 1962.

Articles

Ashby, Jefferson D., Harvey W. Wall, and Samuel H. Osipow, "Vocational Certainty and Indecision in College Freshmen," Personnel and Guidance Journal, XLIV (June, 1966), 1037-1041.

Astin, Helen S., "Patterns of Career Choices over Time," Personnel and Guidance Journal, XLV (February, 1967), 541-546.

Bailey, John A., "Career Development Concepts: Significance and Utility," Personnel and Guidance Journal, XLVII (September, 1968), 24-28.

Baird, Leonard L., "The Indecision Scale: A Reinterpretation," Journal of Counseling Psychology, XV (March, 1968), 174-179.

_____, "The Undecided Student--How Different Is He?" Personnel and Guidance Journal, XLVII (January, 1969), 429-434.

Blocher, Donald H. and Richard A. Schutz, "Relationships among Self-Descriptions, Occupational Stereotypes, and Vocational Preferences," Journal of Counseling Psychology, VIII (Winter, 1961), 314-317.

Bordin, Edward S., Barbara Nachmann and Stanley J. Segal, "An Articulated Framework for Vocational Development," Journal of Counseling Psychology, X (Summer, 1963), 107-116.

Burton, Robert L. and Eugene L. Hartmann, "A Study of Post-Choice Vocational Counseling with the SVIB," Vocational Guidance Quarterly, XVIII (March, 1970), 195-198.

Calvert, Robert, Jr., "Liberal Arts Graduates: They Would Do It Again," Personnel and Guidance Journal, XLIX (October, 1970), 123-129.

Carkhuff, Robert R., Mae Alexik, and Susan Anderson, "Do We Have a Theory of Vocational Choice?" Personnel and Guidance Journal, XLVI (December, 1967), 335-345.

Cooley, William W., "Interactions among Interests, Abilities, and Career Plans," Journal of Applied Psychology Monograph, LI (October, 1967), 1-16.

Dillman, Everett G., "A Behavioral Science Approach to Personnel Selection," Academy of Management Journal, X (June, 1967), 185-198.

Dolliver, Robert H., "Strong Vocational Interest Blank Versus Expressed Vocational Interests: A Review," Psychological Bulletin, LXXII (August, 1969), 95-107.

Edwards, Allen L., "The Relationship between the Judged Desirability of a Trait and the Probability that the Trait will be Endorsed," The Journal of Applied Psychology, XXXVII (April, 1953), 90-93.

_____, "Social Desirability and Q-Sorts," Journal of Consulting Psychology, XIX (December, 1955), 462.

_____ and Paul Horst, "Social Desirability as a Variable in Q Technique Studies," Educational and Psychological Measurement, XIII (Winter, 1953), 620-625.

Englander, Meryl E., "A Psychological Analysis of Vocational Choice: Teaching," Journal of Counseling Psychology, VII (Winter, 1960), 257-264.

Evan, William M., "Peer-Group Interaction and Organizational Socialization: A Study of Employee Turnover," American Sociological Review, XXVIII (June, 1963), 436-440.

Fournies, Ferdinand F., "The Real Reasons People Quit," Administrative Management, XXX (October, 1969), 45-46.

Gaudet, Frederick J., "What Top Management Doesn't Know about Turnover," Personnel, XXXIV (March-April, 1958), 54-59.

Graff, Robert W. and G. Donald MacLean, "Evaluating Educational-Vocational Counseling: A Model for Change," Personnel and Guidance Journal, XLVIII (March, 1970), 568-574.

Heilbrun, Alfred B., Jr., "Evidence Regarding the Equivalence of Ipsative and Normative Personality Scales," Journal of Consulting Psychology, XXVII (April, 1963), 152-156.

Holland, John L. and Sandra W. Lutz, "The Predictive Value of a Student's Choice of Vocation," Personnel and Guidance Journal, XLVI (January, 1968), 428-434.

Hunt, Richard A., "Self and Other Semantic Concepts in Relation to Choice of a Vocation," Journal of Applied Psychology, LI (June, 1967), 242-246.

Jones, G. Brian and Dennis E. Nelson, "Approaching a Vocational Education Problem Through Project TALENT-Related Guidance System Components," Vocational Guidance Quarterly, XVIII (March, 1970), 187-193.

"Labour Turnover--Meaning and Measurement," International Labour Review, LXXXI (June, 1960), 513-526.

Levine, Jerry, "Labor Turnover," Personnel Administration, XXXIII (November-December, 1970), 32-36.

Megginson, Leon C. and Aubrey Sanford, "A Reevaluation of the Human Resource Philosophy," Personnel Journal, XLVIII (January, 1969), 52-57.

Morrison, Richard L., "Self-Concept Implementation in Occupational Choices," Journal of Counseling Psychology, IX (Fall, 1962), 255-260.

Norton, Joseph L., "Current Status of the Measurement of Vocational Maturity," Vocational Guidance Quarterly, XVIII (March, 1970), 165-170.

Oppenheimer, Ernest A., "The Relationship between Certain Self Constructs and Occupational Preferences," Journal of Counseling Psychology, XIII (Summer, 1966), 191-197.

Patten, Thomas H., Jr., "The College Graduate Trainee: Behavioral Science Perspectives on Management's Prime Personnel Problem," Personnel Journal, XLVIII (August, 1969), 581-592.

Pearson, Andrall E., "Sales Power Through Planned Careers," Harvard Business Review, XLIV (January-February, 1966), 105-116.

Schein, Edgar H., "How to Break in the College Graduate," Harvard Business Review, XLII (November-December, 1964), 68-76.

Schultz, Theodore W., "Investment in Human Capital," The American Economic Review, LI (March, 1961), 1-17.

Slocum, Walter L. and Roy T. Bowles, "Attractiveness of Occupations to High School Students," Personnel and Guidance Journal, XLVI (April, 1968), 754-761.

Stefflre, Buford, "Vocational Development: Ten Propositions in Search of a Theory," Personnel and Guidance Journal, XLIV (February, 1966), 611-616.

Stephenson, Richard R., "Occupational Choice as a Crystallized Self Concept," Journal of Counseling Psychology, VIII (Fall, 1961), 211-216.

Strong, Edward K., Jr., "Validity of Occupational Choice," Educational and Psychological Measurement, XIII (Spring, 1953), 110-121.

Super, Donald E., "A Theory of Vocational Development," American Psychologist, VIII (May, 1953), 185-190.

Thoresen, Carl E. and William A. Mehrens, "Decision Theory and Vocational Counseling: Important Concepts and Questions," Personnel and Guidance Journal, XLVI (October, 1967), 165-172.

Uhrbrock, Richard S., "The Personnel Interview," Personnel Psychology, I (Autumn, 1948), 273-302.

Westbrook, Bert W. and J. W. Cunningham, "The Development and Application of Vocational Maturity Measures," Vocational Guidance Quarterly, XVIII (March, 1970), 171-175.

"What Does Employee Turnover Cost?" Textile World, CXIX (May, 1969), 99.

White, Walter S., "What Can Management Do about Professional Personnel Turnover," Paper Trade Journal, CLIV (June 29, 1970), 62-64.

Whitney, Douglas R., "Predicting from Expressed Vocational Choice: A Review," Personnel and Guidance Journal, XLVIII (December, 1969), 279-286.

Williams, John D., "Dealing with Junior Executive Turnover," Management Review, LIV (March, 1965), 49-51.

Williams, Robert L. and Spurgeon Cole, "Self-Concept and School Adjustment," Personnel and Guidance Journal, XLVI (January, 1968), 478-481.

Williamson, E. G., "An Historical Perspective of the Vocational Guidance Movement," Personnel and Guidance Journal, XLII (May, 1964), 854-859.

Report

Habbe, Stephen, College Graduates Assess Their Company Training, Personnel Policy Study No. 188, New York, National Industrial Conference Board, 1963.

Publication of Learned Organization

National Science Foundation, Two Years after the College Degree: Work and Further Study Patterns, Washington, D.C., U.S. Government Printing Office, 1963.

Public Documents

U.S. Department of Commerce, Bureau of the Census, "Population Estimates--Revised Projections of School and College Enrollment in the United States to 1985," Current Population Reports, Washington, D.C., Government Printing Office, May 5, 1967.

U.S. Department of Labor, "Current Labor Statistics," Monthly Labor Review, XCIII (December, 1970), 64-96.

U.S. Department of Labor, Bureau of Employment Security, Dictionary of Occupational Titles, Washington, D.C., Government Printing Office, 1965.

Newspaper

On the Campus, Western State College, Gunnison, Colorado, Vol. I, No. 3, November 3, 1970.

Unpublished Material

Interview with A. McKenzie Conekin, Director, Guidance Office, North Texas State University, Denton, Texas, April 13, 1970.

Letter from Jack Block, Professor of Psychology, University of California at Berkeley, May 7, 1971.