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OCCUPATIONAL CHOICE-PERSONALITY THEORY
AND OF ITS APPLICABILITY TO VA EDUCATIONAL
AND VOCATIONAL COUNSELING.

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Education, guidance and counseling

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THE UNIVERSITY OF OKLAHOMA
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A TEST OF CERTAIN ASPECTS OF HOLLAND'S
OCCUPATIONAL CHOICE-PERSONALITY
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TO VA EDUCATIONAL AND
VOCATIONAL COUNSELING

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DONALD THOMAS BLASI
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1971

A TEST OF CERTAIN ASPECTS OF HOLLAND'S
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VOCATIONAL COUNSELING

By Donald Thomas Blasi

Major Professor: John G. Jones

On June 1, 1966, the Veterans' Readjustment Act of 1966 became effective, and millions of Americans who had served in the military since January 31, 1955, were entitled to various educational benefits. One of the provisions of this Act and the Veterans' Pension and Readjustment Assistance Act of 1967 is that only one change of program of education for each veteran is automatically permitted. An additional change of educational program may be granted if it is compatible with a veteran's aptitudes, interests, and abilities. Since the two Acts also provide for educational and vocational counseling, it would be helpful if counselors of veterans had available a theory of occupational choice which had been verified on veterans attending college. Counselors working with veterans could more accurately insure that veterans are selecting suitable occupations, academic majors, and educational institutions.

The purpose of this study was twofold. Certain aspects of Holland's theory were investigated, with graduate and undergraduate male veterans as subjects to provide a different population to test Holland's theory. The applicability of Holland's Occupational Choice-Personality Theory to VA educational and vocational counseling was also evaluated.

Relevant aspects of the 1966 and 1967 Acts were explained. A review of the development of Holland's Occupational Choice-Personality Theory, which is based on the assumption that there are six broad work environments or model orientations--Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic--was presented. A person making an occupational choice searches either for one model orientation--his personality type--or for more than one model orientation--his personality pattern--that will satisfy his hierarchy of preferred methods for dealing with environmental tasks.

Questionnaires were sent to veterans attending six institutions of higher education in Central Oklahoma. Information on returned questionnaires with two expressed occupational choices within the same model orientation was tabulated and analyzed with chi-square to test nine proposed hypotheses.

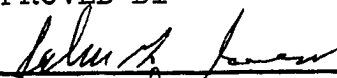
Six hypotheses were concerned with differences in age at which men commit themselves to occupational or vocational choices and with the stability of their choices. Male veterans in the biological and physical sciences and in the Social model occupations were investigated most thoroughly.


The other hypotheses were proposed to evaluate influence of dominant academic orientations, attitudes toward military service of Artistic personality types, and differences between Realistic and Conventional personality types in attitudes toward military service, respectively.


The hypotheses relating to age of commitment to and stability of occupational choices of graduate veterans in the biological and physical sciences and to attitudes toward military service of Artistic personality types were found to be significant. Two hypotheses relating to age of commitment to and instability of occupational choices of veterans in the Social model occupations indicated directionality with .050 probability levels.


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APPROVED BY









DISSERTATION COMMITTEE

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Chapter I

Abstract of the Problem

On June 1, 1966, the Veterans' Readjustment Act of 1966 became effective, and millions of Americans who had served in the military since January 31, 1955, were entitled to educational benefits which veterans of World War II and the Korean War had previously received. Veterans pursuing major fields of study in graduate or undergraduate schools consistent with practical and suitable occupational choices is the desirable utilization of this legislation. If the administrators and educational counselors of the Veterans Administration have available a theory of occupational choice which has been tested and verified on veterans attending college, they can do a better job of insuring that these veterans are selecting suitable occupations, appropriate academic majors, and suitable educational institutions.

The purpose of this study was twofold. It tested certain aspects of Holland's theory using as subjects undergraduate and graduate male students who had served in some branch of the United States Armed Forces since January 31, 1955, and who were currently using the educational benefits of the Veterans' Readjustment Act of 1966 and the Veterans' Pension and Readjustment Assistance Act of 1967 in selected educational institutions. Veterans were selected as the subjects because they were a different and, at the same time, a somewhat homogeneous population to test Holland's theory. They were also selected so that the applicability of Holland's Occupational Choice-Personality Theory to VA educational and vocational counseling could be tested.

Questionnaires concerning occupational choice, academic major, age, dates of college attendance, degrees earned, dates of military service, attitude about military service, and attitude about present college or university were sent to veterans attending Bethany Nazarene College, Bethany, Oklahoma; Central State College, Edmond, Oklahoma; Oklahoma Christian College, Oklahoma City, Oklahoma; Oklahoma City University, Oklahoma City, Oklahoma; Oklahoma College of Liberal Arts, Chickasha, Oklahoma; and University of Oklahoma, Norman, Oklahoma. Information on returned questionnaires was tabulated and analyzed with chi-square to test nine proposed hypotheses.

Chapter II

Background of the Problems To Be Investigated

Review of Literature and Research

Holland's Occupational Choice-Personality Theory was initially tested and developed using National Merit Scholarship finalists as subjects. For using such a homogeneous and unusual population, Holland received considerable criticism.

In 1968, Holland reported the results of testing his theory on freshman and sophomore students from twenty-eight colleges and universities throughout the United States. He supported his theory better with this particular study than on earlier studies with the National Merit finalists. Nevertheless, he still suggested that studies with different populations be pursued to provide further support for his theory (Holland, 1968). Veterans who were attending undergraduate and graduate schools with the financial assistance of the Veterans' Readjustment Benefits Act of 1966 and the Veterans' Pension and Readjustment Assistance Act of 1967 provided a different population to further test Holland's theory.

The 1966 and 1967 Acts have several purposes. They enhance and make more attractive service in the Armed Forces of the United States and extend the benefits of higher education to qualified and deserving young persons who might otherwise be unable to afford such an education. They provide vocational readjustment and restore lost educational opportunities to those servicemen and women whose careers have been interrupted or impeded by reason of active duty after January 31, 1955 (Veterans' Readjustment, 1966; Veterans' Pension, 1967).

A veteran who is eligible can receive educational assistance for a period of one and one-half months (or to the equivalent thereof in part-time educational assistance) for each month or fraction thereof of his service on active duty after January 31, 1955, except that no veteran can receive more than thirty-six months of full-time educational assistance. No educational assistance can be provided a veteran beyond the date eight years after his last discharge or release from active duty. The amount of educational assistance received is dependent on such variables as type of educational program, number of college credit hours enrolled in, and the number of dependents (Veterans' Pension, 1967).

The two Acts provide for educational and vocational counseling for veterans eligible for educational assistance. They also usually permit only one change of program of

education for each veteran. The VA administrator may approve one additional change if the program of education which the veteran proposes to pursue is suitable to his aptitudes, interests, and abilities (Veterans' Readjustment, 1966).

Holland first published a theory about vocational choice in 1959. The theory assumes that at the time of vocational choice a person is the product of the interaction of his particular heredity and a variety of forces including peers, parents, significant adults, his social class, culture, and the physical environment. From this experience, a person develops a hierarchy of habitual or preferred methods for dealing with environmental tasks. These habitual or preferred methods are associated with different kinds of physical and social environments and with differential patterns of abilities. The person making an occupational choice searches for the situations which will satisfy his hierarchy of desirable orientations or environments (Holland, 1959).

Holland categorized these different model orientations or environments into six broad groups--Motoric, Intellectual, Supportive, Conforming, Persuasive, and Esthetic. A Motoric person enjoys activities requiring physical strength, aggressive action, motor coordination and skill, and masculine roles. He prefers dealing with concrete, well-defined problems as opposed to abstract, intangible ones, and he prefers to "act out" rather than to "think

through" problems. He avoids close relationships with other people because he lacks verbal and interpersonal skills. A person in this category usually becomes a laborer, machine operator, aviator, farmer, truck driver, or carpenter (Holland, 1959).

A person of Intellectual orientation prefers to "think through" rather than "act out" problems. He needs to organize and understand the world, and he enjoys ambiguous work tasks and nonconforming activities. He avoids interpersonal problems and possesses somewhat unconventional values and attitudes. Lastly, he is quite asocial. An Intellectual person selects occupations such as physicist, anthropologist, chemist, mathematician, or biologist (Holland, 1959).

A Supportive person prefers teaching or therapeutic roles, and he possesses verbal and interpersonal skills. He desires attention and socialization in a structured and safe setting. He is responsible, socially oriented, and accepting of feminine impulses and roles, and his chief values are humanistic and religious. He is threatened by and avoids situations which require intellectual problem-solving, physical skills, or highly ordered activities because he prefers to solve problems through feeling and interpersonal manipulation of others. A person in this orientation is usually a social worker, teacher, interviewer, vocational counselor, or therapist (Holland, 1959).

A person of the Conforming orientation prefers structured verbal and numerical activities. He prefers

subordinate roles and achieves his goals through conformity. He obtains satisfaction and avoids the conflict and anxiety aroused by ambiguous situations or problems involving interpersonal relationships and physical skills by conforming and the subordination of his personal needs. His values and attitudes represent strong identifications with power and status, and he possesses an obsessive concern with rules and regulations. Occupations for a Conforming person may be a bank teller, secretary, bookkeeper, or file clerk (Holland, 1959).

A person in the Persuasive orientation likes to use his verbal skills in situations which provide opportunities for dominating, selling, leading, or manipulating others. He thinks of himself as a strong masculine leader, and he avoids well-defined language or work situations, as well as situations requiring long periods of intellectual effort. He has a need for ambiguous verbal tasks and related skills, sociality, power, and status. A person in this orientation is usually a salesman, politician, manager, promoter, or business executive.

An Esthetic person prefers indirect relationships with others, and he likes to meet environmental problems through self-expression in artistic media. He avoids problems requiring interpersonal interaction, a high degree of structuring, or physical skills. He is nonconforming and asocial, and he has a need for individualistic expression.

He is feminine, has little self-control, has a great need for direct emotional expression, and has considerable emotional problems. An Esthetic person is usually a musician, artist, poet, sculptor, or writer (Holland, 1959).

Holland has conducted and reported on six comprehensive studies to test his theory of occupational choice and personality. In the first five studies (Holland, 1962, 1963; Holland & Nichols, 1964; Holland, 1963-64, 1964), Holland used National Merit Scholarship finalists as subjects to further develop and refine his theory, and these five studies were culminated with a book The Psychology of Vocational Choice (Holland, 1966).

Holland changed the names of five of the model orientations or personality types and designated all six of them with a code number during the seven-year period of comprehensive studies. Motoric was changed to Realistic (Code 1), and Supportive was changed to Social (Code 3). Conforming was changed to Conventional (Code 4), and Persuasive was changed to Enterprising (Code 5). Esthetic was changed to Artistic (Code 6). The name of the second category Intellectual (Code 2) was not changed. He also provided more information about the six model orientations and added to the number of occupations which could be categorized within each model (Holland, 1966).

The Realistic person is also materialistic, genuine, and oriented to the present. He has a non-complex outlook

and conservative economic values. Esthetic values are of little importance, and physical activities requiring motor activity are favored. The Realistic person admires men like Byrd and Edison. He rates himself low in self-confidence, writing, speaking, originality, and leadership. He achieves primarily in technical and athletic areas and usually performs poorly in academic, social, and artistic areas. He has high mechanical and psychomotor skills (Holland, 1966).

The Intellectual person copes with the social and physical environment through the use of intelligence and can be characterized by such adjectives as analytical, rational, independent, introverted, cognitive, critical, curious, and perceptive. He prefers scientific vocations and admires men like Curie and Darwin. He likes activities such as reading, scientific projects, collecting, scouting, photography, algebra, foreign languages, physics, trigonometry, art, music, and sculpture. He achieves in academic and scientific areas, and he obtains high scores on originality scales. He does poorly as a leader but wins awards, prizes, and recognition for creative accomplishments in science. He has a complex outlook and scores high in verbal and mathematical aptitudes (Holland, 1966).

A Social person values social, ethical, and religious activities and problems. He prefers activities such as student government, community services, music, reading, sports, writing, dramatics, public speaking, foreign

languages, arranging entertainment, and journalism. He avoids masculine roles that require motor skills, use of tools and machines, or physical danger. He rates himself high on leadership, speaking skills, popularity, originality, drive to achieve, dependability, scholarship, aggressiveness, self-control, conservatism, expressiveness, self-understanding, perseverance, and responsibility. His achievements are in the areas of leadership, art, and scholarship. He tends to have high verbal but low mathematical aptitude (Holland, 1966).

A Conventional person copes with his physical and social environment by selecting goals, tasks, and values that are sanctioned by custom and society. He is practical, correct, and lacks spontaneity and originality. He is well-controlled, neat, and creates a good impression. He prefers clerical and computational tasks and places a high value on economic matters and a low value on esthetic and religious matters. He identifies with financial giants like Ford and Morgan. He avoids or dislikes aggressive, masculine tasks that require spontaneous, original functioning. He sees himself as shrewd, conservative, dominant, conscientious, sociable, controlled, rigid, dependent, intellectually inefficient, stable, and self-accepting. A Conventional person rates himself low as a leader but high on dependability, neatness, conservatism, and perseverance. He is not creative, has a simple outlook, and has more mathematical than verbal aptitude (Holland, 1966).

An Enterprising person is adventurous, dominant, enthusiastic, energetic, impulsive, persuasive, verbal, extroverted, self-accepting, self-confident, and orally aggressive. He prefers sales, supervisory, and leadership positions and places a high value on political and economic matters and a low value on theoretical and esthetic matters. He admires men like Carnegie and Ford and prefers social roles and activities in which he can gratify his needs for dominance, verbal expression, and recognition. He dislikes confining, manual, nonsocial activities which require persistence and extended concentration. He sees himself as dominant, sociable, cheerful, adventurous, stable, and not scholarly. He achieves well in athletics and persuasive activities, and his potential for original behavior is about average. His outlook is colored by status-oriented values and intense political convictions (Holland, 1966).

An Artistic person copes with his physical and social environment by using his feelings, emotions, intuitions, and imagination to create art forms or products. He has a complex outlook, independent judgment, and originality. He prefers musical, artistic, literary, and dramatic vocations and places little importance on political and economic matters. He identifies with men like Caruso and Picasso and prefers hobbies and activities of a somewhat creative nature. He avoids masculine activities and roles and sees himself as unsociable, feminine, introspective, depressive, independent,

impulsive, irresponsible, unstable, and naive. He rates himself high on writing skills, originality, independence, and expressiveness. He achieves primarily in artistic fields and has high scores in originality measures. He has a complex, flexible, independent, and unconventional outlook. His verbal aptitudes usually exceed mathematical aptitudes, and he has excellent perceptual and motor skills that are conducive to excellence in the arts (Holland, 1966).

The principal method adopted by Holland to categorize his subjects into the six model orientations was the use of the Vocational Preference Inventory (VPI). Holland first developed the VPI in 1958 (Holland, 1958), and it is essentially a personality inventory which uses occupational titles for content. Four assumptions were followed in the development of the VPI. The first assumption is that the choice of an occupation is an expressive act which reflects a person's motivation, knowledge, personality, and ability. The second assumption is that the interaction of the person and his environment creates a limited number of favorite methods for meeting interpersonal and environmental problems. The third assumption is that the development of adequate adjustive techniques requires accurate discrimination among potential environments. The fourth and last assumption is that interest inventories are personality inventories. The VPI consists of three hundred occupational titles which a person simply reacts to by indicating whether he likes or

dislikes each title. From these responses a person obtains a score on three response-set scales--Question Scale, Infrequency Scale, and Acquiescence Scale--and ten personality scales--Physical Activity, Intellectuality, Responsibility, Conformity, Verbal Activity, Emotionality, Control, Aggressiveness, Masculinity-Femininity, and Status.

Holland (1961) reported some of the results of his explorations with the VPI, using National Merit finalists as the subjects. Holland equated six scales of the VPI--Physical Activity, Intellectuality, Responsibility, Conformity, Verbal Activity, and Emotionality--with his six model orientations--Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic--in order to classify occupations and people. From these explorations he acquired the following results: (a) Consecutively expressed vocational choices are related to each other. (b) Over one- and two-year periods, VPI high-point codes predict choice of college major across 150 colleges with an efficiency of about thirty-three percent, a percentage which compares favorably with the efficiency of more expensive instruments used at different institutions. (c) Students who report that social influences affected their choices frequently made high-point codes on Social or Enterprising (people-oriented codes), whereas students with scientific or artistic choices reported that self-examination was the main influence. (d) Students' daydreams about future occupations are related to choices and codes in expected ways.

At this time Holland considered the VPI as a useful instrument for determining personality orientation, interests, and occupational choice. Simply asking a person about his interests and occupational choices was not regarded as a valid method in comparison with the use of an inventory instrument such as the VPI.

McArthur and Stevens (1955) derived results contrary to Holland's position concerning the VPI. Using Harvard male sophomore students as subjects, they conducted a fourteen-year study to determine whether inventoried interests from the Strong Vocational Interest Blank were superior to expressed interests for predicting future occupational choices. They determined that interests expressed by students in their sophomore year turned out to be good predictors of later career choice and adjustment, and they concluded that expressed and inventoried occupational interests were not significantly different in validity.

In a later study Osipow, Ashby, and Wall (1966) compared a person's self-description of his personality style with expressed vocational choice, using freshman students at Pennsylvania State University as subjects. While several inversions were evident, they did ascertain that personality identifications these students made in Holland's frame of reference were related to their initial vocational choices. Many of these students were uncertain about their vocational choice, and yet there was considerable evidence that a person's

expressed vocational choice was the most efficient and reliable predictor of future vocation.

The choice of college major was the method used by Folsom (1969) to classify students into one of Holland's six personality types. In this study Folsom administered The College Student Questionnaire (CSQ), Part I to 1,003 University of Maine students to obtain the choice of college major and the personality types' mean scores on the following scales: Motivation for Grades, Family Social Status, Family Independence, Liberalism, Social Conscience, Peer Independence, and Cultural Sophistication. The mean scores were compared for the purpose of determining whether or not significant differences existed among the six Holland personality types on the CSQ scales. Folsom discovered that with the exception of the Enterprising type Holland's descriptions of the personality types were generally consistent with the ways in which students described themselves on the CSQ scales. He also found out that significant differences existed among the six personality types on all but the Family Status scale. Even though Folsom did not think that using the choice of college major was the most reliable method of classifying people in Holland's six personality types, there was an indication that it was reliable.

Whitney (1969) reviewed large sample longitudinal studies which had investigated the predictive validity of expressed vocational choice. It was indicated in these

studies that a person's expressed vocational choice predicted his future employment about as well as interest inventories and that expressed vocational and educational field choices were moderately stable over one- to five-year periods during and after college.

Holland and Lutz (1967, 1968) reported that simply asking a person for his first two occupational choices was almost twice as efficient as the VPI for determining a person's model orientation or personality type. Holland later advised other researchers to examine his theory by using expressed vocational choice as the primary technique for defining a person's model orientation (Holland, 1968).

Age at first commitment to their eventual vocation does not appear to vary too much between Realistic, Conventional, Enterprising, and Artistic persons. It does vary considerably between Social and Intellectual persons, especially for persons who enter the biological and physical sciences within the Intellectual model. Roe found that physical and biological scientists tended to make their decision early, often when they were still in high school. Psychologists, on the other hand, did not decide on their occupational choices until they were in college (Osipow, 1968; Roe, 1957).

Holland (1963) reported that Realistic and Intellectual types were more stable in both academic major and vocational choice. In a study of 403 Michigan State University seniors, it was learned that during their four years

at Michigan State thirteen students transferred into and twelve students transferred out of the biological sciences and thirteen students transferred into and thirteen students transferred out of the physical sciences and mathematics. Only thirteen students transferred out of and sixty-two transferred into the social sciences. In education fifteen students transferred out of and thirty-three transferred into the department (Pierson, 1962).

In a 1961 study of 33,982 June college graduates, Davis (1965) reported similar results. When net gains and losses between specific pairs of fields were examined, the following ranking appeared: education, business, the social sciences, the humanities, the biological sciences, "other professions," law, the physical sciences, medicine and engineering. Fields that precede another in the above ranking show net gains in the exchange of students with each subsequent field.

Doyle (1965) studied the career patterns of 1951 and 1956 male graduates of Iona College, New Rochelle, New York. He reported that natural science and business majors experienced fewer trial-and-exploratory job experiences than the other academic majors.

Roe and Hutchinson (1969) obtained similar results. Group VI (Science) in Roe's Occupational Classification System was found to be the most stable occupational group concerning job changes of 804 men who had taken the Strong

Vocational Interest Blank at Stanford University in different schools and in different classes. Roe's other occupational groups include Service, Business Contact, Organization, Technology, Outdoor, General Cultural, and Arts and Entertainment.

The importance of a college's environment in changing academic majors and occupational choices, stabilizing academic majors and occupational choices, and promoting satisfaction with a particular college or university has been stressed by Holland since 1962. In two studies (Holland, 1962, 1963), he conducted research to determine the effects of a college's academic orientation. He ascertained that both congruency of student and college and consistency of the college environment were positively related to stability in academic major and occupational choice. In a later study Holland (1968) reported that stability of vocational choice was most closely associated with congruency of a student's vocational choice and the corresponding EAT variable.

The College Environmental Assessment Technique is used to determine the dominant model orientations for a particular college or university. There are various ways to utilize the Environmental Assessment Technique (EAT). Astin and Holland (1961) used eight different variables--institutional size, intelligence level of the student body, and the model orientation of the student body based on Holland's six model orientations. The model orientation of the student

body was obtained by assigning the Bachelor's degrees awarded by the institution during the desired period of time to the appropriate model orientation. In a subsequent study Astin (1963) utilized the same eight variables. However, he weighted certain academic majors so that they contributed to more than one model orientation. For example, students majoring in architecture (formerly scored only under the Intellectual orientation) were weighted .50 for the Intellectual orientation and .50 for the Artistic orientation. Astin (1965) later changed one EAT variable from intelligence of the student body (mean scores on the National Merit Scholarship Qualifying Test of enrolled college students who scored above the sixty-fifth percentile) to estimated selectivity of the student body (total number of bright students who wanted to enroll divided by the number of freshmen admitted).

Relation of the Proposed Study to the Previous Literature and Research

The author determined the following necessary information from the review of related literature and research:

- (a) The population to be used for this study,
- (b) Relevant information about the Veterans' Readjustment Act of 1966 and the Veterans' Pension and Readjustment Act of 1967,
- (c) Holland's research concerning the original and revised theory,
- (d) The best method to determine a person's occupational choices and personality pattern,
- (e) Differences in time of commitment and stability of occupational choice

between Social model occupations and the physical and biological science occupations, and (f) Possible methods to determine a college's model orientation profile. With the establishment of the above-listed information, this study was proposed.

Chapter III

Problems To Be Investigated

Analysis of the Problems

For the purpose of this study, Holland's Occupational Choice-Personality Theory was determined to be the most tenable position. Therefore, the following hypotheses were proposed in order to further investigate Holland's theory and more specifically its applicability to VA educational and vocational counseling:

1. Undergraduate veterans who did not attend college before military service because they were undecided about an occupational choice had a larger proportion of occupational choices that could be classified in the physical or biological sciences within the Intellectual model orientation than those undergraduate veterans who did not attend college before military service for other reasons.

2. Undergraduate veterans who did not attend college before military service because they were undecided about an occupational choice had a larger proportion of occupational choices that could be classified within the Realistic, Intellectual, Conventional, Enterprising, and Artistic model orientations than those undergraduate veterans who did not attend college before military service for other reasons.

3. Undergraduate veterans with college attendance before military service who dropped out of college because they did poorly academically or lost interest in school had a larger proportion of occupational choices that could be classified in the physical or biological sciences within the Intellectual model orientation than those undergraduate veterans with college attendance before military service who dropped out of college for other reasons.

4. Undergraduate veterans with college attendance before military service who dropped out of college because they did poorly academically or lost interest in school had a larger proportion of occupational choices that could be classified within the Realistic, Intellectual, Conventional, Enterprising, and Artistic model orientations than those undergraduate veterans with college attendance before military service who dropped out of college for other reasons.

5. Graduate veterans who changed their occupational choices and/or academic majors since completing undergraduate school had a larger proportion of occupational choices that could be classified in the physical or biological sciences within the Intellectual model orientation than those undergraduate veterans who did not change their occupational choices and/or academic majors since completing undergraduate school.

6. Graduate veterans who changed their occupational choices and/or academic majors since completing undergraduate school had a larger proportion of occupational choices that

could be classified within the Realistic, Intellectual, Conventional, Enterprising, and Artistic model orientations than those graduate veterans who did not change their occupational choices and/or academic majors since completing undergraduate school.

7. Undergraduate veterans who were satisfied with their educational institutions from an academic major viewpoint had a larger proportion of occupational choices that could be categorized in one of the three lowest ranking model orientations at their respective institutions than those undergraduate veterans who were dissatisfied with their educational institutions.

8. Veterans who disliked their tours of active duty in the military selected a larger proportion of occupational choices within the Realistic, Intellectual, Social, Conventional, and Enterprising model orientations than those veterans who enjoyed their tours of active duty in the military.

Holland categorized career servicemen, except chaplains and medical doctors, within the Realistic model orientation. The following hypothesis was proposed in order to test this aspect of Holland's theory:

9. Veterans who enjoyed their tours of active duty in the military chose occupations within the Realistic model orientation as often as they chose occupations within the Conventional model orientation.

The first four hypotheses were concerned with undergraduate veterans who were late choosing an occupation. According to Holland and Roe, these subjects should not have chosen occupations that could be categorized as biological and physical science occupations, but they should have frequently chosen Social model occupations.

The fifth and sixth hypotheses were concerned with graduate veterans who had changed occupational choices and/or academic majors since they completed undergraduate school. These subjects should not have been interested in the biological and physical sciences and should have chosen occupations that could be categorized within the Social model orientation.

Hypothesis seven was concerned with college orientation. Veterans who were satisfied with their educational institutions should have had occupational choices and academic majors that could be classified within one of the three highest ranking model orientations for their respective educational institutions.

The last two hypotheses were concerned with the veterans' attitudes toward military service active duty. Veterans who disliked their military duty should have chosen Artistic model occupations. Veterans who enjoyed their military duty should have chosen Conventional model occupations as often as they chose Realistic model occupations.

Limitations

This study did not include veterans who earned a Bachelor's degree prior to their military service and who were now studying for a second Bachelor's degree. Only male veterans were included in this study, and the findings and conclusions were generalized to male veterans only.

Definition of Terms

There were several terms used in this study which need to be defined to assure clarity of thought throughout the study.

Veteran

A veteran is any man who had served on active duty for a period of more than 180 days any part of which occurred after January 31, 1955, and who was discharged or released therefrom under conditions other than dishonorable or was discharged or released from active duty after such date for a service-connected disability.

Active Duty

Active duty is a period of service in some branch of the Armed Forces in a status other than being assigned full time by the Armed Forces to a civilian institution for a course of education which was substantially the same as established courses offered to civilians; a cadet or midshipman at one of the service academies; a period served under the provisions of section 511(d) of title 10 pursuant to an

enlistment in the Army National Guard or the Air National Guard; or a Reserve for service in the Army Reserve, Naval Reserve, Air Force Reserve, Marine Corps Reserve, or Coast Guard Reserve.

Program of Education

Program of education means a combination of unit courses or subjects pursued at an educational institution which will fulfill requirements for the attainment of a pre-determined and identified educational or professional objective.

Educational Institution

Educational institution means any public or private college or university.

Model Orientation

The model orientation is a cluster of characteristic adaptive behaviors, psychological needs and motives, self concepts, life history, vocational and educational goals, preferred occupational roles, aptitudes, and intelligence.

Personality Type

The personality type is the single model orientation that a person most closely resembles.

Personality Pattern

The personality pattern is a person's resemblance to each of the six model orientations.

Further clarification of this study was accomplished with the listing of the nine proposed hypotheses, the limitations of this study, and the definitions of terms pertinent to this study. With the enumeration of this information, presentation of data and analysis of data follow.

Chapter IV

Design of the Study

Sources of Data

Three instruments were used to collect data for this study. An undergraduate subject questionnaire (see APPENDIX A) was used to obtain information about occupational choice, academic major, age, dates of college attendance, degrees earned, dates of military service, attitude about military service, and attitude about present college or university. A graduate questionnaire (see APPENDIX B) was used to collect similar information for the graduate subjects. The College Environment Assessment Technique (see APPENDIX C) was used to tabulate information about the dominant model orientations of the six educational institutions chosen for this study.

The subjects were veterans who had been on active duty in the Armed Forces of the United States since January 31, 1955, and who were receiving financial assistance for higher education study during the 1970 fall semester through the provisions of the Veterans' Adjustment Act of 1966 and the Veterans' Pension and Readjustment Assistance Act of 1967. No differentiation between full-time and part-time enrollment was made. Names and addresses of the veterans were obtained from the VA offices of the six cooperating institutions.

Information about the number of and academic major of Bachelor's degrees conferred at the six educational institutions during the 1966-67, 1967-68, 1968-69, and 1969-70 school years was provided by the Oklahoma State Regents for Higher Education Office in Oklahoma City. This information is published each year in pamphlet form.

Procedures for Collecting Data:

Information To Be Obtained

The names and addresses of veterans attending the six educational institutions chosen for this study were obtained. Appropriate questionnaires and cover letters were then sent to the veterans. A follow-up was conducted in an effort to obtain at least a seventy-five per cent return of the subjects from all of the institutions. A seventy-five per cent questionnaire return of undergraduate subjects was obtained from all institutions except Central State College. The reasons for this were twofold: (a) Poor return of questionnaires on the initial mailing and (b) The large quantity of veterans involved. The number there exceeded the total number of undergraduate questionnaires from the other five educational institutions. Information about Bachelor's degrees conferred from 1967 through 1970 was obtained.

Holland's classifications for occupational or vocational choices and the academic majors listed in APPENDIX C were used to classify each returned questionnaire. When there was doubt as to which model orientation a returned questionnaire

should be assigned, it was considered unclassifiable in order to ensure objectivity and validity.

The same group of undergraduate veterans was used to test the first and second hypothesis. Hypothesis three and four were tested with the same group of undergraduate veterans. The same group of graduate veterans was used to test hypothesis five and six. More than one application of chi-square analysis to the same group of veterans might result in a significant chi-square due to chance alone. In order to control for the probability of such a Type 1 error for the first six hypotheses, an alpha level for each of these hypotheses was set at .025 so that each set of hypotheses with the same group of veterans had a probability of a Type 1 error of .05.

Hypothesis seven, hypothesis eight, and hypothesis nine were each tested with a different group of veterans. An alpha level of .05 was used for each hypothesis so that each hypothesis had a Type 1 error probability of .05.

Treatment of Data

Assumptions

It was assumed that the responses on the undergraduate and graduate questionnaires were the true opinions, beliefs, and feelings of the subjects questioned. It was assumed that except for Holland's contention that most military personnel are Realistic personality types that Holland's Occupational Choice-Personality Theory is valid.

It was assumed that most veterans who enjoyed their active duty in the United States Armed Forces have similar personality types to career servicemen.

Presentation and Analysis of Data

Table 1 illustrates the number of questionnaires for undergraduate subjects sent out, the number returned, and the percentage of returned questionnaires for each educational institution. Table 2 provides the same information for the graduate population.

TABLE 1

Undergraduate Subject Questionnaires

Educational Institution	Questionnaire Data		
	Number Sent	Number Returned	Percentage of Return
Bethany Nazarene College	72	58	80
Central State College	1620	921	57
Oklahoma Christian College	22	17	77
Oklahoma City University	136	115	85
Oklahoma College of Liberal Arts	68	52	76
University of Oklahoma	808	608	75
	2726	1771	65

In order to ensure that assignment to a particular model orientation with expressed occupational choice was as valid as possible, only questionnaires with two expressed

TABLE 2

Graduate Subject Questionnaires

Educational Institution	Questionnaire Data		
	Number Sent	Number Returned	Percentage of Return
Central State College	61	46	75
Oklahoma City University	113	86	76
University of Oklahoma	532	404	76
Total	706	536	76

occupational choices in the same model orientation were used to test the hypotheses. There were 559 such undergraduate questionnaires, which was thirty-two per cent of the total number of returned undergraduate questionnaires. There were 173 such graduate questionnaires, which was also thirty-two per cent of the total number of returned graduate questionnaires.

The 559 undergraduate questionnaires were divided into five categories. Category one included questionnaires that indicated no college attendance before military service because the subjects were undecided about an occupational choice. Category two included questionnaires that indicated no college attendance before military service for reasons other than indecision about an occupational choice. Category three included questionnaires that indicated interrupted college attendance before military service because of lack

of interest and/or poor academic work. Category four included questionnaires that indicated interrupted college attendance before military service for reasons other than lack of interest and/or poor academic work. Category five included the remaining undergraduate questionnaires which did not indicate anything about college attendance before military service and/or the reasons for no college attendance or interrupted college attendance before military service.

To test hypothesis one, a chi-square analysis with Yates's correction at the .025 alpha level was applied between category one and category two questionnaires. The obtained chi-square of 0.00 was not significant at the prescribed level of significance (see Table 3).

TABLE 3
Hypothesis One Chi-Square Analysis

Occupational Choices	Reasons for No College Attendance Before Military Service		
	Undecided about Occupational Choice	Other Reasons	
Other Occupational Choices	86	114	200
Physical and Biological Science Occupations	4	5	9
$X^2 = 0.00$ $p = NS$	90	119	209

A chi-square analysis at the .025 alpha level was applied between category one and category two questionnaires to test hypothesis two. The obtained chi-square of 5.00 was not significant at the prescribed level of significance (see Table 4).

TABLE 4
Hypothesis Two Chi-Square Analysis

Model Orientations	Reasons for No College Attendance Before Military Service		
	Undecided About Occupational Choice	Other Reasons	
Other Model Orientations	60	95	155
Social Model Orientations	30	24	54
$X^2 = 5.00$ p = NS	90	119	209

Hypothesis three was tested with chi-square analysis and Yates's correction at the .025 alpha level between category three and category four questionnaires. The obtained chi-square of 0.07 was not significant at the prescribed level of significance (see Table 5).

A chi-square analysis at the .025 alpha level was applied between category three and category four questionnaires to test hypothesis four. The obtained chi-square of 3.40 was not significant at the prescribed level of significance (see Table 6).

TABLE 5

Hypothesis Three Chi-Square Analysis

Occupational Choices	Reasons for Interrupted College Attendance Before Military Service		
	Lack of Interest and/or Poor Academic Work	Other Reasons	
Other Occupational Choices	208	123	331
Physical and Biological Science Occupations	8	7	15
$\chi^2 = 0.07$ p = NS	216	130	346

TABLE 6

Hypothesis Four Chi-Square Analysis

Model Orientations	Reasons for Interrupted College Attendance Before Military Service		
	Lack of Interest and/or Poor Academic Work	Other Reasons	
Other Model Orientations	159	107	266
Social Model Orientations	57	23	80
$\chi^2 = 3.40$ p = NS	216	130	346

The 173 graduate questionnaires with two expressed occupational choices within the same model orientation were divided into three categories. Category six included questionnaires that indicated changes in occupational choices

and/or academic majors since the veterans completed undergraduate school. Category seven included questionnaires that indicated no change in occupational choices and/or academic majors since the veterans completed undergraduate school. Category eight included graduate questionnaires which did not indicate anything concerning changes in occupational choices and/or academic majors since the veterans completed undergraduate school.

Hypothesis five was tested with chi-square and Yates's correction at the .025 alpha level between category six and category seven questionnaires. The chi-square of 10.58 was significant at the .005 level of significance (see Table 7).

TABLE 7

Hypothesis Five Chi-Square Analysis

Occupational Choices	Status of Occupational Choice and/or Academic Major Since Completion of Undergraduate School		
	Changed Occupational Choice and/or Academic Major	No Change	
Other Occupational Choices	121	22	143
Physical and Biological Science Occupations	12	10	22
$\chi^2 = 10.58$ $p = .005$	133	32	165

A chi-square analysis with Yates's correction at the .025 alpha level was applied between category six and category seven questionnaires to test hypothesis six. The obtained chi-square of 4.58 was not significant at the prescribed level of significance (see Table 8).

TABLE 8

Hypothesis Six Chi-Square Analysis

Model Orientations	Status of Occupational Choice and/or Academic Major Since Completion of Undergraduate School		
	Changed Occupational Choice and/or Academic Major	No Change	
Other Model Orientations	98	30	128
Social Model Orientation	35	2	37
$X^2 = 4.58$ p = NS	133	32	165

Table 9 (page 38) illustrates the dominant model orientations for the six cooperating educational institutions. The orientations were derived from the author's adaptation of the Environment Assessment Technique (EAT) for institutions of higher learning.

A chi-square analysis at the .050 alpha level was applied between the questionnaires of undergraduate veterans who indicated that they were satisfied with their educational institutions and the questionnaires of undergraduate veterans

TABLE 9

College Environmental Assessment Technique Model Orientation Profile for Six Educational Institutions from 1967 through 1970

Rank of Holland's Model Orientations at the Six Educational Institutions	Number of Bachelor's Degrees Conferred at the Six Educational Institutions from 1967 through 1970 and the Percentage of these Bachelor's Degrees Classified in Each of Holland's Six Model Orientations					
	Bethany Nazarene College	Central State College	Oklahoma Christian College	Oklahoma City University	Oklahoma College of Liberal Arts	University of Oklahoma
First	Social 464 52%	Social 1,191 31%	Social 302 48%	Enterprising 289 27%	Social 361.5 50.5%	Social 2,648.5 32%
Second	Enterprising 131 15%	Artistic 1,128 29%	Enterprising 142.5 23%	Social 269 25%	Artistic 120 17%	Artistic 1,567.5 19%
Third	Intellectual 113 13%	Enterprising 591 15%	Intellectual 69.5 11%	Artistic 212 20%	Enterprising 105 15%	Intellectual 1,240.5 15%
Fourth	Artistic 105 12%	Intellectual 423 11%	Artistic 56.5 9%	Intellectual 136 12%	Intellectual 89 12%	Enterprising 936.5 12%
Fifth	Conventional 45 5%	Realistic 299 8%	Realistic 46.5 7%	Conventional 116 11%	Realistic 35 5%	Conventional 857 11%

TABLE 9 (Continued)

Rank of Holland's Model Orientations, etc.	Number of Bachelor's Degrees Conferred at the Six Educational Institutions from 1967 through 1970 and the Percentage of these Bachelor's Degrees, etc.					
	Bethany Nazarene College	Central State College	Oklahoma Christian College	Oklahoma City University	Oklahoma College of Liberal Arts	University of Oklahoma
Sixth	Realistic 32 3%	Conventional 248 6%	Conventional 14 2%	Realistic 58 5%	Conventional 4 .5%	Realistic 815 11%
Totals	890	3,880	631	1,080	714.5	8,065

who indicated that they were dissatisfied with their educational institutions in order to test hypothesis seven. The obtained chi-square of 0.48 was not significant at the prescribed level of significance (see Table 10).

TABLE 10

Hypothesis Seven Chi-Square Analysis

Veterans' Attitudes Toward Educational Institutions	Number of Veterans with Occupational Choices in either the Three Highest or the Three Lowest Ranking Model Orientations		
	Within Three Highest Ranking Model Orientations	Within Three Lowest Ranking Model Orientations	
Satisfied	283	181	464
Dissatisfied	62	33	95
$X^2 = 0.48$ p = NS	345	214	559

Table 11 illustrates a similar analysis for the University of Oklahoma undergraduate veterans. The obtained chi-square of 4.38 was significant at the .050 level of significance, but the significance was in the wrong direction.

Table 12 illustrates a similar analysis for Central State College undergraduate veterans. The obtained chi-square of 0.13 was not significant at the prescribed level of significance.

TABLE 11

Hypothesis Seven Chi-Square Analysis
for University of Oklahoma

Veterans' Attitudes Toward Educational Institutions	Number of Veterans with Occupational Choices in either the Three Highest or the Three Lowest Ranking Model Orientations		
	Within Three Highest Ranking Model Orienta- tions	Within Three Lowest Ranking Model Orienta- tions	
Satisfied	59	117	176
Dissatisfied	17	17	34
$X^2 = 4.38$ $p = .05$	76	134	210

TABLE 12

Hypothesis Seven Chi-Square Analysis
for Central State College

Veterans' Attitudes Toward Educational Institutions	Number of Veterans with Occupational Choices in either the Three Highest or the Three Lowest Ranking Model Orientations		
	Within Three Highest Ranking Model Orienta- tions	Within Three Lowest Ranking Model Orienta- tions	
Satisfied	163	60	223
Dissatisfied	36	15	51
$X^2 = 0.13$ $p = NS$	199	75	274

Table 13 illustrates a similar analysis for the undergraduate veterans from the four smaller institutions.

The obtained chi-square of 0.00 was not significant at the prescribed level of significance.

TABLE 13

Hypothesis Seven Chi-Square Analysis For
the Four Small Educational Institutions

Veterans' Attitudes Toward Educational Institutions	Number of Veterans with Occupational Choices in either the Three Highest or the Three Lowest Ranking Model Orientations		
	Within Three Highest Ranking Model Orienta- tions	Within Three Lowest Ranking Model Orienta- tions	
Satisfied	61	4	65
Dissatisfied	9	1	10
$\chi^2 = 0.00$ p = NS	70	5	75

Table 14 illustrates a similar analysis for the undergraduate veterans from all the educational institutions except the University of Oklahoma. The obtained chi-square of 0.46 was not significant at the prescribed level of significance.

Hypothesis eight was tested by applying a chi-square analysis with Yates's correction at the .050 alpha level between the questionnaires of those veterans who enjoyed their tours of active duty and the questionnaires of those veterans who disliked their tours of active duty. The obtained chi-square 10.30 was significant at the .005 level of significance (See Table 15).

TABLE 14

Hypothesis Seven Chi-Square Analysis For All
Institutions Except the University of Oklahoma

Veterans' Attitudes Toward Educational Institutions	Number of Veterans with Occupational Choices in either the Three Highest or the Three Lowest Ranking Model Orientations		
	Within Three Highest Ranking Model Orienta- tions	Within Three Lowest Ranking Model Orienta- tions	
Satisfied	224	64	288
Dissatisfied	45	16	61
$X^2 = 0.46$ p = NS	269	80	349

TABLE 15

Hypothesis Eight Chi-Square Analysis

Model Orientations	Attitudes Concerning Active Duty Tours of Military Service		
	Enjoyed Active Duty Tours	Disliked Active Duty Tours	
Other Model Orientations	306	92	398
Artistic Model Orientation	7	10	17
$X^2 = 10.30$ p = .005	313	102	415

A chi-square analysis at the .050 alpha level was applied to the questionnaires of veterans who had chosen

Realistic and Conventional model occupations in order to test hypothesis nine. The obtained chi-square of 1.00 was not significant at the prescribed level of significance (See Table 16).

TABLE 16
Hypothesis Nine Chi-Square Analysis

Attitudes Concerning Active Duty Tours of Military Service	Model Orientations		
	Realistic	Conventional	
Enjoyed Active Duty	45	21	66
Disliked Active Duty	8	2	10
Tolerated Active Duty	25	15	40
$X^2 = 1.00$ p = NS	78	38	116

In summary, the following H_0 hypotheses were rejected or found significantly different from zero: (a) Hypothesis five at the .005 level of significance (alpha level was .025) and (b) Hypothesis eight at the .005 level of significance (alpha level was .050). The following H_0 hypotheses were not rejected at the prescribed alpha level but reached the .050 probability level: (a) Hypothesis two (alpha level was .025)

and (b) Hypothesis six (alpha level was .025). Lastly, the following H_0 hypotheses were not rejected: (a) Hypothesis one at the 1.000 probability level (alpha level was .025), (b) Hypothesis three at the .900 probability level (alpha level was .025), (c) Hypothesis four at the .100 probability level (alpha level was .025), (d) Hypothesis seven at the .500 probability level (alpha level was .050), and (e) Hypothesis nine at the .500 probability level (alpha level was .050). The findings and conclusions concerning these analyses are discussed in the following chapter.

Chapter V

Significance of the Study

Findings

No college attendance before military service because of indecision about an occupational choice did not significantly differ between undergraduate veterans who chose the physical and biological sciences and undergraduate veterans with other occupational choices. It also did not significantly differ between undergraduate veterans with Social model occupations and undergraduate veterans with other occupations, but there was an indication of directionality.

Interrupted college attendance before military service due to lack of interest and/or poor academic grades did not significantly differ between undergraduate veterans in the physical and biological sciences and undergraduate veterans in other occupations. It also did not significantly differ between undergraduate veterans in Social model occupations and undergraduate veterans with other occupational choices. The indication of directionality between undergraduate veterans in Social model occupations and undergraduate veterans with other occupational choices was strong, however.

Graduate veterans who chose the physical and biological sciences made significantly fewer changes of occupational

choices and/or academic majors since completing undergraduate school than graduate veterans with other occupational choices. Graduate veterans with Social model occupations did not significantly change occupational choices and/or academic majors more often since completing undergraduate school than graduate veterans in other occupational fields. Again, the indication of directionality between veterans in Social model occupations and veterans in other occupational fields was strong.

Undergraduate veterans who were satisfied with their educational institutions did not significantly have more occupational choices within the three high ranking model orientations at their institutions. Veterans who disliked their active duty tours of military service significantly chose Artistic model occupations more often than they chose other occupations. Veterans who enjoyed their tours of active duty in the military did not significantly choose Conventional model occupations more often than they chose Realistic model occupations.

Conclusions and Discussion

VA educational and vocational counselors should question graduate veterans in the physical and biological sciences who are exhibiting indecision about occupational choices and/or academic majors about the credibility of their occupational or vocational choices. VA counselors should also question veterans with Artistic model occupational

choices about the credibility of their occupational choices if they enjoyed their tours of active duty in the military.

The author provided support for Holland's description of men in the Artistic model occupations as being non-conforming, asocial, individualistic, poor in self-control, independent, disinterested in political matters, impulsive, irresponsible, unstable, and unconventional--personality characteristics which would make military life unpleasant. Counselors who work with veterans should use these personality characteristics as another verification of correct occupational choices and academic majors when talking to veterans who have chosen two Artistic model occupations.

Holland's concept that men who choose the physical and biological sciences decide on occupational choices earlier than men in other occupations received no support when tested with undergraduate veterans in the first and third hypothesis. The indication of directionality in the second, fourth, and sixth hypothesis may be support for Holland's concept that men in the Social model occupations choose occupations late in comparison to men in other occupations. The indication was particularly strong with the second and sixth hypothesis because the chi-square for each reached the .050 probability level.

The author's adaptation of Astin and Holland's Environmental Assessment Technique (EAT) to VA counseling was not supported in hypothesis seven. One explanation could be

question 15 in the undergraduate questionnaire (see APPENDIX A). Perhaps it should have been phrased in this manner: "Are you satisfied with your present college or university?" Another possible explanation could be that the students enrolled in the College of Business Administration and in the College of Engineering at the University of Oklahoma seem to have considerable pride in their undergraduate colleges. Table 9 illustrates that Bachelor's degrees awarded by these two colleges were assigned to the lowest ranking model orientations.

Holland's placement of career servicemen in the Realistic model orientation appeared to be valid. As illustrated in the ninth hypothesis, the author's proposal that career servicemen should also be classified in the Conventional model orientation was not supported.

Statistically significant support was provided for Holland's theory with three hypotheses. There was a strong indication of directionality toward support of Holland's theory in three more hypotheses. On the basis of these results, the author believes that using two expressed occupational choices within the same model orientation is an effective way of classifying a person's personality type and of predicting a lifetime occupation.

Thirty-two per cent of the returned undergraduate questionnaires and thirty-two per cent of the returned graduate questionnaires had two expressed occupational choices

within the same model orientation. There is something significant about this phenomenon. It could be related to the fact that over one- and two-year periods, VPI high point codes predicted choice of college major across 150 colleges with an efficiency of about thirty-three per cent, a percentage which compares favorably with the efficiency of most expensive interest inventories. It could also mean that the VPI and other interest inventories are not as valid as now considered, because 134 graduate veterans and 230 undergraduate veterans listed only one classifiable occupational choice. Surely, some of these veterans were as certain of their single occupational choice as those veterans who listed two occupational choices within the same model orientation. The thirty-two per cent return of questionnaires with two expressed occupational choices within the same model orientation (732 questionnaires) and the 364 questionnaires with only one expressed occupational choice could also be an explanation as to why using two expressed occupational choices within the same model orientation has been almost twice as efficient as the VPI for determining a person's model orientation or personality type.

Hypotheses tested in this study were not comparable to previous research concerning Holland's theory. Nevertheless, the support obtained with hypothesis five, hypothesis eight, and hypothesis nine suggested that Holland's theory would apply to populations other than male National Merit

Scholarship Finalists and a random sample of American college male students, if questions proposed with these two populations were also tested with the subjects used in this study.

The applicability of Holland's theory to VA counseling appeared to be more promising with graduate veterans. However, more research into the applicability of Holland's Occupational Choice-Personality Theory to VA educational and vocational counseling should be conducted with the second, fourth, fifth, and sixth hypothesis of this study. Veterans with only one expressed occupational choice should also be used to test these four hypotheses.

Men who choose Realistic model occupations and Intellectual model occupations usually choose an occupation early, and their choice is relatively stable. Men who choose occupations in the other four model orientations tend to decide later on lifetime occupational or vocational choices. The subjects were grouped in such a manner in testing the first six hypotheses that the above-stated facts made these six hypotheses difficult tests of Holland's theory.

Consequently, differences concerning indecision about occupational choice before military service, interrupted college attendance before military service because of lack of interest and/or poor academic work, and change of occupational choice and/or academic major since completion of undergraduate school should also be tested between veterans with Realistic and Intellectual model occupational choices and veterans with occupational choices in Social, Conventional,

Enterprising, and Artistic model orientations. The differences should also be tested between veterans in the physical and biological sciences and veterans with occupational choices in the Social, Conventional, Enterprising, and Artistic model orientations and between veterans with Social model occupations and veterans with occupational choices in the Realistic and Intellectual model orientations. Again, veterans with only one expressed occupational choice should also be used to test these differences. The tests just proposed would not be as stringent as those proposed in this study, and the applicability of Holland's theory to VA educational and vocational counseling would be more convincingly demonstrated.

It is important that this applicability of Holland's theory be demonstrated. People counseling veterans could use the characteristics unique to each model orientation as a check against veterans' expressed occupational choices. This check would be particularly helpful with veterans whose first and second occupational choices were not in the same model orientation (code) but were in two of the consistent codes, e.g., 12, 21, 14, 41, 26, 62, 36, 63, 45, 54, 56, 65, 53, 35, 34, and 43 (See page 8). There were 378 such undergraduate veterans and seventy-four graduate veterans in this study. The counselors could use these characteristics to assist veterans who are either confused about or completely unaware of appropriate occupational choices. For example, in this research 241 undergraduate veterans and forty-eight graduate veterans listed first and second expressed occupational

choices which had to be classified in inconsistent codes. Counselors could use the differences concerning indecision about occupational choice before military service, interrupted college attendance before military service because of lack of interest and/or poor academic work, and change of occupational choice and/or academic major to evaluate the certainty and suitability of veterans' expressed choices of occupations and academic majors. Counselors could quickly determine veterans' personality types and/or personality patterns or the fact that the veterans' are totally unaware of appropriate occupational choices and academic majors by simply asking for expressed occupational choices. Lastly, counselors could determine the suitable occupational choices and academic majors more quickly, more efficiently, more effectively, and less expensively than they could with interest inventories.

Veterans are eligible for educational and vocational counseling and are allowed only two changes of educational program, according to the provisions of the 1966 and 1967 Acts. Because of these provisions, because of the efficient manner in which a counselor using Holland's theory can determine the validity of a veteran's occupational choice, and because of the results of this study, veterans will benefit when Holland's theory is applied to VA educational and vocational counseling.

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APPENDIX A

UNDERGRADUATE QUESTIONNAIRE

1. Age _____ Institution that you are attending _____
2. What occupations are you considering as a lifetime career?
 - a. First choice _____
 - b. Second choice _____
3. How long have you been interested in your first choice of occupation as a possible career?
_____ .
years months
4. What is your college major? _____
5. How long has this been your college major?
_____ .
years months
6. If you have changed your college major since completing military service, what was your previous major?

7. Did you attend college before entering military service?
Yes _____ No _____
8. If you did attend college before entering military service, did you leave college because of lack of interest and/or poor academic work? Yes _____ No _____
9. If you did not attend college before entering military service, was it because you were undecided about an occupational choice at that time? Yes _____ No _____
10. What were your dates of active duty in the Armed Forces?

month year to month year
11. Which branch of the Armed Forces did you serve in?
Air Force _____ Army _____ Coast Guard _____ Marine Corps _____
Navy _____ Other _____ .
12. Did you serve as either a chaplain or a medical doctor in the Armed Forces? Yes _____ No _____
13. When did you enter undergraduate school after serving in the military? _____
month year
14. How many hours have you completed while attending college on the Veterans' Readjustment Act? _____

15. Are you satisfied with your present college or university from an academic major viewpoint? Yes _____ No _____
16. Did you earn a Bachelor's degree before entering military service? Yes _____ No _____
17. Which statement best describes your feelings concerning military service active duty?
- a. I disliked it. _____
 - b. I tolerated it. _____
 - c. I enjoyed it. _____

15. How many hours have you completed while attending school on the Veterans' Readjustment Act? graduate ____ undergraduate ____.
16. Which statement best describes your feelings concerning military service active duty?
- a. I disliked it. ____
 - b. I tolerated it. ____
 - c. I enjoyed it. ____

APPENDIX C

COLLEGE ENVIRONMENT ASSESSMENT TECHNIQUE

Taken from Seniors of the 1967 through 1970
Graduating Classes

Realistic College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Agriculture	_____	Industrial arts	_____
Agricultural education	_____	Forestry	_____
Physical education	_____	Trade & industry	_____
Recreation	_____	Engineering (except sales & research)	_____
Animal husbandry	_____	Mining	_____
Miscellaneous	_____	Total	_____

Intellectual College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Architecture	_____	Mathematics	_____
Biological sciences	_____	Philosophy	_____
Geography	_____	Physical sciences	_____
Medical technology	_____	Anthropology	_____
Pharmacy	_____	Research engineering	_____
Experimental psychology	_____	Archeology	_____
Computer design & programming	_____	Pre-dental	_____
Miscellaneous	_____	Veterinarian	_____
		Total	_____

Social College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Health education	_____	Occupational therapy	_____

Social College Majors (cont'd)

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Special education	_____	Physical therapy	_____
Speech correction & therapy	_____	Scholastic philosophy	_____
Education	_____	Social science (general)	_____
Nursing	_____	Sociology	_____
Home economics	_____	Social work	_____
Dietetics	_____	Theology	_____
Psychology (except experimental)	_____	Pre-medical	_____
American civiliza- tion	_____		
Miscellaneous	_____	Total	_____

Conventional College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Accounting	_____	Economics	_____
Secretarial	_____	Finance	_____
Library science	_____	Business education	_____
Miscellaneous	_____	Total	_____

Enterprising College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Hotel & restaurant administration	_____	Foreign service	_____
Hospital admin- istration	_____	Industrial relations	_____
History	_____	Public administration	_____
International relations	_____	Sales engineering	_____
Business admin- istration	_____	Business management	_____
Business marketing	_____	Prelaw	_____
Industrial psy- chology	_____		
Miscellaneous	_____	Total	_____

Artistic College Majors

<u>Major</u>	<u>No. of Graduates</u>	<u>Major</u>	<u>No. of Graduates</u>
Art education	_____	Journalism	_____
Music education	_____	Fine arts	_____
English	_____	Speech (except	
Literature	_____	correction &	
Miscellaneous	_____	therapy)	_____
		Foreign language	_____
		Total	_____

<u>Type No.</u>	<u>Type</u>	<u>Number</u>	<u>Per Cent</u>
1	Realistic	_____	_____
2	Intellectual	_____	_____
3	Social	_____	_____
4	Conventional	_____	_____
5	Enterprising	_____	_____
6	Artistic	_____	_____