NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us a poor photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de mauvaise qualité.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

PERSONAL, VOCATIONAL, AND NON-COUNSELEES COMPARED IN TERMS OF HOLLAND'S PERSONALITY TYPOLOGY AND RELATED PATTERN CHARACTERISTICS OF CONSISTENCY AND DIFFERENTIATION

by Peter E. Meuser

Thesis presented to the School of Graduate Studies at the University of Ottawa as partial fulfillment of the requirements for the degree of Doctor of Philosophy

Ottawa, Canada, 1978

CURRICULUM STUDIORUM

Peter E. Meuser was born in Wuppertal, West Germany, on January 25, 1951. He was raised and received his basic schooling in Kitimat, B.C., thereafter earning the Bachelor of Arts (Honors) degree in psychology from the University of British Columbia in 1973. The title of his thesis was Visual Cues and Word Association Effects on Learning. In 1976 he received the Master of Arts degree in Clinical Psychology from the University of Ottawa, his dissertation being entitled Differentiation of University Freshmen in Arts and Science on the Basis of Their Scores on the Six 'General Occupational Themes' of the Strong-Campbell Interest Inventory, 1974.

ACKNOWLEDGEMENTS

This dissertation was prepared under the supervision of Dr. Charles McInnis, Associate Professor of Psychology and former Director of the General Experimental Psychology Program at the University of Ottawa. The author wishes to express his sincerest gratitude to Professor McInnis for his astute counsel and unfailing support.

Special notes of thanks are extended to Drs. H. P. Edwards and D. Lee for their input during the investigation's theoretical formulation; Dr. S. J. Piccinin for authorizing the use of Counseling Centre data; Dr. O. Porebski for his statistical advice; And, Mr. and Mrs. Ralph Dauk for their assiduous review of the entire manuscript.

Finally, the author is deeply appreciative of the support and assistance so unselfishly given by his wife Dorothy, despite her own Ph.D. thesis commitments, from this dissertation's inception to ferreting out the author's abundant typographical errors.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES

Table Page

LIST OF TABLES v

LIST OF APPENDICIES

Within the available body of literature, investigations of individual personality types as they relate to seeking counseling, appear to have forged a theoretical chain, albeit weak in some links, from several of Holland's (1973) personality typologies to an increased likelihood of becoming a counselee. It seems that people differ in personality type, types differ in interest patterns, certain patterns have been linked with maladjustment, and maladjustment is often quoted as the "sine qua non" of counseling.

To test the above hypotheses, occupational personality types and patterns (Holland, 1973) of personal, vocational, and non-counselees were compared employing the six General Occupational Themes of the Strong-Campbell Interest Inventory in a series of multiple-discriminant function and chi-square analyses. Subjects were 285 male and 296 female freshmen (64 personal, 156 vocational, & 361 non-counselees) registered at the University of Ottawa during 1975-76.

Discriminant and chi-square analyses indicated personal and vocational counselees to differ in personality type from non-counselees, but not from one another. Furthermore, male and female counselees differed from non-

counselees and from each other. Finally, vocational counselees were noted as most predictable in terms of personality type, personal counselees were the least predictable, and non-counselees occupied a position between the other two. Chi-square analyses clearly indicated no systematic relationships to exist between counseling groups and personality patterns of consistency and differentiation. The .05 level of probability was applied in all instances where significance was tested.

It was suggested that counselees differed from non-counselees in being less decisive, autonomous, and self-directed. Furthermore, it was proposed that male and female counselees seek satisfaction of substantially different needs, and may be done an injustice by inflexibility in an undifferentiating counseling setting. Finally, it was stated that use of the present findings in a predictive sense, such as early identification of subjects with personal or vocational problems for the purpose of offering them preferred assistance, would result in considerable errors of diagnosis.

INTRODUCTION

Holland (1959, 1966b, 1973) has systematically developed a comprehensive theory of educational and vocational behavior with far-reaching implications. His theory is largely based upon the assertions that all persons, environments, and their possible interactions may be assessed by categorizing them in terms of one or a combination of six operationally defined types. These types are realistic, investigative, artistic, social, enterprising, and conventional. Furthermore, Holland theorized that type patterns may be analyzed by their varying degrees of congruence, consistency, and differentiation. This dissertation deals specifically with personality types and the concepts of consistency and differentiation.

The statement that differences in personality types exist between various groups of people is neither original or profound. Holland (1973) has demonstrated that all persons can be classified in terms of one or a combination of his six basic types. Furthermore, a comprehensive review of relevant literature by Meuser and McInnis (1977) indicated that certain groups of individuals have frequently been characterized by particular personality types or combinations of types. However,

only one investigation in the literature reviewed has addressed itself directly to the question of whether groups of counselees differ in terms of personality types and/or patterns (Smith, 1977).

The present study seeks to further investigate this question and to determine what the personality type differences are, if any. It also investigates the feasibility of employing personality pattern measures of consistency and differentiation to assess differences between personal, vocational, and non-counselees.

Specifically, consistency and differentiation are measures of pattern compatibility and intensity, respectively. Hence, a consistent personality pattern would be one in which high test scores appear on related personality types, indicating an integration of interests, competencies, values, traits, and perceptions. Similarly, a well-differentiated pattern would display definite high and low scores in terms of the different personality types. Conversely, inconsistent and poorly differentiated patterns would necessarily exhibit lower integration, compatibility, competencies, interests, etc.

Theory-based assumptions maintain that a highly consistent and well-differentiated person is, among other things, better adjusted, more satisfied, better integrated,

more predictable, and likely to make sounder educational and vocational decisions than his inconsistent and undifferentiated counterpart. Along a similar vein, research has demonstrated that, among other differences, students seeking counseling scored lower on measures of adjustment, satisfaction, predictability, and adeptness at making decisions regarding educational and vocational plans than non-counselees. Is it possible then, that counselees tend to score lower on measures of consistency and differentiation than non-counselees? The question appears to possess an intuitive logic that demands more than cursory attention.

The second hypothesis of this study, then, questions whether it may be possible to describe counselees as less consistent and/or differentiated in their personality patterns than non-counselees.

These tasks, briefly stated, represent the core of this dissertation. Literature relevant to the investigation is presented in the first chapter. Chapter I also offers a brief review of Holland's (1973) major theoretical points, a more complete synopsis of the problems researched in this study, and poses the specific hypotheses investigated. Chapter II describes the research design, the instruments employed, the subjects,

and the methods of data analysis. The results are presented in the third chapter, while the fourth and final chapter deals with discussion of the results, suggestions for further research, and a summary of the findings.

For the purposes of this dissertation, all tests or questionnaires referred to in the text are listed the first time in full, with the correct abbreviation, author(s), and date of publication where possible. Thereafter, common and well-known tests are cited in the text by abbreviation only, while less common or infrequently mentioned tests are cited in full, but without their respective author(s) and publication date.

Furthermore, it is to be understood that use of the word "man" is in its generic sense, such that references to "his", "men", "himself", etc., are abstractions that represent individual men and women.

CHAPTER I

REVIEW OF THE LITERATURE

Literature relevant to this investigation is presented in this chapter. In section one the major theoretical points of Holland's (1973) theory are summarized. In section two, counselee and non-counselee personality differences in general, and personality type differences in particular, are discussed. Section three provides a compendium of literature addressing itself to the concepts of personality pattern consistency and differentiation. A resumé of the literature presented, this investigation's goals, and its specific hypotheses comprise section four. The chapter concludes with a short list of operational definitions to clarify the intended meaning of frequently employed words and phrases.

1. Highlights of Holland's Theory

This section of Chapter I deals chiefly with Holland's (1973) theory of careers; an extremely sophisticated and somewhat daring system which is fully

and skilfully documented in his book Making Vocational Choices: A Theory of Careers. Initially announced to the literary world in 1959, expanded in 1966b, amplified in 1973, and clarified in 1976, the theory is essentially structured around four main assumptions and a series of lesser "principles". Together, they attempt to provide tentative answers for the following questions deemed fundamental in developing a greater understanding of people's careers and goals (Holland & Gottfredson, 1976): (a) What personal and environmental factors play a role in certain individuals engaging in satisfactory and successful careers, while others appear dissatisfied and fail? (b) What influences people to search for different forms of employment, and how does instability of job kind or level come about? (c) Why do some individuals make career choices that are congruent with their personal vocational assets, while others appear undecided or single-out totally incongruent vocations?

With questions such as the above in mind, Holland's (1973) four main assumptions delineate various personality and environmental types, their nature, their origins, and how they interact. The first

assumption holds that:

> A. In our culture, most persons can be categorized in terms of six basic types: realistic, investigative, artistic, social, enterprising, or conventional. (p. 2)

Each type is the product of a characteristic interaction among a conglomeration of cultural, personal, and environmental forces (e.g., parents, culture, peers, social class, physical limitations, etc.). From this scattered set of experiences and conditions, an ~~in~~dividual first learns a preference for some activities over others, while later, some of these preferences may evolve into strong interests that lead the way to a selective group of competencies. Finally, a person's repertoire of interests and competencies creates a particular personal disposition that causes the individual to think, perceive, and act in special and unique ways.

By comparing an individual's personality characteristics with those of each model, one may determine which type he resembles most. That model, then, becomes his personality type. One might also determine what other types, if any, he resembles in descending order, forming a total comparison to each

of the six types in a pattern of similarity and dissimilarity. This becomes his personality pattern. By assessing both types and patterns, Holland's (1973) system clearly avoids the inherent problems of a single classification scheme by allowing for the possibility of 720 different patterns to capture the complexity of personality (refer to Appendix 1 for complete type descriptions). Holland's (1973) second assumption maintains that:

> B. There are six kinds of occupational environments: realistic, investigative, artistic, social, enterprising, and conventional. (p. 3)

Each environment is dominated by a certain type of personality, thereby contributing as much as job requirements to establishing the working tenor of any given occupation. Because different types have different interests, competencies, and dispositions, they tend to surround themselves with those people and materials that will facilitate seeking out the problems and challenges that are congruent with their interests, competencies, and perspectives. Thus, where people congregate to work, they are prone to create environments that reflect the types they are, making it possible to assess environments in the same

terms as we assess individuals. The third and fourth assumptions state that:

> C. People search for environments that will allow them to exercise their special skills and abilities, express their attitudes and values, and take on agreeable problems and roles. (p. 4)
>
> D. A person's behavior is determined by an interaction between his personality and the characteristics of his environment. (p. 4)

Supplementing the framework of four major assumptions, Holland (1973) hypothesized several principles that attempt to surmount the difficulties of researching relationships between people's measured types and eventual behavior. The first principle employs the concept of consistency. Consistency is determined by the nature of high and/or low scores of a particular profile, such that high or low scores on related types (e.g., realistic & investigative) connote a pattern to be consistent. Such patterns are hypothesized to be more predictive than those with equally high or low scores on less related themes (e.g., realistic & social). In terms of the individual, possessing a more consistent personality pattern represents an integration

of interests, competencies, values, traits, and perceptions. Presumably, such people's lives in general, and career plans in particular, are more predictable, decisive, and resistant to instability. Correspondingly, measured environmental patterns that appear consistent represent an integration of related demands and rewards available to individuals within that environment who are there, presumably, to seek those particular demands and rewards. Inverse hypotheses and characteristics are posed for inconsistent personal and environmental patterns. Namely, inconsistent individuals are less integrated in terms of interests, competencies, etc., while inconsistent environments challenge their inhabitants with unrelated demands and provide rewards with little value to their recipients.

The second principle involves the concept of differentiation. Differentiation of a profile is determined by the absolute difference between an individual's highest and lowest scores on the six personality types. A well-differentiated pattern, then, has high peaks and low valleys, theoretically allowing for greater accuracy in predicting eventual behavior and providing a clearer focus of interests than a

poorly differentiated or flat profile. By employing the concept of differentiation, it becomes possible to distinguish between two individuals with similar or even identical personality type configurations via assessment of their respective degrees of pattern differentiation.

The third principle of Holland's (1973) theory is encapsuled within the concept of congruence. Congruence defines the compatibility of an individual's personality type configuration with that of an environment in which he may be working, studying, planning to enter into, etc. The most extreme degree of congruence is when a certain personality type is actively engaged in a perfectly matching environment (e.g., realistic person in a realistic environment). Incongruence, on the other hand, exists when an individual finds himself in an environment that does not provide the opportunities, challenges, and rewards that he needs and seeks (e.g., realistic person in a social environment).

Consistency and differentiation, then, are measures of personality pattern compatibility and intensity, respectively, while congruence is a measure of harmony between people and their environments.

Because of their complementary nature in relation to the major points of Holland's (1973) theory, these concepts appear to possess tremendous potential for developing refined explanations and judgements about people's behavior in general, and for career counseling in particular (refer to Appendix 2 for complete descriptions of consistency & differentiation).

It is well beyond the intended scope of this review to cite literature supporting Holland's (1973) basic assumptions concerning types, environments, and their interactions. Since 1959, literally hundreds of investigations by Holland and others have been conducted to test the theory's main hypotheses. Let it suffice at this point to direct the interested reader to more comprehensive reviews by Holland (1973), Meuser and Edwards (1977), and Meuser and McInnis (1977).

To recapitulate, it appears that people develop styles, perceieve occupations, cultivate interests, and behave in ways that can be predicted and classified with reasonable accuracy within the framework of personality types. The environmental models appear useful to characterize educational and vocational environments, while the explanatory potential of concepts such as consistency, differentiation, and congruence add depth to the theory.

Before embarking upon the more arduous task of reviewing investigations of personality differences between counselees and non-counselees, it would serve well to crystallize the link between a theory of vocations as broad as Holland's (1973), and the specific applications of these theoretical concepts to educational populations in this investigation. Adhering to the theory, it can be stated that all interests are expressions of personality, and, as such, play a predispositional role in our development as individuals in both educational and vocational contexts. Holland (1973) emphasized that the "... hypotheses derived from the personality types about educational behavior resemble those for vocational behavior. The choice of, stability in, satisfaction with, and achievement in a field of training or study follow the identical rules outlined for vocational behavior" (p. 43). Applying this theory to an educational setting, then, does not appear to be a transgression of its intended purpose.

This section of Chapter I has sketched an outline of Holland's (1973) theory of personality types and has presented the theory's major concepts as they apply to this particular investigation. The subsequent section deals more specifically with personality

differences between personal, vocational, and non-counselee groups.

2. Personality Type and Counseling

It will be recalled that hypothesizing personality differences between various groups of people is not a novel idea. Holland (1973), provided ample support for his contention that all persons may be classified in terms of one or a combination of his six basic personality types (i.e., realistic, investigative, etc.). Furthermore, a literature review by Meuser and McInnis (1977) noted support for the view that certain groups of individuals were consistently characterized by particular personality types or traits. For example, differences have been documented between scientific and non-scientific groups (Tyler, 1964); college curricula and college major groups (Sternberg, 1955; Goldschmid, 1965; Abe & Holland, 1965b; Williams, 1972); members of business and social work groups (Sarbin & Berdie, 1940); males and females (Strong, 1936); professional groups (Holland, 1973); decided and undecided high school students (Holland & Nichols, 1964b; Ashby, Wall, & Osipow, 1966; Lunneborg, 1976); and psychiatric versus non-psychiatric

groups (Patterson, 1957; Holland, 1958). Similarly, while tongue-in-cheek references have been made to "typical salesman" and other personality types, it is a fact that Drake and Oetting (1972) have listed at least 1,200 different personality configurations of the Minnesota Multiphasic Personality Inventory (MMPI, Hathaway & McKinley, 1967), and provided hypotheses for each concerning personal, social, emotional, and attitudinal states of the testee.

Within the context of the present investigation, however, it was not of prime concern whether congregations of people differ on personality variables in general, nor whether clusters of individuals differ on Holland's (1973) personality types, but specifically whether personal, vocational, and non-counselees differ systematically in terms of personality types or patterns. Intuition, that infamous faculty, suggests that differences do exist. Patterson (1957), for example, voiced the opinion that "clinical experience indicates that the emotionally disturbed frequently express interests in certain occupations and fields of work more often than normal individuals" and it therefore appears "that the occupational or vocational interests of the emotionally disturbed are more frequent-

ly apt to be inappropriate, or not vocationally significant, than in the case of the non-emotionally disturbed..." (p. 264).

This section of Chapter I is devoted to an in-depth review of literature related to personality type differences between personal, vocational, and non-counselee groups. As stated earlier, only Smith's (1977) investigation directly tested counselee versus non-counselee differences in terms of Holland's (1973) theoretical framework, although additional light, albeit of an inferential nature, has been shed upon this issue by numerous other researchers.

The relatively recent report by Smith (1977) is of particular interest at this point because of its similarities to the present investigation. However, the Smith (1977) study, it should be noted, was merely a publication of the unpublished Kernen (1971) dissertation findings, and hence is not as neoteric as it may appear. In a comparison of 174 counselees and 174 non-counselees, it was hypothesized that counselees were less consistent, less well-differentiated, and more dependent than their non-counselee counterparts. It was further hypothesized that counselees were more often of one Holland (1965) personality type than any other. The subjects, all freshmen students at East

Carolina University, were administered the Vocational Preference Inventory (VPI, Holland, 1965) and an altered version of the Dependency Proneness Scale (DPS, Flanders, Anderson, & Amidon, 1961). Each student was categorized as either counselee or non-counselee, consistent or inconsistent, differentiated or undifferentiated, dependent or independent, and as one of the six Holland (1965) personality types (i.e., realistic, investigative, etc.). Multiple chi-square analyses indicated no significant differences between counselees and non-counselees on any of the comparisons at the .05 level of probability, although differentiation and type comparisons were reported significant at the .20 level. Several alterations in design and analysis, however, might have resulted in somewhat different conclusions. Counselees, for example, could have been further subdivided into both personal and vocational counselee groups, thereby providing better control of the problem variable (i.e., counselee type). Numerous authors have reported that personal counselees, when compared to vocational or non-counselees, score significantly lower on measures of social adjustment (Gaudet & Kulick, 1954), emotional adjustment (Sharf & Bishop, 1973; Sprafkin, 1972; Goodstein, Crites,

Heilbrun, & Rempel, 1960), self-worth (Minge & Bowman, 1967), intellectual efficiency (Sprafkin, 1972), and personal integration (Kirk, 1973). Personal counselees, furthermore, have been demonstrated to score higher than vocational counselees on measures of impulsivity (Kirk, 1973), MMPI scales (Cooke & Keisler, 1967), and isolation (Galassi & Galassi, 1973).

A second improvement in the Smith (1977) investigation could have been accomplished by assessing sex differences in her comparisons of counselees and non-counselees in terms of consistency, differentiation, dependency, and personality type. Several researchers have reported male counselees to possess significantly different personality characteristics than male non-counselees, while noting no differences between female groups (Gonyea, 1963; Rossmann & Kirk, 1970).

A third alteration in Smith's (1977) study might have been to replace the chi-square analyses of personality type differences with multiple-discriminant analysis, thereby providing information in greater detail for both overall differences and contrast-wise differences without running the risk of increased Type I errors (i.e., accepting an alternative hypothesis when in fact the Null hypothesis of no difference

is true).

Finally, greater accuracy of defining subject groups in Smith's (1977) research could have taken the form of a two- or three-code classification system, rather than simply categorizing individuals as either members or not members of particular groups. Patterns of personality consistency and differentiation, for example, might then have been separated into those indicating relatively high, medium, and low degrees of each. Similarly, personality types could have been assessed by a two-code system such that each individual may have been assigned the two highest personality codes, rather than a single code. Hence, instead of classifying a person as a realistic type, possibly overlooking the fact that investigative type may be a very close second high code, subjects might have been described in terms of realistic-investigative, artistic-social, etc.

The Smith (1977) investigation, then, did not lend support to the hypotheses that counselees and non-counselees differ on measures of personality consistency, differentiation, and type. A degree of inferential support for Smith's (1977) findings was gleaned from a study of university freshmen which compared 525 counselees to 3,412 non-counselees on selected measures

of ability, academic achievement, family background, and a number of personality characteristics assessed by the Minnesota Counseling Inventory (MCI, Berdie & Layton, 1956). Berdie and Stein (1966) summarized from this investigation that "the results leave little question but that freshmen from these colleges who seek counseling... do not differ greatly from those not seeking counseling on the basis of ability, academic achievement, family background, or measured personality characteristics" although "students who seek help in the Reading and Study Skills Centre tend to have less academic potential than other students, and women who seek counseling tend to have fewer social skills, less social confidence, and perhaps somewhat less stability..." (p. 316).

From the authors' observations, it would appear that conditions resulting in students seeking counseling are perhaps more fortuitous than personality type or pattern differences, conceivably stemming from such diverse incidents as a friend with counseling experience, a professor who discussed counseling, or a parent who was aware of the services. As in the Smith (1977) investigation, however, Berdie and Stein (1966) did not take into account different counselee types

(i.e., personal or vocational), a variable that numerous authors have demonstrated to be crucial in counselee versus non-counselee research.

One early investigation by Gaudet and Kulick (1954), for example, compared vocational counselees first with non-counselees, and then with personal counselees in terms of their scores on the Minnesota Personality Scale (MPS, Darley, 1946). The vocational sample of 321 subjects and the non-counselee sample of 1,085 freshmen were compared by critical-ratios between group means. No significant differences in terms of social, family, and moral adjustment were noted. The second comparison, however, between 200 personal and 200 non-counselees, indicated personal counselees to be significantly less socially ($p < .001$) and emotionally ($p < .01$) adjusted, and to have poorer family relationships ($p < .01$) than counselees who sought only vocational guidance.

A similar but more recent investigation by Sharf and Bishop (1973) assessed 149 personal, 175 vocational, and 1,027 non-counselees in terms of social and emotional adjustment scores on the Opinion, Attitude, and Interest Survey (OAIS, Fricke, 1965). Analyses of variance indicated no significant differences when all

counseled students were compared to all non-counseled subjects, but t-tests for mean differences did suggest personal counselees to be significantly less socially and emotionally adjusted than non-counselees ($p < .001$).

The Gaudet and Kulick (1954), and Sharf and Bishop (1973) conclusions that personal counselees appeared less socially and emotionally adjusted have received the support of several other studies as well. Cooke and Keisler (1967), for example, noted that personal counselees generally possessed more elevated MMPI T-scores over 70 than students not seeking counseling. Similarly, Goodstein, Crites, Heilbrun, and Rempel (1960) concluded from scores on the California Psychological Inventory (CPI, Gough, 1964), that personal counselees were least adjusted, non-counselees were most adjusted, and vocational counselees occupied a position midway between the other two groups. Employing the same instrument as Goodstein et al. (1960), Olch and Snow (1970) hypothesized that students who sought sensitivity-group experiences were motivated by self-perceived problems. They concluded that students who sought such services saw themselves as less well-

adjusted, self-assured, mature, and skilled socially than those who did not volunteer for sensitivity groups ($p < .05$).

Noteworthy differences between personal, vocational, and non-counselees have been reported in personality aspects other than social and emotional adjustment as well. An investigation by Rossmann and Kirk (1970) researched counselee and non-counselee differences on the Omnibus Personality Inventory (OPI, Heist & Yonge, 1968), and a Student Questionnaire (Rossmann & Kirk, 1970). A total of 1,648 males and 1,243 females were tested as entering freshmen during 1966 and 1968. Those who eventually sought counseling during the interim were considered as the counselee group (304 males, 235 females), while all non-seekers comprised the non-counselee group. Significant t-test differences ($p < .05$) between OPI means scores suggested that male counselees felt more socially isolated, alienated, hostile, and aggressive than their non-counselee counterparts. Furthermore, they described themselves as being more tense, high-strung, emotional, sensitive, and unworthy. Females who sought counseling, on the other hand, scored significantly lower than

non-counseled females on the ability to express impulses and seek gratification of their needs ($p < .01$). Several significant differences of interest were noted on the Student Questionnaire. Compared to non-counselees, male counselees were more likely to have parents who were separated or divorced ($p < .01$), report severe social adjustment difficulties ($p < .05$), perceive their parents as very strict ($p < .01$), and express lack of communication with parents ($p < .01$).

Another investigation by Heilbrun (1960), compared 100 personal, 100 vocational, and 206 non-counselees in terms of differences on an abbreviated version of the Gough Adjective Check List (ACL, Gough, 1955; Abbreviated Form, Heilbrun, 1958, 1959). Twenty-four psychologist-judges decided whether higher scores on particular need scales would likely be indicative of maladjustment, good adjustment, or neither. Although Heilbrun (1960) neglected to specify inter-rater reliability, he did add that for all raters, the mean number of years on a college staff was 9. Results of t-tests between group means indicated personal counselees to possess the following personality characteristics relative to vocational and non-counselee groups: lower achievement needs; less orderly; less

likely to seek out friends, more desirous of being cared for; less dominant in interpersonal relationships, more likely to feel inferior, timid, and inadequate in relating with others; less likely to complete an initiated task; more aggressive; and less driven heterosexually, ($p < .01$) for all comparisons except need for order, which was $p < .05$).

Even though Heilbrun (1960) interpreted the results in the most obvious manner, namely in terms of personality differences between counselees and non-counselees, serious thought must be given to an alternative possibility that the results might be accounted for in terms of the social desirability of the behavior under consideration. The reported group differences, then, could be merely a greater tendency of non-counselees to portray themselves in a socially desirable light relative to counselees, rather than actual scale differences of adjustment value between the groups. Considerable research evidence has provided support for the hypothesis that social desirability may account for significant variation on personality tests (e.g., Edwards, 1954; Hanley, 1956; Rosen, 1956; Parker, 1961).

From the literature presented to this point,

it seems reasonable to conclude that counselees, particularily those seeking personal guidance, appear to differ from non-counselees chiefly in the direction of poorer social and emotional adjustment. To uphold the hypothesis that counselees differ from non-counselees in terms of Holland's (1973) six personality types, however, it remains to be demonstrated that socially and emotionally maladjusted individuals differ systematically from adjusted persons in their educational and vocational choices and behavior.

Patterson (1957), it will be recalled, reported that the emotionally maladjusted "frequently express interests in certain occupations and fields of work more often than normal individuals..." (p. 264). A number of investigations have supported this contention. Sternberg (1956), for example, administered the Kuder Preference Record (KPR, Kuder, 1946) and the MMPI to 270 male college students in New York. Two distinctly opposite trends in the data were revealed by Pearson Product-Moment correlations. The first was a correlation between scores on an aesthetic interest cluster (e.g., literary, artistic, and musical scales) and higher MMPI scores ($p < .05$), while the second trend indicated a correlation between a scientific/technical cluster (e.g., scientific, mechanical,

and computational scales) and lower MMPI scores ($p < .05$). Individuals who exhibited strong interests within the aesthetic cluster, were noted to possess more concentrated needs for individuality, interpersonal relationships, and uniqueness (with concomitant aversions to routine, orderliness, and convention) than persons with more scientific-technical interests. Furthermore, they tended to experience greater feelings of inadequacy and a lack of self-esteem. Subjects with interests in the scientific-technical cluster, on the other hand, indicated high needs for order, control, and predictability. Moreover, their higher scores in the direction of better adjustment than aesthetic interest groups, were related to an awareness that society places a relatively high value on scientific work, possibly bolstering their feelings of belonging, worth, and acceptance.

Support for Sternberg's (1956) conclusions abounds in the literature. Pintner and Forlano (1939), for example, assessed the Allport-Vernon Study of Values (Allport & Vernon, 1931), and Thurstone Personality Schedule (TPS, Thurstone, no date available) scores of 100 college students. They reported greater degrees of maladjustment among students scoring highest on aesthetic

scales, and better adjustment among those with high scientific interests. Likewise, Kirk (1973), studying 3,053 freshmen counselees and non-counselees, reported better personality adjustment as a characteristic of students with technical, scientific, and business interests, when compared to those with a leaning towards artistic, verbal, and linguistic interests. Other studies of like nature by Sisson and Sisson (1940), Wells and Woods (1946), Roe (1946, 1953), Triggs (1947), Feather (1950), and Cooke and Keisler (1967), among others, have drawn similar conclusions.

It appears, then, that considerable agreement existed with respect to describing individuals possessing artistic, musical, and literary interests as often more prone to maladjustment than those with equally strong interests in scientific, technical, or mechanical areas.

A brief re-introduction of Holland's (1973) personality types in relation to the foregoing research now seems necessary. Of particular interest are his descriptions of artistic and realistic types. Artistic types, for example, were characterized by Holland (1973) as preferring "...ambiguous, free, unsystematized, activities that entail the manipulation of physical, verbal,

or human materials to create art forms or products..." and exhibiting "...an aversion to explicit, systematic, and ordered activities" (p. 15). Furthermore, they are apt to be "complicated, disorderly, emotional, impractical, impulsive, non-conforming, [and] [1] introspective" (p. 16). Realistic types, on the other hand, prefer "...activities that entail the explicit, ordered, or systematic manipulation of objects, tools, machines, [or] animals..." and avoid "...educational or therapeutic activities" (p. 14). Also, they are likely to be "conforming, frank, natural, normal, practical, stable, uninsightful, [and] uninvolved" (p. 14).

Obviously, within the context of his theory, Holland's (1973) portrayals of artistic and realistic personality types essentially correspond with those described in the above investigations as aesthetic and scientific, respectively. By assuming the descriptions "aesthetic" and "scientific" to be synonymous with "artistic" and "realistic", respectively, and by abstracting from cited research concerning personality variations between groups with different interest clusters, it becomes possible to hypothesize that Holland's (1973) artistic, when compared to realistic personality types, are more prone to social

---

[1] Added by the author of the present dissertation.

and emotional maladjustment, and therefore predisposed as counseling candidates.

This second section of Chapter I may be summarized by observing that personality differences between counselees and non-counselees have been documented by numerous authors, particularily when type of counselee (i.e., personal or vocational) has been considered. Among a host of other differences, personal counselees deviated from non-counselees in terms of being more socially isolated, alienated, hostile, aggressive, high-strung, emotional, and sensitive; feeling more unworthy, inferior, immature, and uncertain; and, scoring lower on measures of personal, emotional, and social adjustment; communication skills; personal integration; impulse control; achievement; and order. Furthermore, substantial research has reported that aesthetic interest patterns, when compared to scientific patterns in individuals, have been frequently associated with greater social and emotional maladjustment. It seems then, that investigations of different personality types in relation to seeking counseling, forged a theoretical chain, albeit weak in some links, from several of Holland's (1973) personality types to possibly becoming a counselee. People differ

in personality type, types differ in interest pattern, certain patterns have been linked with maladjustment, and maladjustment is often the "sine qua non" of counseling.

This section of Chapter I has provided a review of studies relating personality types and interest patterns to counseling. The following section analyzes literature pertaining to counselee and non-counselee differences in terms of consistency and differentiation of personality pattern.

3. Consistency, Differentiation, and Counseling

Investigations which linked aesthetic interest patterns with maladjustment, and maladjustment with seeking counseling, were relatively uniform in their findings. This uniformity was not the case for studies of personality pattern consistency and differentiation as they relate to counseling. At best, research outcomes on this topic have been inconsistent, if not undifferentiated! The present section of Chapter I is devoted to a review of literature probing the validity of these concepts. For the sake of clarity, however, investigations which reported positive relationships between degrees of consistency and/or differentiation of personality pattern

and maladjustment or seeking counseling, are discussed first, while those with negative or ambiguous results follow.

In a comparison of 65 personal and 88 non-counselees, Osipow and Gold (1968) reported the career development of freshmen requesting counseling to be more disrupted than was the case for non-counselees. In this instance, disrupted, according to the authors, was tantamount to fewer Strong Vocational Interest Blank (SVIB, Strong, 1959) primary interest areas, a tendency to reject numerous possible interest areas, and a higher frequency of no crystallized interests. Although Osipow and Gold (1968) did not specifically employ the terms consistency and differentiation in deriving their observations about SVIB pattern variations between counselees and non-counselees, these concepts could clearly be substituted without distortion of the authors' conclusions. Consistency, for example, could be dubbed over "primary patterns", while differentiation might replace "profile flatness". Restated, their conclusions would now purport that counselees possessed both less consistent and less differentiated profile patterns than non-counselees on the SVIB. In this new format, the con-

clusions match the major hypotheses concerning consistency and differentiation posed by the present investigation.

In a similar investigation, Kirk (1973) compared counselee and non-counselee groups on the School and College Ability Test (SCAT, no author or date available), the OPI, and the SVIB. Counseling and Psychiatric Center records from 1966 to 1970 were examined to determine which of 3,053 freshmen tested in 1966 sought such services. Multivariate analyses of variance indicated the 994 counselees to differ from the non-counselees (N = 2,059) in the direction of poorer personal integration, less practicality, and more diffusion of interest patterns ($p < .05$).

In addition to the noted personality differences of integration and practicality, which, among others, have been discussed at length in the previous section of Chapter I, Kirk's (1973) findings supported the contention that counselees display greater interest pattern confusion than do non-counselees. It was not clear from her report, however, whether the description of counselee interest patterns as "diffuse" meant pattern inconsistency, undifferentiation,

or both. The New Webster Encyclopedic Dictionary of the English Language (Thatcher & McQueen, 1971) definition of "diffuse" as "wanting conciseness" appears synonymous with poor differentiation (i.e., low interest intensity) rather than inconsistency (i.e., pattern incompatibility).

A characteristic frequently associated in the literature with personality pattern consistency and differentiation is that of decisiveness. It may be hypothesized, for example, that lesser degrees of personality consistency and/or differentiation might well contribute to greater instability of educational and vocational decisiveness. Considering Harman's (1973) observation that vocationally undecided students amounted to a large percentage of counseling centre clientele, further investigation of decisiveness in relation to personality patterns is appropriate at this point.

An extensive study of personality pattern consistency and differentiation was published by Holland (1968b). Ranging over 28 college and university campuses, and employing some 7,896 freshmen, comparisons were conducted between students' scores on seven different assessment devices, including the VPI, the Interpersonal Competency Scale (ICS, Foote & Cottrell, 1955), and the Student Orientation Survey, Form C (SOS, Farber

& Goodstein, 1964). Holland's (1968b) hypotheses that personality pattern consistency and differentiation are related to stability of vocational choice, were substantiated in the male comparisons ($\chi^2 = 6.81$; df = 2; $p < .05$), but not in the female contrasts. The author noted the results reinforced several commonly held impressions of counselees. Namely, that highly consistent and well-differentiated students were explicit about their role preferences, and rarily made use of a counseling centre, while personally inconsistent and undifferentiated individuals indicated ambiguity in their preferences, and thus typified counseling centre clientele.

Support for Holland's (1968b) assertions were gleaned from an investigation by Osipow and Gold (1967) with 101 consistent and 101 inconsistent patterned freshmen. Findings indicated that students deemed inconsistent in their preferences for Roe's (1956) occupational categories, were also noted to be less certain of their educational and vocational goals, more likely to be enrolled in highly flexible majors (e.g., liberal arts) than more structured programs (e.g., engineering), and less academically prepared than the consistent group in terms of the

Scholastic Aptitude Tests (SAT, Dyer & King, 1955; Angoff, 1968; College Entrance Examination Board, CCEB). It appears reasonable to suggest at this point, that the group Osipow and Gold (1967) described as personally inconsistent, was in key aspects, interchangeable with the groups delineated earlier in this review by Osipow and Gold (1968), Holland (1968b), Harman (1973), and Kirk (1973), as counselees.

Several authors (e.g., Gonyea, 1963; Holland, 1973), have expanded upon the observation that indecisiveness often accompanied personality pattern inconsistency and undifferentiation, by suggesting that indecisiveness is merely one characteristic of an individual's personality system. Holland and Gottfredson (1976), for example, postulated that individual decisiveness appears to stem from personal integration (i.e., pattern consistency) and identity (i.e., pattern differentiation).

The findings of a large-scale investigation of decision-making ability among 1,005 high school juniors, 692 college juniors, and 140 employed adults by Holland, Gottfredson, and Nafziger (1975), supported the thesis that decisiveness is an integral character-

istic of an overall personality complex. The authors compared the scores of "good" and "poor" decision-makers (as determined by a decision-making task) on a range of measures, including the Self-Directed Search (SDS, Holland, 1972), the Career Maturity Inventory (CMI, Crites, 1973), an interest questionnaire, and a series of scales measuring identity, anomy, originality, and interpersonal competence. Holland et al. (1975) reported good decision-makers to exhibit relatively greater degrees of personality pattern consistency and differentiation than their less decisive counterparts. Furthermore, decision-making ability was predicted more efficiently by assessing personality patterns than by a number of other criteria, including age, social class, and personality type. Individuals with sharp, well-defined personality patterns, the authors concluded, appeared to cope with their educational and vocational plans more effectively and decisively than those with ill-defined or relatively flat profiles.

At this point, the question may well be asked: If inconsistency and poor differentiation of personality pattern are indeed precursors of educational and vocational indecisiveness, as research has suggested,

then is it not plausible that undecided individuals are more likely to encounter dissatisfaction with their curricula or jobs than those who are explicit about their goals? Naftiger, Holland, and Gottfredson (1975) indicated this question to possess merit when they hypothesized that "...student satisfaction is the outcome of the congruence between a student's personality type and his college environment and of the consistency and differentiation of his personality pattern" (p. 132). It appears but a brief step, then, to hypothesize that the inconsistent and undifferentiated personality patterned individual, prone to indecision and dissatisfaction, is apt to be a counselee. Evidence from several investigations supported this premise.

One such study by Gonyea (1963), compared 74 freshmen counselees with 74 matched non-counselees on measures of appropriateness of vocational objectives. Two statements of vocational ambitions were obtained from each subject: (a) an initial, pre-counseling objective, stated upon university entrance, and (b) a final, post-counseling follow-up objective, voluntarily expressed in response to post-card questionnaires four to six years later, when most students were either

seniors or had completed their studies. Initial and follow-up plans were rated by a panel of three psychologist-judges on a six-point scale, ranging from "Extremely Appropriate" to "Extremely Inappropriate" (combined reliability of judges was .89). Group mean comparisons indicated follow-up objectives of counselees to be less appropriate than those of non-counselees ($p < .05$). The author reported that students who sought counseling seemingly lacked the capacity to implement sound vocational choices and decisions, even with the aid of counseling. It was hypothesized, furthermore, that poor decision-making ability may be symptomatic of more fundamental difficulties of an emotional nature.

A similar investigation by Meadows and Oelke (1968) assessed the vocational decisiveness of 100 counselees and 100 matched non-counselees in a college setting. The following instruments served as measures of decisiveness: (a) SVIB; (b) expressions of certainty with respect to curriculum major; (c) Guilford-Zimmerman Temperament Survey (Guilford & Zimmerman, 1955); and (d) Hollingshead Two-Factor Index of Social Position (Hollingshead, 1957). Counselees were noted to be considerably less certain of their educational and vocational plans, and less adept at executing

decisions regarding such plans, than non-counselees (χ^2 = 22.05; df = 3; $p < .0001$).

The foregoing investigations of personality pattern consistency and differentiation, although largely inferential, supported the hypothesis that counselees differ from non-counselees in terms of such patterns. Individuals with inconsistent and undifferentiated patterns, for example, seemed to be less skilled as decision-makers than those with relatively more consistent and differentiated personality patterns, and indecisiveness, apparently, was a common calling-card of the counselee.

Not all research findings, however, supported the view that personality inconsistency and undifferentiation is a cachet of counselees. Klugman (1950), for example, administered the Bell Adjustment Inventory (BAI, Bell, 1935) and the KPR to 108 war veteran counselees, and reported no significant relationships ($p > .05$) between well-differentiated interest patterns and personality adjustment.

In a similar investigation, Bates, Parker, and McCoy (1970) studied the relationship between levels of Holland's (1966b) hypothesized personality patterns of consistency and differentiation, and two work adjustment variables of satisfaction and satisfactoriness.

The subjects consisted of 200 employed individuals, classified by the Oklahoma State Board of Vocational Education as having "psychological or physical disabilities". Levels of consistency and differentiation, as derived from the VPI, were theorized to be related to levels of satisfaction as reported by subjects on the Minnesota Satisfaction Questionnaire (MSQ, Weiss, Dawis, Lofquist, & England, 1966), and to levels of satisfactoriness of their work as reported by their employers on the Minnesota Satisfactoriness Scale (MSS, Weiss et al., 1966). A second hypothesis predicted that subjects with psychological disabilities would exhibit lower levels of consistency and differentiation in their personality patterns, and in turn, would score lower on work adjustment measures. None of the hypotheses posed were supported by the analyses.

The generalizability of both the Bates et al. (1970) and Klugman (1950) studies, however, was hampered by population sample limitations. The sample in each case consisted solely of a select group of rehabilitants, without a matched sample meeting the criteria of psychological or physical integration. Holland's (1966b) statement that consistency and differentiation

of personality pattern imply psychological integration, argues strongly in favor of employing "adjusted" as well as "maladjusted" subjects to research relationships between personality patterns and measures of adjustment.

A more rigorous investigation by Nafziger, Holland, and Gottfredson (1975), hypothesized degrees of student satisfaction as measured by the Inventory of Educational Experience and Opinion (adapted from the Job Satisfaction Blank No. 5; JSB, Hoppock, 1970) to vary with different levels of personality pattern consistency and differentiation. A total of 1,878 students who had completed the Self-Directed Search before entering their freshmen year, responded to the satisfaction questionnaire one to three years later. Personality patterns were assessed with the Self-Directed Search in terms of high, medium, or low degrees of consistency (measured by the relative compatability of the two highest personality-code scores) and differentiation (the highest code score minus the lowest code score). Analyses of variance indicated that different levels of personality pattern consistency and differentiation produced no significant trends in terms of measures of student satisfaction ($p > .05$).

The research finding, previously discussed,

that inconsistent and undifferentiated personality patterns tended to accompany individual dissatisfaction (Gonyea, 1963; Meadows & Oelke, 1968), was not supported by the Nafziger et al. (1975) investigation.

Similarly, the conclusion by Osipow and Gold (1968), that counselees exhibited significantly more personality pattern inconsistency and undifferentiation than did non-counselees, was not upheld in a study by Smith (1977). Due however, to the comprehensive discussion of Smith's (1977) investigation in the previous section of Chapter I, dealing with personality types, only a brief summary of it is made at this point. In a comparison of 174 counselees and 174 non-counselees on the basis of their VPI scores, the author hypothesized counselees to present greater personality pattern inconsistency and undifferentiation than their non-counselee counterparts. Chi-square analyses did not support the hypotheses, although it was felt that four specific design alterations, also outlined in the previous section and incorporated in the present study, would enhance the investigation of these hypotheses. Specifically, it was suggested that improved subject classification, different statistical

analyses, and investigation of counselee type differences (i.e., personal or vocational counselee) and male-female differences, might well have resulted in contrary conclusions.

The observation that indecisiveness appeared as a trademark of persons with inconsistent and undifferentiated personality patterns (Osipow & Gold, 1967; Holland, 1968b; Harman, 1973; Holland et al., 1975; Holland & Gottfredson, 1976), has also been disputed in the literature. Lunneborg (1975), administered the Washington Pre-College Test Battery (no date or author available), and the Vocational Interest Inventory (VII, Lunneborg & Lunneborg, 1971) to 1,622 high school seniors. The hypothesized increases in measures of vocational decisiveness with heightened interest-personality pattern differentiation failed to materialize from the analyses. Likewise, Nichols (1972), in analyses of 300 high school seniors' VPI scores, reported no significant relationship between consistent personality patterns and stability of college choices.

Investigating the relationship between consistency and differentiation of personality patterns and the degree of self-actualization, Danek (1971) tested a sample of 84 non-counselee males with the VPI and the Per-

sonal Orientation Inventory (POI, Shostrom, 1974). Analyses of variance indicated that measures of pattern consistency and differentiation did not effectively discriminate, either individually or in combination, between relatively efficient and inefficient personalities in a normal population.

A number of studies, then, failed to endorse the hypothesis that counselees differ from noncounselees in terms of lower personality pattern consistency and differentiation. Furthermore, authors who had posited satisfaction and decisiveness as by-products of overall personality cohesiveness (i.e., consistent & differentiated), were countered by investigations which did not substantiate that conclusion.

The dissonance of research findings concerning Holland's (1973) theoretical concepts of personality pattern consistency and differentiation, evident in the foregoing review, may be viewed from at least two perspectives. The first is to dismiss these concepts as elusive ghosts and move on to research a less controversial area. The second approach, obviously favored by the author of this dissertation, is to assume that convincing but conflicting research findings

point to a healthy need for further study of the subject. Further study, in this case, involves improvement upon most previous investigations in terms of subject classification, statistical technique, and attention to counselee type and sex differences.

This section of Chapter I has presented a detailed scrutiny of the major research findings concerning Holland's (1973) concepts of personality pattern consistency (i.e., compatibility) and differentiation (i.e., intensity). The following, and final section of Chapter I, includes a summary of research presented, this investigation's goals, the specific hypotheses posed, and a brief list of operational definitions for commonly employed terms.

4. Summary, Goals, Hypotheses, and Definitions

The foregoing sections of Chapter I have summarized the relevant literature concerning: (a) Holland's (1973) theory of personality types and its major postulates; (b) personality type differences of personal, vocational, and non-counselees; and (c) the relationship of personality pattern consistency and differentiation to becoming a counselee. Essentially, the hypotheses of this investigation, it will be recalled, suggested that certain of Holland's

(1973) personality types are more likely to seek counseling than others, and secondly, that inconsistent and undifferentiated personality patterns are characteristic of counselees rather than non-counselees.

From the hypotheses posed, several questions may be formulated, and from the literature reviewed, a number of answers may be gleaned. First, it might be asked: Do certain personality types indeed become counselees more frequently than others, and if so, which types? The only direct test of this query by Smith (1977), concluded that counselees were not characterized by a particular personality type. Smith's study, however, demonstrated a number of shortcomings aired at an earlier point in the discussion. Otherwise, abundant inferential support existed to suggest that people differ in interest patterns, that particular patterns are linked to maladjustment, and that maladjustment is a characteristic of counselees. Research findings generally agreed, for example, that individuals with aesthetic interest clusters (e.g., artistic, literary, musical) tended to score higher on measures of maladjustment than those with scientific interest clusters (e.g., technical, mechanical). Aesthetic and scientific interest clusters, furthermore, appeared synonymous with Holland's (1973) artistic and

realistic personality types, respectively, suggesting that research might well determine counselees to frequently be the former Holland (1973) type, and non-counselees the latter. Aptly summarizing research concerning counselee and non-counselee personality type differences, Kirk (1973) reported that "the conclusion that students possessing certain characteristics when they enter a college or university are more likely to feel the need for and seek counseling services for optimizing their educational experience is inescapable" (p. 469).

A second hypothesis may be posed. Do personal and/or vocational counselees exhibit personality patterns of inconsistency and undifferentiation more frequently that non-counselees? Again, the only available direct test of this hypothesis reported no significant differences (Smith, 1977). Inferential studies, however, demonstrated considerable disagreement on the basic issues of whether counselees, as compared to non-counselees, might accurately be described as inconsistent and undifferentiated in personality pattern, and less skilled in terms of decision-making ability.

The present investigation's focus, then, stems directly from the two questions posed above. Primarily,

its aim is to augment and hopefully clarify counselee and non-counselee personality type research by incorporating several innovations over previous studies in design and methodology. Furthermore, this research seeks to cast additional light upon the controversy surrounding possible counselee and non-counselee differences in terms of personality pattern consistency and differentiation.

Thus, the goals of this dissertation are now translated into the Null form as research hypotheses:

1.1 No significant differences exist at $p < .05$ between personal, vocational, and non-counselees in terms of personality types as measured by the General Occupational Themes of the Strong-Campbell Interest Inventory (SCII, Campbell, 1974).

1.2 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee males in terms of personality types as measured by the General Occupational Themes of the SCII.

1.3 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee females in terms of personality types as measured by the General Occupational Themes of the SCII.

2.1 No significant differences exist at $p < .05$ between personal, vocational, and non-counselees in degrees of personality pattern consistency as measured by the General Occupational Themes of the SCII.

2.2 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee males in degrees of personality pattern consistency as measured by the General Occupational Themes of the SCII.

2.3 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee females in degrees of personality pattern consistency as measured by the General Occupational Themes of the SCII.

3.1 No significant differences exist at $p < .05$ between personal, vocational, and non-counselees in degrees of personality pattern differentiation as measured by the General Occupational Themes of the SCII.

3.2 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee males in degrees of personality pattern differentiation as measured by the General Occupational Themes of the SCII.

3.3 No significant differences exist at $p < .05$ between personal, vocational, and non-counselee females in degrees of personality pattern differentiation as measured by the General Occupational Themes of the SCII.

A brief list of alphabetically-arranged operational definitions is included at this point in Chapter I to clarify the intended meanings of frequently employed words and phrases.

Consistency - A term coined by Holland (1973) as a measure of personality pattern compatability. A consistent pattern would be one in which the highest personality type codes (i.e., realistic, investigative, etc.) appear on related Themes. An inconsistent pattern, conversely, would be composed of high personality type codes on unrelated Themes.

Differentiation - A term coined by Holland (1973) as a measure of personality pattern intensity. A well differentiated pattern would be one where the difference between the highest and lowest personality type scores is greater than or equal to 21 (out of a possible 40). A poorly differentiated pattern, on the other hand, would exhibit a high-low score difference of less than or equal to 20.

Non-Counselee - Any freshman who had not sought counseling of a personal or vocational nature at the University of Ottawa Counseling Centre prior to, or at the time of testing.

Personal Counselee - Any freshman who had sought personal counseling at the University of Ottawa Counseling Centre prior to the time of testing. Status as personal or vocational counselee was determined by the counselor responsible for the case upon termination of counseling.

Personality Pattern - An individual's resemblance, in terms of personality types as determined by the SCII, to each of the six possible types (i.e., realistic, investigative, etc.) in a descending order. Hence, a particular personality pattern may reflect various degrees of consistency and differentiation, depending upon the respective levels of pattern compatability and intensity.

Personality Type - Refers to Holland's (1973) six personality types (i.e., realistic, investigative, artistic, social, enterprising, & conventional), as measured by the General Occupational Themes of the SCII (see Appendix 1 for complete type descriptions).

Vocational Counselee - Any freshman who had sought vocational counseling at the University of Ottawa Counseling Centre prior to the time of testing (see Personal Counselee).

Chapter I, then, summarized the major points of Holland's (1973) theory and reviewed the relevant investigations of counselee and non-counselee differences in terms of personality type and pattern. Furthermore, an overall literature summary, this dissertation's

goals and hypotheses, and definitions of key terms were presented. The following chapter presents the research design employed to test the hypotheses.

CHAPTER II

RESEARCH DESIGN

This chapter presents the research design of this investigation. It begins in section one by describing the instrument employed to measure personality types and patterns, and discusses the test's reliability, validity, and development. Section two delineates the subjects who participated in the study, while the third section outlines the research procedures utilized. The fourth section concludes the chapter by presenting the statistical and computer procedures employed to analyze the data.

1. The Instrument

The Strong-Campbell Interest Inventory (SCII, Campbell, 1974) was the test instrument used in this investigation. Materials necessary to administer, score, and interpret the SCII included an inventory booklet, a computer-scored answer sheet, and a computer-generated profile (refer to Appendices 3, 4, & 5, respectively). Basically, the SCII was designed to assist individuals in determining their interest strengths and weaknesses by pinpointing primary personality-interest areas, and in

providing direct comparisons to the interest patterns of people in numerous vocations and professions.

The SCII is essentially a second-generation product of the widely used SVIB, different from the earlier test in three key aspects: first, in the addition of the General Occupational Themes, with which this investigation is concerned; second, in the merging of men's and women's norms; and finally, in the restructuring of the entire profile around the six General Occupational Themes. The SCII, as do most interest inventories, relies for its usefulness upon the fact that different people give different responses to the individual inventory items, and because people who have achieved satisfaction in a particular occupation tend to respond to specific inventory items in a characteristic manner (Campbell, 1974). The test reports these basic differences between people in three major sections, each with a different function. The General Occupational Themes, for example, were designed to assist the testee in identifying a general segment of the occupational world for more intensive study. This is accomplished by providing him with information concerning his occupational personality type(s) and pat-

tern(s) in comparison to a general population sample. The Basic Interest Scales provide somewhat more specific data in the form of scores on homogeneous clusters of positively correlated interest areas within each General Occupational Theme. Finally, the testee's scores on actual Occupational Scales within each General Occupational Theme are compared in terms of similarity and dissimilarity to each occupational population sample (some 124 in all). The three types of scores may be more clearly understood through the use of analogies as provided by Campbell (1974):

> The General Occupational Themes are concerned with global categories, and are similar to such overall descriptions as 'She is tall and slender' or 'He is small and wiry.' The Basic Interest Scales are concerned with specific attributes and are similar to statements such as 'She weighs 118 pounds' or 'He has a reach of 38 inches.' The Occupational Scales are concerned with how the person resembles other types of people, and are analogous to statements such as 'She has the build of a swimmer' or 'He looks like a jockey.' Thus, although the three types of scales report three types of scores, a general thread of consistency runs through all of them (p. 19).

As this investigation is concerned only with the General Occupational Themes of the SCII, additional information concerning development, reliability, and validity of these Themes is warranted at this point. The reader interested in other aspects of the SCII is directed to two excellent sources of information: the Handbook for the SVIB (Campbell, 1971), currently the most complete data collection pertaining to the SVIB, and secondly, the Strong-Campbell Interest Inventory Manual (Campbell, 1974).

The General Occupational Themes were founded upon Holland's (1973) six occupational personality types, and provide a global view of a respondent's occupational orientation. High scores, for example, suggest the general kinds of activities the individual may enjoy, the occupational environments most likely to be satisfying, the nature of problems and challenges the person might prefer, and the types of people whom that person may find most appealing as co-workers.

Test item selection for the General Occupational Themes consisted of extracting 20 SVIB items to represent each personality type on the SCII, such that all items were, according to Campbell (1974, p. 33), "reasonable" in the sense of corresponding either ob-

viously or intuitively to the type descriptions presented by Holland (1966). This point was additionally supported by Hansen and Johansson (1972), who reported the groups as "...arranged in a meaningful and commonsense order..." and "...consistent with the correlations of the Holland-based scales..." (p. 479). Campbell and Holland (1972) described the actual construction technique as "informed, empirical, interative intuition" (p. 357). In anticipation of being labelled "armchair psychologists" by more empirically-oriented colleagues, the authors emphasized the following points: (a) their intuition was well-informed; (b) psychometric characteristics of the scales were carefully considered; (c) items selected exhibited factorial purity in relating to only one of Holland's (1966) types; (d) items chosen were free of ambiguity; and (e) items were valid in discriminating between occupational groups.

Each scale item, then, is scored positively for "Like" responses, and negatively for "Dislike" responses, providing the testee with a profile of similarity and dissimilarity to each of the six personality types. To facilitate understanding of profile pattern consistency and differentiation, the personality types have been arranged by Holland (1973) in the form of a hexagon, such

that contiguous types (i.e., those on adjacent corners of the hexagon) are most similar personality-wise, and statistically generate the strongest correlations. Diametrically opposed types (i.e., those on opposite corners of the hexagon), on the other hand, are personaly most dissimilar, and provide the weakest correlations with each other. Realistic and investigative personality types, for example, are adjacent (hence signify pattern consistency if both are high on a particular profile), and indicate correlations of .45 and .61 for male and female samples, respectively. Conversely, realistic and social types are hexagonal opposites (hence suggest pattern inconsistency if both are high on a particular profile), and provide correlations of .12 and .26 for male and female samples, respectively. Appendix 6 furnishes an example of the hexagonal model and its intercorrelations.

Raw-score to standard-score conversion of the General Occupational Themes was based upon a population sample of 300 males and 300 females, such that all scores formed a normal distribution with a mean of 50 and a standard deviation of 10. As males and females exhibit different distributions on these scales, two scores are generated by the computer for each scale. The first, a

standard score, represented numerically, is derived from a comparison to the combined male-female sample of 600 individuals, while the second score is a printed interpretive comment distilled from a comparison to the testee's same-sex sample (i.e., 300 individuals). Comments range over a seven-point scale, from "This is a very high score" to "This is a very low score".

Several tests of General Occupational Theme reliability over brief time periods have been conducted. Campbell (1974) provided 30-day test-retest data calculated on a representative sample of 102 Army Reserve members, students, and women enrolled in a career development course. The median test-retest correlation of Theme scores was .86, suggesting substantial short-term score stability. Whitton (no date available, cited in Campbell, 1974, p. 34) employed a sample of 106 female and 74 male high school and college students to test reliability over a two-week period. A median correlation of .91 was reported, again indicating high score reliability.

There appears to be no single index to measure the validity of the General Occupational Themes, and no data on this topic was reported by Campbell (1974) in the test manual. A number of indicators, however, might

be drawn together to demonstrate that Theme scores are reasonable and related to the respondent's behavior.

The preponderant emphasis in construction of the Themes was to formulate test items such that different personality types would score highest on their respective Themes (e.g., realistic type scoring highest on realistic Theme). To this end, direct information about the respondent is elicited by questions such as "I usually start activities of my group", or "I prefer working alone rather than on committees" (ans.: yes, no, or ?). Such queries demonstrate content validity when viewed in conjunction with the personality type descriptions provided by Holland (1973), and listed in Appendix 1 of this dissertation.

If, in determining content validity of the questions dealing with personality types, the constructs of each type are defined, then evidence regarding construct validity is also available (Brown, 1970). Westbrook and Molla (1976), for example, compared the rankings of selected stereotypes by 67 male and 124 female college freshmen to determine the occupational representativeness of Holland's (1973) personality types. The authors reported their data to "...support Holland's (1973) view that vocational stereotypes are

reliable..." and that they "...lend support to the validity of the stereotypes attributed to the six occupational representatives..." (p. 27). Likewise, Utz and Korben (1976) concluded from an investigation of General Occupational Theme construct validity that "...the Occupational Themes and related descriptors were validated in terms of similar personality variables" (p. 31). Convergent and divergent construct validity of the Themes was also researched by Lunneborg (1977), who concluded that "the validity of the SCII General Themes was strongly supported..." (p. 187).

The power of a psychological measure to discriminate between two or more groups whose behavior at the same point in time differs, is defined by its concurrent validity. Employing the McArthur (1954) method to examine SCII concurrent validity, Worthington and Dolliver (1977) divided 130 male subjects into those classified as "good hits" (i.e., a standard score of 45 or over on the subject's own personality Theme), "poor hits" (i.e., a score of 40-45 on the subject's own Theme), and "clean misses" (i.e., a score of below 40 on the subject's own Theme). Compared to the 41% good hits reported in an earlier study of SVIB concurrent validity (Dolliver, Irvin, & Bigley, 1972), the Worthington and Dolliver in-

vestigation of SCII concurrent validity reported an increase to 56% good hits.

Predictive validity, in contrast with concurrent validity, refers to the ability of an instrument to discriminate between groups who will behave differently at some point in the future, rather than currently. Although data concerning this form of validity was not available in the literature at the time of this review, studies employing the SVIB have generally reported less predictive than concurrent validity. Dolliver et al. (1972), for example, determined the SVIB to perform 58% good hits as measured over a 12-year period from 1957 to 1969. Similarly, Worthington and Dolliver (1977), employing the same subjects as Dolliver et al. (1972), reported 36% good hits over an 18-year period from 1957 to 1975. Differences between concurrent and predictive validity figures are hardly suprising, as concurrent discrimination is necessarily less difficult than prediction over time.

The "instrument" section of Chapter II, then, may be summarized by the statement that General Occupational Theme scores of the SCII exhibited acceptable reliability and validity.. Furthermore, the rationale for employing the SCII in this investigation may be abridged

to the observation that at the time it was the most current occupational personality measuring device available to clinicians, it is supported by more than 50 years of research and thousands of investigations, and it provided the necessary information to address the hypotheses posed by this dissertation.

2. The Subjects

A total of 602 SCII freshmen participated in this investigation, of which 581 returned usable answer sheets. The remaining 21 subjects were eliminated for one or more of the following reasons: (a) failing to indicate sex; (b) not completing the test; (c) employing ink rather than pencil to fill in response sheets; or (d) indicating that they were not freshmen. Of the 581 subjects, 361 were non-counselees (158 females, 204 males), 156 were vocational counselees (96 females, 60 males), and 64 were personal counselees (42 females, 22 males). No efforts were exerted to control language or age, although subjects had to be fluent enough in English to comprehend instructions and complete the test. All participants were University of Ottawa freshmen, tested either in groups of 10 or more (non-counselees), or individually at the University Counseling Centre (counselees). Testing was car-

ried out during the Fall of 1975 for the non-counselee group, and Winter of 1975-76 for all counselees.

The non-counselee group was comprised of students from nine compulsory freshmen classes in the Humanities and Science curricula, with a group mean age of 19.0. No monetary incentive was offered, but each participant received a copy of his personality-interest profile as prepared by the computer scoring agency, accompanied by a 3,500 word interpretive outline (see Appendicies 5 & 7 for examples of the profile & outline, respectively).

Counselees, on the other hand, indicated a group mean age of 20.2, and were comprised of freshmen from any curricula seeking either personal or vocational guidance at the University Counseling Centre. Each counselee was administered the SCII as part of an assessment, and classified as either personal or vocational by their respective counselors upon termination of the case.

3. The Procedure

To test non-counselees with the SCII, permission to administer during class time was obtained from each professor. Entire classes from compulsory courses

were tested for several reasons: (a) students enrolled in compulsory courses were assumed to represent the freshmen student population better than those in optional courses; (b) large subject groups translated into economy of time; and (c) it avoided the possibility of attracting "professional subjects" (those volunteering for almost any study) who are not representative of the student body.

Non-counselee subjects were presented with a five-minute introduction to the study, informed that participation was strictly voluntary, and asked to begin by reading the instructions presented on the cover of each test booklet (see Appendix 3). Particular attention was drawn to the technical aspects of computer answer sheets (e.g., how to fill in the circles, the use of pencils only, etc.), and to the necessary personal information required (e.g., name, age, sex, etc.). Questions dealing with the meaning of test-item terms were answered during the 30-45 minutes of testing each class.

To collect data on the counselee group, permission was obtained from Dr. S. Piccinin, Director of the University Counseling Centre, to glean from the 1975-76 files which counselees were freshmen, when they initiated counseling, and the identity of the counselor.

Each counselor was then provided with a synopsis of the investigation, an inventory of freshmen for whom he had been the counselor during the time period in question, and a request to classify each as either a personal or vocational counselee (refer to Appendix S for an example of the synopsis & classification procedure). As a number of researchers have noted that problems presented at counseling onset were often different from those actually incurred during counseling (e.g., Form, 1953; Sharf & Bishop, 1973), counselors were requested to categorize each counselee only upon termination of the case. This precaution also enabled exclusion from the study of counselees who, for whatever reasons, made fewer than two appearances at the Centre. SCII answer sheets were then withdrawn from the files of all personal and vocational counselees who had been positively classified by the counselors, and who met the other criteria of the investigation.

Together, the 581 edited[1] answer sheets were forwarded to National Computer Systems in Minneapolis

---

[1]Edited in this context refers to assuring proper test completion format, use of pencil, inclusion of name, age, sex, and meeting the criterion of freshmen status.

for scoring, profiling, and conversion from standardized to raw scores. Raw scores were then transcribed to computer cards, and appear in print-out form in Appendix 9.

4. Analysis of the Data

As the General Occupational Themes could not be scored separately from other SCII sections (i.e., Basic Interest & Occupational Scales), all 109 scorable test items were scored, profiled, converted to raw scores, and transfered to computer cards for each subject. Of the resulting 5,229 raw-score cards (9 for each subject), only the first card of each series, representing the General Occupational Theme scores, was required for this investigation. Hence, the raw data of this study, for each subject, is presented in Appendix 9 as six consecutive scores on the print-out, reading from the left, from column 16.

The principle techniques of analysis to assess personality type and pattern differences between personal, vocational, and non-counselees, were a series of three-group direct multiple-discriminant analyses, and a succession of chi-square cross-tabulations of expected versus obtained frequencies. All analyses were formulated or modified from Statistical Package for the Social Sciences (SPSS, 2nd. Edit., Nie, Hull, Jenkins, Steinbrenner, &

Bent, 1975), and executed with an IBM OS/360 computer at the University of Ottawa Computing Centre.

Specifically, personality type differences between personal, vocational, and non-counselees were evaluated in two ways. The first method was to perform three multiple-discriminant analyses designed to answer the questions: (a) Is it possible to discriminate among personal, vocational, and non-counselee groups on the basis of their raw scores on the six personality Themes of the SCII? (b) If so, which Theme or combination of Themes best accomplished this task? Analyses were conducted in the following manner (note that PC, VC, NC, & C refer to personal, vocational, non-counselees, & counselees, respectively, & that m & f allude to male & female, respectively):

1. NC, VC, PC by TYPE;
2. NCm, VCm, PCm by TYPE;
3. NCf, VCf, PCf by TYPE.

Discriminant and classification analyses were each carried out in the following manner: (a) means and standard deviations for both counseling and non-counseling groups on the six personality types were computed; (b)

mean differences among groups on each type were tested for significance by univariate F-ratios; (c) covariate and correlation matrices were calculated; (d) prior probabilities of group membership were established by assessing the relative number of subjects in each group within the analysis; (e) discriminant function analyses were conducted in a direct (as oppossed to step-wise) fashion; (f) Wilks' lambda (Cooley & Lohnes, 1962) was derived and tested for significance by a chi-square approximation to determine whether vectors of means for the personality types, across groups, were sufficiently different from each other to warrant separate functions; (g) unstandardized discriminant and classification function coefficients were produced to enable probable group memberships to be determined; (h) group dispersions and centroids on each discriminant function were ciphered in order to locate each group centroid relative to each function; (i) every subject's scores on each of the six personality types were weighted by disciminant function coefficients to arrive at a discriminant score for each subject on every function; (j) each subject, treated as a point in the discriminant function space, was predicted to be, and classified as a member of that counselee or non-counselee group nearest to which his discriminant

score fell; and (k) accuracy of predictions was assessed in terms of percentage of subjects correctly classified.

The findings of each multiple-discriminant analysis were cross-validated with a SOUPAC computer program (see SOUPAC Program Descriptions, 1973; available from Computing Services, Univ. of Illinois, Urbana, Ill. 61801), in order to compensate for an inherent flaw in the process of employing "same sample" subjects to determine the validity of prediction equations generated by discriminant and classification analyses. In discriminant analysis, for example, this flaw appears when discriminant function coefficients are calculated from a population sample, and then utilized to derive classification function coefficients for the same sample. This process is somewhat analogous to a self-fulfilling prophesy, where chance errors encountered during the equation phase of the analysis are capitalized upon in the classification stage, generally providing spuriously inflated prediction accuracy figures. Cross-validation, in this case, simply involved employing only one-half of the available population sample (size being dependent upon group sizes in the analyses) to derive discriminant function coefficients, and applying these coefficients to classify the second-half of the sample into the respect-

ive groups. Prediction accuracy, calculated on the cross-validation samples, was expected to be lower than the original full-sample prediction figures because chance factors that tended to maximize the original predictions were not capitalized upon in the cross-validation process.

The discriminant analyses served as parametric statistics to assess trends in continuous data such as individuals' scores on the six personality Themes. A second, non-parametric statistic in the form of chi-square analyses, was employed to evaluate trends in discrete forms of the same data. For example, the questions may be posed: (a) Is there a difference, among the six personality types, in the proportion of personal, vocational, or non-counselees who predominantly exhibit a particular type? (b) If so, which type(s) characterize which groups? Analyses were performed in the following order:

1. NC, VC, PC by TYPE;
2. Controlling for counseling:
   (a) NC, All C by TYPE;
   (b) NC, VC by TYPE;
   (c) NC, PC by TYPE;
   (d) VC, PC by TYPE;
3. Controlling for sex:
   (a) NCm, VCm, PCm by TYPE;
   (b) NCf, VCf, PCf by TYPE.

The data, in its discrete form, met the basic assumptions underlying chi-square analysis (Maxwell, 1961; Chase, 1967), and was analyzed as follows: (a) expected and observed frequencies of each personality type in the various groups were calculated; (b) "elaboration analyses" (Nie et al., 1975, p. 220), consisted of expanding the bivariate tables (i.e., NC, VC, PC by TYPE) into three dimensional tables, by successively entering additional test variables into the analyses (i.e., counseling group & sex). The roles of each counseling group and sex, as factors, could then be examined within the basic relationship of personality type to counseling group; (c) chi-square tests of significance were performed to assess whether systematic relationships existed between the variables. However, as chi-squares only evaluated whether the variables were independent or related, and not how strongly they were affiliated, several adjustment statistics were necessary to appraise relationship strengths; (d) Cramer's V, for example, was calculated to measure the degree of variable association by adjusting the values of chi-squares in proportion to the actual number of cases within groups; (e) lambdas, a measure of association based upon nominal-level data (as both personality types & counseling groups were), were computed to assess the percentage of improve-

ment in the ability to predict dependent variable values once the independent variable values were known; and (f) asymmetric uncertainty coefficients were calculated to display the proportions by which "uncertainty" (i.e., the probability of an individual actually being of a member of a group other than his predicted group) of the dependent variables was reduced by knowledge of the independent variable values.

Analyses discussed to this point were employed to investigate personality types in relation to personal, vocational, and non-counselee groups. Associations between personality patterns (i.e., consistency & differentiation) and seeking counseling were assessed by the chi-square methods previously described. The questions were asked: (a) Is there a difference, among personality patterns (i.e., high, medium, & low consistency; high & low differentiation), in the proportion of personal, vocational, or non-counselees who predominantly exhibit a particular pattern? If so, which patterns characterize which group? Analyses were carried out in the following manner (note that in addition to previously employed abbreviations, CONSIST & DIFFER refer to consistency & differentiation, respectively):

1. NC, VC, PC by CONSIST;
2. Controlling for counseling:
   (a) NC, All C by CONSIST;
   (b) NC, VC by CONSIST;
   (c) NC, PC by CONSIST;
   (d) VC, PC by CONSIST;
3. Controlling for sex:
   (a) NCm, VCm, PCm by CONSIST;
   (b) NCf, VCf, PCf by CONSIST;
4. NC, VC, PC by DIFFER;
5. Controlling for counseling:
   (a) NC, All C by DIFFER;
   (b) NC, VC by DIFFER;
   (c) NC, PC by DIFFER;
   (d) VC, PC by DIFFER;
6. Controlling for sex:
   (a) NCm, VCm, PCm by DIFFER;
   (b) NCf, VCf, PCf by DIFFER.

Hence, Holland's (1973) personality types and patterns constitute the theoretical essence of this investigation. For computational purposes, the personality type(s) of each individual simply stemmed from the highest General Occupational Theme score(s). Thus, if a particular subject's highest score occurred on the realistic Theme, then realistic was considered to be his personality type. If two or more Themes exhibited scores of equal magnitude, as was the case for 21 profiles, "deliberate assignment" (Fox, 1969, p. 479) was employed to randomly

appoint subjects to one of the two or three high-score types.

To assess personality pattern consistency, subjects were divided into groups of high consistency (i.e., where the two highest personality types occurred on hexagonally adjacent Themes, such as realistic & investigative), medium consistency (i.e., highest types on Themes separated by one type on the hexagon, such as realistic & artistic), and low consistency (i.e., highest types on hexagonal opposites, such as realistic & social). By definition, the hexagonal model of personality types (Holland, 1973, p. 22) allows for 12 different high, 12 medium, and 6 low consistency type combinations (refer to Appendix 6 for an example of the hexagonal model).

Personality pattern differentiation, on the other hand, was determined by calculating the range (0-40) and frequency of personality type scores. High and low pattern differentiation of each subject's profile, then, were defined as a score range greater than or equal to 21, and less than or equal to 20 (50th. cumulative percentage in terms of score frequency), respectively. Appendix 10 presents the frequencies of personality pattern consistency and differentiation.

Chapter II has outlined the research design in detail. It should be noted that for all tests of statistical significance, the .05 level of probability was accepted to imply significance. The next chapter presents the results of this investigation's analyses, followed by Chapter IV with a discussion of these findings.

CHAPTER III

PRESENTATION OF RESULTS

This chapter documents the results of this investigation's analyses. For simplicity of presentation, section one is comprised of research findings pertaining to personality types in relation to personal, vocational, and non-counselees. Section two concludes the chapter by presenting the results of those analyses which dealt specifically with personality patterns of consistency and differentiation in relation to the three counseling groups. Throughout Chapters III and IV, the following word abbreviations and special usages are employed to economize on space: NC (Non-Counselee); VC (Vocational Counselee); PC (Personal Counselee); All C (All Counselees); p (probability of Type I error); df (degrees of freedom); n.s. (not significant); N (Number of subjects); Row% (Row percentage - horizontal); Col% (Column percentage - vertical); TYPE (Personality Type); CONSIST (Consistency); DIFFER (Differentation); m (Male); and f (Female).

1. Personality Type and Counseling

The hypotheses regarding differences between personal, vocational, and non-counselees in terms of

personality types, as measured by the General Occupational Themes of the SCII, were tested by multiple-discriminant and chi-square analyses. Tables 1.1 to 1.12, 2.1 to 2.8, and 3.1 to 3.8, inclusive, summarize the data of the discriminant and chi-square analyses dealing with personality types. The three series present results for the NC, VC, PC by TYPE, the NCm, VCm, PCm by TYPE, and the NCf, VCf, PCf by TYPE comparisons, respectively. In presenting the results of analyses testing hypotheses 1.1, 1.2, and 1.3, discriminant analyses tables for each hypothesis precede those of the chi-square analyses.

Hence, in order to test hypothesis 1.1, stating that no significant differences in personality type exist between personal, vocational, and non-counselees, discriminant and chi-square analyses including all 581 subjects were performed (i.e., NC, VC, PC by TYPE). Analyses findings are presented in Tables 1.1 through 1.12.

Table 1.2 indicates that of Holland's (1973) six personality types, only realistic, investigative, artistic, and social types resulted in significant differences between NC, VC, and PC groups. Specifically, Table 1.1 shows NCs to score highest on the investigative personality type, while VCs, and especially PCs are noted to exhib-

Table 1.1

General Occupational Themes: Means and Standard Deviations for the NC, VC, PC by TYPE Discrimination

Personality Type	NC N=361	VC N=156	PC N=64	Total N=581
	Group Means			
Realistic	-1.70	-4.22	-4.39	-2.67
Investigative	5.87	2.26	1.25	4.39
Artistic	2.57	5.48	6.70	3.27
Social	0.99	3.37	3.31	1.88
Enterprising	-7.00	-6.22	-6.23	-6.71
Conventional	-4.74	-4.02	-4.89	-4.56
	Standard Deviations			
Realistic	8.44	8.99	8.70	8.70
Investigative	7.85	8.04	8.27	8.16
Artistic	10.15	9.23	9.47	9.90
Social	7.83	7.65	7.12	7.78
Enterprising	7.06	7.85	8.83	7.48
Conventional	6.45	7.27	5.94	6.62

Note: Calculations were based upon + and - raw scores.

Table 1.2

General Occupational Themes: Univariate F-tests for the NC, VC, PC by TYPE Discrimination

Personality Type	Wilks' Lambda	F-ratio	p
Realistic	0.979	6.07	.01
Investigative	0.944	16.87	.01
Artistic	0.983	4.84	.01
Social	0.978	6.44	.01
Enterprising	0.997	0.72	n.s.
Conventional	0.997	0.72	n.s.

df = 2; 578

it highest mean scores on the artistic type.

With evidence that group differences exist on four of the six types, discriminant analysis was performed to determine whether the six personality types, in combination, could be employed to maximize group discrimination. Table 1.3 summarizes the discriminating power of the types in union. As the number of functions possible to differentiate groups is always N-1 (where N = number of groups), two functions are calculated in this case. Function 1, which accounts for 91.8% of the variation between NC, VC, and PC groups, is highly significant (.001), while Function 2 does not meaningfully contribute to the analysis' discriminating power. These data indicate that group differences of this magnitude might randomly occur only once in 1,000 attempts, and that discrimination between NC, VC, and PC groups appears possible on the basis of personality differences.

Personality type differences among groups may be examined more closely in Tables 1.4 and 1.5. Table 1.4 represents the standardized discriminant function coefficients for the NC, VC, PC by TYPE discrimination. These scaled weights indicate the relative contribution (positive or negative) of each personality type to the function construction, much the same as beta weights in multiple regression. Thus, the investigative type (+0.87) contributes more than

Table 1.3

General Occupational Themes: Discriminant-Function Summary Data for the NC, VC, PC by TYPE Discrimination

Function	Relative %	Wilks' Lambda	Chi-Square	df	p
1	91.8	0.890	67.97	12	.001
2	8.2	0.990	5.87	5	n.s.

twice as much discriminating power to the function than do the artistic (-0.39) and social (-0.38) types, the second most powerful discriminators. Function 1, then, might appropriately be designated as an investigative personality type continuum.

Group centroids, presented in Table 1.5, serve a dual purpose. First, they are criteria for the classification of individuals as NCs, VCs, or PCs. Thus, the relative proximity of an individual's discriminant function score to each group centroid determines which group he will be classified into, and constitutes the basis to assess the degree of classification accuracy (i.e., predictability). Secondly, the group centroids serve to establish the position of each group along the discriminant function(s).

Hence, abstracting from Tables 1.4 and 1.5, it is evident that NCs, VCs, and PCs are more clearly separated by the investigative type than any other type. In addition, NCs are more aptly described in terms of the investigative type than either VCs or PCs (i.e., with group centroids on Function 1 of +0.25, -0.35, & -0.54, respectively). Furthermore, because the artistic and social types provide reasonably strong negative weightings to Function 1, it may be said of VCs and PCs, that as groups, they tend to be more artistic and social than NCs.

Table 1.4

General Occupational Themes: Standardized Discriminant-Function Coefficients for the NC, VC, PC by TYPE Discrimination

Personality Type	Function 1
Realistic	0.11
Investigative	0.87
Artistic	-0.39
Social	-0.38
Enterprising	0.10
Conventional	-0.32

Table 1.5

General Occupational Themes: Group Centroids in Reduced Space for the NC, VC, PC by TYPE Discrimination

Counseling Group	Function 1
Non-Counselees	0.25
Vocational Counselees	-0.35
Personal Counselees	-0.54

Discriminant analysis success, or lack thereof, is gauged by the degree of prediction accuracy when individuals are classified into counseling groups solely on the basis of their personality type scores, regardless of their actual group membership. An earlier discussion will be recalled emphasizing the need for cross-validation of discriminant analysis results (see Chapter II, section 4). Chance errors committed during the equation phase, it was noted, are invariably capitalized upon in the classification stage of the analysis, generating spuriously inflated prediction accuracy figures. A comparison of Tables 1.6 and 1.7 dramatically underscores the point raised above concerning inflated prediction findings. Table 1.6, for example, displays original analysis prediction accuracy to be 63.5% overall, with group accuracies of 94.5% (NC), 17.9% (VC), and 0.0% (PC). On the other hand, cross-validation results, presented in Table 1.7, indicate overall prediction accuracy to be only 50.5%, and group accuracies to be 62.2% (NC), 42.3% (VC), and 0.0% (PC). Prior probabilities (i.e., the possibility of correct classification merely by chance) in both analyses are 33.3% overall, with expected group accuracies of 62.1% (NC), 26.9% (VC), and 11.0% (PC), based upon relative group size. NCs, it seems, are not

Table 1.6

General Occupational Themes: Original Analysis
Prediction Results for the NC, VC, PC by TYPE
Discrimination

Actual Group	Prior Probability	Predicted Group Membership NC	VC	PC
NC	N = 361	341	20	0
	% = 62.1	94.5	5.5	0.0
VC	N = 156	128	28	0
	% = 26.9	82.1	17.9	0.0
PC	N = 64	50	14	0
	% = 11.0	78.1	21.9	0.0
Total	N = 581			

Correctly classified cases: 63.5%

Note: Prior probabilities were based upon relative group size.

Table 1.7

General Occupational Themes: Prediction Results of the SOUPAC Cross-Validation for the NC, VC, PC by TYPE Discrimination

Actual Group	Prior Probability	Predicted Group Membership NC	VC	PC
NC	N = 180	112	61	7
	% = 62.1	62.2	33.9	3.9
VC	N = 78	45	33	0
	% = 26.9	57.7	42.3	0.0
PC	N = 32	13	19	0
	% = 11.0	40.6	59.4	0.0
Total	N = 290			

Correctly classified cases: 50.0%

Note: Prior probabilities were based upon relative group size.

as readily predictable as the original analysis figures suggest, while VC identification appears to have withstood cross-validation by an actual increase in accuracy. PCs, it will be noted, were never correctly classified in either analysis.

Thus, discriminant analysis results suggest hypothesis 1.1, which, in the Null form held that NCs, VCs, and PCs would exhibit no personality type differences, to be no longer tenable. Further evidence to refute hypothesis 1.1 is appropriated from chi-square analyses of the same data in its discrete form.

Table 1.8, representing the basic relationship of personality type to counseling group, displays a chi-square of 42.49, significant at the .00001 level with 10 df. Although clearly suggesting a systematic relationship between personality type and counseling group, the chi-square itself provides no clue as to the strength of this affiliation. To assess variable relatedness, Cramer's $\underline{V}$, a measure of association ranging from a minimum of 0.0 (no relationship) to +1.0 (perfect relationship), is employed. Hence, in the NC, VC, PC by TYPE analysis, a Cramer's $\underline{V}$ of +0.19 suggests a weak but systematic relationship between personality type and counseling group.

As neither chi-square nor Crámer's V, however, provide data concerning accuracy of prediction, even though evidence of a relationship between dependent and independent variables is available, additional information is necessary. Both the asymmetric lambda and asymmetric uncertainty coefficent disclose prediction data in the form of "proportional reduction of error."

Lambda measures the percentage of improvement in one's ability to predict the dependent variable value (i.e., Counseling Group) once the independent variable value is known (i.e., Personality Type). This concept is founded upon the assumption that the optimum random prediction strategy is to classify all subjects as members of the modal category (i.e., largest group), to minimize the chance of wrong guesses. For example, if one were to classify the individuals represented by Table 1.8 into NC, VC, or PC groups without knowledge of their personality types, maximum prediction accuracy would be realized by categorizing all cases into the NC group, where the likelihood of being correct is 62.1%, and the chance of error is only 37.9%. A lambda of 0.0%, then, as evidenced in Table 1.8, suggests that despite information concerning an individual's personality

Table 1.8

General Occupational Themes: Results of NC, VC, PC by TYPE Chi-Square Analysis

Personality Type		NC	VC	PC	Row Total
Realistic	N	24	9	1	34
	Row%	70.6	26.5	2.9	100.0
	Col%	6.6	5.8	1.6	5.9
Investigative	N	144	37	8	189
	Row%	76.2	19.6	4.2	100.0
	Col%	39.9	23.7	12.5	32.5
Artistic	N	115	48	34	197
	Row%	58.4	24.4	17.3	100.0
	Col%	31.9	30.8	53.1	33.9
Social	N	57	45	14	116
	Row%	49.1	38.8	12.1	100.0
	Col%	15.8	28.8	21.9	20.0
Enterprising	N	7	7	2	16
	Row%	43.8	43.8	12.5	100.0
	Col%	1.9	4.5	3.1	2.8
Conventional	N	14	10	5	29
	Row%	48.3	34.5	17.2	100.0
	Col%	3.9	6.4	7.8	5.0
Column Total	N	361	156	64	581
	Col%	100.0	100.0	100.0	100.0
	Row%	62.1	26.9	11.0	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 42.49; df = 10; $p < .00001$;
2. Cramer's V = 0.19;
3. Asymmetric Lambda = 0.0;
4. Asym. Uncertainty Coefficient = 0.042.

type, the ability to predict counseling group membership is not better than what could be expected by chance.

The asymmetric uncertainty coefficient, similar to lambda in principle, gauges the proportional reduction in error of predicting dependent variable values once knowledge of the independent variable is available. Hence, in the example of Table 1.8 above, an uncertainty coefficient of +0.042 (4.2%) indicates that the 37.9% likelihood of error in a random prediction is lowered to 33.7% in an "enlightened" prediction (i.e., once knowledge of individuals' personality type is taken into consideration).

Tables 1.9 to 1.12, inclusive, display chi-square analyses results of all possible combinations of NC, VC, and PC groups. [1] In each case, chi-square remains significant ($p < .05$), Cramer's V suggests a persistent although weak relationship between counseling group and

---

[1] The rationale being to find a variable which causes the significant relationship between personality type and NC, VC, and PC groups to disappear. Should such a variable be found, one must conclude that no direct effect of personality type on counseling group exists, but rather that the relationship is due solely to the uniqueness of a particular group.

Table 19

General Occupational Themes: Results of NC, All C by TYPE Chi-Square Analysis

Personality Type	N	NC	All C	Row Total
Realistic	N	24	10	34
	Row%	70.6	29.4	100.0
	Col%	6.6	4.5	5.9
Investigative	N	144	45	189
	Row%	76.2	23.8	100.0
	Col%	39.9	20.5	32.5
Artistic	N	115	82	197
	Row%	58.4	41.6	100.0
	Col%	31.9	37.3	33.9
Social	N	57	59	116
	Row%	49.1	50.9	100.0
	Col%	15.8	26.8	20.0
Enterprising	N	7	9	16
	Row%	43.8	56.2	100.0
	Col%	1.9	4.1	2.8
Conventional	N	14	15	29
	Row%	48.3	51.7	100.0
	Col%	3.9	6.8	5.0
Column Total	N	361	220	581
	Col%	100.0	100.0	100.0
	Row%	62.1	37.9	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 31.08; df = 5; $p < .00001$;
2. Cramer's V = 0.23;
3. Asymmetric Lambda = 0.023;
4. Asym. Uncertainty Coefficient = 0.041.

Table 1.10

General Occupational Themes: Results of NC, VC by TYPE Chi-Square Analysis

Personality Type		NC	VC	Row Total
Realistic	N	24	9	33
	Row%	72.7	27.3	100.0
	Col%	6.6	5.8	6.4
Investigative	N	144	37	181
	Row%	79.6	20.4	100.0
	Col%	39.9	23.7	35.0
Artistic	N	115	48	163
	Row%	70.6	29.4	100.0
	Col%	31.9	30.8	31.5
Social	N	57	45	102
	Row%	55.9	44.1	100.0
	Col%	15.8	28.8	19.7
Enterprising	N	7	7	14
	Row%	50.0	50.0	100.0
	Col%	1.9	4.5	2.7
Conventional	N	14	10	24
	Row%	58.3	41.7	100.0
	Col%	3.9	6.4	4.6
Column Total	N	361	156	517
	Col%	100.0	100.0	100.0
	Row%	69.8	30.2	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 21.84; df = 5; $p < .001$;
2. Cramer's V = 0.21;
3. Asymmetric Lambda = 0.0;
4. Asym. Uncertainty Coefficient = 0.034;

Table 1.11

General Occupational Themes: Results of NC, PC by TYPE Chi-Square Analysis

Personality Type	N	NC	PC	Row Total
Realistic	N	24	1	25
	Row%	96.0	4.0	100.0
	Col%	6.6	1.6	5.9
Investigative	N	144	8	152
	Row%	94.7	5.3	100.0
	Col%	39.9	12.5	35.8
Artistic	N	115	34	149
	Row%	77.2	22.8	100.0
	Col%	31.9	53.1	35.1
Social	N	57	14	71
	Row%	80.3	19.7	100.0
	Col%	15.8	21.9	16.7
Enterprising	N	7	2	9
	Row%	77.8	22.2	100.0
	Col%	1.9	3.1	2.1
Conventional	N	14	5	19
	Row%	73.7	26.3	100.0
	Col%	3.9	7.8	4.5
Column Total	N	361	64	425
	Col%	100.0	100.0	100.0
	Row%	84.9	15.1	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 24.26; df = 5; $p < .0001$;
2. Cramer's $V = 0.24$;
3. Asymmetric Lambda = 0.0;
4. Asym. Uncertainty Coefficient = 0.075.

Table 1.12

General Occupational Themes: Results of VC, PC by TYPE Chi-Square Analysis

Personality Type	N	VC	PC	Row Total
Realistic	N	9	1	10
	Row%	90.0	10.0	100.0
	Col%	5.8	1.6	4.5
Investigative	N	37	8	45
	Row%	82.2	17.8	100.0
	Col%	23.7	12.5	20.5
Artistic	N	48	34	82
	Row%	58.5	41.5	100.0
	Col%	30.8	53.1	37.3
Social	N	45	14	59
	Row%	76.3	23.7	100.0
	Col%	28.8	21.9	26.8
Enterprising	N	7	2	9
	Row%	77.8	22.2	100.0
	Col%	4.5	3.1	4.1
Conventional	N	10	5	15
	Row%	66.7	33.3	100.0
	Col%	6.4	7.8	6.8
Column Total	N	156	64	220
	Col%	100.0	100.0	100.0
	Row%	70.9	29.1	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 11.80; df = 5; $p < .05$;
2. Cramer's V = 0.23;
3. Asymmetric Lambda = 0.0;
4. Asym. Uncertainty Coefficient = 0.046.

personality type, the measures of predictability (i.e., lambda & uncertainty coefficient) indicate slight improvements over chance, and the modal categories in terms of personality type are investigative (NCs), and artistic (VCs & PCs). These data indicate that the observed personality type-counseling group relationship is not solely due to one of the three counseling groups.

Thus, chi-square results, as did discriminant analysis findings, suggest that hypothesis 1.1, which held that NCs, VCs, and PCs would exhibit no personality type differences, is rejected in this case.

In order to test hypothesis 1.2, stating that no significant differences in personality type exist between personal, vocational, and non-counselee males, discriminant and chi-square analyses including the investigation's 285 male subjects were performed (i.e., NCm, VCm, PCm by TYPE). Analyses results are presented in Tables 2.1 through 2.8.

Table 2.2 indicates that of Holland's (1973) personality types, only realistic and investigative types individually resulted in significant differences between NCm, VCm, and PCm groups. Table 2.1, however, shows NCm and VCm groups to score highest on the investigative personality type, while PCms exhibit their highest mean score on the artistic type, suggesting that the six types, in

Table 2.1

General Occupational Themes: Means and Standard Deviations for the NCm, VCm, PCm by TYPE Discrimination

Personality Type	NCm N=203	VCm N=60	PCm N=22	Total N=285
	Group Means			
Realistic	1.21	-1.08	-2.45	0.44
Investigative	7.27	2.57	1.77	5.85
Artistic	0.00	1.03	4.18	0.54
Social	-0.36	2.05	1.23	0.27
Enterprising	-5.45	-5.05	-3.05	-5.18
Conventional	-3.67	-5.20	-4.59	-4.06
	Standard Deviations			
Realistic	7.73	8.72	10.98	8.29
Investigative	7.55	8.38	9.01	8.13
Artistic	10.11	9.84	12.50	10.28
Social	7.61	7.80	8.74	7.78
Enterprising	7.50	8.56	10.21	7.96
Conventional	6.34	7.05	7.10	6.56

Note: Calculations were based upon + and - raw scores.

Table 2.2

General Occupational Themes: Univariate F-tests for the NCm, VCm, PCm by TYPE Discrimination

Personality Type	Wilks' Lambda	F-ratio	p
Realistic	0.977	3.27	.05
Investigative	0.924	11.53	.01
Artistic	0.988	1.74	n.s.
Social	0.983	2.44	n.s.
Enterprising	0.994	0.92	n.s.
Conventional	0.991	1.34	n.s.

df = 2; 282

combination, might provide more meaningful differentiation among groups.

With data suggesting group differences on two of the six types, discriminant analysis was carried out to determine whether the types, in combination, could be employed to maximize group discrimination. Table 2.3 summarizes the discriminating power of the types in combination. Function 1, which accounts for 88.6% of the variation between NCm, VCm, and PCm groups, is highly significant (.0001), while Function 2 does not significantly contribute to the analysis' discriminating power. These data suggest that discrimination between NCm, VCm, and PCm groups is feasible on the basis of personality type differences.

Personality type differences among groups may be studied more closely in Table 2.4 and 2.5. Table 2.4, presenting the standardized discriminant function coefficients, indicates that the investigative type (-0.86), relatively speaking, contributes more than twice as much discriminating power to Function 1 than do social (+0.39) and artistic (+0.32) types, the second most powerful discriminators. Function 1, then, might again be appropriately designated as an investigative personality type continuum.

Table 2.3

General Occupational Themes: Discriminant-Function Summary Data for the NCm, VCm, PCm by TYPE Discrimination

Function	Relative %	Wilks' Lambda	Chi-Square	df	p
1	88.6	0.862	41.66	12	.0001
2	11.4	0.982	4.99	5	n.s.

Table 2.4

General Occupational Themes: Standardized Discriminant-Function Coefficients for the NCm, VCm, PCm by TYPE Discrimination

Personality Type	Function 1
Realistic	-0.07
Investigative	-0.86
Artistic	0.32
Social	0.39
Enterprising	0.14
Conventional	-0.21

Hence, abstracting from Table 2.4, and considering the group centroids presented in Table 2.5, it is possible to suggest that NCms, VCms, and PCms are more clearly separated by the investigative type than either VCms or PCms (i.e., with group centroids on Function 1 of -0.22, +0.50, & +0.67, respectively). Furthermore, because the social and artistic types provide reasonably strong opposite weightings to Function 1, it may be said of VCms and PCms, that as groups, they tend to be more social and artistic than NCms.

Tables 2.6 and 2.7 present the original and cross-validated prediction results, respectively, for the NCm, VCm, PCm by TYPE discrimination. Original analysis prediction accuracy is noted to be 71.9% overall, with group accuracies of 95.1% (NCm), 20.0% (VCm), and 0.0% (PCm). Cross-validated results, on the other hand, indicate overall prediction accuracy to be only 59.2%, with group accuracies to be 65.4% (NCm), 40.0% (VCm), and 0.0% (PCm). Prior probabilities in both analyses are 33.3% overall, with expected group accuracies of 71.2% (NCm), 21.1% (VCm), and 7.7% (PCm), based upon relative group size. As before, NCms appear to be considerably less predictable than the original analysis figures suggest, VCm identification in-

Table 2.5

General Occupational Themes: Group Centroids in Reduced Space for the NCm, VCm, PCm by TYPE Discrimination

Counseling Group	Function 1
Non-Counselee Males	-0.22
Vocational Counselee Males	0.50
Personal Counselee Males	0.67

Table 2.6

General Occupational Themes: Original Analysis
Prediction Results for the NCm, VCm, PCm by TYPE
Discrimination

Actual Group	Prior Probability	Predicted Group Membership NCm	VCm	PCm
NCm	N = 205	193	10	0
	% = 71.2	95.1	4.9	0.0
VCm	N = 60	48	12	0
	% = 21.1	80.0	20.0	0.0
PCm	N = 22	18	4	0
	% = 7.7	81.8	18.2	0.0
Total	N = 285			

Correctly classified cases: 71.9%

Note: Prior probabilities were based upon relative group size.

Table 2.7

General Occupational Themes: Prediction Results of the SOUPAC Cross-Validation for the NCm, VCm, PCm by TYPE Discrimination

Actual Group	Prior Probability	Predicted Group Membership NCm	VCm	PCm
NCm	N = 101	66	29	6
	% = 71.1	65.4	28.7	5.9
VCm	N = 30	16	12	2
	% = 21.1	53.3	40.0	6.7
PCm	N = 11	5	6	0
	% = 7.8	45.4	54.6	0.0
Total	N = 142			

Correctly classified cases: 59.2%

Note: Prior probabilities were based upon relative group size.

creased in accuracy in the cross-validation, and PCms were never correctly classified.

Thus, discriminant analysis findings indicate hypothesis 1.2, which, in the Null form hold that NCms, VCms, and PCms would exhibit no personality type differences, to be no longer tenable. Further evidence to refute hypothesis 1.2 is gleaned from chi-square analysis of the same data in its discrete form.

Table 2.8, representing the basic relationship of personality type to counseling group males, displays a chi-square of 27.99, significant at the .001 level with 10 df. Summary data, with counseling group dependent, includes a Cramer's V of +0.22, an asymmetric lambda of 0.0, and an asymmetric uncertainty coefficient of +0.061 (6.1%). These data suggest a weak, though systematic relationship between male counseling groups and personality type, with prediction accuracy, based upon the relationship, slightly better than chance. The modal categories in terms of personality type are investigative for NCms and VCms, and artistic for PCms.

Thus, chi-square results, as did discriminant analysis findings, suggest that hypothesis 1.2, which held that NCms, VCms, and PCms would exhibit no personality type differences, is rejected in this case.

Table 2.8

General Occupational Themes: Results of NCm, VCm, PCm by TYPE Chi-Square Analysis

Personality Type	N	NCm	VCm	PCm	Row Total
Realistic	N	24	7	1	32
	Row%	75.0	21.9	3.1	100.0
	Col%	11.8	11.7	4.5	11.2
Investigative	N	102	16	4	122
	Row%	83.6	13.1	3.3	100.0
	Col%	50.2	26.7	18.2	42.8
Artistic	N	37	15	9	61
	Row%	60.7	24.6	14.8	100.0
	Col%	18.2	25.0	40.9	21.4
Social	N	26	15	4	45
	Row%	57.8	33.3	8.9	100.0
	Col%	12.8	25.0	18.2	15.8
Enterprising	N	5	5	1	11
	Row%	45.5	45.5	9.1	100.0
	Col%	2.5	8.3	4.5	3.9
Conventional	N	9	2	3	14
	Row%	64.3	14.3	21.4	100.0
	Col%	4.4	3.3	13.6	4.9
Column Total	N	203	60	22	285
	Col%	100.0	100.0	100.0	100.0
	Row%	71.2	21.2	7.7	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 27.99; df = 10; $p < .002$;
2. Cramer's $V = 0.22$;
3. Asymmetric Lambda = 0.0;
4. Asym. Uncertainty Coefficient = 0.061.

In order to test hypothesis 1.3, stating that no significant differences in personality type exist between personal, vocational, and non-counselee females, discriminant and chi-square analyses including the investigation's 296 female subjects were performed (i.e., NCf, VCf, PCf by TYPE). Analyses results are presented in Tables 3.1 through 3.8.

Table 3.2 indicates that of the six personality types, only investigative and conventional types individually resulted in significant differences between NCf, VCf, and PCf groups. Table 3.1, however, shows each of the three counseling groups to exhibit their highest mean score on the artistic personality type, suggesting that the six types, employed in combination, might provide more accurate differentiation among groups.

With evidence that group differences exist on two of the six types, discriminant analysis was performed to determine whether the personality types, in combination, could be employed to maximize group discrimination. Table 3.3 summarizes the discriminating power of the types in combination. Function 1, which accounts for 75.6% of the variation between NCf, VCf, and PCf groups, is significant (.01), while Function 2 does not meaningfully contribute to the analysis' discriminating power.

Table 3.1

General Occupational Themes: Means and Standard Deviations for the NCf, VCf, PCf by TYPE Discrimination

Personality Type	NCf N=158	VCf N=96	PCf N=42	Total N=296
	Group Means			
Realistic	-5.44	-6.18	-5.40	-5.67
Investigative	4.08	2.06	0.98	2.98
Artistic	5.87	5.01	8.02	5.90
Social	2.73	4.20	4.40	3.44
Enterprising	-8.98	-6.96	-7.90	-8.17
Conventional	-6.11	-3.28	-5.05	-5.04
	Standard Deviations			
Realistic	7.86	8.63	7.18	8.01
Investigative	7.89	7.86	7.95	7.96
Artistic	9.23	8.54	7.25	8.78
Social	7.80	7.47	5.93	7.47
Enterprising	5.92	7.32	7.62	6.69
Conventional	6.35	7.34	5.32	6.66

Note: Calculations were based upon + and - raw scores.

Table 3.2

General Occupational Themes: Univariate F-tests for the NCf, VCf, PCf by TYPE Discrimination

Personality Type	Wilks' Lambda	F-ratio	p
Realistic	0.998	0.28	n.s.
Investigative	0.977	3.53	.05
Artistic	0.988	1.73	n.s.
Social	0.989	1.57	n.s.
Enterprising	0.981	2.80	n.s.
Conventional	0.964	5.54	.01

df = 2; 293

Table 3.3

General Occupational Themes: Discriminant-Function Summary Data for the NCf, VCf, PCf by TYPE Discrimination

Function	Relative %	Wilks' Lambda	Chi-Square	df	p
1	75.6	0.903	29.77	12	.01
2	24.4	0.975	7.40	5	n.s.

These data suggest that discrimination between NCf, VCf, and PCf groups is possible on the basis of personality type differences.

Personality type differences among groups may be examined more closely in Tables 3.4 and 3.5. Table 3.4, presenting the standardized discriminant function coefficients, indicates that the investigative (+0.81) and conventional (-0.74) types, relatively speaking, contribute more discriminating power to Function 1 than do any other types. Function 1, then, might appropriately be designated as an investigative-conventional personality type continuum, with investigative and conventional types providing positive and negative weightings to the axis, respectively.

Hence, abstracting from Table 3.4, and considering the group centroids presented in Table 3.5, it is evident that NCfs, VCfs, and PCfs are more clearly separated by the investigative and conventional types than any other types. For example, NCfs are most appropriately described in terms of the investigative type (i.e., with a group centroid of +0.25), while VCfs and PCfs are more aptly labelled as conventional types (i.e., with group centroids of -0.29 & -0.28, respectively).

Tables 3.6 and 3.7 present the original and cross-validated prediction results, respectively, for

Table 3.4

General Occupational Themes: Standardized Discriminant-Function Coefficients for the NCf, VCf, PCf by TYPE Discrimination

Personality Type	Function 1
Realistic	-0.05
Investigative	0.81
Artistic	-0.19
Social	-0.24
Enterprising	-0.02
Conventional	-0.74

Table 5.5

General Occupational Themes: Group Centroids in Reduced Space for the NCf, VCf, PCf by TYPE Discrimination

Counseling Group	Function 1
Non-Counselee Females	0.25
Vocational Counselee Females	-0.29
Personal Counselee Females	-0.28

the NCf, VCf, PCf by TYPE discrimination. Original analysis prediction accuracy is noted as 55.1% overall, with group accuracies of 86.7% (NCf), 27.1% (VCf), and 0.0% (PCf). Cross-validation results, on the other hand, indicate overall prediction accuracy to be only 45.9%, and group accuracies to be 59.5% (NCf), 43.7% (VCf), and 0.0% (PCf). Prior probabilities in both analyses are 33.3% overall, with expected group accuracies of 53.4% (NCf), 32.4% (VCf), and 14.2% (PCf), based upon relative group size. Again, NCfs appear to be considerably less predictable than the original analysis figures suggest, VCfs seem to be more readily identifiable in the cross-validation, and PCfs were never correctly classified.

Thus, discriminant analysis results suggest hypothesis 1.3, which, in the Null form held that NCfs, VCfs, and PCfs would exhibit no personality type differences, to be no longer tenable. Further evidence to refute hypothesis 1.3 is gleaned from chi-square analysis of the same data in its discrete form.

Table 3.8, representing the basic relationship of personality type to counseling group females, displays a chi-square of 20.25, significant at the .03 level with 10 df. Summary data, with counseling group dependent, includes a Cramer's V of +0.18, an asymmetric lambda of

Table 3.6

General Occupational Themes: Original Analysis
Prediction Results for the NCf, VCf, PCf by TYPE Discrimination

Actual Group	Prior Probability	Predicted Group Membership NCf	VCf	PCf
NCf	N = 158	137	21	0
	% = 53.4	86.7	13.3	0.0
VCf	N = 96	69	26	1
	% = 32.4	71.9	27.1	1.0
PCf	N = 42	33	9	0
	% = 14.2	78.6	21.4	0.0
Total	N = 296			

Correctly classified cases: 55.1%

Note: Prior probabilities were based upon relative group size.

Table 3.7

General Occupational Themes: Prediction Results of the SOUPAC Cross-Validation for the NCf, VCf, PCf by TYPE Discrimination

Actual Group	Prior Probability	Predicted Group Membership NCf	VCf	PCf
NCf	N = 79	47	29	3
	% = 53.4	59.5	36.7	3.8
VCf	N = 48	26	21	1
	% = 32.4	54.2	43.7	2.1
PCf	N = 21	11	10	0
	% = 14.2	52.4	47.6	0.0
Total	N = 148			

Correctly classified cases: 45.9%

Note: Prior probabilities were based upon relative group size.

Table 3.8

General Occupational Themes: Results of NCf, VCf, PCf by TYPE Chi-Square Analysis

Personality Type		NCf	VCf	PCf	Row Total
Realistic	N	0	2	0	2
	Row%	0.0	100.0	0.0	100.0
	Col%	0.0	2.1	0.0	0.7
Investigative	N	42	21	4	67
	Row%	62.7	31.3	6.0	100.0
	Col%	26.6	21.9	9.5	22.6
Artistic	N	78	33	25	136
	Row%	57.4	24.3	18.4	100.0
	Col%	49.4	34.4	59.5	45.9
Social	N	31	30	10	71
	Row%	43.7	42.3	14.0	100.0
	Col%	19.6	31.3	23.8	24.0
Enterprising	N	2	2	1	5
	Row%	40.0	40.0	20.0	100.0
	Col%	1.3	2.1	2.4	1.7
Conventional	N	5	8	2	15
	Row%	33.3	53.3	13.4	100.0
	Col%	3.2	8.3	4.8	5.1
Column Total	N	158	96	42	296
	Col%	100.0	100.0	100.0	100.0
	Row%	53.4	32.4	14.2	100.0

Summary data with Counseling Group dependent:

1. Chi-Square = 20.25; df = 10; $p < .03$;
2. Cramer's $V = 0.18$;
3. Asymmetric Lambda = 0.036;
4. Asym. Uncertainty Coefficient = 0.037.

+0.036, and an asymmetric uncertainty coefficient of +0.037 (3.7%). Results suggest a weak, although systematic relationship between female counseling groups and personality type, with prediction accuracy, based upon the relationship, slightly better than chance. The modal category for all groups is artistic.

Thus, chi-square results as did discriminant analysis findings, suggest that hypothesis 1.3, which held that NCfs, VCfs, and PCfs would exhibit no personality type differences, is rejected in this case.

The foregoing section of Chapter III, then, has presented both multiple-discriminant and chi-square analyses results concerning personality types as they relate to personal, vocational, and non-counseling groups.

To summarize section one of Chapter III, it appears that a systematic, albeit weak, relationship exists between membership in various counseling groups and personality type. Discriminant analyses with male and female groups combined indicate NCs, VCs, and PCs to be separated along a continuum composed primarily of the investigative type (positive weighting) and secondarily of the artistic and social types (negative weightings). NCs, for example, are most aptly described as investigative types and least appropriately as artistic and social

types, while VCs and particularly PCs exhibit the converse pattern, namely, least investigative and most artistic and social.

When sex is considered as a factor, analyses reveal NCms, VCms, and PCms to be differentiated along an axis comprised chiefly of the investigative type (negative weighting) and secondarily of the social and artistic types (positive weightings). NCms, for instance, are most appropriately described as investigative types and least aptly as social and artistic types, while VCms and especially PCms demonstrate the opposite pattern, namely, least investigative and most social and artistic. On the other hand, NCfs, VCfs, and PCfs are distinguished from each other along a continuum composed fairly equally of the investigative (positive weighting) and conventional types (negative weighting). NCfs, in this case, are most aptly described as investigative types and least appropriately as conventional types, while VCfs and PCfs exhibit the reverse pattern, namely, least investigative and most conventional.

Cross-validated prediction accuracies, based upon discrimination among groups by means of personality type scores, indicate generally lower percentages of correctly classified subjects than original analyses pre-

diction accuracies, due primarily to the problem of "self-fulfilling prophesies" in discriminant and classification analysis with same sample subjects (refer to Chapter II, section 4, for a discussion of this phenomenon). Overall prediction accuracies in the cross-validated analyses, however, are better than chance in all cases, although individual group predictions indicate NC, VC, and PC groups, of both sexes, to be classified with varying degrees of accuracy. VCs and PCs, for example, are the most and least identifiable groups, respectively, with NCs occupying a middle position between the two.

Chi-square analyses, significant in each case, suggest NCs to be most aptly described as investigative types, while VCs and PCs are proportionately more often artistic types than any other type. For males, NCms and VCms seem to be investigative types, while PCms appear as predominantly artistic types. Chi-square analysis with females, on the other hand, indicate NCfs, VCfs, and PCfs to be most aptly described as artistic types in terms of modal category.

The following section of this chapter presents the results of analyses dealing specifically with personality patterns of consistency and differentiation in relation to the three counseling groups.

2. Consistency, Differentiation and Counseling

The hypotheses regarding differences between personal, vocational, and non-counselees in terms of personality pattern consistency and differentiation, as measured by the General Occupational Themes of the SCII, were tested by chi-square analyses. Tables 4.1 to 4.7, and 5.1 to 5.7, inclusive, summarize the data of these analyses. The two series of tables present results for the NC, VC, PC by CONSIST and NC, VC, PC by DIFFER comparisons, respectively.

Hypotheses 2.1, 2.2, and 2.3 state that no significant differences in degrees of personality pattern consistency exist between: (a) personal, vocational, and non-counselees; (b) personal, vocational, and non-counselee males; and (c) personal, vocational, and non-counselee females, respectively. Tables 4.1 through 4.7 indicate that measures of personality pattern consistency fail to vary significantly between NC,VC, and PC groups, regardless of sex or group combination. Thus, chi-square analyses results of NC, VC, PC by CONSIST comparisons do not provide grounds to reject the Null condition of hypotheses 2.1, 2.2, and 2.3.

Table 4.1

General Occupational Themes: Results of NC, VC, PC by CONSIST Chi-Square Analysis

Consistency Level	N	NC	VC	PC	Row Total
Low	N	14	9	3	26
	Row%	53.8	34.6	11.5	100.0
	Col%	3.9	5.8	4.7	4.5
Medium	N	100	49	16	165
	Row%	60.6	29.7	9.7	100.0
	Col%	27.7	31.4	25.0	28.4
High	N	247	98	45	390
	Row%	63.3	25.1	11.5	100.0
	Col%	68.4	62.8	70.3	67.1
Column Total	N	361	156	64	581
	Col%	100.0	100.0	100.0	100.0
	Row%	62.1	26.9	11.0	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 2.32; df = 4; $p > .05$ (n.s.).

Table 4.2

General Occupational Themes: Results of NC, All C by CONSIST Chi-Square Analysis

Consistency Level	N	NC	All C	Row Total
Low	N	14	12	26
	Row%	53.8	46.2	100.0
	Col%	3.9	5.5	4.5
Medium	N	100	65	165
	Row%	60.6	39.4	100.0
	Col%	27.7	29.5	28.4
High	N	247	143	390
	Row%	63.3	36.7	100.0
	Col%	68.4	65.0	67.1
Column Total	N	361	220	581
	Col%	100.0	100.0	100.0
	Row%	62.1	37.9	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 1.16; df = 2; $p > .05$ (n.s.).

Table 4.3

General Occupational Themes: Results of NC, VC by CONSIST Chi-Square Analysis

Consistency Level	N	NC	VC	Row Total
Low	N	14	9	23
	Row%	60.9	39.1	100.0
	Col%	3.9	5.8	4.4
Medium	N	100	49	149
	Row%	67.1	32.9	100.0
	Col%	27.7	31.4	28.8
High	N	247	98	345
	Row%	71.6	28.4	100.0
	Col%	68.4	62.8	66.7
Column Total	N	361	156	517
	Col%	100.0	100.0	100.0
	Row%	69.8	30.2	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 1.19; df = 2; $p > .05$ (n.s.).

Table 4.4

General Occupational Themes: Results of NC, PC by CONSIST Chi-Square Analysis

Consistency Level	N	NC	PC	Row Total
Low	N	14	3	17
	Row%	82.4	17.6	100.0
	Col%	3.9	4.7	4.0
Medium	N	100	16	116
	Row%	86.2	13.8	100.0
	Col%	27.7	25.0	27.3
High	N	247	45	292
	Row%	84.6	15.4	100.0
	Col%	68.4	70.3	68.7
Column Total	N	361	64	425
	Col%	100.0	100.0	100.0
	Row%	84.9	15.1	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 0.26; df = 2; $p > .05$ (n.s.).

Table 4.5

General Occupational Themes: Results of VC, PC by CONSIST Chi-Square Analysis

Consistency Level	N	VC	PC	Row Total
Low	N	9	3	12
	Row%	75.0	25.0	100.0
	Col%	5.8	4.7	5.5
Medium	N	49	16	65
	Row%	75.4	24.6	100.0
	Col%	31.4	25.0	29.5
High	N	98	45	143
	Row%	68.5	31.5	100.0
	Col%	62.8	70.3	65.0
Column Total	N	156	64	220
	Col%	100.0	100.0	100.0
	Row%	70.9	29.1	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 1.12; df = 2; $p > .05$ (n.s.).

Table 4.6

General Occupational Themes: Results of NCm, VCm, PCm by CONSIST Chi-Square Analysis

Consistency Level	N	NCm	VCm	PCm	Row Total
Low	N	10	5	1	16
	Row%	62.5	31.3	6.3	100.0
	Col%	4.9	8.3	4.5	5.6
Medium	N	56	20	6	82
	Row%	68.3	24.4	7.3	100.0
	Col%	27.6	33.3	27.3	28.8
High	N	137	35	15	187
	Row%	73.3	18.7	8.0	100.0
	Col%	67.5	58.3	68.2	65.6
Column Total	N	203	60	22	285
	Col%	100.0	100.0	100.0	100.0
	Row%	71.2	21.1	7.7	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 2.17; df = 4; $p > .05$ (n.s.).

Table 4.7

General Occupational Themes: Results of NCf, VCf, PCf by CONSIST Chi-Square Analysis

Consistency Level	N	NCf	VCf	PCf	Row Total
Low	N	4	4	2	10
	Row%	40.0	40.0	20.0	100.0
	Col%	2.5	4.2	4.8	3.4
Medium	N	44	29	10	83
	Row%	53.0	34.9	12.0	100.0
	Col%	27.8	30.2	23.8	28.0
High	N	110	63	30	203
	Row%	54.2	31.0	14.8	100.0
	Col%	69.6	65.6	71.4	68.6
Column Total	N	158	96	42	296
	Col%	100.0	100.0	100.0	100.0
	Row%	53.4	32.4	14.2	100.0

Summary data with CONSIST dependent:

1. Chi-Square = 1.38; df = 4; $p > .05$ (n.s.).

Hypotheses 3.1, 3.2, and 3.3 state that no significant differences in degrees of personality pattern differentiation exist between: (a) personal, vocational, and non-counselees; (b) personal, vocational, and non-counselee males; and (c) personal, vocational, and non-counselee females, respectively. Tables 5.1 through 5.7 document that measures of personality pattern differentiation do not vary significantly between NC, VC, and PC groups, regardless of sex or group combination. Thus, chi-square analyses findings of NC, VC, PC by DIFFER comparisons do not comprise grounds to reject the Null condition of hypotheses 3.1, 3.2, and 3.3.

From the data presented in sections one and two of Chapter III, it appears that a systematic but weak relationship exists between membership in personal, vocational, and non-counselee groups and Holland's (1973) personality types. Personality patterns of consistency and differentiation, however, do not seem to change significantly among NC, VC, and PC groups.

Chapter III has presented this dissertation's statistical results. The following chapter provides a discussion of these findings, some suggestions for further research, and a brief summary.

Table 5.1

General Occupational Themes: Results of NC, VC, PC by DIFFER Chi-Square Analysis

Differentiation Level		NC	VC	PC	Row Total
Low	N	161	78	25	264
	Row%	61.0	29.5	9.5	100.0
	Col%	44.6	50.0	39.1	45.4
High	N	200	78	39	317
	Row%	63.1	24.6	12.3	100.0
	Col%	55.4	50.0	60.9	54.6
Column Total	N	361	156	64	581
	Col%	100.0	100.0	100.0	100.0
	Row%	62.1	26.9	11.0	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 2.46; df = 2; $p > .05$ (n.s.).

Table 5.2

General Occupational Themes: Results of NC, All C by DIFFER Chi-Square Analysis [1]

Differentiation Level	N	NC	All C	Row Total
Low	N	161	103	264
	Row%	61.0	39.0	100.0
	Col%	44.6	46.8	45.4
High	N	200	117	317
	Row%	63.1	36.9	100.0
	Col%	55.4	53.2	54.6
Column Total	N	361	220	581
	Col%	100.0	100.0	100.0
	Row%	62.1	37.9	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 0.19; df = 1; $p > .05$ (n.s.).

Table 5.3

General Occupational Themes: Results of NC, VC by DIFFER Chi-Square Analysis

Differentiation Level	N	NC	VC	Row Total
Low	N	161	78	239
	Row%	67.4	32.6	100.0
	Col%	44.6	50.0	46.2
High	N	200	78	278
	Row%	71.9	28.1	100.0
	Col%	55.4	50.0	53.8
Column Total	N	361	156	517
	Col%	100.0	100.0	100.0
	Row%	69.8	30.2	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 1.07; df = 1; $p > .05$ (n.s.).

Table 5.4

General Occupational Themes: Results of NC, PC by DIFFER Chi-Square Analysis

Differentiation Level	N	NC	PC	Row Total
Low	N	161	25	186
	Row%	86.6	13.4	100.0
	Col%	44.6	39.1	43.8
High	N	200	39	239
	Row%	83.7	16.3	100.0
	Col%	55.4	60.9	56.2
Column Total	N	361	64	425
	Col%	100.0	100.0	100.0
	Row%	84.9	15.1	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 0.47; df = 1; $p > .05$ (n.s.).

Table 5.5

General Occupational Themes: Results of VC, PC by DIFFER Chi-Square Analysis

Differentiation Level	N	VC	PC	Row Total
Low	N	78	25	103
	Row%	75.7	24.3	100.0
	Col%	50.0	39.1	46.8
High	N	78	39	117
	Row%	66.7	33.3	100.0
	Col%	50.0	60.9	53.2
Column Total	N	156	64	220
	Col%	100.0	100.0	100.0
	Row%	70.9	29.1	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 1.76; df = 1; $p > .05$ (n.s.).

Table 5.6

General Occupational Themes: Results of NCm, VCm, PCm by DIFFER Chi-Square Analysis

Differentiation Level	N	NCm	VCm	PCm	Row Total
Low	N	109	33	10	152
	Row%	71.7	21.7	6.6	100.0
	Col%	53.7	55.0	45.5	53.3
High	N	94	27	12	133
	Row%	70.7	20.3	9.0	100.0
	Col%	46.3	45.0	54.5	46.7
Column Total	N	203	60	22	285
	Col%	100.0	100.0	100.0	100.0
	Row%	71.2	21.1	7.7	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 0.63; df = 2; $p > .05$ (n.s.).

Table 5.7

General Occupational Themes: Results of NCf, VCf, PCf by DIFFER Chi-Square Analysis

Differentiation Level		N	NCf	VCf	PCf	Row Total
Low		N	52	45	15	112
		Row%	46.4	40.2	13.4	100.0
		Col%	32.9	46.9	35.7	37.8
High		N	106	51	27	184
		Row%	57.6	27.7	14.7	100.0
		Col%	67.1	53.1	64.3	62.2
Column Total		N	158	96	42	296
		Col%	100.0	100.0	100.0	100.0
		Row%	53.4	32.4	14.2	100.0

Summary data with DIFFER dependent:

1. Chi-Square = 5.04; df = 2; $p > .05$ (n.s.).

CHAPTER IV

DISCUSSION OF RESULTS

Chapter IV is divided, for convenience, into three sections: (1) Discussion of results; (2) suggestions for further research; and (3) summary.

1. Discussion of Results

The results of this investigation represent both success and failure to substantiate the hypotheses formulated from Holland's (1973) theory. Success is evidenced by the finding that personal, vocational, and non-counselee groups, regardless of sex, differ significantly in terms of personality types. Failure, on the other hand, is indicated by a total lack of support for the proposition that personal, vocational, and non-counselee groups systematically differ on measures of personality pattern consistency and/or differentiation.

The salient findings of this study, vis-a-vis the hypotheses posed, are as follows: (1) Non-counselees, regardless of sex, differ from both personal and vocational counselees in presenting themselves as more clearly investigative in personality type; (2) when sex is considered as a factor, personal and vocational counselee

males and females differ in personality type not only from non-counselees of the same sex, but also from one another. Personal and vocational counselee males, for example, when compared to non-counselee males, appear least investigative and most artistic-social in type. Female personal and vocational counselees, conversely, in contrast to their investigative non-counselee counterparts, are more conventional in type; (3) in the case of both sexes, personal and vocational counselees are not notably different from each other in type; (4) cross-validation of the classification phases of discriminant analyses indicate vocational counselees to be consistently more readily identifiable than non-counselees, and, personal counselees, in turn, to be the most difficult to classify (i.e., they were never correctly categorized); and (5) this study's results provide no support for the hypothesis that significant relationships exist between personal, vocational, and non-counselee groups and personality patterns of consistency and/or differentiation.

From a strictly theoretical perspective, the potentially most stimulating prospects for discussion are the findings that: (a) personal and vocational counselees are not significantly different in personality type, yet (b) type differences are still evidenced

between counselees and non-counselees. Both results, as such, were unexpected in the light of previous research. For example, past investigations have reported consistently negative findings with regards to personality type differences between counselee and non-counselee groups, when no control over the problem variable (i.e., VC or PC) was exercized (e.g., Berdie & Stein, 1966; Smith, 1977). Speculating from these studies that counselee versus non-counselee differences were diluted by the presence of vocational counselees in the counselee group, other researchers compared personal, vocational, and non-counselees on measures of personality characteristics (e.g., Gaudet & Kulick, 1954; Heilbrun, 1960; Sharf & Bishop, 1973). As predicted, results generally indicated vocational and non-counselees to resemble each other in type, yet significantly differ from personal counselees. The findings of the present study, then, suggesting personal and vocational counselees to be similar to each other, yet differ in type from non-counselees, are contrary to prior conclusions.

The results, however, appear to provide a possible clue to the source of the noted discrepancy between the present findings and those of previous re-

search. It is readily observable, for example, that for each discriminant analysis the cross-validated classification results (i.e., Tables 1.7, 2.7, 3.7) indicate vocational counselees to be considerably easier to identify than either personal or non-counselees, and personal counselees to be extremely ill-defined in comparison to both of the other groups. The observation, then, that some studies amalgamated vocational and non-counselees, while others allied vocational and personal counselees, seems less surprising. It may be hypothesized, for example, that dissonance in the literature as to vocational counselee affiliation (i.e., either with NCs or PCs), may merely testify to sampling errors or to the conclusion that slight variations among counselee and non-counselee populations in the different studies, were sufficient to bias the classification of personal and non-counselees one way or the other. Thus, it is possible to suggest that the difficulty experienced in determining an appropriate niche for personal and non-counselee groups stems from the finding that neither congregation is as homogenous in terms of personality characteristics in general, and personality type in particular, than has previously been assumed.

What, then, are the personality type differences, in terms of Holland's (1973) theory, between counselees and non-counselees? From an applied counseling point-of-view, the most noteworthy result of the present investigation is that type differences appear to exist not only between counselees and non-counselees, but more importantly, also between males and females within each group. For instance, compared to non-counselee males, male counselees tend to be least investigative and most social-artistic in type. Female counselees, on the other hand, in contrast to non-counselee females, also exhibit the least similarity to investigative but the most likeness to conventional types. Thus, while male counselees are most social-artistic, female counselees appear to be more conventional. Furthermore, both groups, in comparison to non-counselees, seem to be least investigative.

These findings concerning male-female personality characteristic differences are consistent with a number of previously reported conclusions. It has been suggested, for example, that while males tend to seek counseling for assistance with social-emotional problems, females quest for guidance to resolve career-related

difficulties (Rossmann & Kirk, 1970). A second example is evident in Holland's (1973) characterizations of artistic types (see Appendix 1 for type descriptions) as complicated, disorderly, emotional, idealistic, impractical, and non-conforming. Such descriptions seem to suggest individuals who are likely to chafe under rules, be dissatisfied, and experience maladjustment in terms of societal expectations. Another case-in-point might be Holland and Gottfredson's (1976) contention that social-artistic personality types may be expected to have low educational and vocational aspirations, poor decision-making skills, weak interests in learning, modest interpersonal competency, and a tendency to give-up in the face of adversity. In short, potential candidates for counseling. Finally, Holland, Gottfredson, and Nafziger (1975) reported that the investigative personality type appears to be most gifted in decisiveness, and the conventional type least skilled in decision-making. Thus, numerous previous investigators have reported findings supportive of and consistent with the noted male-female differences in personality type. It seems plausible to suggest, then, that though males and females both obviously request counseling, they present widely differing needs, dispositions, and problems, while reaping different forms of gratificat-

ion from the experience. Furthermore, it may be intimated that male and female counselees, whether presenting a social-emotional or educational-vocational difficulty, seek counseling assistance because of a fundamental inability to decisively cope with their concerns.

The noted male-female differences in personality types raise an interesting, although delicate question. If, as it appears, male counselees are social-artistic types, and female counselees are conventional types, then why do social-artistic females and conventional males not also become counselees as frequently? One distinct possibility may emanate from the stereotypic role expectations that society is generally regarded to have of its members. Males, for example, who exhibit the personality characteristics attributed to Holland's (1973) artistic types, may well be aware that society tends to place little value on their interests and competencies, and looks with frequent displeasure upon their ambiguity and non-conformity. Predictably, the expected results might be lack of or loss of employment opportunities, poor self-esteem, dissatisfaction, and/or feelings of rejection, just to list a few. In this connection, it is of interest to note the contrast

between the sound adjustment of Roe's (1946) outstanding male artists (whom society might be said to have accepted), and the relatively deficient adjustment of art students (Anderson & Munroe, 1948). Those females, on the other hand, who are predominantly artistic in type, may actually experience their interests and skills to be coveted by society in general, and males in particular. It might be surmised, for instance, that women who are competent and interested in aesthetic pursuits (e.g., interior designing, music, sewing, etc.) are, or at least have been, held in high esteem. Again, the results seem predictable in the sense that social acceptance in general, and role encouragement in particular, would tend to foster adjustment.

Thus, while one might hypothesize artistically-inclined males to frequently encounter difficulties in blending successfully into society, the same may not be applicable to female artistic types. The former group, then, could conceivably seek and require counseling relatively more often than the latter.

In a similar, although reversed situation to the one described above, the present study shows conventionally typed women to pursue counseling with relatively greater frequency than males of the same type.

Referring again to Holland's (1973) typology, and alluding to stereotypic societal roles, it appears plausible to suggest that conventional types, if they happen to be female, may be antithetic to society's expectations. Described, for example, as conscientious, efficient, orderly, persistent, practical, and self-controlled, conventional women may be hypothesized as more vocationally- than domestically-oriented. It might be proposed, in this context, that conventionally typed women are different from the majority of women by striving conspicuously harder to integrate themselves into a frequently male-dominated vocational environment, and to change the image of women's roles in society. Should this hypothesis hold merit, then the observations that women described as conventional seek counseling more than any other personality type, and that women, in comparison to men, sought more career counseling (Rossmann & Kirk, 1970), appear less surprising. [1]

---

[1] In this connection, two questions beg asking: (a) Was the female group in the Rossmann and Kirk (1970) study comprised largely of conventional types? (b) As more females challenge society's expected roles and strive to become career women, will the proportion of conventional types among female counselees continue to grow? The answer to both might be "yes" if the hypotheses posed above are sound.

Conventional males, conversely, having the same characteristics attributed to them as conventional females, might be expected to be relatively inconspicuous in a vocational environment, and encounter few controversial role expectations to hamper actualization of their career plans. Thus, cultural influences such as sex-role stereotypes appear as possible hypotheses to explain the noted male-female differences in personality type and patterns of counseling use. In the embodiment of different personality types, such cultural influences may promote the development of some types more than others by differential encouragement of the experiences (i.e., interests, competencies, etc.) that lead to the various typologies. Furthermore, these same cultural factors are potential sources of maladjustment and frustration, should an individual or individuals deviate from them (e.g., artistic males & conventional females), and might well contribute to such persons seeking counseling relatively more frequently than others.

With reference to the issue of personality pattern differences between counselee and non-counselee groups, consistency and differentiation appear to possess no predictive value in discriminating between the personal, vocational, and non-counselees of this investigation. While

these results do not explicitly refute a portion of Holland's (1973) theory, they do fail to support important hypotheses based upon the theory.

The findings concerning personality patterns are disappointing from a theoretical stance, but further the much-debated issue by adding to the growing body of literature reporting the concepts of consistency and differentiation to be of questionable value as explanatory constructs in personality theory. Although the corpus of investigations reporting systematic personality pattern differences among subject groups other than counselees (e.g., Osipow & Gold, 1967; Holland et al., 1975) outweighs those with similar populations who did not report such differences (e.g., Danek, 1971; Lunneborg, 1975), the same ratio does not appear to exist among studies employing counselees. In this context, studies reporting counselee and non-counselee personality pattern differences (e.g., Osipow & Gold, 1968; Kirk, 1973) have appeared with approximately equal frequency to those not endorsing the existence of such differences (e.g., Klugman, 1950; Smith, 1977).

To explain the non-significant findings of the current investigation, then, it may be possible that the hypotheses concerning pattern consistency and differentiation

differences between counselee and non-counselee groups are not in accord with Holland's (1973) intentions in formulating the concepts. A more likely alternative, however, may be that counselees and non-counselees are not as homogeneous in terms of personality variables as researchers have assumed. The previously discussed significant, although generally unspectacular, performance of predicting counseling group membership based upon personality types would seem to support this possibility. Furthermore, it is conceivable that the divergent points-of-view expressed in the literature concerning personality pattern consistency and differentiation in relation to seeking counseling, stem largely from chance variations among different studies' population samples. Thus, slightly varying proportions of consistent and/or differentiated subjects in either the counselee or non-counselee subgroups, might lead to completely different conclusions in different studies, depending upon the number of subjects. [1] Whatever the

---

[1] Statistical significance depends not only on the strength of the observed relationships, but also on the sample size. In large samples, for instance, even weak relationships may prove to be statistically significant, although not necessarily substantively important.

reasons for the conflicting research findings among studies, further investigation of Holland's (1973) concepts of consistency and differentiation is called for, especially in relation to counselee and non-counselee groups.

The prominent findings of the present study, then, suggest significant differences in personality type to exist between counselees and non-counselees in general, and between male and female subgroups within these populations in particular. Furthermore, significant systematic differences are not observable between counselees and non-counselees on measures of personality patterns of consistency and differentiation. Finally, although significant personality type variations among groups are noted, none are systematic to the point of fostering more than mediocre predictability of group membership. Thus, the results appear meaningful in a theoretical context (e.g., testing portions of Holland's theory) more than in a practical or applied light.

Vocational counselors or administrators may, however, draw from these findings some carefully limited inferences about counselees. The results suggest, for example, that both personal and vocational counselees differ from non-counselees in being less decisive, autonomous, and self-directed. Hence, emphasis in counseling

such clients might concentrate more on means of increasing their self-directiveness, and less on the actual presenting problems. Better yet, it might be useful to develop strategies to enhance decisiveness in such individuals before they must resort to counseling as a means to solve their difficulties. This suggestion, however, raises complex questions with regards to identifying, contacting, and developing techniques to assist indecisive people.

A second possible inference about counselees may stem from the finding that male and female counselees differ from each other in type, yet non-counselees of both sexes are essentially similar in type. That is, males and females who seek counseling may do so to satisfy substantially different needs, and may not be done justice by an inflexible and undifferentiating counseling approach. The counselor's task, then, is to become more sensitive to the counseling need differences of his male and female clients, attempt to isolate the key ones, and employ these data in tailoring a counseling program designed to optimize the meeting of these needs.

On the other hand, using the present findings in a predictive sense (i.e., to identify potential counselees from non-counselees), would constitute a misuse

of these results. If, for example, the discriminant and classification function coefficients of this investigation were employed for early identification of students with personal or vocational problems, for the purpose of offering them preferred assistance (as suggested by Rose & Elton, 1972), the likelihood of errors in diagnosis is great. At this stage of theory testing, any attempt to derive a mathematical formula to predict personality types or patterns of counselee groups, is likely to be premature and may be deceptive as to the level of sophistication of the theory.

The following section of Chapter IV offers a number of suggestions for further research.

2. Suggestions for Further Research

The essential results of the present investigation are that personal and vocational counselees differ from non-counselees, but not from each other, in terms of Holland's (1973) personality types. Male and female counselees, furthermore, not only seem to differ from non-counselees in type, but also from each other. In addition, vocational counselees seem more homogeneous in personality type than either personal or non-counselees, as evidenced by their more accurate predictability.

Finally, no significant relationships are noted between the personal, vocational, and non-counselee groups of this study, and personality patterns of consistency or differentiation.

From these conclusions, a number of possible avenues for further research might be suggested. Although the statement that replication is in order represents a stereotyped suggestion, a critical limitation in terms of sample-size warrants its use at this point. Consider, for example, the fact that of the 64 personal counselees, only 22 were males and 42 were females. Furthermore, since cross-validation involved split-samples (i.e., one-half of the sample each, for formulating & testing the prediction equations), group sizes were further reduced to 11 male and 21 female personal counselees. Thus, with each successive decrease in sample size, the likelihood of sample representativeness dwindles, and the possibility of TYPE I or TYPE II errors increases. In the case of this study, for example, the noted inability to differentiate personal from vocational counselee groups in terms of personality types, especially when other researchers have reported differences, may be due to sampling irregularities. This hypothesis is further supported by the large differences

between the original and cross-validated analyses' prediction accuracies (i.e., Tables 1.6, 2.6, 3.6, and 1.7, 2.7, 3.7, respectively). These differences attest to the magnitude of chance errors committed in assessing the degree of relationship between personality types and counseling groups. Thus, to enhance both sample representativeness and result generalizability, future researchers might replicate this research with larger, personal counselee subject groups.

Another factor that might be introduced in a future investigation of counselee versus non-counselee personality type and pattern differences, is level of maturity. It has been hypothesized, for example, that counselees (i.e., social-artistic & conventional types) tend to differ from non-counselees in terms of a fundamental inability to decisively cope with their problems. If this is indeed so, further study is called for to determine whether appropriate decision-making is merely a reflection of different rates of personal development, or actually a life-long characteristic of these types. Research of this nature possesses important ramifications for counseling artistic and conventional types, in that assumptions made concerning their "modus operandi" at age 19 or 20, may not apply at age 30 or 40.

The finding that females who seek counseling tend to be proportionately more often conventional in type than any other type, raises the possibility of several interesting hypotheses. For example, as increasing numbers of women gradually migrate from the domestic to the vocational arenas, the relative percentage of conventional female counselees may continue to increase over other types. Secondly, conventional female counselees, in comparison to other types, both male and female, might present proportionately more career-related as opposed to social-emotional problems.

These propositions stem from the previously discussed suggestion that conventional females may be antithetic to society's role expectations by their atypical interests, competencies, etc., in relation to other women. Thus, hypothesized to be frequently active in seeking employment in vocational fields often dominated by males, these females might well encounter the need for counseling of a vocational nature.

The results concerning personality patterns of consistency and differentiation are disappointing from a theoretical perspective. No significant differences are evident between personal, vocational, and non-counselees on these patterns, giving rise to the question whether

further research of these concepts would be fruitful. The findings of this and other investigations (e.g., Klugman, 1950; Smith, 1977), suggest that counselee versus non-counselee personality differences may, in fact, be of such a tenuous nature that the testing of hypotheses founded upon their assumed differences is doomed to failure. Future studies of consistency and differentiation, therefore, might do more justice to Holland's (1973) constructs by testing them with less nebulous populations. One possibility might be to examine whether individuals who might be described as satisfied, successful, and congruent in their educational or vocational endeavors, are not also personally consistent and/or differentiated. It appears reasonable to suggest that such individuals would require considerable integration of interests, skills, and competencies (i.e., consistent & differentiated), while those who experience difficulty attaining their goals may do so specifically because they lack in interest intensity and compatibility.

The foregoing suggestions constitute but a few of the possible research tangents stemming from the present investigation. The following, and final, section of this chapter presents a brief summary of the study.

3. Summary

The primary purpose of this study was to investigate some aspects of Holland's (1973) theory of personality types and patterns as they relate to the seeking of counseling. Specifically, personal, vocational, and non-counselee groups were hypothesized to differ not only in terms of Holland's (1973) personality types (i.e., realistic, investigative, artistic, social, enterprising, & conventional), but also on measures of personality pattern (i.e., consistency & differentiation).

The General Occupational Themes of the Strong-Campbell Interest Inventory (1974) were employed to determine both personality types and patterns. Each subject's type was defined by his highest score on the six personality types, while patterns of consistency and differentiation were assessed in degrees. Consistency, for example, was either high, medium, or low for each subject, depending upon the relatedness of his two highest personality types. Differentiation, conversely, was either high or low, depending on the range between the highest and lowest personality type scores.

The subjects were 285 male and 296 female freshmen from the University of Ottawa, tested during 1975 and 1976. Of the 581 participants, 64 were personal-, 156 were vocational-, and 361 were non-counselees.

Data analyses consisted of three multiple-discriminant function analyses to assess personality type differences; three SOUPAC cross-validation analyses to test the validity of predictor equations derived from the discriminant analyses; and, a series of chi-square analyses to study the degree of relationship between personal, vocational, and non-counselee groups and personality types or patterns.

The results supported the contention that counselees differ from non-counselees in personality type. Furthermore, it was noted that male and female counselees differed from each other in type. Specifically, while male counselees were most social-artistic, female counselees appeared to be more conventional. Furthermore, both groups, in comparison to non-counselees, seemed to be least investigative.

No evidence was found to support previous reports of personal and vocational counselee differences. In this investigation they appeared essentially ident-

ical in terms of personality type. Likewise, analyses of personality pattern differences among counseling groups did not indicate any significant or systematic relationships to exist.

The finding that counselees tended to be least investigative when compared to non-counselees, was interpreted to suggest that male and female counselees, whether presenting social-emotional or educational-vocational problems, seek counseling assistance because of a fundamental inability to decisively cope with their concerns. In addition, societal role stereotypes were suggested as a possible explanation for the finding that male counselees tended to be social-artistic, while female counselees were conventional in type. It was proposed, for example, that cultural factors influence the development of some types more than others by differential encouragement of the experiences that lead to the various typologies. Furthermore, these same cultural influences were hypothesized to be potential sources of frustration for those individuals who might deviate from their role expectations. Thus, while artistic female and conventional male types enjoy general social approval, and therefore may not feel the necessity of seeking counseling, artistic male and

conventional female types might frequently be at odds with their expected roles, and seek assistance.

Finally, it was suggested that use of the present findings in a predictive sense, would constitute a misuse of these results. If, for example, the prediction formulae were employed for early identification of students with personal or vocational problems, for the purpose of offering them preferred assistance, the likelihood of errors in diagnosis would be great.

Further research was suggested in the form of a replication of this investigation with additional personal counselee subjects to enhance both the sample representiveness and the generalizability of the findings. Other possible avenues of investigation discussed were: Maturational changes in relation to personality type stability; trends in employing counseling services by women classified as conventional types; and, investigation of personality consistency and differentiation in other settings with less nebulous differences between criterion groups.

REFERENCES

Abe, C., & Holland, J. L. A description of college freshmen: II. Students with different vocational choices. ACT Research Report No. 4. Iowa City, Iowa: The American College Testing Program, 1965. (b)

Allport, G. W., & Vernon, P. E. Manual of instructions for the Allport-Vernon Study of Values. Boston: Houghton Mifflin Co., 1931.

Anderson, J., & Munroe, R. Personality factors involved in student concentration in creative art and commercial art. Rorschach Research Exchange, 1948, 12, 141-154.

Angoff, W. H. (Ed.) Technical manual: College Entrance Examination Board. Princeton, N. J.: Educational Testing Service, 1968.

Ashby, J. D., Wall, H. W., & Osipow, S. H. Vocational certainty and indecision in college freshmen. Personnel and Guidance Journal, 1966, 44, 1037-1041.

Bates, G. L., Parker, H. J., & McCoy, J. F. Vocational rehabilitants' personality and work adjustment: A test of Holland's theory of vocational choice. Psychological Reports, 1970, 26, 511-516.

Bell, H. Manual for the Adjustment Inventory. Stanford, California: Stanford University Press, 1935.

Berdie, R. F., & Layton, W. L. The Minnesota Counseling Inventory. New York: Psychological Corp., 1956.

Berdie, R. F., & Stein, J. A comparison of new university students who do and do not seek counseling. Journal of Counseling Psychology, 1966, 13, 310-317.

Brown, F. G. Principles of educational and psychological testing. Hinsdale, Illinois: The Dryden Press Inc., 1970.

Campbell, D. P. Handbook for the Strong Vocational Interest Blank. Stanford, California: Stanford University Press, 1971.

Campbell, D. P. Manual for the Strong-Campbell Interest Inventory, T325, Merged Form. Stanford, California: Stanford University Press, 1974.

Campbell, D. P., & Holland, J. L. Applying Holland's theory to Strong's data. Journal of Vocational Behavior, 1972, 2, 353-376.

Chase, C. I. Elementary statistical procedures. New York: McGraw-Hill, 1967.

Cooke, M. K., & Keisler, D. J. Prediction of college students who later require personal counseling. Journal of Counseling Psychology, 1967, 14, 346-349.

Cooley, W. W., & Lohnes, P. R. Multivariate procedures for the behavioral sciences. New York: John Wiley & Sons, Inc., 1962.

Crites, J. O. Career maturity. Measurement in Education, 1973, 4, 1-8.

Danek, T. A. A test of predictions based on the consistency and homogeneity dimensions of Holland's personality theory. Dissertation Abstracts, 1971, 5, 32A.

Darley, J. G. Manual of directions - Minnesota Personality Scale. New York: The Psychological Corporation, 1946.

Dolliver, R. H., Irvin,, J. A., & Bigley, S. S. Twelve-year follow-up of the Strong Vocational Interest Blank. Journal of Counseling Psychology, 1972, 19, 212-217.

Drake, L. E., & Oetting, E. R. An MMPI codebook for counselors. Minneapolis: University of Minnesota Press, 1972.

Dyer, H. S., & King, R. G. College Board scores: Their use and interpretation. No. 2. New York: College Entrance Examination Board, 1955.

Edwards, A. L. Manual for the Edwards Personal Preference Schedule. New York: Psychological Corp., 1954.

Farber, I. E., & Goodstein, D. Student Orientation Survey. Preliminary report. Public Health Service, research grant M-226, 1964.

REFERENCES

Feather, D. B. The relation of personality maladjustments of 503 University of Michigan students to their occupational interests. Journal of Social Psychology, 1950, 32, 71-78.

Flanders, N. A., Anderson, J. P., & Amidon, E. J. Measuring dependence proneness in the classroom. Educational and Psychological Measurement, 1961, 21, 575-587.

Foote, N. N., & Cottrell, L. S. Identity and interpersonal competence. Chicago: University of Chicago Press, 1955.

Form, A. L. Users and non-users of counseling services. Personnel and Guidance Journal, 1953, 32, 209-213.

Fox, D. J. The research process in education. New York: Holt, Rinehart, and Winston, Inc., 1969.

Fricke, B. G. Opinion, attitude and interest survey handbook: A guide to personality and interest measurement. Ann Arbor: University of Michigan Press, 1965.

Galassi, J. P., & Galassi, M. D. Alienation in college students: A comparison of counseling seekers and nonseekers. Journal of Counseling Psychology, 1973, 20, 44-49.

Gaudet, F. J., & Kulick, W. Who comes to a vocational guidance center? Personnel and Guidance Journal, 1954, 33, 211-214.

REFERENCES

Goldschmid, M. L. The prediction of college major in the sciences and the humanities by means of personality tests. Unpublished doctoral dissertation, University of California, Berkeley, 1965. (Available from University Microfilms, Ann Arbor, Michigan.)

Gonyea, G. G. Appropriateness of vocational choices of counseled and uncounseled college students. Journal of Counseling Psychology, 1963, 10, 269-275.

Goodstein, L., Crites, J., Heilbrun, A., & Rempel, P. The use of the California Psychological Inventory in a university counseling service. American Psychologist, 1960, 15, 432. (Abstract)

Gough, H. G. Reference handbook for the Gough Adjective Check List. Berkeley: University of California, 1955. (Mimeo.)

Gough, H. G. Manual for the California Psychological Inventory. Palo Alto, California: Consulting Psychologists Press, 1964.

Guilford, J. P., & Zimmerman, W. S. Guilford-Zimmerman Temperament Survey. Orange, California: Sheridan Psychological Services, Inc., 1955.

Hanley, C. Social desirability and responses to items from three MMPI scales: D, Sc, and K. Journal of Applied Psychology, 1956, 40, 324-328.

Hansen, J. C., & Johansson, E. B. The application of Holland's vocational model to the Strong Vocational Interest Blank for Women. Journal of Vocational Behavior, 1972, 2, 479-493.

Harman, R. L. Students who lack vocational identity. Vocational Guidance Quarterly, 1973, 21, 169-173.

Hathaway, S. R., & McKinley, J. C. Minnesota Multiphasic Personality Inventory: Manual for administration and scoring. New York: Psychological Corp., 1967.

Heilbrun, A. B. Relationships between the Adjective Check List, Personal Preference Schedule, and desirability factors under varying defensiveness conditions. Journal of Clinical Psychology, 1958, 3, 283-287.

Heilbrun, A. B. Validation of a need scaling technique for the Adjective Check List. Journal of Counseling Psychology, 1959, 23, 347-351.

Heilbrun, A. B. Personality differences between adjusted and maladjusted college students. Journal of Applied Psychology, 1960, 44, 341-346.

Heist, P. A., & Yonge, G. D. Omnibus Personality Inventory. New York: Psychological Corp., 1968.

Holland, J. L. A personality inventory employing occupational titles. Journal of Applied Psychology, 1958, 42, 336-342.

REFERENCES

Holland, J. L. A theory of vocational choice. Journal of Counseling Psychology, 1959, 6, 35-45.

Holland, J. L. Manual for the Vocational Preference Inventory. Palo Alto, California: Consulting Psychologists Press, 1965.

Holland, J. L. A psychological classification scheme for vocations and major fields. Journal of Counseling Psychology, 1966, 13, 278-288. (a)

Holland, J. L. The psychology of vocational choice: A theory of personality types and model environments. Waltham, Mass.: Blaisdell, 1966. (b)

Holland, J. L. Explorations of a theory of vocational choice: VI. A longitudinal study using a sample of typical college students. Journal of Applied Psychology, 1968, 52, 1-37. (b)

Holland, J. L. Professional manual for the Self-Directed Search. Palo Alto, California: Consulting Psychologists Press, 1972.

Holland, J. L. Making vocational choices: A theory of careers. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Holland, J. L., & Gottfredson, G. D. Using a typology of persons and environments to explain careers: Some extensions and clarifications. The Counseling Psychologist, 1976, 6, 20-29.

Holland, J. L., Gottfredson, G. D., & Nafziger, D. H. Testing the validity of some theoretical signs of vocational decision-making ability. Journal of Counseling Psychology, 1975, 22, 411-422.

Holland, J. L., & Nichols, R. C. The development and validation of an indecision scale: The natural history of a problem in basic research. Journal of Counseling Psychology, 1964, 11, 27-34. (b)

Hollingshead, A. B. Two factor index of social position. New Haven, Connecticut: Author, 1957.

Hoppock, R. Manual for Job Satisfaction Blank No. 5. Unpublished Manuscript, 1970. (Available from R. Hoppock, 104 Webster Avenue, Manhasset, New York 11030.)

Kernen, P. An investigation of personality characteristics of counselees and non-counselees as related to Holland's theory. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, 1971. (Available from University Microfilms, Ann Arbor, Michigan.)

Kirk, B. A. Characteristics of users of counseling centers and psychiatric services on a college campus. Journal of Counseling Psychology, 1973, 20, 463-470.

Klugman, S. F. Spread of vocational interests and general adjustment status. Journal of Applied Psychology, 1950, 34, 108-114.

Kuder, G. F. Kuder Preference Record. Chicago, Illinois: Science Research Associates, 1946.

Lunneborg, P. W. Interest differentiation in high school and vocational indecision in college. Journal of Vocational Behavior, 1975, 7, 297-303.

Lunneborg, P. W. Vocational indecision in college graduates. Journal of Counseling Psychology, 1976, 23, 402-404.

Lunneborg, P. W. Construct validity of the Strong-Campbell Interest Inventory among college counseling clients. Journal of Vocational Behavior, 1977, 10, 187-195.

Lunneborg, C. E., & Lunneborg, P. W. Vocational Interest Inventory. Seattle: University of Washington, Educational Assessment Center, 1971.

Maxwell, A. E. Analysing qualitative data. London: Spottiswoode, Ballantyne & Co., Ltd., 1961.

McArthur, C. Long-term validity of the Strong interest test in two subcultures. Journal of Applied Psychology, 1954, 38, 346-353.

Meadows, M. E., & Oelke, M. C. Characteristics of clients and non-clients. Journal of College Personnel, 1968, 9, 153-157.

Meuser, D. M., & Edwards, H. P. Comparing the vocational interests of arts and science freshmen using the Strong-Campbell Interest Inventory. Canadian Counsellor, 1977, 11, 123-127.

Meuser, P. E., & McInnis, C. Differentiation of university freshmen in arts and science on the General Occupational Themes of the Strong-Campbell Interest Inventory. Canadian Counsellor, 1977, 11, 166-172.

Minge, M. R., & Bowman, T. F. Personality differences among nonclients and vocational-educational and personal counseling clients. Journal of Counseling Psychology, 1967, 14, 137-139.

Nafziger, D. H., Holland, J. L., & Gottfredson, G. D. Student-college congruency as a predictor of satisfaction. Journal of Counseling Psychology, 1975, 22, 132-139.

Nichols, W. R. Relationship between Holland's personality types and consistent-inconsistent personality patterns and educational decisions. Dissertation Abstracts, 1972, 8, 32A.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., & Bent, D. H. Statistical package for the social sciences,(2nd ed.). New York: McGraw and Hill, 1975.

Olch, D., & Snow, D. L. Personality characteristics of sensitivity group volunteers. Personnel and Guidance Journal, 1970, 48, 848-850.

Osipow, S. H., & Gold, J. A. Factors related to inconsistent career preferences. Personnel and Guidance Journal, 1967, 46, 346-349.

Osipow, S. H., & Gold, J. A. Personal adjustment and career development. Journal of Counseling Psychology, 1968, 15, 439-443.

Parker, C. A. The predictive use of the MMPI in a college counseling center. Journal of Counseling Psychology, 1961, 8, 154-158.

Patterson, C. H. Interest tests and the emotionally disturbed client. Educational and Psychological Measurement, 1957, 17, 264-280.

Pintner, R., & Forlano, C. Dominant interests and personality characteristics. Journal of General Psychology, 1939, 21, 251-260.

Roe, A. Painting and personality. Rorschach Research Exchange, 1946, 10, 86-100.

Roe, A. A psychological study of research scientists. Psychological Monographs, 1953, 67, No. 352.

Roe, A. The psychology of occupations. N.Y.: Wiley, 1956.

Rose, H. A., & Elton, C. F. Identification of potential personal-problem clients. Journal of Counseling Psychology, 1972, 19, 8-10.

Rosen, E. Self-appraisal, personal desirability and perceived social desirability of personality traits. Journal of Abnormal Social Psychology, 1956, 52, 151-158.

Rossmann, J. E., & Kirk, B. A. Comparison of counseling seekers and nonseekers. Journal of Counseling Psychology, 1970, 17, 184-188.

Sarbin, T. R., & Berdie, R. F. Relation of measured interests to the Allport-Vernon Study of Values. Journal of Applied Psychology, 1940, 24, 287-296.

Sharf, R. S., & Bishop, J. B. Adjustment differences between counseled and noncounseled students at a university counseling center. Journal of Counseling Psychology, 1973, 20, 509-512.

Shostrom, E. K. Personality Orientation Survey: EDITS Manual. San Diego, California: Educational and Industrial Testing Service, 1974.

Sisson, E. D., & Sisson, D. Introversion and the aesthetic attitude. Journal of General Psychology, 1940, 22, 203-208.

Smith, P. J. Comparison of counselees and noncounselees with reference to Holland's theory. Journal of Counseling Psychology, 1977, 24, 244-246.

Sprafkin, R. P. Personal problems vs. vocational problems: Personality differences between clients. Journal of Clinical Psychology, 1972, 28, 114-116.

Sternberg, C. Personality trait patterns of college students majoring in different fields. Psychological Monographs, 1955, 69, (18, Whole No. 403).

Sternberg, C. Interests and tendencies toward maladjustment in a normal population. Personnel and Guidance Journal, 1956, 35, 94-99.

Strong, E. K., Jr. Interests of men and women. Journal of Social Psychology, 1936, 7, 49-67.

Strong, E. K., Jr. Strong Vocational Interest Blank Manual. Palo Alto, California: Consulting Psychologists Press, 1959.

Thatcher, V. S., & McQueen, A. The new Webster encyclopedic dictionary of the English language. Chicago: Consolidated Book Publishers, 1971.

Thurstone, L. L. Thurstone Personality Schedule. In R. Pintner & C. Forlano, Dominant interests and personality characteristics. Journal of General Psychology, 1939, 21, 251-260.

Triggs, F. O. A study of the relationship of measured interest to measured mechanical aptitude, personality, and vocabulary. American Psychologist, 1947, 2, 296. (Abstract)

Tyler, L. E. The antecedents of two varieties of vocational interests. General Psychological Monographs, 1964, 70, 177-227.

Utz, P., & Korben, D. The construct validity of the Occupational Themes on the Strong-Campbell Interest Inventory. Journal of Vocational Behavior, 1976, 9, 31-42.

Wells, F. L., & Woods, W. L. Outstanding traits: In a selected college population, with some reference to career interests and war records. Genetic Psychological Monographs, 1946, 33, 127-249.

Weiss, D. J., Dawis, R. V., Lofquist, L. H., & England, G. Instrumentation for the theory of work adjustment. Minneapolis: Industrial Relations Center, 1966. (Minnesota Studies in Vocational Rehabilitation, XXI)

Westbrook, F. D., & Molla, B. Unique stereotypes for Holland's personality types, testing the traits attributed to men and women in Holland's typology. Journal of Vocational Behavior, 1976, 9, 21-30.

Whitton. In D. P. Campbell, Manual for the Strong-Campbell Interest Inventory, T325, Merged Form. Stanford, California: Stanford University Press, 1974.

Williams, C. M. Occupational choice of male graduate students as related to values and personality: A test of Holland's theory. Journal of Vocational Behavior, 1972, 2, 39-46.

Worthington, E. L., & Dolliver, R. H. Validity studies of the Strong Vocational Interest Inventories. Journal of Counseling Psychology, 1977, 24, 208-216.

APPENDIX 1

Personality Descriptions of Holland's (1973) Six Types

APPENDIX 1

Formulations of the Types [1]

The types are assumed to represent common outcomes of growing up in our culture. Each type is described in terms of a theoretical model created with several goals in mind: (1) To outline only the bare bones of the experiences that lead to a particular kind of person; (2) to show how a person's experience leads to a special disposition and how that disposition leads to a wide range of human behavior; and (3) to provide theoretical models that will fit both the old and the new evidence about the types.

1. The Realistic Type

The special heredity and experiences of the realistic person lead to a preference for activities that entail the explicit, ordered, or systematic manipulation of objects, tools, machines, animals, and to an aversion to educational or therapeutic activities. These behavioral tendencies lead in turn to the acquisition of manual, mechanical, agricultural, electrical, and technical competencies and to a deficit in social and educational competencies.

---

[1] Taken from Holland (1973), pp. 13-18.

This development of a realistic pattern of activities, competencies, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers realistic occupations or situations (for example, craftsman) in which he can engage in preferred activities and avoid the activities demanded by social occupations or situations; (2) he uses realistic competencies to solve problems at work and in other settings; (3) he perceives himself as having mechanical and athletic ability and lacking ability in human relations; and (4) he values concrete things or tangible personal characteristics - money, power, status.

Because he possesses these preferences, competencies, self-perceptions, and values, the realistic person is apt to show himself to be: Asocial (shy), conforming, frank, genuine, masculine, materialistic, natural, normal, persistent, practical, self-effacing, stable, thrifty, uninsightful, and uninvolved.

2. The Investigative Type

The special heredity and experiences of the investigative person lead to a preference for activities that entail the observational, symbolic, systematic, and creative investigation of physical, biological, and cultur-

al phenomena in order to understand and control such phenomena; and to an aversion to persuasive, social, and repetitive activities. These behavioral tendencies lead in turn to an acquisition of scientific and mathematical competencies and to a deficit in persuasive competencies.

This development of an investigative pattern of activities, competencies, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers investigative occupations or situations in which he can engage in his preferred activities and competencies and avoid the activities demanded by enterprising occupations or situations; (2) he uses investigative competencies to solve problems at work and in other settings; (3) he perceives himself as scholarly, intellectually self-confident, having mathematical and scientific ability, and lacking in leadership ability; and (4) he values science.

Because he possesses these preferences, competencies, self-perceptions, and values, the investigative person is apt to show himself to be: Analytical, cautious, critical, curious, independent, intellectual, introspective, introverted, methodical, passive, pessimistic, precise, rational, reserved, unassuming, and unpopular.

3. The Artistic Type

The special heredity and experience of the artistic person lead to a preference for ambiguous, free, unsystematized activities that entail the manipulation of physical, verbal, or human materials to create art forms or products, and to an aversion to explicit, systematic, and ordered activities. These behavioral tendencies lead, in turn, to an acquisition of artistic competencies - language, art, music, drama, writing - and to a deficit in clerical or business system competencies.

This development of an artistic pattern of activities, competencies, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers artistic occupations or situations in which he can engage in preferred activities and competencies and avoid the activities demanded by conventional occupations or situations; (2) he uses artistic competencies to solve problems at work and in other settings; (3) he perceives himself as expressive, original, intuitive, feminine, nonconforming, introspective, independent, disorderly, having artistic and musical ability (acting, writing, speaking); and (4) he values esthetic qualities.

Because he possesses these preferences, compet-

encies, self-perceptions, and values, the artistic person is apt to show himself to be: Complicated, disorderly, emotional, feminine, idealistic, imaginative, impractical, impulsive, independent, introspective, intuitive, nonconforming, and original.

4. The Social Type

The special heredity and experiences of the social person lead to a preference for activities that entail the manipulation of others to inform, train, develop, cure, or enlighten; and an aversion to explicit, ordered, systematic activities involving materials, tools, or machines. These behavioral tendencies lead in turn to an acquisition of human relations competencies such as interpersonal and educational competencies and to a deficit in manual and technical competencies.

This development of a social pattern of activities, competencies, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers social occupations and situations in which he can engage in his preferred activities and competencies and avoid the activities demanded by realistic occupations and situations; (2) he uses social competencies to solve problems at work and in other settings; (3) he perceives himself as

liking to help others, understanding of others, having teaching ability, and lacking mechanical and scientific ability; and (4) he values social and ethical activities and problems.

Because he possesses these preferences, competencies, self-perceptions, and values, the social person is apt to show himself to be: Ascendent, cooperative, feminine, friendly, generous, helpful, idealistic, insightful, kind, persuasive, responsible, sociable, tactful, and understanding.

5. The Enterprising Type

The special heredity and experiences of the enterprising person lead to a preference for activities that entail the manipulation of others to attain organizational goals or economic gain, and an aversion to observational, symbolic, and systematic activities. These behavioral tendencies lead in turn to an acquisition of leadership, interpersonal, and persuasive competencies, and to a deficit in scientific competencies.

This development of an enterprising pattern of activities, competencies, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers enterprising occupations or situations in which

he can engage in his preferred activities and avoid the activities demanded by investigative occupations and situations; (2) he uses enterprising competencies to solve problems at work and in other situations; (3) he perceives himself as aggressive, popular, self-confident, sociable, possessing leadership and speaking abilities, and lacking scientific ability; and (4) he values political and economic achievement.

Because he possesses these preferences, competencies, self-perceptions, and values, the enterprising person is apt to show himself to be: Acquisitive, adventurous, ambitious, argumentative, dependent, domineering, energetic, exhibitionistic, flirtatious, impulsive, optimistic, pleasure seeking, self-confident, sociable, and talkative.

6. The Conventional Type

The special heredity and experiences of the conventional person lead to a preference for activities that entail the explicit, ordered, systematic manipulation of data, such as keeping records, filing materials, reproducing materials, organizing written and numerical data according to a prescribed plan, operating business machines and data processing machines to attain organizational or economic goals; and to an aversion to ambiguous, free, ex-

ploratory, or unsystematized activities. These behavioral tendencies lead in turn to an acquisition of clerical, computational, and business system competencies and to a deficit in artistic competencies.

This development of a conventional pattern of activities, and interests creates a person who is predisposed to exhibit the following behavior: (1) He prefers conventional occupations or situations in which he can engage in his preferred activities and avoid the activities demanded by artistic occupations or situations; (2) he uses conventional competencies to solve problems at work and in other situations; (3) he perceives himself as conforming, orderly, and as having clerical and numerical ability; and (4) he values business and economic achievement.

Because he possesses these preferences, competencies, self-perceptions, and values, the conventional person is apt to show himself to be: Conforming, conscientious, defensive, efficient, inflexible, inhibited, obedient, orderly, persistent, practical, prudish, self-controlled (calm), and unimaginative.

APPENDIX 2

Personality Descriptions of Holland's (1973) Patterns of Consistency and Differentiation

Subtypes or Personality Patterns [1]

A person's personality pattern is his profile of resemblances to the personality types. Subtype is a name for a particular personality pattern. Personality patterns and subtypes may consist of two to six variables or types. The number of variables used is a matter of convenience, number of subjects, and judgment.

A personality pattern may be psychologically consistent or inconsistent. The pattern is consistent if its related elements have common characteristics. For example, a pattern such as realistic-investigative has many traits in common - unsociability, an orientation toward things rather than people, self-deprecation, and masculinity. However, a pattern such as conventional-artistic is inconsistent because it entails such oppositions as conformity and originality, control and expressiveness, and business and art.

The differentiation of a personality pattern is expressed as a numerical value that equals the absolute difference between a person's highest and lowest scores for the realistic, intellectual, social, conventional, enterprising, and artistic scales.

---

[1] Taken from Holland (1973), pp. 21-23.

Although differentiation is done by an explicit and simple technique, it is a complex concept. My purpose was to create a concept that would capture what clinicians mean by a well-defined profile. To some degree, a differentiated profile will resemble a consistent profile, but differentiation is concerned more with the range of scores in the whole profile than with the consistency of the highest scores.

In the extreme case, a differentiated personality pattern would represent a person who resembles a single type and no other. The opposite case would be a person with a flat profile, or a person who resembles each type to the same degree. In the first example, the person would be unusally predictable; in the second example, the person would be very unpredictable - so much so that he would be characterized more by his unpredictability than any other trait.

APPENDIX 3

SCII Test Booklet, Form T325, Merged Form

PREVIOUSLY COPYRIGHTED MATERIAL

IN APPENDIX 3, LEAVES 186, 187.

NOT MICROFILMED.

MAY BE OBTAINED FROM:

Stanford University Press
Stanford, California
94305

APPENDIX 4

SCII Computer-Scored Answer Sheet

PREVIOUSLY COPYRIGHTED MATERIAL

IN APPENDIX 4, LEAF 189.

NOT MICROFILMED.

MAY BE OBTAINED FROM:

Stanford University Press
Stanford, California
94305

APPENDIX 5

SCII Computer-Generated Profile

PREVIOUSLY COPYRIGHTED MATERIAL

IN APPENDIX 5, LEAVES 191, 192.

NOT MICROFILMED.

MAY BE OBTAINED FROM:

Stanford University Press
Stanford, California
94305

APPENDIX 6

Holland's Hexagonal Model of Personality Type Inter-relationships as Outlined in Campbell (1974)

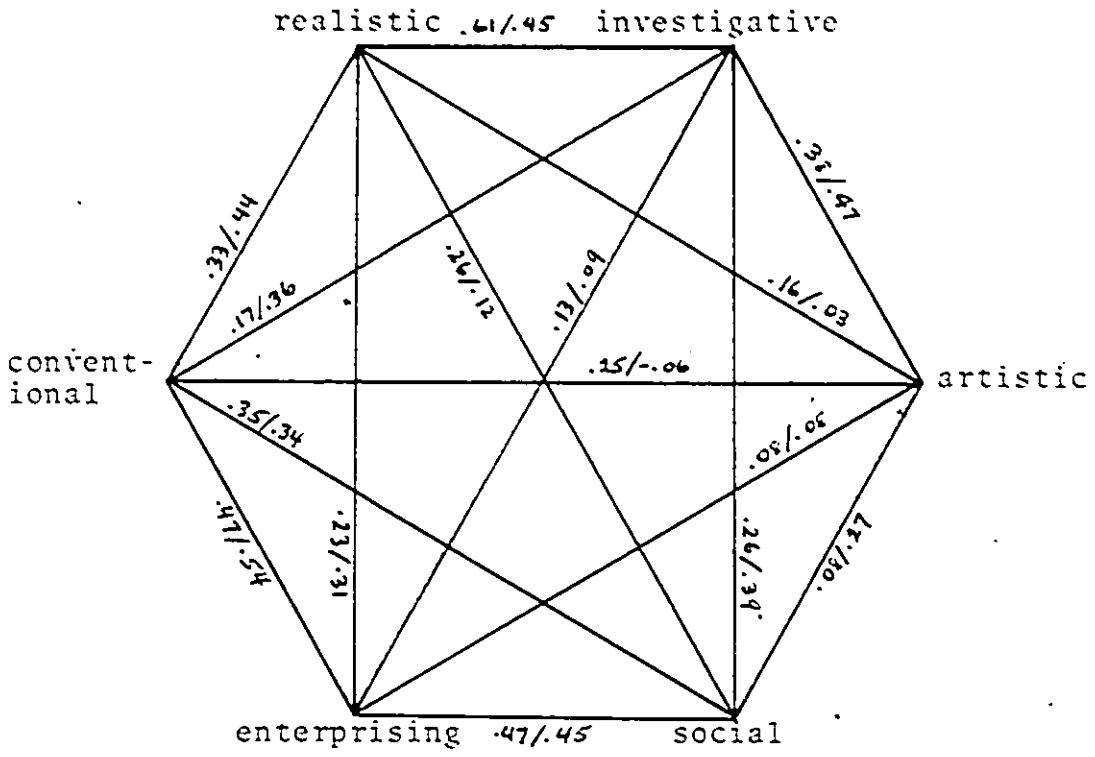

Figure 1. Intercorrelations between the General Occupational Themes, arranged in hexagonal order (first correlation based on a female sample of 201, second on a male sample of 200).

Note. From Manual for the SVIB-SCII, by D. P. Campbell, 1974, p. 34. Copyright 1977 by the Board of Trustees of the Leland Stanford Junior University. Reprinted by permission.

Stanford University Press
STANFORD, CALIFORNIA 94305

193b

April 12, 1978

P. Meuser, M.A.
3353 Wascana Street
Regina, Sask., Canada S4S 2H2

Dear Sir or Madam:

MANUAL FOR THE STRONG-CAMPBELL INTEREST INVENTORY

Thank you for your letter of April 6. You have our gratis permission to reproduce Fig. 4-1, p. 34 of the Manual in your doctoral dissertation. We assume you will cite the second edition of the Manual, which we published in April of last year.

This permission covers your dissertation only: should it be published and you wish to include the figure in your book, it would be necessary for you to again write us.

Sincerely,

Charlene Androes

(Mrs.) Charlene Androes
Permissions Department

Telephone (415) 323-9471 *Cable* STANPRESS

APPENDIX 7

SCII Computer-Generated Interpretive Outline of Profile Results

APPENDIX S

Examples of Study Synopsis and Classification Procedure Given to Counselors at the University of Ottawa Counseling Centre During Data Collection

MEMO

FROM: Peter Meuser
TO:
CONCERNING: Data collection for a Ph.D. dissertation.
APPROVED BY: Dr. S. Piccinin, April 1977.

Briefly, I am investigating Strong-Campbell Interest Inventory score differences between students who seek counseling and those that do not. Having administered the SCII to 370 non-counselees already, I am now collecting data from the Counseling Centre on two main categories of counselees. Namely, those seeking (a) educational-vocational counseling; and (b) personal counseling.

During my file search so far, I have located most of the data from cases that have terminated their contact with the Centre. A proportion of the current files, however, are scattered throughout the Centre in the offices of you and your colleagues. From certain of these files, and from others that you have dealt with recently, I am requesting the following information:

1. For clients whose names and file numbers appear in RED, both the SCII answer sheet (see note), and a check in the appropriate space under counselee type.

2. For clients whose names and file numbers appear in BLACK, only a check in the appropriate space under counselee type.

Note: By SCII answer sheet, I mean the one that the client fills out at the time of taking the test.

The information provided will remain completely confidential, and the answer sheets will be returned to the Centre. Your co-operation in providing the answer sheets and correct information on counselee type is crucial to the validity of this investigation. If you have any questions, call me at home (234-1519) or at the Guidance Centre (231-4022). If there are any difficulties, such as a client has been transferred or you do not have the SCII answer sheet, please provide any information you feel will be useful for me to track down this case.

Thank you for your time and effort,

Sincerely,

P. Meuser

Peter Meuser, M.A.

CLIENT DATA

COUNSELOR: _____

INSTRUCTIONS:

1. For clients whose names and file numbers appear in RED, provide both the SCII answer sheet and a check in the appropriate space under counselee type.

2. For clients whose names and file numbers appear in BLACK, provide only a check in the appropriate space under counselee type.

NAME	FILE No.	COUNSELEE TYPE (Check only one)		
		EDUC/VOC	PERSONAL	NEITHER

APPENDIX 9

Raw Data Computer Print-Out

N. B. (a) Raw data for each subject is presented as six consecutive scores on the printout, reading from the left, from column 16.

(b) For example, General Occupational Theme scores for the first subject listed (# 209, non-counselee female) are: realistic (-7), investigative (-3), artistic (+15), social (-3), enterprising (-14), and conventional (-14).

NON-COUNSELEES (F) N=158

0209SC21	F209	2	1	3	-7	-3	15	-3	-14	-14	1	8	3	-4	-10	-2	-4	0	-6	12	13	4	0	-2
0210SC21	F210	2	1	3	-12	6	19	9	-12	-10	-5	2	4	-4	-13	3	-7	3	1	12	13	13	6	7
0211SC21	F211	2	1	1	-12	-9	-1	5	-6	-10	1	4	-1	-4	-19	-15	-8	-6	-5	-5	-3	-2	0	5
0212SC21	F212	2	1	3	-11	2	4	12	-7	-8	1	6	9	-3	-13	-4	-5	-4	2	0	2	1	6	11
0213SC21	F213	2	1	3	-12	-12	-6	-12	-17	-16	5	9	-2	-4	-24	-8	-8	-2	-2	-10	-10	12	-4	-7
0214SC21	F214	2	1	3	-20	-11	10	-12	-19	-16	-6	-7	-10	-5	-24	-9	-9	-3	-7	2	3	6	5	-3
0215SC21	F215	2	1	3	-15	9	14	10	-17	-11	0	6	-1	-6	-21	2	-4	7	9	7	9	11	7	9
0216SC21	F216	2	1	3	-5	-4	-4	8	-5	-6	6	9	1	-1	-18	-8	-7	1	0	-1	-7	2	7	6
0217SC21	F217	2	1	3	-14	13	11	5	-7	-5	-6	1	-4	-5	-15	7	3	3	3	3	10	11	6	4
0218SC21	F218	2	1	2	-17	7	-9	3	-18	-14	-3	5	-3	0	-21	7	2	4	3	-7	-3	-11	1	3
0219SC21	F219	2	1	3	-15	3	8	7	-7	0	-1	4	-8	-3	-22	0	-6	-1	4	1	7	8	6	8
0220SC21	F220	2	1	2	0	15	5	10	4	3	-2	6	-1	-4	0	10	4	8	9	4	4	2	8	6
0221SC21	F221	2	1	3	-18	-12	-8	-4	-7	-7	-3	-3	1	-3	-23	-11	-3	-7	-4	-2	-3	-10	-2	-2
0222SC21	F222	2	1	2	2	8	3	10	-1	-4	2	2	4	2	-5	2	-7	4	0	1	-3	9	6	4
0223SC21	F223	2	1	3	-16	1	15	9	-13	-12	-1	7	-2	-4	-22	1	-9	0	0	12	11	3	7	6
0224SC21	F224	2	1	3	-14	-8	3	2	-7	-2	-2	-4	0	-1	-24	-12	-6	-7	-7	-1	-3	10	3	3
0225SC21	F225	2	1	3	-8	-3	20	1	-8	-8	0	6	-5	-3	-17	-1	-9	-3	-6	13	14	13	3	5
0226SC21	F226	2	1	2	-12	-14	1	0	5	-1	-1	1	0	5	-20	-15	-9	-6	-2	6	4	0	-3	0
0227SC21	F227	2	1	3	-4	14	14	7	-8	-5	0	7	-1	-2	-9	11	2	8	-1	3	7	11	9	3
0228SC21	F228	2	1	3	-7	6	9	3	-4	-12	1	7	4	-5	-11	2	-1	5	2	5	9	5	-3	0
0229SC21	F229	2	1	3	-1	7	10	10	-2	0	0	2	8	1	-4	0	3	3	0	8	4	8	7	5
0230SC21	F230	2	1	2	6	2	11	3	-12	0	5	10	-1	-5	7	4	-6	5	3	10	7	-2	-3	4
0231SC21	F231	2	1	3	-6	8	16	3	-16	-3	1	3	-4	0	-7	7	7	6	2	9	9	3	-1	2
0232SC21	F232	2	1	3	-4	10	4	3	-15	-5	2	7	-5	-4	-6	6	0	6	1	0	4	-3	6	2
0233SC21	F233	2	1	3	-5	-4	1	-5	-17	-14	4	8	6	-3	-19	-11	-7	1	1	-5	-4	-6	2	-4
0234SC21	F234	2	1	2	7	13	9	10	-1	-11	5	10	2	2	7	10	-1	7	2	5	2	6	6	3
0235SC21	F235	2	1	2	-5	10	3	6	-9	-6	2	9	0	-4	-8	5	-3	3	2	6	6	-4	5	5
0236SC21	F236	2	1	3	-12	-2	13	-4	-14	-11	-1	1	3	-5	-17	-6	-9	-3	-2	5	12	4	-1	4
0237SC21	F237	2	1	3	-3	-3	12	4	-15	-12	4	4	8	-4	-15	-3	-2	-2	-2	9	9	7	7	6
0238SC21	F238	2	1	3	-12	2	14	1	-13	-13	-2	3	0	-4	-18	-4	-5	2	0	6	10	13	6	7
0239SC21	F239	2	1	3	-3	3	11	14	-2	4	-2	-5	-6	0	-11	-3	-2	-3	-6	9	1	14	9	9
0240SC21	F240	2	1	3	-8	-4	17	-5	-17	-15	4	10	-6	-4	-13	-4	-9	0	0	10	13	2	1	-5
0241SC21	F241	2	1	3	-9	2	9	11	-5	-4	1	2	-2	-5	-17	-4	-8	1	3	3	7	-1	8	11
0242SC21	F242	2	1	3	-7	2	15	10	-2	2	2	7	-4	-5	-14	-9	3	-2	-4	5	12	11	8	11
0243SC21	F243	2	1	3	5	12	20	16	-5	-4	4	9	1	-1	4	6	-1	7	3	11	13	13	8	9
0244SC21	F244	2	1	3	-16	-9	14	8	0	-5	-2	3	-8	-1	-24	-9	-3	-4	-3	10	9	12	7	7
0245SC21	F245	2	1	3	-9	2	9	10	-14	-11	0	5	-2	-4	-10	3	-3	-2	-5	8	3	11	4	9
0246SC21	F246	2	1	2	2	-2	13	-14	-10	-15	3	7	1	-5	-7	-6	-9	-1	-4	6	8	3	-5	-6
0247SC21	F247	2	1	3	1	10	17	7	-7	-4	4	11	10	-4	-7	3	3	3	8	9	12	7	5	3
0248SC21	F248	2	1	2	-19	-18	-8	-5	-13	-7	-4	-2	-6	-4	-20	-11	-9	-5	-2	-3	0	-9	0	0
0249SC21	F249	2	1	2	-12	6	-2	11	-13	8	-6	0	-2	-4	-5	-5	-3	6	4	0	-4	-7	8	5
0250SC21	F250	2	1	3	-9	5	17	8	-4	0	-4	4	-1	-5	-2	6	-1	-2	-4	12	11	12	6	1
0251SC21	F251	2	1	2	9	7	14	4	-4	-7	4	9	8	0	13	4	-4	1	-1	6	7	10	1	3
0252SC21	F252	2	1	3	-12	2	9	6	-14	-11	3	8	-3	-1	-17	1	-4	0	-2	5	5	0	6	2
0253SC21	F253	2	1	3	-2	13	14	5	-8	-10	2	8	4	-4	-11	5	1	5	-4	8	9	12	2	5
0254SC21	F254	2	1	2	-10	10	-7	16	-12	9	-4	0	4	3	-20	3	6	5	4	-9	-7	1	7	9
0255SC21	F255	2	1	3	-9	1	8	4	-12	-13	2	-2	0	-5	-20	-7	-2	-2	-7	3	5	6	6	1
0256SC21	F256	2	1	3	-4	-4	6	3	-6	-6	2	3	4	-3	-9	-10	2	-4	-5	9	1	4	4	1
0257SC21	F257	2	1	3	2	1	17	13	1	-9	2	8	4	-4	-3	-4	-4	-2	-5	10	13	7	7	7
0258SC21	F258	2	1	3	-9	-1	8	6	-8	-14	0	5	-3	-5	-18	-7	-8	0	-1	3	9	3	6	6
0259SC21	F259	2	1	3	-2	-4	12	6	-3	-9	4	4	-3	-4	-7	-9	-8	-1	-4	4	12	1	5	5
0260SC21	F260	2	1	3	-13	-4	4	-5	-8	-6	2	2	-4	-5	-22	-12	-1	-1	-1	-2	3	1	4	-2
0261SC21	F261	2	1	3	-3	12	17	19	-6	-5	1	9	4	4	-17	4	1	5	4	7	7	12	8	10
0262SC21	F262	2	1	2	-18	0	-9	-4	-15	-9	-3	-3	-5	-4	-21	-2	-8	4	-1	1	-4	-12	-3	-1
0263SC21	F263	2	1	2	-2	11	9	13	5	3	0	2	3	-2	-12	3	3	4	1	5	1	11	3	3
0264SC21	F264	2	1	3	-11	1	17	-5	-5	-13	-6	0	3	-5	-17	-2	-7	1	-7	8	11	12	-2	0
0265SC21	F265	2	1	1	-7	-2	7	-3	-7	-4	2	4	4	-6	-14	-4	0	0	-3	4	6	-3	-6	-1

0266SC21	F266	2	1	3	5	7	11	6	9	12	4	11	0	4	10	-1	1	-3	6	5	6	6	7	5
0267SC21	F267	2	1	3	5	3	11	7	-17	-10	1	4	6	4	1	-1	-4	-4	-3	5	6	6	7	5
0268SC21	F268	2	1	3	0	-1	10	7	0	5	-2	-1	1	0	0	-2	0	0	0	2	13	-2	8	4
0269SC21	F269	2	1	2	-3	17	-8	3	0	8	-3	3	2	-5	-6	11	7	6	6	-4	-1	-10	7	1
0270SC21	F270	2	1	3	-5	1	2	9	0	-4	0	3	1	0	-9	-2	-4	2	-1	1	-4	11	7	7
0271SC21	F271	2	1	3	-14	-6	5	7	-11	-3	1	8	-10	-3	-20	-11	-7	-5	-4	2	11	2	3	5
0272SC21	F272	2	1	3	-8	13	20	1	0	10	1	6	-2	-3	-8	6	8	2	-3	12	13	-10	-5	6
0273SC21	F273	2	1	3	-6	1	7	-6	-13	-5	0	2	-2	-4	-5	0	5	1	-5	5	-1	6	-4	2
0274SC21	F274	2	1	3	3	5	12	-8	-6	1	-1	3	1	1	6	7	1	1	-3	7	7	6	-4	-6
0275SC21	F275	2	1	3	5	9	16	10	-11	2	3	9	-2	-5	7	9	1	6	2	7	11	9	9	3
0276SC21	F276	2	1	2	-18	2	-11	-5	-16	-4	-2	5	-5	-5	-21	5	2	2	0	-4	0	-14	0	-3
0277SC21	F277	2	1	2	-17	-15	-14	-9	-11	-6	-4	-9	-2	-5	-21	-16	-5	-6	-5	-4	-11	-12	-6	-1
0278SC21	F278	2	1	3	-8	3	0	-5	-15	-6	2	7	7	4	-11	0	0	3	4	-3	-1	-13	-1	-6
0279SC21	F279	2	1	3	-16	-2	5	3	-18	-13	-3	2	-4	-3	-22	-3	-9	0	3	7	3	8	8	1
0280SC21	F280	2	1	3	-1	11	19	11	-5	-15	4	9	8	0	-9	3	-9	4	3	13	14	10	2	7
0281SC21	F281	2	1	3	-12	-4	7	14	-7	-13	5	9	-2	-5	-23	-10	-9	-2	0	1	3	14	2	11
0282SC21	F282	2	1	3	-3	5	20	17	-10	-10	4	9	0	-5	-9	6	-3	4	2	11	12	14	8	11
0283SC21	F283	2	1	3	-13	-8	9	-5	-12	-17	4	6	-6	-5	-15	-13	-8	-4	-5	7	11	0	2	-2
0284SC21	F284	2	1	2	-6	11	-3	6	-13	-5	-1	2	3	-4	-8	7	2	3	-4	4	-3	0	2	7
0285SC21	F285	2	1	3	-1	3	16	4	-7	-9	0	9	0	-2	-7	-4	-7	3	1	13	12	5	5	4
0286SC21	F286	2	1	3	-15	-14	-7	-5	-15	-11	1	0	-10	-5	-16	-11	-8	-7	-8	-11	2	-4	4	-1
0287SC21	F287	2	1	2	-18	-3	-5	9	-14	-8	-3	-4	-7	-4	-21	-9	-6	0	5	0	-5	-2	8	11
0288SC21	F288	2	1	3	-5	4	17	14	-11	-15	3	4	8	-3	-9	-2	-5	1	0	12	7	14	8	8
0289SC21	F289	2	1	1	-18	-12	-7	-15	-15	5	-4	-5	-9	-5	-19	-12	6	-7	-8	-9	-3	-2	-5	-10
0290SC21	F290	2	1	3	-4	1	6	6	-3	-7	0	9	-4	-5	1	2	-1	1	-1	-1	9	8	3	4
0291SC21	F291	2	1	3	-12	-10	6	2	-7	-9	-3	6	0	2	-24	-5	-9	-3	-2	3	9	10	1	-2
0292SC21	F292	2	1	3	-2	4	4	3	-6	-2	-2	7	7	-1	-7	0	-3	3	-1	-2	1	6	3	4
0293SC21	F293	2	1	3	-11	0	11	5	-17	-8	-1	-1	5	-3	-17	-4	-6	1	4	6	9	4	5	3
0294SC21	F294	2	1	3	-3	-1	18	13	9	-9	1	4	10	-4	-14	-10	-5	-1	-3	12	11	9	7	9
0295SC21	F295	2	1	3	-3	-6	12	6	-1	2	-3	0	7	-1	-9	-7	3	-4	-5	7	6	11	5	3
0296SC21	F296	2	1	2	-19	0	-17	-1	-13	-6	-4	-4	-3	-4	-21	4	3	6	-2	-9	-13	-12	0	-2
0297SC21	F297	2	1	2	-8	7	-11	-1	-11	-7	-2	1	-2	-5	-5	9	8	8	2	-7	-7	-5	3	-1
0298SC21	F298	2	1	3	-8	9	18	15	-13	-6	2	10	-8	-4	-14	6	4	1	1	9	13	10	6	10
0299SC21	F299	2	1	3	9	7	18	13	-8	-8	2	9	0	-3	9	4	-1	6	5	13	10	13	9	9
0300SC21	F300	2	1	3	-12	-7	14	-4	-10	-13	-1	3	-7	-5	-18	-8	-6	-4	-6	11	10	8	-2	2
0301SC21	F301	2	1	3	-16	-7	4	-4	-12	-10	-2	-2	-9	-5	-13	-15	-9	-8	-7	0	5	-4	0	-2
0302SC21	F302	2	1	2	-3	11	6	8	-15	-9	2	7	2	-5	-8	6	4	8	6	2	5	-5	5	7
0303SC21	F303	2	1	3	-14	-12	-2	-8	-12	-17	-4	-8	4	-5	-18	-9	-9	-7	-8	0	-9	2	2	-5
0304SC21	F304	2	1	3	-10	-5	9	-5	-9	-11	3	4	7	-5	-18	-8	-9	-5	-4	4	5	3	-1	1
0305SC21	F305	2	1	3	-11	4	10	4	-6	-9	-1	3	-4	-4	-11	-3	-3	0	-3	9	12	3	6	2
0306SC21	F306	2	1	1	-13	-3	2	0	1	8	-5	1	0	-5	-15	-8	0	-2	-4	1	4	6	6	-3
0307SC21	F307	2	1	3	-2	9	16	10	-3	-12	-1	7	6	1	-5	-1	2	5	-1	7	10	12	2	9
0308SC21	F308	2	1	3	-8	-2	19	4	-11	-10	1	6	-4	-5	-15	-4	-7	-1	1	8	12	8	4	6
0309SC21	F309	2	1	3	1	11	14	9	-4	-6	4	10	6	-5	-4	7	2	6	3	11	9	7	0	10
0001SC21	F001	2	2	3	-5	2	13	-8	-16	-16	0	5	-1	-1	-9	-3	-1	2	-1	7	12	5	-6	-6
0002SC21	F002	2	2	2	-9	11	9	12	-10	-2	5	11	2	-1	-19	5	3	8	6	7	4	8	9	6
0003SC21	F003	2	2	3	5	19	-2	-12	-14	-3	1	6	6	-4	10	16	7	7	5	-5	9	-6	-1	-10
0004SC21	F004	2	2	3	-4	11	7	6	-6	-2	3	9	7	-4	-9	7	2	6	5	1	2	11	0	6
0005SC21	F005	2	2	2	-9	12	-9	1	-1	-5	-4	-4	4	0	-8	12	0	8	7	-4	-9	3	5	-3
0006SC21	F006	2	2	3	2	8	12	-3	-12	-3	4	9	7	-4	-8	2	3	7	2	4	4	9	-5	-3
0007SC21	F007	2	2	3	-12	9	-2	-10	-14	-12	-5	-2	1	-5	-15	11	1	6	3	-2	-7	-5	-4	-4
0008SC21	F008	2	2	2	-5	5	-1	1	-1	-6	4	8	2	-1	-19	-3	1	5	6	9	4	0	2	3
0009SC21	F009	2	2	3	9	19	4	-8	-14	3	1	9	1	-2	15	17	9	6	1	0	5	2	-2	-4
0010SC21	F010	2	2	2	-12	12	3	6	-11	-8	0	8	-3	-3	-12	9	0	7	6	1	4	2	2	3
0011SC21	F011	2	2	2	-17	-2	-14	-7	-16	-9	-1	-6	7	-4	-21	-1	3	2	-3	-6	-13	-11	-3	-2
0012SC21	F012	2	2	2	-6	6	-5	11	-10	0	0	6	-7	-5	-10	1	-1	5	7	9	-3	-6	4	6
0013SC21	F013	2	2	3	4	10	-5	1	-11	-12	6	8	4	4	0	7	-3	5	1	-3	-8	-7	-6	3
0014SC21	F014	2	2	3	11	14	8	-5	-14	-12	5	7	10	-1	-1	9	3	8	-3	-4	4	6	1	-5
0015SC21	F015	2	2	2	0	7	-17	8	-12	3	1	8	-2	-5	-5	5	4	0	-7	-12	-7	-6	4	7

```
0016SC21 F016 2 2 3   7  3  8 12 -6 -4  4  9  5  3 -8  1  3  7  3  9 -8-10  1  3
0017SC21 F017 2 2 3   3  3 -9 -8-19 -9  6  8  3 -3 -8  7 -1 -1 -9-10 -3-13 -4 -4
0018SC21 F018 2 2 1  -7  3  8  3 -4  6  0  7 -6 -5-11  2 -1  5  5  6  3  5  6  5
0019SC21 F019 2 2 3  -6 10 14  6-11 -9 -1  1 -3 -3-11  5  1  6  1  8  3  3  5  5
0020SC21 F020 2 2 3  -4 14 18-11-15-16  2  8 -5 -5 -5  8 -2  5 -4 10 10 12  1 -2
0021SC21 F021 2 2 2 -18  6-13 -8-18 -7 -2  6 -6 -5-23  9  6  6  1-12 -5 -9 -4 -9
0022SC21 F022 2 2 2   7 16  7  8-12 -8  6 10  6 -1  5 10  3  6  4  0 -6  5  3  2
0023SC21 F023 2 2 2  -7  8 -2  8-18 -6  4  7 -1 -5-12  4  2  7  2  1 -7 -7  6  5
0024SC21 F024 2 2 2  -7 -2-18  0-12 -3  0  0 -5 -4 -6  1  2  7  1-11-13-14  2 -1
0025SC21 F025 2 2 3   6 13 20 10  1 -8  1  9  9 -5  3  8 -2  6  4 12 14 14  7  9
0026SC21 F026 2 2 3 -10  7 11-10 -8-10 -4 -2  9 -5-18  2 -4  2 -5  6  7 13 -4 -3
0027SC21 F027 2 2 3   6 11  4 -1  4 -5  6  9  9 -3 -2  5  1  7  1  2  4  1  5 -2
0028SC21 F028 2 2 2 -10  8 -6  6-15-10  2  7 -4 -3-12  5  3  6  3 -1  0 -9  5  5
0029SC21 F029 2 2 3   9 17  5 -3 -8 -5  2  9  9  2 10 16  2  6  4  4  5 -4  1  2
0030SC21 F030 2 2 3 -15 13  8 -4 -7  2 -6 -1  0  2-21 11  1  6  5  4  7 11  5 -1
0031SC21 F031 2 2 2 -15 12 -1  5-17  0 -3  6 -6 -3-22 10  5  6  6  7 -2  7  3  4
0032SC21 F032 2 2 3  -1 18 16 -5-10-11 -1  5  9 -2  7 15  2  6  5  9  4 11  6  1
0033SC21 F033 2 2 3  11 17 13 -9-13 -9  2  7  6  4 15 12  3  1 -2  9 10 10 -2 -6
0034SC21 F034 2 2 2 -15 14 -7  0-15-13 -5 -1  5 -5-21 10  1  8  5 -3 -5 -5  0 -2
0035SC21 F035 2 2 2   1 15 -4 15 -8 11  1  8 -5  3  5 13  7  7  3  6 -6-11  9  5
0036SC21 F036 2 2 3   9 11 16  6 -7 -5  4  9  4  2  5  7  2  8  9  8  9 10  4  2
0037SC21 F037 2 2 2  -7  4 -5 12  1 -9  0 -1 -3  0 -8  6  1  6  9  2 -5 -4  7  9
0038SC21 F038 2 2 3   0 15 12 12 -5  1  3  7  8 -3  2 11  3  7  4  9 11  3  5  8
0039SC21 F039 2 2 2   0 -3  0 -5  2 -3  0  5  8  0 -4  0  1  7  4  5 -6 -6 -2 -3
0040SC21 F040 2 2 3   9  3  6  8  3  9  3 10  3 -2  2 -7  5  6  5 -2  7  8  5  1
0041SC21 F041 2 2 3   5 14  0-12-15 -8  1  8  8 -5 13 12  5  4 -1  7 -4  6 -3 -4
0042SC21 F042 2 2 3   3 12  4-14-15 -9 -2  9  0 -3 12 11  5  8  4  3 12-10 -6 -7
0043SC21 F043 2 2 3 -15 -5  5  1 -8 -7 -3  3 -4 -4-21 -3 -1 -1 -1  0  2  3  2  1
0044SC21 F044 2 2 3   5  9  9  5-13 -6  4  9  1 -5  4  8  4  5  1  7 11 -6  0  6
0045SC21 F045 2 2 3   1  8 -6 -8-13 -6 -1  1  1 -4 -2  8  1  6  6  0 -5 -9  4 -9
0046SC21 F046 2 2 2 -10  8  4 10 -7 -5 -2  1 -1 -2 -9  5 -3  7  8  6 -3  2  5  6
0047SC21 F047 2 2 3 -14  8 14-11-11-16 -2  4 -2 -5-19  4  1  2 -6  3  3  9 -4 -2
0048SC21 F048 2 2 3  11 13  1  7  1  6  1  7  3  0 13 14  9  5  1  2  3 -6  0  2
0049SC21 F049 2 2 2  -4  5 -7  6 -8  9 -3 -7  2 -4 -9  4  5  2  3 -4 -6 -5  9  9
0050SC21 F050 2 2 2   2  5 -1 14 -7-10  5  6  8 -3 -4  2 -4  6  3 -2 -2 -3  4  5
0051SC21 F051 2 2 3  -4  4 16  6-12-15  2  9 -2 -4-10  4 -9  0  3  6 10 11  5  2
0052SC21 F052 2 2 3   6  8  1  3-13  1 -1 -5  1  3 22 10  6 -1 -4 -2 -1 -2  4 -3
0053SC21 F053 2 2 3  -1 11 14  7-14 -5  5 11  3  3-10  8 -1  6  1  9  7  3 -3 10
0054SC21 F054 2 2 3  10 11 -1-16-13 -8  5 11  0 -5 18 15  7  2 -4 -6  4 -4 -3-10
0055SC21 F055 2 2 2   2  0  8 -1-16-14  4  1  9 -5  0 -8  2 -2 -5  5  2  5  3  2
0056SC21 F056 2 2 3   3 13 -5 -7-10  2  3  6  8  2 -2  9  6  2 -1 -6 -3 -7  9 -1
0057SC21 F057 2 2 2  -2  7  1  7 -7 -3  0  7  2  2 -5 10 -4  3  2  2 -2 -3  9  2
```

NON-COUNSELEES (M) N=264

```
0208SC21 M208 1 1 3  -5 11-15-10-14 -9 -1 -1 -4 -5  1 13  4  7  4-12-11-11 -5 -5
0310SC21 M310 1 1 3  -3-10 -3  5 17  3 -2 -4  1  0 -7-12 -8 -6 -5 -3 -5 -1 -1  5
0311SC21 M311 1 1 3   1  5 14  8 -3 -9  4  6  7 -1-10 -6 -2  0 -6  5  7 11  5  9
0312SC21 M312 1 1 2  -5 -9 -7-12 -6-11  1  2  3 -1-16-11 -7 -7 -9 -4 -8 -4 -6 -3
0313SC21 M313 1 1 3   9  9 14 -2  2 -7  3  6  9 -3  1  8  3  7 -1  9  3  7  1 -1
0314SC21 M314 1 1 3 -11 -9  4  7-10 -8  1  3 -4 -5-19-14 -8 -5 -3  2 -7  9  5  2
0315SC21 M315 1 1 3  -3 17 17 -3 -6 -7  3  6  5 -5 -4  7  2  4 -3  3  7  2 -1  1
0316SC21 M316 1 1 2  13 17  1 13  1  9  2  9 -2  5 13 11  6  8  2 -2 -1  4  7  8
0317SC21 M317 1 1 3   5 19 10  3  1 -2  4 10  4  1  5 12  5  8 -3  3 -1  6  9  8
0318SC21 M318 1 1 3   4 11  3  2 -5  0  4 10 -1  0  9 10  4  5  5  1  2-10  4  1
0319SC21 M319 1 1 3 -10 -9 -2  2 -9 -8  1 -4  1 -3-13 -7 -2 -1 -5 -6-11  3 -1 -6
0320SC21 M320 1 1 3  11  6 -2 10 13  3  3  2  6  3 12 -2 -1  4  3 -4  3 -1  7 11
0321SC21 M321 1 1 3   9 14 12  6 -4  1  2  3  9 -2  7 10  5 -1  0  7  1  3  3  4
```

0322SC21	M322	1	1	3	7	14	4	-1	-11	-7	3	5	3	-1	14	15	5	7	6	-4	7	5	1	-3
0323SC21	M323	1	1	3	-7	-2	5	13	6	-7	-6	-8	3	-3	-4	-5	-2	-3	-3	10	2	11	5	3
0324SC21	M324	1	1	3	-13	-9	5	-6	-9	-7	-2	-1	-6	-1	-7	-4	-7	-4	-7	7	1	-1	-7	-2
0325SC21	M325	1	1	2	-8	-3	-5	2	-13	-13	-1	1	5	-1	-12	-3	-4	5	-3	-5	-7	10	4	-1
0326SC21	M326	1	1	3	-7	11	13	-1	-4	-3	1	8	4	-1	-12	6	2	5	-3	3	11	6	-1	-1
0327SC21	M327	1	1	3	12	3	17	15	7	3	4	4	6	4	3	-3	-6	4	5	3	5	12	2	3
0328SC21	M328	1	1	2	6	12	6	12	-5	4	0	1	-1	-1	16	14	5	9	6	4	-4	16	5	4
0329SC21	M329	1	1	3	2	-5	-1	-1	4	5	2	2	6	1	-3	-5	-5	-4	-7	0	-3	1	-7	4
0330SC21	M330	1	1	2	0	-4	15	-6	-11	-10	1	3	7	-4	-2	-4	-2	-4	-5	5	3	7	5	-5
0331SC21	M331	1	1	3	4	3	1	7	11	-4	4	3	9	0	-1	-4	-4	4	-1	2	-1	-3	1	5
0332SC21	M332	1	1	3	8	4	3	10	13	6	5	2	15	3	5	-1	7	6	6	-3	-2	4	6	3
0333SC21	M333	1	1	2	-8	6	-11	5	-11	-11	2	1	6	-1	-15	5	-6	5	-2	-5	-14	-5	6	-4
0334SC21	M334	1	1	1	-7	-4	9	-9	-10	0	-3	-3	-8	-4	-1	-5	4	-7	-4	2	7	2	-3	-5
0335SC21	M335	1	1	2	-5	8	-13	4	-5	-8	-3	1	4	4	-4	9	4	4	-1	-15	-12	-7	5	5
0336SC21	M336	1	1	3	-12	-4	6	6	-17	-16	1	5	3	-5	-22	-7	-5	-3	-6	5	-5	3	7	-1
0337SC21	M337	1	1	2	11	19	15	17	10	14	1	9	-3	0	3	15	7	3	6	3	15	7	9	11
0338SC21	M338	1	1	1	1	-6	-5	2	-10	-10	1	-4	6	5	-3	-7	-9	-2	-3	-2	-4	-5	5	3
0339SC21	M339	1	1	3	2	10	16	-10	-7	-10	1	7	8	-1	-4	6	2	1	-5	10	5	9	-1	-4
0340SC21	M340	1	1	2	1	5	0	9	-3	-3	6	3	5	-5	-2	-3	-3	4	-1	-6	-2	5	6	3
0341SC21	M341	1	1	3	2	3	4	7	-10	-10	5	10	1	-5	9	1	-3	7	6	-3	-3	4	5	5
0342SC21	M342	1	1	3	-10	-7	14	-9	-15	-16	-1	-3	-1	-4	-3	-5	-4	-7	-7	5	9	6	-1	-7
0343SC21	M343	1	1	3	0	-4	17	3	-5	-1	-1	3	-4	-2	11	-7	-6	-6	-6	12	19	12	8	1
0344SC21	M344	1	1	3	-5	9	12	-7	-2	-4	-3	-3	7	-3	-2	3	1	2	-6	4	5	9	-5	-6
0345SC21	M345	1	1	2	9	8	11	3	-4	-1	2	2	8	5	9	-2	7	-3	-6	5	-6	16	7	5
0346SC21	M346	1	1	2	2	14	1	14	3	8	4	8	9	2	-5	9	6	6	4	-4	-3	2	7	5
0347SC21	M347	1	1	3	-9	3	1	-10	0	-3	0	0	3	-5	-10	-4	4	-2	-6	-3	-5	5	-5	-4
0348SC21	M348	1	1	2	11	11	16	5	0	-5	4	10	4	-5	12	7	-2	2	-1	4	12	15	3	4
0349SC21	M349	1	1	2	6	18	2	9	3	9	-2	0	5	-4	18	13	9	6	7	-2	-3	8	7	4
0350SC21	M350	1	1	3	-13	-2	10	13	-2	-1	-5	-2	-1	-1	-17	-6	-7	-5	-4	5	5	12	7	5
0351SC21	M351	1	1	2	3	-4	13	1	-2	-6	-1	-3	5	-4	15	5	-5	-6	-3	3	8	6	6	9
0352SC21	M352	1	1	3	-3	-7	5	3	-1	-8	1	0	8	2	-9	-3	-6	1	6	8	9	2	-1	-5
0353SC21	M353	1	1	2	-4	-5	18	-7	-10	-10	-2	-1	5	-5	-10	-6	-5	-3	-5	8	11	7	-2	9
0354SC21	M354	1	1	3	5	15	6	-1	-13	-3	-1	2	5	4	8	15	5	-1	-4	-3	4	6	3	-1
0355SC21	M355	1	1	2	-9	-4	-5	2	-11	-4	-1	-7	1	-4	-15	-9	-6	-3	-6	-1	-3	-1	5	1
0356SC21	M356	1	1	3	-5	-6	0	5	-5	-9	-5	-3	6	1	-14	-7	-8	-5	-4	-7	-2	7	2	6
0357SC21	M357	1	1	3	-14	-15	-8	7	1	-3	0	-3	-1	-4	-18	-15	-6	-7	-5	-7	-3	-2	1	9
0358SC21	M358	1	1	3	-2	2	8	6	-14	-13	1	3	5	1	-13	-2	-7	0	-3	8	-2	19	6	5
0359SC21	M359	1	1	3	-1	4	7	7	-2	-11	5	9	8	5	-15	4	-9	-1	-7	4	-2	4	2	7
0360SC21	M360	1	1	3	0	13	6	2	-3	-4	4	5	1	-3	-1	19	5	5	-3	5	3	1	1	6
0361SC21	M361	1	1	3	-11	1	16	7	4	-1	-2	-2	2	-3	-21	-8	-4	1	1	10	8	12	6	1
0058SC21	M058	1	2	3	-5	11	16	2	-2	4	0	4	0	-3	-10	6	7	5	-6	9	7	13	8	-1
0059SC21	M059	1	2	3	-8	15	15	-3	-5	-11	-4	4	1	-2	-3	5	3	8	-4	8	3	9	-2	5
0060SC21	M060	1	2	3	4	14	10	-6	-11	-6	3	8	7	-5	-1	8	3	5	5	-1	8	-5	6	-3
0061SC21	M061	1	2	3	3	16	-2	0	-10	-3	3	8	7	-2	6	11	4	8	-4	-7	1	-6	1	-3
0062SC21	M062	1	2	2	-13	8	3	5	-14	-13	-2	5	-6	-4	-16	5	-5	8	5	-4	-3	2	0	5
0063SC21	M063	1	2	2	6	13	13	13	-4	4	4	9	2	-3	-3	7	-4	8	5	8	6	12	6	3
0064SC21	M064	1	2	3	3	15	11	-5	-17	-3	2	1	3	-2	8	15	-1	6	1	2	-1	12	4	-4
0065SC21	M065	1	2	2	-13	-3	-9	-6	-18	-12	-2	-1	-3	-3	-17	-4	-1	9	-5	-4	-15	-12	1	-4
0066SC21	M066	1	2	3	9	16	11	10	8	0	3	3	8	1	19	13	5	8	1	2	-2	8	4	4
0067SC21	M067	1	2	3	-3	13	13	10	-3	8	2	3	1	-4	-4	10	4	8	1	7	3	8	5	5
0068SC21	M068	1	2	2	-6	6	-15	2	-8	-10	3	6	9	5	-20	8	-5	3	2	-7	-12	-16	3	-3
0069SC21	M069	1	2	3	7	17	-1	-8	-7	-2	1	4	1	-1	8	13	3	8	3	4	-2	-6	-5	-3
0070SC21	M070	1	2	3	-5	10	4	-7	-14	-6	0	1	3	1	-12	8	0	5	-5	5	-6	6	6	-5
0071SC21	M071	1	2	3	9	10	-4	6	-10	-2	1	6	8	0	3	11	-1	5	-2	-7	-5	-4	7	9
0072SC21	M072	1	2	3	-4	11	2	-3	1	-7	6	6	8	-5	-8	6	-2	3	-6	9	-4	-4	-6	2
0073SC21	M073	1	2	2	-14	2	-16	-10	-11	-6	-3	-3	-5	-5	-18	1	2	7	-1	-9	-14	-9	-5	-5
0074SC21	M074	1	2	1	13	8	-5	9	-4	-7	2	3	19	-4	18	3	-5	5	-2	-7	-3	6	3	3
0075SC21	M075	1	2	3	9	10	-14	-7	2	1	5	8	2	-3	11	15	2	7	1	-11	-5	-11	-5	-3
0076SC21	M076	1	2	3	-11	2	6	-8	-3	-5	-1	-4	7	-3	-19	9	4	7	-2	5	-5	4	-2	-3

```
0077SC21 M077  1  2  3    5   6   5 -2-11-14   2   3   5   1   7   6   2  -5  -1  -4   2  -2   1  -6
0078SC21 M078  1  2  3   -2  10   5   3-11  -4   1   2   0  -3   9  12   2   3   4   2  -2   4  -1   2
0079SC21 M079  1  2  3   -7  13  11   8  -4  -9  -1   4   3   5-13   3  -6   7   7   9   3  12   7   5
0080SC21 M080  1  2  1   -3   7   0  -2   6  -4   1   2   4  -4  -3   4   3   6  -4   1  -5  -3   5  -3
0081SC21 M081  1  2  3    5   8  13 -1-17-12   3   3   5  -3   5   9   2   0  -1  11   7   7   7   9
0082SC21 M082  1  2  2  -13   2  -4   6  -9-10  -2  -7   3  -5-16   1   2   7   6  -3  -9   5   5   1
0083SC21 M083  1  2  2  -14   3-17  -9-17-10  -2   2  -3   0-21   4   3   4  -4-12-11-13  -5  -2
0084SC21 M084  1  2  2   -3  -3-20-12  -4   0  -4  -3   1  -5  -1  -5   4   2  -4-13-14-13  -9  -3
0085SC21 M085  1  2  3    7  16  20   4  -2  -5   1   3   5  -4  11  15   2  -1  -5   9  12  12   5   4
0086SC21 M086  1  2  1  -13  10  -3  -4   0   0  -3   1  -3  -2  -3  11   6   2  -6  -3   1   1  -5   1
0087SC21 M087  1  2  2    2  19  14  16   1   3  -1   2   6   5  -1   3   7   3   6   9   4  14   2   9
0088SC21 M088  1  2  3   -3   7   9   8  -5-11  -5-10   0  -3  -7   6   3   3   2   2   9   9   7   9
0089SC21 M089  1  2  3   -2   3-11  -9-15-12   0  -1   0  -5   0   3  -3   2  -1-10  -9-12  -7  -4
0090SC21 M090  1  2  3   17  11  -7   2  -1  -6   6   5   2  -2  24  13   3  -7  -3  -5  -3-10   6   2
0091SC21 M091  1  2  3   -5   4  15-17-17-16  -1   3  -2  -5-13   1  -7   2  -2   3   7   2  -7  -7
0092SC21 M092  1  2  3    4  18   6  -5-12  -8   2   5   9   0   5  14   4   3   2  -7   1   3   2  -5
0093SC21 M093  1  2  1   12  15   8   2  14  11   0   5   3   2  22   4   9   2  -1   3   3   5   4  -1
0094SC21 M094  1  2  3   12  16  -3  -9-16  -7   3   4   3  -5  16  14   6   6   3  -6  -3-10   6  -9
0095SC21 M095  1  2  1   -2  -5  -4   4  -9-11   0  -1   3  -1  -3  -5  -1  -3  -4  -5  -7  -7   5   3
0096SC21 M096  1  2  2   -1   7  -4  -7  -1   3   1   0   7  -4  -4   2   1   3  -2  -4  -3  -1  -5   9
0097SC21 M097  1  2  3   -4  19  10  -8  -7   1  -1   1  -1  -3   4  15   2   4  -6   4  -1   6  -2  -3
0098SC21 M098  1  2  3   -7  17  -1  -1  -9-11   3   7   8   3   1  12  -1   7   3  -5  -3   5  -1   9
0099SC21 M099  1  2  3   -2  16  13   3-13-14   1   5   5   1  -3  10  -2   4   9   5   4   6   3  -1
0100SC21 M100  1  2  2   -5   6-11  -9-11  -2   1  -2   3  -4  -5   6   7   5   2  -5  -7-13  -8  -6
0101SC21 M101  1  2  2   16  17   3  18   0   7   2   5   3   5  13  13   7   8   4  -2  -1  -2   7  13
0102SC21 M102  1  2  2   -2  15   0   2  -6  -6  -1   6   5   0  -1  10  -1   7   1  -1  -3   2  -9   3
0103SC21 M103  1  2  2  -17   2-15-13-15-10  -2  -3  -1  -3-16   2   2   2  -4-14  -7-14  -5  -4
0104SC21 M104  1  2  3   15  14   9   0  -1   3   4   7   3   1  20  13  -1   6   7   3   4   9   2   1
0105SC21 M105  1  2  2  -11  11  -5  -2-16-10  -5   0   7  -3-13   8   4   6   1   2  -4-13   2  -1
0106SC21 M106  1  2  3    9   6-17  -1-13  -9   6   7   4   4   9   3   1   8  -1-11-13-12  -9  -3
0107SC21 M107  1  2  1    2   0  -4   2-11  -3   5   5  10   5-12  -1   5   5  -3  -1-12   4   2  -5
0108SC21 M108  1  2  3   12  11  -1  -2-10  -5   5   3   6   2  10  12   1   5   2  -1  -3  -1  -1   2
0109SC21 M109  1  2  2    1  12  -8  -7   3   3   0   4   0  -5   4  11   4   6  -3  -7  -5-12  -2  -4
0110SC21 M110  1  2  3   11  20  15   9  -5  -1  -1   5   8   4  18  17   3   6   2   5   4  13   9   3
0111SC21 M111  1  2  2   -6   7  -7  -3-10  -3   1   7   0  -5-11   7   3   4  -3  -4  -3  -8   3  -2
0112SC21 M112  1  2  3    7  14  13   2-13   0   1   2   9  -1   7  12   4   6   1   7   4   3   6  -6
0113SC21 M113  1  2  3    2  12-17-18-16  -9   1   0   5  -3   4   9   1   4  -4-13-14-12  -6  -9
0114SC21 M114  1  2  3    7  16   6   5  -3   2   0   1   3   1   9  12   2   4   1  -1   2  -4   6   3
0115SC21 M115  1  2  3   14  15  17   8   0  10   3   6   3   4  19  13   2   7   6   5   5   7   2   4
0116SC21 M116  1  2  3   -1   2   6  -9-16-12   6   1   4  -5  -1  -1   1   1  -4  -2  -7   9  -3  -4
0117SC21 M117  1  2  3    0  16  14   9  -5  -9  -1   6   5  -4  -1  14   3   7   8   9   5   1   7   5
0118SC21 M118  1  2  3   -7   7  15   1   7  -1  -2  -2   5  -3-11   5   2   5   6   9   3   8   4   1
0119SC21 M119  1  2  3   -1  16  -7  -3  -9  -7   1   3   2  -5   5  13   5   9   5  -3  -3  -5  -2   1
0120SC21 M120  1  2  2   -7  14-12  -6  -6-10  -2   0   7  -4  -9   9   3   7   0-10-10   2  -4  -6
0121SC21 M121  1  2  2    0  13-11   1-12  -7  -1   1  -2  -5   3  12   3   5   6-10-13  -1   4   2
0122SC21 M122  1  2  3   11  11   1   4  -8  -2   5   9  10   5  13  12  -1   8   6   9  -3  -5   1   9
0123SC21 M123  1  2  3    7  19   8   3-13-11   5   6   3  -5  14  15   0   6  -1  -1   1   3   4   2
0124SC21 M124  1  2  3    5   4  -5  -1-11  -2   3   7  -1   1  10   3   3   1   9  -2  -5  -2  -4  -2
0125SC21 M125  1  2  2  -16   4-11   4  -1   5  -4  -6   4  -5-10   4  -1   2   9  -4-11  -3   3   5
0126SC21 M126  1  2  3   -6   9   9  -8   5  -7  -4   0   4  -5  -5   3   5  -7  -8   0   9   8  -6  -1
0127SC21 M127  1  2  3  -10  16   1   0-11-11  -2   3   3  -5-12  12   0   7   3  -3   3  -4   1   2
0128SC21 M128  1  2  3    5  13  15   1   4  -3   5  10   3  -5   3  13   1   8   2   5   9  13   1   1
0129SC21 M129  1  2  3   -3  17  10   4  -6  -7   0   4   5  -3   2  14   1   3   4   3   1  -3  -1   9
0130SC21 M130  1  2  3    7   6  -4-17  -5  -8  -1  -4   3   4  10  10  -3   5  -3   2   3-12  -7  -5
0131SC21 M131  1  2  3    2   0-11  -1  -1   2   1   0   1   0   2   9   1  -1  -3  -7-10  -7  -1  -1
0132SC21 M132  1  2  3    8  16   6   0-13  -4   1   5   0  -2  13  14   9   3  -3  10  -5   4   2  -3
0133SC21 M133  1  2  2    0  12   1   1  -2   3   1   3  -5  -5   3  11   5   6   1  -1   4  -1   3   2
0134SC21 M134  1  2  2    6   8-10  -3-14   6  -3   2  -4  -1  17  12   3  -2  -2  -5  -3  -3   2  -6
0135SC21 M135  1  2  3    6  11  -7-14-15  -7   1   1  -1  -4  14  12   7  -5  -[illegible]
```

0136SC21	M136	1	2	3	3	9	-20	-14	-12	-8	3	-4	7	2	6	9	8	-4	-6	-14	-14	-14	-5	-11
0137SC21	M137	1	2	3	8	10	-3	-1	-5	1	2	1	-2	-3	12	3	6	2	1	-3	-3	-6	-6	9
0138SC21	M138	1	2	3	-17	-7	-14	-18	-19	-16	-1	-7	-8	-5	-19	-5	3	-8	-9	-9	-7	-13	-5	-9
0139SC21	M139	1	2	2	7	4	4	3	0	-6	3	5	1	0	15	3	2	6	0	7	1	-3	1	-1
0140SC21	0140	1	2	3	14	18	-12	6	-12	1	2	8	0	2	19	17	8	8	5	-11	-8	-4	7	6
0141SC21	M141	1	2	3	-8	12	9	-2	-13	-11	-1	2	3	-5	-9	6	4	-2	-4	7	4	1	2	-3
0142SC21	M142	1	2	3	11	16	9	4	-7	-9	1	5	5	-3	17	12	3	5	-2	9	1	5	4	2
0143SC21	M143	1	2	3	7	7	-5	0	6	0	2	-4	8	-4	14	2	9	-5	-7	-5	-16	5	4	-4
0144SC21	M144	1	2	3	-1	1	-14	-11	-11	-9	0	-3	-1	-3	7	0	4	-3	-7	-7	-8	-13	-3	-3
0145SC21	M145	1	2	3	7	12	10	-2	-15	-4	2	6	2	-2	12	10	0	4	-4	-1	8	7	-2	-2
0146SC21	M146	1	2	3	-2	11	12	-4	-5	-4	0	6	6	0	1	11	6	5	2	4	4	4	-4	-3
0147SC21	M147	1	2	3	14	6	6	1	6	5	-2	2	8	2	13	9	5	-1	-2	5	2	1	1	1
0148SC21	M148	1	2	2	-4	8	-10	9	-6	4	-2	2	-3	0	-4	4	3	5	-2	-9	-6	5	6	4
0149SC21	M149	1	2	3	3	-1	-18	-13	-12	0	-1	-6	7	4	9	5	7	-1	-3	-11	-13	-14	-7	-9
0150SC21	M150	1	2	3	10	10	-11	-3	-4	-6	3	3	3	-4	19	11	5	4	2	-10	-5	-9	-4	-3
0151SC21	M151	1	2	3	13	19	-7	-7	-11	-8	6	3	2	-2	18	14	7	7	-2	-9	-8	6	6	-7
0152SC21	M152	1	2	3	10	7	-13	-9	-9	1	1	-4	5	-5	17	13	9	-2	-5	-11	-9	-11	-7	-2
0153SC21	M153	1	2	2	13	3	-8	0	4	-1	2	0	3	2	12	3	6	-3	-2	-8	-6	-7	-1	-2
0154SC21	M154	1	2	3	8	5	-1	-2	-4	-2	4	6	4	1	10	3	4	1	6	-5	-3	-1	6	-2
0155SC21	M155	1	2	3	10	10	-12	-2	-6	-1	1	6	-1	-5	19	13	4	-3	-2	-10	-10	-7	1	-4
0156SC21	M156	1	2	1	4	10	-6	4	6	5	-2	0	-1	-1	5	5	6	1	6	-4	-5	-1	3	-2
0157SC21	M157	1	2	3	7	5	-3	-2	-2	2	0	-1	3	1	9	8	6	3	-1	0	-1	-3	6	-5
0158SC21	M158	1	2	3	0	17	5	3	-4	-3	-1	-3	8	-3	8	11	7	7	-3	6	-2	5	5	2
0159SC21	M159	1	2	1	7	13	-3	2	11	5	0	-1	4	5	11	15	7	7	3	-5	-1	4	4	-7
0160SC21	M160	1	2	3	-4	6	-10	-16	-17	-7	-4	-4	-7	-5	7	6	5	-3	-8	-12	-15	-5	-4	-9
0161SC21	M161	1	2	3	-9	-10	-14	-9	-8	-8	-3	-9	-3	0	-10	-8	0	-7	-3	-5	-9	-8	-5	-3
0162SC21	M162	1	2	3	6	8	-1	-1	2	-2	0	1	6	0	10	6	6	-1	-5	0	5	-6	-2	-3
0163SC21	M163	1	2	3	7	3	-13	-6	-9	0	0	2	-1	1	4	7	8	-2	-2	-3	-6	-15	-6	-1
0164SC21	M164	1	2	2	-4	5	1	2	-1	6	-2	0	-2	0	-2	-1	5	1	-3	2	-5	5	-2	4
0165SC21	M165	1	2	2	-5	7	-12	-1	-5	-4	-2	0	-3	-5	0	9	6	2	2	-6	-5	-9	-2	-2
0166SC21	M166	1	2	3	12	0	-3	-1	-3	-7	6	6	13	5	4	5	1	1	-2	-2	-4	-6	1	-5
0167SC21	M167	1	2	3	3	4	7	-5	-3	-5	-1	1	6	1	2	9	5	-3	-5	-2	1	1	-7	-2
0168SC21	M168	1	2	2	5	10	4	8	10	12	-1	-1	9	-1	6	1	9	-2	1	1	2	1	5	5
0169SC21	M169	1	2	3	1	6	-15	-11	-7	-10	2	4	4	-5	-10	-1	2	-3	-7	-8	-10	-13	-5	-7
0170SC21	M170	1	2	3	6	12	-7	-3	-5	-3	1	4	1	-4	8	9	7	4	2	-9	-3	-9	-4	-4
0171SC21	M171	1	2	2	2	3	-5	5	-7	4	5	4	7	-4	0	-1	7	4	-1	-5	-6	-5	5	5
0172SC21	M172	1	2	2	6	-9	-15	3	4	0	2	-2	4	4	1	-3	5	-6	-5	-11	-10	-15	5	-2
0173SC21	M173	1	2	3	12	12	1	2	-5	-6	1	0	3	3	12	11	4	2	-2	6	-2	-4	6	-3
0174SC21	M174	1	2	2	-6	4	-17	-5	-14	-6	2	4	5	-3	-11	2	4	0	-5	-9	-13	-12	-4	-1
0175SC21	M175	1	2	3	12	9	4	-9	-5	-7	-1	4	4	2	19	10	2	-3	-5	3	-2	-3	-7	-5
0176SC21	M176	1	2	3	10	15	6	-3	-11	-13	3	5	8	-2	15	16	4	6	-1	-1	-5	2	-1	-3
0177SC21	M177	1	2	3	9	13	6	8	4	0	5	10	10	-3	13	8	4	7	9	-5	9	3	5	3
0178SC21	M178	1	2	3	2	-9	-7	5	10	9	3	-1	1	-3	1	-7	3	-1	2	-8	-5	-15	-7	2
0179SC21	M179	1	2	3	9	5	1	-11	-13	-3	-1	1	2	1	17	2	6	-1	-3	-3	1	-5	-4	-15
0180SC21	M180	1	2	3	5	5	-14	-8	-6	-4	5	8	7	-2	1	-2	-1	6	-4	-9	-19	-11	-5	-5
0181SC21	M181	1	2	3	2	12	-15	0	-13	0	-3	-3	3	-3	11	7	7	3	-2	-9	-12	-15	6	-6
0182SC21	M182	1	2	3	2	2	-14	-9	-7	2	-1	-1	-2	0	8	5	7	-2	-5	-11	-13	-5	1	-8
0183SC21	M183	1	2	2	3	12	-12	5	2	-3	3	-2	-1	-5	10	12	3	4	1	9	-12	-12	4	1
0184SC21	M184	1	2	2	2	2	-11	1	2	-1	1	-2	1	-4	-3	-1	6	-3	-6	-9	-10	-6	-1	9
0185SC21	M185	1	2	3	8	4	-10	-4	-20	-6	4	-3	-3	-5	20	5	3	-4	-5	-3	-8	-12	-1	-5
0186SC21	M186	1	2	2	0	9	-12	-3	-2	2	2	5	-1	-2	-2	11	2	4	-1	-8	-3	-9	3	-5
0187SC21	M187	1	2	2	-9	-2	-3	-1	-7	-9	2	3	1	-4	-19	2	3	4	-4	0	-3	-4	-4	-2
0188SC21	M188	1	2	2	0	9	-2	13	8	6	-2	-4	9	-3	11	9	8	6	0	-3	9	-5	7	5
0189SC21	M189	1	2	3	4	8	11	3	1	-1	3	5	3	-4	2	7	-7	6	2	5	5	6	1	3
0190SC21	M190	1	2	2	4	6	4	8	-13	-10	5	6	8	3	-5	4	-2	5	-1	-2	9	-5	7	5
0191SC21	M191	1	2	3	1	8	-8	-2	-19	-11	2	2	-2	-4	10	11	4	-2	-2	-8	-7	-15	1	1
0192SC21	M192	1	2	3	5	4	-12	-6	-7	-3	3	6	8	-1	1	4	4	2	1	-13	-9	-6	-3	-7
0193SC21	M193	1	2	3	-2	8	-13	-14	-12	-7	-2	-5	1	-5	6	3	-3	-3	-6	-10	-12	-15	-2	-9
0194SC21	M194	1	2	3	13	14	15	6	4	11	1	8	4	3	15	5	9	7	-1	11	8	6	7	-2

```
0195SC21 M195 1 2 3   7 -3 [illegible] -6 -7 -1 -3 -2  2 -4 15 -1 [illegible]
0196SC21 M196 1 2 2   0  3  0  4 -5  5 -1 -3  1  3 [illegible]
0197SC21 M197 1 2 3  14 18  3 11 -3  7 -2  4  6  4 13 16  3 [illegible]
0198SC21 M198 1 2 3   4  9-10 -3-11 -6 -3  4  3 -2  7 [illegible]
0199SC21 M199 1 2 3  -8 -8-14-10-16-10 -2 -5 -6 -5-10 [illegible]
0200SC21 M200 1 2 3   9 12  5 -2  5  8 -2 -6  5  1  7  7 [illegible]
0201SC21 M201 1 2 3  -1  6-17-17-10 -8  2  2  1 -4  2  8 [illegible]
0202SC21 M202 1 2 3   6 13 13 12  3 -2 -2  1  0  1  7  8  4 [illegible]
0203SC21 M203 1 2 3  -8 -9-12-15-13-19 -2 -4 -1 -4-15-12 [illegible]
0204SC21 M204 1 2 3   1 10 -6-12 -9 -9  4  1  0 -4  4 12 [illegible]
0205SC21 M205 1 2 2   1 12 -8  3-12 -2  1  2 -3 -4  7 11 [illegible]
0206SC21 M206 1 2 2   6  9 -5  7  1 10  4  4  5  1  5  1 [illegible]
0207SC21 M207 1 2 3 -10 15 -5-14-16 -5 -5 -1 -6 -4 -1 14 [illegible]
```

VOCATIONAL COUNSELEES (F) N=96

```
0001SC21 F3620203 3   5 15  1 -4 -9  2 -5  4  7 -2 10 12 [illegible]
0002SC21 F3630203 3  -4 -6  7 18  3 -1  2  0  3 -3-10-15 -7 [illegible]
0003SC21 F3640203 3 -17  5  8  4-17 -5 -5 -3 -5 -3-15  3 -1 [illegible]
0004SC21 F3650203 1  -4  1  4  0 17  8 -2  4  4  3 [illegible]
0005SC21 F3660203 2   6 16 11 11  4 17  3 10  4 [illegible]
0006SC21 F3670203 2   9 16  7 12-12  5  2  8  1  3  4 13 [illegible]
0007SC21 F3680203 3   6  9 -4  5-11 -7  5  6  9  1 [illegible]
0008SC21 F3690203 2   9  6 11  3  2 -3  4  9  4  0 13 -1 [illegible]
0009SC21 F3700203 2  -8 -2 10 -3 -1-13  2  5  3 -4-22 -4 [illegible]
0010SC21 F3710203 3  -7  7 19 11 -7 -3  2  7 -6 -5-11 -2 [illegible]
0011SC21 F3720203 3   6 16 18 11 -3 -2  2 10  2 -5 14 19 [illegible]
0012SC21 F3730203 3  -1 -4 10 11 -5 -6  0  1  6  0 [illegible]
0013SC21 F3740203 3 -16  1 13  5-13-15 -2 -4  8 -5-23 -2 [illegible]
0014SC21 F3750203 3 -13 -5 -7  8  3 -6  0  1 [illegible]
0015SC21 F3760203 3  -9 -2 15 11 -6-10  2  3  3 -1-10-10 [illegible]
0016SC21 F3770203 2   5  9  3 13 -4  1  5 10 -1 -1  0  7 [illegible]
0017SC21 F3780203 3  11  6 19 17  2  4  5 11  1 -1 13  5 [illegible]
0018SC21 F3790203 3 -13-12  5  8 -6-12 -1 -3  1 -5-23-16 [illegible]
0019SC21 F3800203 2   6 10  2  1 -3 12 -1  8  6  5 10  9 [illegible]
0020SC21 F3810203 2  -9 -9-10  2 -8  3 -6 -3 -4 -3-13 -6 [illegible]
0021SC21 F3820203 2  -9 -3 -4 -1 -7 -8 -1  2 -9 -5-11 -9 [illegible]
0022SC21 F3830203 1  -8  6 -4 -4 -2 -6 -6  0  9 -5 -2  7 [illegible]
0023SC21 F3840203 3  -3  2 19-10  1 -1  2  8  2 -5 -7 -3 [illegible]
0024SC21 F3850203 3  -5  7  6  4 -4  0 -5  5  2  0-14  6 [illegible]
0025SC21 F3860203 3  -4 -6  5 15 -4 -9 -1 -1  8  2-12-12 [illegible]
0026SC21 F3870203 2  -4 11 -7 13 -1  1 -6 -2  0 -4  2  7 [illegible]
0027SC21 F3880203 3 -16-10  0  9-14 -5  1 -5 -7 -4-22-15 [illegible]
0028SC21 F3890203 3 -14 -4 12 -2-14-12 -2  5 -1 -5-13 -4 [illegible]
0029SC21 F3900203 2 -13 -4 -2  4 -6  5 -1 -3 -9 -5-14 -8 [illegible]
0030SC21 F3910203 2 -13 10  7  9 -5  5 -4  5 -3  1-13  3 [illegible]
0031SC21 F3920203 3  -9  5  9 12-14 -8  6 11 -6 -3-22 -4 [illegible]
0032SC21 F3930203 2  -6  7  5  6 -8 -9  4  8  6 -3-16  3 [illegible]
0033SC21 F3940203 3   0 -8  1  0-11 -8  5  9  8 -3-16 -8 [illegible]
0034SC21 F3950203 2  -7 -8 -4  4-12  1 -1 -5  1 -4 -4-13 [illegible]
0035SC21 F3960203 2   8 10  7 15-15 -5  4 10  2  2 10  5 [illegible]
0036SC21 F3970203 3 -16-13 -4  5-17-10  0  0 -7  2-16-13 [illegible]
0037SC21 F3980203 2 -19 -9  0 12 -5  5 -3 -1 -8 -3-21-11 [illegible]
0038SC21 F3990203 3  -5  6 18  9 -4 -6 -4  4  5 -5 -2  5 [illegible]
0039SC21 F4000203 3  -6 -1 12  5 -1 -9  2  4  2 -5-16 -5 [illegible]
0040SC21 F4010203 3 -13 11 16 11  0  3 -2  7 -3 -5-13  6 [illegible]
0041SC21 F4020203 3 -10  2 10  1 -3 -4  1  4 -6 -3 -9 -1 [illegible]
0042SC21 F4030203 3  -2  0 12 -6 -5-11  0  7  3 -5  9 -2 [illegible]
```

0043SC21 F4040203 3 -1 2 8 5 1 -3 -3 5 6 1 4 0 -2 1 -5 10 5 2 -3 1
0044SC21 F4050203 2 8 2 1-12 3 -4 5 9 1 -4 7 1 9 1 1 -2 -5 -2 -2 -7
0045SC21 F4060203 3 -9 -2 0 3 5 13 -4 -6 -8 -5 -7 -6 3 -4 -7 9 4 3 6 6
0046SC21 F4070203 2 -19 1 -9 12 3 6 -3 -2 -5 -5-22 -4 1 1 -2-13 -4 2 7 19
0047SC21 F4080203 3 -10 -4 9 0-14-10 0 5 -4 -3-11 -3 -5 -2 -2 9 7 1 -2 7
0048SC21 F4090203 2 -15 -1 -3 5-13 -9 0 2 1 -1-23 -4 -4 4 -3 8 -3 5 6 2
0049SC21 F4100203 3 -12 -5 14 11 -9-10 1 6 -3 -5-13 -9 -1 -6 -4 -3 7 10 2 19
0050SC21 F4110203 3 -10 -8 0 5-13 -2 1 8 3 -5-16-12 -9 -2 2 1 5 -9 4 9
0051SC21 F4120203 3 6 -8 6 10-10 -4 4 9 10 3 -9-13 -7 2 1 -4 2 4 -3 11
0052SC21 F4130203 3 1 6 14 15 0 4 3 4 9 -5 2 9 2 1 -1 2 10 4 5 19
0053SC21 F4140203 1 -2 -2 3 -2 -2 17 -1 3 5 -5-13-12 9 -2 -3 -5 1 4 -5 -1
0054SC21 F4150203 2 1 1 -6 10 0 9 1 9 -1 5 -2 -5 4 4 -2 -2 -2-10 5 1
0055SC21 F4160203 3 -8 15 11 5-14 -6 1 7 -6 -4 -1 15 3 6 -1 6 4 2 6 7
0056SC21 F4170203 3 0 8 8 5 -5 -1 -1 4 1 -5 3 5 4 -1 -3 2 5 6 -1 6
0057SC21 F4180203 3 -8 8 14 -6-16-11 3 11 0 -5-12 2 2 6 4 2 2 -2 1 -2
0058SC21 F4190203 1 -10 -9-17-16 -9-11 -2 -2 6 -5-14 -5 2 -1 -5-11-13-13 -6 -9
0059SC21 F4200203 3 5 16 7 2-10 -7 5 10 4 -5 7 15 7 2 -1 2 2 3 4 9
0060SC21 F4210203 2 -12 2 12 12 4 15 -4 0 10 -3-22 -8 -3 5 6 4 5 3 2 6
0061SC21 F4220203 2 7 16 15 17 -2 8 2 9 4 -1 7 13 6 7 7 5 9 10 2 11
0062SC21 F4230203 3 -3 2 5 -3-13 -1 -1 0 1 -1 0 4 -2 -1 2 2 2 -1 3 1
0063SC21 F4240203 3 -5 10 9 6 -8 -8 4 9 -4 -5-11 5 1 2 1 2 1 11 6 2
0064SC21 F4250203 2 3 15 9 9 -1 -3 2 8 -1 1 2 10 7 6 3 4 3 2 7 4
0065SC21 F4260203 3 -11 1 4 -1-14-12 2 8 3 -4-16 -3 -3 -1 -2 3 2 -1 -2 3
0066SC21 F4270203 2 -2 6-10 4 -5 -1 0 7 -7 -3 0 2 -3 1 9-12 -5-15 5 -2
0067SC21 F4280203 3 -5 5 10 8 1 -1 1 4 5 3-13 -2 -2 -3 8 9 3 11 6 6
0068SC21 F4290203 3 -10 7 13 3-14 -8 -2 1 -1 -5 -7 4 1 -4 -4 9 9 2 -1 6
0069SC21 F4300203 3 -5 5 1 -2 -6 0 -1 1 -3 -4 -5 2 7 2 -1 2 5 2 -1 1
0070SC21 F4310203 2 -18 3-11 -1-14 -6 -3 3 -9 -5-22 3 1 1 -2 -3 -7 -2 5 9
0071SC21 F4320203 3 -18-14 -5 -5-19-13 -3 2 -1 -5-13-12 -9 -5 -6 -2 -1-12 9 2
0072SC21 F4330203 3 -6 17 10 7 2 7 -3 4 6 -2 -7 14 9 2 7 13 7 -3 3 5
0073SC21 F4340203 3 17 10 -5-13-20 1 4 9 1 1 21 11 6 8 6 -5 4-11 2 -2-12
0074SC21 F4350203 3 -16 -9 9 -5-17 -9 -2 3 -7 -5-20 -2 -8 6 -2 3 7 2 -3 -1
0075SC21 F4360203 3 -13 -4 12 4-10 -9 0 8 -1 -5-23 -4 -4 2 -2 3 13 10 4 9
0076SC21 F4370203 2 -19-11 -3 2 -5 -1 -5 -5 -7 -5-24-15 -9 -5 -7 -5 -6 11 7 2
0077SC21 F4380203 2 -9 6 -2 10 -3 -6 4 9 4 1-21 3 1 4 5 1 -4 5 2 3
0078SC21 F4390203 2 -15-11-10 1 -5 -4 -2 -1 2 -4-21-12 -6 -5 -4 -7 -6 -5 -5 -2
0079SC21 F4400203 3 -17 -4 0 -8-13-16 1 -1 -1 -3-20 -6 -7 -3 -4 5 -2 2 2 -2
0080SC21 F4410203 3 -7 5 1 0-13 -6 -2 3 1 -5 -7 4 -1 5 5 5 4 -1 -5 5
0081SC21 F4420203 3 -16 7 8 9-11 -9 -3 4 0 -4-14 3 -2 5 4 5 2 1 7 2
0082SC21 F4430203 3 -19 -5 -9-10-20-16 0 1 -6 -5-24 -9 -4 2 -3 -3 -2-11 1 -3
0083SC21 F4440203 3 -15 7 4 3-18 -1 -4 3 -3 -5-16 2 2 -1 6 4 1 7 1 1
0084SC21 F4450203 3 -7 -2 10 12 -6 -5 3 7 1 -5 -4 -9 3 2 6 -3 7 7 2 11
0085SC21 F4460203 2 -20 5-16 -5-18-14 -1 1 -6 -5-24 6 1 3 6-11-13-11 -4 3
0086SC21 F4470203 3 8 14 12 -1-16 -3 4 10 2 -5 3 9 4 6 2 4 7 2 -2 3
0087SC21 F4480203 3 -10 8 3 2-13-10 3 7 6 1-16 8 -5 3 3 10 1-11 2 3
0088SC21 F4490203 2 10 3 11 7-10 2 4 9 8 2 8 5 3 5 4 2 3 5 4 2
0089SC21 F4500203 3 -9 2 16 0-16-12 2 2 -7 -5-14 -3 -4 -3 -8 7 9 14 2 7
0090SC21 F4510203 3 -15 -4 15 6-18-15 -1 4 -1 -5-19 -8 9 -3 -2 12 11 10 2 4
0091SC21 F4520203 3 -17 0 3 6 -3 -7 -4 6 -8 -5-21 -1 -8 2 -5 9 3 10 2 3
0092SC21 F4530203 3 -11-12-13-15-20 0 2 -1 -1 -4-22 -7 4 -5 -7 -5-11-10 -4-11
0093SC21 F4540203 3 -5 0 15 -4 -7 -7 4 5 1 -5 -9 -5 -5 -1 -5 9 2 13 -7 1
0094SC21 F4550203 3 -14 -1 7 13 3 5 -2 -1 -4 0-22 -7 -2 1 6 5 4 1 2 3
0095SC21 F4560203 3 -4 -2 16 16 1 -3 1 2 -2 9 -3 -6 -7 -3 -1 12 14 5 2 3
0096SC21 F4570203 3 10 8 14 12 7 4 1 9 8 -1 2 4 -1 6 5 2 2 6 2 5

VOCATIONAL COUNSELEES (M): N=60

0097SC21 M4580103 2 -8 -9 -4 -2-17-15 -2 -4 6 -5 -7 9 1 6 6 9-10 -2 -3 -2

```
0098SC21 M4590103 3   6  3 -9-15 -4 -1   2  5  8 -3  3  5 -1  5 -2 -3-1 2 -4 -7 -3
0099SC21 M4600103 2  -4  3  1  4-14-10   1  3  7 -2 -3 -1  1  1 -3 -2 -3  5  5  2
0100SC21 M4610103 3   5 -4 12 10 -1 -5   6  5  1 -4 12-12 -7  3  6  5 10  5  5  3
0101SC21 M4620103 2   6  8 -2  9  6  4   1  4  6  2 -3  4 -5  7  2 -4 -3 -1  6  3
0102SC21 M4630103 1   4 -2 -3  3 -6 -7   0  3  2 -1 -1 -4 -4 -3 -7 -2 -3  1  2 -1
0103SC21 M4640103 3   5 19 14  5  5  4   5  9  1 -5  6 14  9  8  6 11  7  2  2  3
0104SC21 M4650103 2   6  5 11 -1 -3 -6   0 -4  0 -5 11  5 -3 -2 -5  1  2  6 -2  1
0105SC21 M4660103 2  14  3 10 -1  2  2   4  4  3  5  9  5 -3  3 -1  9  2  6 -5 -2
0106SC21 M4670103 3   1  5  1 -9-10 -9  -2  1  7 -5  8 -1  0  3 -4 -3 -2  6  5 -5
0107SC21 M4680103 3   6 -1 -4 -5 -5  0   0  8  3 -2  6  2  6 -2 -3 -3  4-13  5 -7
0108SC21 M4690103 3   7  5  7 10-13-10   4  9 -8 -5 21  8  3  5  6  9 10 -7  3  3
0109SC21 M4700103 3  -5  7 13-11-15-15  -2  4  6 -5 -6  2  1  4 -2  7  5 12 -7 -2
0110SC21 M4710103 1   3 -9 -8 16 -4-13   2 -3  2 -4  3-15 -9 -8 -5 -6 -7 -5  7  7
0111SC21 M4720103 3   5  6-12 -3  0  5   5  5  7  0  3  4  0  6  2 -9 11 -4 -3 -1
0112SC21 M4730103 2   5 19  3  6 -9 -1   1  6 -1 -5  2 17  7  3  2  1 -5 -2  2 -2
0113SC21 M4740103 3  -6  5 14 -5-10 -5  -1 -1  3 -3 -7  3  5  9 -2  9  5 11  1 -1
0114SC21 M4750103 2   5 -8 -8 -8 -1 -1   1 -1  3  3  9 -4  0 -2  1 -5-10-15 -7 -8
0115SC21 M4760103 2 -18 -2-11-10-11-11  -5 -5 -4 -3-21 -1 -5  4 -2 -3-11-11 -2 -3
0116SC21 M4770103 2  -4  0-10 -6  0  3  -2 -3  6 -5  0 -5  2  4 -2 -4-13-10 -6 -5
0117SC21 M4780103 3 -13 -9 -7  5 13  0  -1 -4  2 -5-19-10 -3  1 -3 -8 -5  5  3  4
0118SC21 M4790103 2 -10 -6-16 -1-14-17   4  0  6 -3-24 -7  9 -3 -5 -8-13-13 -1 -4
0119SC21 M4800103 2 -20-14 -8  3-12 -5  -5 -4 -5 -5-23-15 -9 -7 -9 -5 -5  2  4  5
0120SC21 M4810103 3   2  4 14 17 -3 -1  -1  4  8  4  1 -3 -4  2  1  5  6  6  8 19
0121SC21 M4820103 3 -13 -5 -4  7 -2 -3  -2 -5  4 -4-19 -8 -5 -1 -7 -5 -5  6  4  7
0122SC21 M4830103 3 -14 -5  0 -7 -9 -7  -5 -4 -1 -1-21-11 -9 -3 -7 -4 -7  5 -2 -2
0123SC21 M4840103 2  -5 20 -3 16  6 10  -1  1  3 -3 -9 13  7  8  5 -7 -7  1  5  7
0124SC21 M4850103 3 -10 -2 -7-10-16 -7  -1 -1  1 -4-13 -5  5 -5 -7 -5-11 -5 -5 -7
0125SC21 M4860103 2  -4 -1 -6 -3-18-16   0 -3  2  1 -2-11 -7 -5 -6  0 -8 -2  3  1
0126SC21 M4870103 3 -10 -6  5  6-13-11  -1 -3  5  0-17-16 -2 -4 -4  7 -1  3  2 -2
0127SC21 M4880103 3  -5  2  8  6 -2 -6   2  5  1 -5-14 -1 -5  6 -4  4  1  5  8  4
0128SC21 M4890103 1 -10-12-13  8-15-19   2 -2 10  5-24-13 -9 -3 -3 -8-14 -4  2  3
0129SC21 M4900103 2  -7  3-14 -7 -6  3  -3 -4  5 -4  9 -2  6 -1 -5-19-12-14 -4 -5
0130SC21 M4910103 2  14 15 14 16  5 -7   4  8  3  3 14  7  1  1 -1  9  5 16  6 11
0131SC21 M4920103 3  -9 -2 13  4-17-15  -2  1 -1 -5-19 -7 -5 -3 -3  2  5  7  6  5
0132SC21 M4930103 3  -3 -8  5  2-11 -9  -2  7  3  0 -9-16 -7 -5 -6  1  7  2  4 -1
0133SC21 M4940103 3   7 13 15  6 -3  2  -3  8  1 -2 12  9  6  1 -4  3 10 13  6  4
0134SC21 M4950103 3  -7 -1 17  7-13-15   3 11  0 -5-14-15 -9  6 -1  8 17 13  4  3
0135SC21 M4960103 1  11  4-13 12 -1  2   4  4  4  4  4  2 -1  6  2-16 -7-16  2  5
0136SC21 M4970103 3 -13 -4 -6  4 10 -5  -2 -6  5 -3-20 -7 -6  1 -3 -4 -7  5  2  3
0137SC21 M4980103 3  -6 -2-13 -3 -8 -9  -3 -3  6 -2 -6 -4  9  5 -3 -7-12-12  5 -8
0138SC21 M4990103 3   1 16  8  4-12 -4  -1  2  1 -5  9 10  2  4  9  3  2  5 -6 -8
0139SC21 M5000103 3   8  4 -4 -9 -3 -7   4  5  7 -1  5  2  5 -5 -7 -7 -4  3 -6 -8
0140SC21 M5010103 1   2 -9 -4  8-12 -4   0 -2  7  2 -5 -7 -2 -3 -4  1 -2-11  3  5
0141SC21 M5020103 2   2  1-14  6 -6  4  -3 -7  5 -5  8  1  2 -3 -3 -9-14 -8  6  4
0142SC21 M5030103 3   3  4  0  5 16 -8   1  6  7 -5  4 -1 -7  3  0  1  4 -3 -3  4
0143SC21 M5040103 3  14 14 -7  8 -2  1   5  7  7  3 18 11  1  7  1 -1 -7 -5  2 -3
0144SC21 M5050103 2  -3 -4  8 -9-16-15   2  3 -7 -5 -6 -6 -1 -3 -7  4  4  6  1 -2
0145SC21 M5060103 3 -12  2  4  6  6  5  -1  5 -1 -4-17 -1  1  5 -2  2  6  7  3 12
0146SC21 M5070103 3  -3 11 10  6  2  0   0  1  9  0-11  2  6  1 -2  7  3 17  4  3
0147SC21 M5080103 3 -12 -6 16  6  1 -8  -1  8 -6 -5-15-10 -6  0 -5 12  5 19  2  5
0148SC21 M5090103 3   9 14-10  4 -8 -6   4  6 10  3 12 17  3  4  5 -7 -5  6 -3  6
0149SC21 M5100103 3  -9 -4 12 -3 -4 -4  -5 -5 -1 -5 -6 -7 -5 -2 -1 12  2  5 -2  1
0150SC21 M5110103 3  14 15 14  4 -6 -6   4  8  6 -3 16 13  6  6  2  6 11  4  5  3
0151SC21 M5120103 2   3 -9  0 -4-12-17   4  1  6  3 -7 -9 -3  1  2  2 -5 -4 -3 -1
0152SC21 M5130103 2  18 15 13  9 20 12   2  1  9  3 21 16  9  4  3  4  5  8  2  2
0153SC21 M5140103 2  -9 11  6 14 -7-12   5 10  0 -5-14  7 -4  2 -3  4 -2 12  5  7
0154SC21 M5150103 3   2  5  7  0  4  2  -2 -2 10 -4  5  5  7  6 -4 -2  6 -2 -3 -3
0155SC21 M5160103 3  -3  7 -8-10-17-10  -1  2 -1 -4 -1 19 -4  6 -1 -4 -6-15 -2 -3
0156SC21 M5170103 3   2 13 15  8 -8 -9   3  7  8 -4 -3  9  1  3  6  3  3  7  2  3
```

PERSONAL COUNSELEES (F) N=42

0157SC21	F5180204	3	7	12	14	1	-6	-6	2	0	6	-4	13	1	2	5	2	13	1	1	-5	2
0158SC21	F5190204	3	0	0	5	9	-10	-13	4	7	8	-4	0	-1	1	-2	-4	7	3	-7	1	3
0159SC21	F5200204	1	-4	7	0	-1	-13	0	0	6	-6	-2	-3	-6	1	-6	-5	1	7	-9	-3	3
0160SC21	F5210204	3	-7	-6	6	3	-3	-1	-1	4	-2	-5	-13	-6	-2	-2	-4	2	1	7	-6	6
0161SC21	F5220204	3	8	-1	17	9	-1	-2	0	2	5	-3	11	-5	5	-7	-3	7	12	11	7	4
0162SC21	F5230204	3	-15	-9	-5	3	-18	-10	-5	-1	-3	-5	-11	-11	-9	-6	-7	-9	-7	1	5	3
0163SC21	F5240204	3	8	15	4	4	-1	-3	5	4	9	4	9	11	5	5	-3	1	9	4	-4	2
0164SC21	F5250204	3	-5	1	15	-3	-17	-9	-1	6	1	-5	-10	-4	-9	0	-2	3	14	10	1	1
0165SC21	F5260204	3	-1	17	18	0	-16	-7	2	10	-2	-5	-7	3	1	6	2	13	14	7	1	3
0166SC21	F5270204	2	-7	2	0	0	-16	-5	-1	7	-2	4	-14	3	-7	0	-7	6	2	-1	-6	5
0167SC21	F5280204	2	-2	-8	4	-4	-18	-11	0	9	-1	-5	-3	-12	-9	-4	-7	-2	4	10	-3	3
0168SC21	F5290204	2	-12	4	-2	15	-3	-11	-4	-3	6	1	-13	2	-9	1	1	-3	2	7	10	
0169SC21	F5300204	3	-9	0	10	5	-14	-7	-2	7	-5	4	-9	2	-9	0	3	11	1	-1	7	6
0170SC21	F5310204	3	-3	-5	13	7	6	0	0	6	4	-2	-2	-4	-3	-2	-1	14	7	6	-1	5
0171SC21	F5320204	1	10	5	3	10	7	1	0	3	2	4	13	-2	-7	4	0	9	5	4	4	3
0172SC21	F5330204	3	-1	-2	2	11	-10	-1	6	11	1	1	-3	-3	-3	0	-1	1	-3	2	5	1
0173SC21	F5340204	3	-8	-8	-6	11	-15	-11	3	8	-5	0	-13	-7	-3	2	1	-4	1	-3	6	4
0174SC21	F5350204	2	-14	-7	0	11	4	9	-5	3	1	-3	-16	-4	-5	-2	-5	2	5	-1	3	7
0175SC21	F5360204	3	-1	-3	12	4	0	-5	-1	0	7	1	2	-10	-9	1	1	1	14	9	0	7
0176SC21	F5370204	3	-1	0	7	3	-4	-6	2	6	-8	-2	-16	-13	-9	-6	-5	0	4	7	-3	7
0177SC21	F5380204	3	-12	-2	12	2	-11	-2	-4	5	-6	-3	-18	-9	-3	-5	-7	11	3	11	0	4
0178SC21	F5390204	3	-20	-13	16	3	-14	-13	-5	-3	-2	-3	-20	-16	-4	-8	-7	1	3	7	-3	0
0179SC21	F5400204	3	-12	5	19	4	-9	0	0	7	1	-4	-19	2	3	3	4	11	13	13	-2	0
0180SC21	F5410204	3	3	14	19	12	-5	-6	0	5	4	-5	7	11	-2	5	3	14	13	13	5	10
0181SC21	F5420204	3	-5	-7	8	6	4	-8	-1	4	7	-1	-7	-13	-8	-6	-6	6	7	-1	1	3
0182SC21	F5430204	2	5	3	13	-1	-17	-9	5	8	-3	-3	8	6	-8	2	-2	1	10	5	4	1
0183SC21	F5440204	3	1	2	17	11	-6	4	3	8	-3	0	-5	-5	-2	0	-3	5	12	13	9	3
0184SC21	F5450204	2	-10	17	3	17	-8	0	2	9	1	-5	-14	11	2	6	6	5	-1	5	8	11
0185SC21	F5460204	2	-13	0	13	11	13	3	-2	7	-6	-4	-16	-6	-7	0	7	3	11	13	5	10
0186SC21	F5470204	3	0	7	14	-10	-3	-9	1	9	2	-5	5	3	6	-4	-7	9	5	11	1	-3
0187SC21	F5480204	3	-9	13	10	4	-12	-2	-2	6	-2	-3	-13	10	5	8	9	6	-2	11	6	-7
0188SC21	F5490204	2	-9	-3	-7	-2	-7	3	-6	-6	-9	-1	-15	-5	-5	-7	-8	-5	-5	-3	5	-2
0189SC21	F5500204	2	-14	-3	-3	5	-11	-6	-4	3	1	-4	-21	-9	-3	4	-1	-3	-7	6	2	5
0190SC21	F5510204	3	-13	10	11	-7	-16	-6	-2	-1	0	-5	-16	3	4	3	-6	-7	4	4	2	0
0191SC21	F5520204	3	-11	4	18	4	-3	-9	1	2	-2	-5	-13	-6	1	6	-2	11	10	11	3	4
0192SC21	F5530204	2	-3	14	5	8	-16	-9	3	11	4	-3	-8	10	4	6	3	1	2	-3	4	6
0193SC21	F5540204	3	-10	1	7	4	-12	0	-1	5	1	-4	-12	3	-2	4	1	3	3	5	5	2
0194SC21	F5550204	3	-14	-8	2	12	-4	-8	-1	3	2	5	-24	-11	-7	0	-2	9	-2	7	7	10
0195SC21	F5560204	3	-11	-4	15	7	-13	-4	3	7	-6	-5	-12	-5	-6	0	-1	11	10	2	3	3
0196SC21	F5570204	3	-9	-12	8	-1	-10	-11	3	0	-2	-5	-22	-15	-9	-7	-6	10	2	10	3	4
0197SC21	F5580204	3	-5	3	9	-4	-16	-6	1	7	-5	-4	-4	4	-1	1	1	3	3	-3	-1	2
0198SC21	F5590204	3	1	-2	11	2	-8	-16	1	9	1	-3	0	-3	-3	1	-3	5	3	-2	-2	4

PERSONAL COUNSELEES (M) N=22

0199SC21	M5600104	3	-4	0	-12	-14	1	3	-5	-5	-1	-4	1	2	3	-1	-5	-2	-3	-10	-2	-5
0200SC21	M5610104	2	-16	-13	-18	-9	-17	-16	-1	-3	9	-5	-20	-9	-8	-6	-5	-11	-12	-14	-4	-5
0201SC21	M5620104	2	8	-3	17	7	-2	-4	-1	0	2	-5	3	-3	-9	-3	-8	7	13	9	7	6
0202SC21	M5630104	2	-8	-8	5	0	1	-2	-2	-4	-2	-5	-6	-9	-7	-5	-7	0	-1	3	1	-2
0203SC21	M5640104	1	10	3	-1	10	9	-3	3	2	8	5	13	4	-3	-1	1	-3	3	-7	2	3
0204SC21	M5650104	3	-1	3	18	6	0	-8	3	8	7	-2	-6	1	-3	4	0	10	12	5	5	3
0205SC21	M5660104	3	-5	-1	7	16	13	-5	2	6	-5	1	-17	-6	-9	-2	-3	1	-4	12	7	9
0206SC21	M5670104	3	18	18	13	16	12	13	3	9	13	5	22	15	8	5	9	6	3	3	7	9
0207SC21	M5680104	3	4	2	-2	-5	-5	-1	1	7	-1	-5	4	4	-1	6	3	-3	3	-1	-2	-2

```
0208SC21 M5690104 3 -14  -6  -6   0   7   9  -6  -8   2  -5-13-10   7  -7  -9  -3  -9  -2   7  -4
0209SC21 M5700104 3   9   9  -7  -3  -6-10   0   2   1  -2 -15   3   1   6  -2  -3  -3  -5  -1   3
0210SC21 M5710104 2  -7  -4-16  -6-16   0  -2   1  -4  -2  -1  -7   7  -2  -5 -10-12-14   1  -7
0211SC21 M5720104 3 -15  -4  -4   7  -5  -4  -3  -2   2  -5-21-13  -1  -7  -6   1  -5   6   2   6
0212SC21 M5730104 3 -17-15-13  -2   9  -6  -2  -7   4  -5-24-15  -5  -3  -9  -8-13  -3  -1  -5
0213SC21 M5740104 3  -5   1 13-18-16  -4   2   8  -4  -1-10   6   9  -3  -9   5   6  -2  -6-11
0214SC21 M5750104 3  11  18  11   4  -1  -2   3   6   1   4  11  15   8   3   6   6   7   6   3  -1
0215SC21 M5760104 3  -1   8  18   8   2  -6   6   9   3  -5  -2  -2   9   1  -1   9  13   3   6   5
0216SC21 M5770104 3 -19  -2  18  -5-20-13  -4  -2  -6  -5-21  -7   1  -4  -3  10  11   3   4  -1
0217SC21 M5780104 3 -17  -4  15   2-16-15  -3   0  -6  -5-22  -9  -9  -6  -7   5   7  12  -3   5
0218SC21 M5790104 2  -2  12   0   3  -6  -4   2   6   1  -3  -5  11   5   1   6  -2  -6   4   2   1
0219SC21 M5800104 2  11  11  19   0-16-10   2   8   7   0  13  10  -5  -1  -6   6   1  14   2  -1
0220SC21 M5810104 3   6   9  17  10   5-13   2   3  10  -3   2   1  -7   9  -2   7  13   4   4   3

FINISH
```

APPENDIX 10

Frequency Counts of Consistency and Differentiation in the Population Sample

Table 6.1

General Occupational Themes: Frequencies of Low, Medium, and High Consistency Among the 581 Subjects

Consistency	N	% of total
Low	26	4.5
Medium	165	28.4
High	390	67.1
Total	581	100.0

Table c.2

General Occupational Themes: Frequencies of Low and High Differentiation Among the 581 Subjects

Differentiation	N	% of total
Low	264	45.4
High	317	54.6
Total	581	100.0

APPENDIX 11

Abstract of Personal, Vocational, and Non-Counselees Compared in Terms of Holland's Personality Typology and Related Pattern Characteristics of Consistency and Differentiation

Abstract of Personal, Vocational, and Non-Counselees Compared in Terms of Holland's Personality Typology and Related Pattern Characteristics of Consistency and Differentiation [1]

Occupational personality types and patterns (Holland, 1973) of personal, vocational, and non-counselees were compared employing the six General Occupational Themes of the Strong-Campbell Interest Inventory in a series of multiple-discriminant function and chi-square analyses. Subjects were 285 male and 296 female freshmen (64 personal-, 156 vocational-, & 361 non-counselees) registered at the University of Ottawa during 1975-76.

Discriminant and chi-square analyses indicated personal and vocational counselees to differ in personality type from non-counselees, but not from one another. Furthermore, male and female counselees differed from non-counselees and from each other. Finally, vocational counselees were noted as most predictable in terms of personality type, personal counselees were the least predictable, and non-counselees occupied a posit-

---

[1] By Peter E. Meuser, Doctor of Philosophy dissertation presented to the School of Graduate Studies at the University of Ottawa, Ontario, Canada, May, 1978, vii - 217 pages.

ion between the other two. Chi-square analyses clearly indicated no systematic relationships to exist between counseling groups and personality patterns of consistency and differentiation. The .05 level of probability was applied in all instances where significance was tested.

It was suggested that counselees differed from non-counselees in being less decisive, autonomous, and self-directed. Furthermore, it was proposed that male and female counselees seek satisfaction of substantially different needs, and may be done an injustice by inflexible and undifferentiating counseling. Finally, it was stated that use of the present findings in a predictive sense, such as early identification of subjects with personal or vocational problems for the purpose of offering them preferred assistance, would result in considerable errors of diagnosis.