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Erickson, M. Lloyd

**CONCURRENT VALIDITY OF THE STRONG-CAMPBELL INTEREST
INVENTORY FOR SEVENTH-DAY ADVENTIST SEMINARIANS AND MINISTERS**

Andrews University

Ph.D. 1986

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Andrews University
School of Education

CONCURRENT VALIDITY OF THE STRONG-CAMPBELL
INTEREST INVENTORY FOR SEVENTH-DAY
ADVENTIST SEMINARIANS
AND MINISTERS

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
M. Lloyd Erickson

June 1986

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ABSTRACT

CONCURRENT VALIDITY OF THE STRONG-CAMPBELL
INTEREST INVENTORY FOR SEVENTH-DAY
ADVENTIST SEMINARIANS
AND MINISTERS

by

M. Lloyd Erickson

Chairman: Frederick A. Kosinski, Jr., Ph.D.

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Title: CONCURRENT VALIDITY OF THE STRONG-CAMPBELL
INTEREST INVENTORY FOR SEVENTH-DAY ADVENTIST
SEMINARIANS AND MINISTERS

Name of researcher: M. Lloyd Erickson

Name and degree
of faculty advisor: Frederick A. Kosinski, Jr., Ph.D.

Date completed: June 1986

Problem

The purpose of this study was to determine if the Strong-Campbell Interest Inventory (SCII) is a valid instrument for measuring the vocational interests of Seventh-day Adventist (SDA) seminarians and ministers and to discover if denominational differences exist on the SCII. Another purpose of the study was to determine if preferred type of ministry is related to vocational interests.

Method

The SCII and questionnaire were administered to randomly selected SDA seminarians and ministers. The data-producing sample consisted of 75 seminarians and 189² ministers. Statistical analyses included Hotelling's T² test, t-tests, univariate and multivariate analyses of variance, and discriminant analysis.

Findings

1. SDA seminarians have significantly more Social interests and less Artistic interests than does the SCII criterion minister sample as measured by the General Occupational Themes.

2. There is no significant difference between the vocational interests of the SCII criterion minister sample and the vocational interests of SDA seminarians as measured by the Minister (male) Occupational Scale.

3. SDA ministers have significantly less Investigative and Artistic interest than does the SCII criterion minister sample as measured by the General Occupational Themes.

4. SDA ministers score significantly lower than the SCII criterion minister sample on the Minister (male) Occupational Scale.

5. SDA seminarians score significantly higher than SDA ministers on the Artistic and Social General Occupational Themes.

6. SDA seminarians score significantly higher than SDA ministers on the Minister (male) Occupational Scale.

7. The type of preferred ministry makes a significant difference, generally in the expected direction, in the interests of SDA seminarians and ministers as measured by the General Occupational Themes.

8. The type of preferred ministry makes a significant difference, with the administration group scoring the lowest and the counseling group scoring the highest, in the interests of SDA seminarians and ministers as measured by the Minister (male) Occupational Scale.

Implications

In spite of the aforementioned differences, the research provides support for the concurrent validity of the SCII for SDA seminarians and ministers. However, vocational counselors need to be aware that denominational differences exist on the SCII and utilize denominational norms as they become available.

CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	viii
ACKNOWLEDGEMENTS	ix

Chapter

I. INTRODUCTION	1
Background	1
Statement of the Problem	5
Purposes of the Study	5
The Hypotheses	6
Significance of the Study	7
Definition of Terms	8
Delimitations	10
Organization of the Study	10
II. REVIEW OF THE LITERATURE	11
John Holland's Theory of Career	
Development	11
Description of Personality Types	14
Holland's Hexagonal Model	16
Applying Holland's Theory to the SCII	18
Item Analysis of SCII According to	
Holland's Vocational Theory	21
The Fit between General Occupational	
Themes and Holland's Hexagonal Model.	22
Sample Studies of Concurrent Validity	
of the SCII	23
Leisure Activities Versus Occupational	
Membership as Criteria	23
Comparison of the Concurrent Validity	
of Holland's Theory for Men and Women	
in an Enterprising Occupation	24
Concurrent and Predictive Validity of	
the SCII in an 18-Year Follow-up	25
A Comparison of the Concurrent Validity	
of Three Types of Scales on the SVIB.	28
Concurrent Validity for Other-sex and	
Same-sex Twin Occupational Scales	28
Concurrent Validity of General Occupational	
Themes for College Students	29

Concurrent Validity of the Criterion Groups of SCII	30
Concurrent Validity of 1981 SCII for College Majors.	31
Comparison of Interest Patterns of General Dentists and Pedodontists	32
Concurrent Validity of the SCII for Subgroups of Graduate Students	33
Comparison of the Interest Patterns of Dental Educators, Practicing Dentists, and Graduate Students	33
Concurrent Validity for Dental Students	34
The SCII and the Evaluation and Prediction of Successful Candidates for Religious Careers	36
The SCII and Law Students	40
Concurrent Validity for Counseling Psychology Graduate Students	41
Summary	42
III. RESEARCH DESIGN	43
Introduction	43
Population and Sample	43
The Variables	44
Instrumentation	45
Procedures	53
Hypotheses	54
Data Analysis	55
IV. PRESENTATION AND ANALYSIS OF DATA	60
Introduction	60
Samples	60
Basic Data	62
Testing the Hypotheses	65
Hypothesis 1	65
Hypothesis 2	66
Hypothesis 3	67
Hypothesis 4	68
Hypothesis 5	69
Hypothesis 6	72
Hypothesis 7	73
Hypothesis 8	84
Summary	88
V. SUMMARY, FINDINGS AND DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS	89
Summary of the Study	89
Findings and Discussion	91
Hypothesis 1	92

Hypothesis 2	93
Hypothesis 3	94
Hypothesis 4	96
Hypothesis 5	97
Hypothesis 6	99
Hypothesis 7	102
Hypothesis 8	105
Implications and Recommendations	107
Practice	107
Future Research	110
APPENDICES	112
A. Correspondence	113
B. Questionnaires	126
C. Raw Data	129
BIBLIOGRAPHY	136
VITA	141

LIST OF TABLES

1.	Intercorrelations between Personality Types . . .	17
2.	Intercorrelations between General Occupational Themes on the 1985 SCII	21
3.	Comparison of Comer's Data to That of Midwest Career Development Center Applicants for Ministry (Males) on the 1974 SCII Form T325 . . .	39
4.	Means, Standard Deviations, and Standard-score Interpretive Boundaries of the General Occupational Theme Scales for the Men-In-General Sample	48
5.	Comparison of Combined-sex Means and Standard Deviations of the Seminarian Sample, Minister Sample, and 1985 SCII (Form T325) Criterion Sample (Minister-Male)	63
6.	Comparison of Calculated Same-sex GOT Means of the Seminarian Sample, Minister Sample, and Men-In-General Reference Group	64
7.	Frequencies and Percentages of Excellent Hits, Moderate Hits, and Poor Hits on the Minister (Male) Occupational Scale	67
8.	Discriminant Analysis of the Seminarian and Minister Samples on the General Occupational Themes	71
9.	Comparison of Combined-sex-normed Means and Standard Deviations of the Preferred Type of Ministry Groups on the General Occupational Themes	75
10.	Comparison of Calculated Same-sex-normed General Occupational Theme Means for the Preferred Type of Ministry Groups	76
11.	Discriminant Analysis of the Preferred Type of Ministry Groups on the General Occupational Themes (Function 1)	81
12.	Discriminant Analysis of the Preferred Type of Ministry Groups on the General Occupational Themes (Function 2)	83

13. Comparison of Standard Score Means of the Preferred Type of Ministry Groups on the Minister (Male) Occupational Scale 84

14. Frequencies and Percentages of Excellent Hits, Moderate Hits, and Poor Hits on the Minister (Male) Occupational Scale for the Preferred Type of Ministry Groups 86

15. Analysis of Variance, t-test Matrix, and Probabilities for the Preferred Type of Ministry Groups on the Minister (Male) Occupational Scale 87

LIST OF FIGURES

1. Holland's Hexagonal Model	16
2. Discriminant Analysis (Function 1). Profile of Preferred Type of Ministry Groups	82
3. Discriminant Analysis (Function 2). Profile of Preferred Type of Ministry Groups	83

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CHAPTER I

INTRODUCTION

Background

Although some foundations had been laid earlier, it was not until the very late 1800s that vocational counseling came into existence. The most well-known of the early career counselors was Frank Parsons, who became known as the "father of vocational guidance." Around 1895, he began advising underprivileged youth and founded the Boston Vocational Bureau (Srebalus, Marinelli, & Messing, 1982). From this early attempt to fill a perceived need in matching people to jobs, modern vocational counseling has developed to its present state.

Today, counseling psychologists and other professionals in the field of career counseling are using the tools and knowledge that have evolved during the present century. One of the most popular tools used for this purpose is the Strong-Campbell Interest Inventory (SCII). Its development began early in the history of vocational counseling. E. K. Strong, Jr. (1884-1963) was a pioneer in the field of identifying and measuring interests. The first Strong Vocational Interest Blank (SVIB) for men was published in 1927 and a form for women

became available in 1933. Over the years Strong and his associates made adjustments to the format and created new scales. A revised inventory for men was published in 1938. The form for women was not revised and expanded until 1946. Following Strong's death, David P. Campbell published a major revision of the men's form (Form T399) in 1966. While criterion groups from the 1938 form were continued, new scales were added, the scoring system was revised to unit weights, and the Men-In-General reference group was updated. In 1969 the women's form (Form T399W) was likewise revised. Having separate forms for men and women appeared discriminatory to some, and so in 1974 Campbell combined the two forms into a single inventory (Form T325). However, a client's scores continued to be based on separate male and female criterion and reference groups because of the empirical evidence that women and men have different interests even within the same occupation. It was in this edition that "Campbell and his associates integrated John Holland's career development theory with the traditional empirical approach for scoring and interpreting the SVIB" (Shertzer & Linden, 1979, p. 280). The 1974 edition was retitled the Strong-Campbell Interest Inventory. An expanded revision, published in 1981, included 162 Occupational Scales; half of these were normed on female occupational groups and half on male occupational groups. The 1981 edition retained the 1974 general reference groups. The latest edition of the SCII

was published in 1985 by Jo-Ida C. Hansen and David P. Campbell. This most recent SCII reflects an effort on the part of the authors to include more nonprofessional Occupational Scales and to provide updated criterion groups (Hansen & Campbell, 1985).

Since its inception in 1927, the SCII has been rigorously studied. It has also been used in hundreds of research projects relating to a wide array of topics. Today it is recognized, as John O. Crites so succinctly states, "as the paragon of applied behavioral measures and widely acclaimed as the bellweather of career counseling" (Buros, ed., 1978, p. 1621).

In spite of the wide use made of the SCII, few studies to date have examined the concurrent validity of the Strong-Campbell Interest Inventory for groups of persons in a specified graduate or professional training program (Betz & Taylor, 1982). Such students have made a tentative career choice, but they are still several years away from being established in their prospective careers. Thus it is possible that differences in inventoried interests exist between students in graduate school and persons who are established in their careers.

One group of students in professional school for whom the validity of the SCII has yet to be established is seminarians. This research has not been carried out on seminary students as a general population nor on the seminarians of a particular denomination. Neither has it

been determined whether the 1985 edition of the SCII is valid for ministers of a particular denomination. The new criterion group (male) for the 1985 SCII is composed of 255 ministers from three Protestant denominations who were tested in 1982. Since within Protestantism today there is a tremendous range of theology and practice (from ultra-liberal to ultra-conservative), it is possible that the ministers, as well as the seminarians, of a particular denomination have interests different from the Strong-Campbell Interest Inventory criterion group. Indeed, a study by Comer (1983) using the 1974 SCII indicates that some significant denominational differences may exist.

The Seventh-day Adventist (SDA) church is a conservative Protestant denomination. This organization operates eight colleges and two universities in the United States. One of the universities, Andrews University, includes a seminary. In the winter quarter of 1986, 324 students were enrolled in the Seventh-day Adventist Theological Seminary. Of this number, 145 were male Master of Divinity students who were citizens of the United States (Andrews University enrollment records). The 122nd Annual Statistical Report, 1984 indicates that there were also 2,983 ordained Seventh-day Adventist ministers in the United States. No study to date has determined the validity of the SCII for these SDA seminarians and ministers.

Statement of the Problem

Many students in SDA high schools and colleges consider careers in the Seventh-day Adventist ministry. The Strong-Campbell Interest Inventory is currently being used in vocational counseling in the testing and counseling centers of many of these schools. Is the SCII a valid instrument in assessing the interests of SDA students who may be considering a career in the SDA ministry? Is the SCII a valid instrument in comparing and contrasting the interests of students who may be considering attending the SDA Seminary? Do these specific populations require new SCII norms? Is the Holland code of the SDA minister and/or seminarian populations identical to that of the criterion group for the SCII?

Purposes of the Study

The purposes of the study were (a) to examine the vocational interests of Seventh-day Adventist seminarians; (b) to determine the extent to which the interests of these seminarians correspond with relevant SCII General Occupational Theme and Occupational Scale scores; (c) to examine the vocational interests of ordained Seventh-day Adventist ministers; (d) to determine the extent to which the interests of SDA ministers correlate with pertinent SCII General Occupational Theme and Occupational Scale scores; (e) to investigate the differences in interests between SDA seminarians and SDA ministers, and (f) to

determine if the type of preferred ministry (e.g., church pastor, area administrator, professor of religion) has any effect on the individual's three-letter Holland code.

The Hypotheses

The following experimental hypotheses were formulated for investigation:

1. There is a difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the General Occupational Themes.
2. There is a difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the Minister (male) Occupational Scale.
3. There is a difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.
4. There is a difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the Minister (male) Occupational Scale.
5. There is a difference between the vocational interests of SDA seminarians and the vocational interests of SDA ministers as measured by the General Occupational Themes.

6. There is a difference between the vocational interests of SDA seminarians and the vocational interests of SDA ministers as measured by the Minister (male) Occupational Scale.

7. The type of preferred ministry makes a difference in the inventoried vocational interests of Seventh-day Adventist seminarians and ministers as measured by the General Occupational Themes.

8. The type of preferred ministry makes a difference in the inventoried vocational interests of SDA seminarians and ministers as measured by the Minister (male) Occupational Scale.

Significance of the Study

The results of this study may have an impact on the use of the Strong-Campbell Interest Inventory on Seventh-day Adventist high-school and college campuses. If the study failed to demonstrate the concurrent validity of the SCII for SDA seminarians and ministers, the norms established in the present study would be vital in making the Strong-Campbell Interest Inventory valuable in vocational counseling with students considering careers in the SDA ministry. Conversely, if the study did demonstrate the concurrent validity of the SCII for these populations, the SCII with its present norms would be established as a valuable tool in the high-school and college counseling centers of the SDA church.

Another significant aspect of this study is that it generated a Holland personality type code for SDA seminarians and ministers. Such a profile could be useful not only in vocational counseling but also in individual counseling, the planning of professional growth workshops, and perhaps even in the placement of ministers in appropriate work settings. It is anticipated that the results of this study will contribute to the literature on the Strong-Campbell Interest Inventory as well as prove useful to the participating organizations.

Definition of Terms

Definitions for the purposes of this study are as follows:

Concurrent Validity. A comparison of test scores with one or more external variables considered to provide a direct measure of the characteristic in question.

Criterion Group. The occupational group originally tested whose interests are compared to the interests of current SCII test-takers.

General Occupational Themes. That section of the SCII that directly reflects Holland's six personality types. It compares the subjects' interests to those of the general population.

Holland Code. A system developed by John Holland and used on the SCII that classifies persons and occupations according to personality type. Holland lists

a total of six personality types: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). A Holland code may consist of one, two, or three letters listed in order of dominance.

Inventoried Interests. Those individual preferences expressed on a testing instrument.

Occupational Scales. That portion of the SCII that compares the subject's interests to those of criterion groups from many occupations.

Ordained Minister. A gospel minister who has successfully completed a probationary period of from three to five years and has officially been granted the right to officiate at all ceremonies and functions of the church.

Preferred Type of Ministry. That type of ministerial work a person enjoys, or thinks he would enjoy, above all other forms of ministry. The types of ministry utilized in the present study are administration, preaching/public evangelism, counseling, teaching religion or Bible classes, and pastoring/shepherding.

Seminarian. A graduate student who is preparing for any type of gospel ministry.

Vocational or Career Counseling. Counseling for the purpose of aiding clients in making vocational decisions.

Delimitations

For the purpose of this study, the following delimitations were made:

1. The study limited itself to Seventh-day Adventist seminary students and ministers.
2. The study was concerned only with SDA seminarians who were citizens of United States and with SDA ministers who were employed in the United States.
3. The scope of the study extended only to male seminary students and ministers.
4. The study limited itself to seminarians who were enrolled in the Master of Divinity program.
5. The study was concerned with vocational interests and not with aptitudes or abilities.
6. The scope of the study included only vocational interests as measured by the SCII.

Organization of the Study

Chapter II reviews the theoretical basis of the Strong-Campbell Interest Inventory and some research on this instrument. It also examines related literature.

Chapter III presents details regarding the population and sample, variables, instrumentation, procedures, hypotheses, and methods of data analysis.

Chapter IV presents the data and analysis.

Chapter V contains the summary, findings and discussion, and implications and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

There is an extensive body of literature related to the Strong-Campbell Interest Inventory. This review of literature is restricted primarily to studies investigating the concurrent validity of the SCII for various subgroups of individuals. First to be presented, however, is John L. Holland's career development theory. Next, studies regarding the relationship of Holland's theory and the SCII are discussed. Then the focus is on sample studies which report the concurrent validity of the SCII for various subgroups. The last part of this review presents studies on the concurrent validity of the SCII for students in graduate or professional school.

John Holland's Theory of Career Development

One of the reasons the SCII is so widely used in career counseling is that it incorporates a major theoretical framework with the traditional empirical approach of the venerable Strong Vocational Interest Blank (SVIB). The framework used is that of John Holland. Holland's personality theory "far overshadows any other theoretical system, having prompted hundreds of articles

and investigations in recent years" (Srebelus et al., 1982, p. 32). A brief review of this theory may give the reader background vital to the present study.

Holland's theory is based upon four main assumptions. First, in contemporary, western culture, most individuals can be categorized in terms of six major personality types--Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Each person can be characterized by one, or a combination, of these types.

Second, there are six types of occupational environments corresponding to the six major personality types. "Each environment is dominated by a given type of personality, and each environment is typified by physical settings posing special problems and stresses" (Holland, 1973, p. 3). Because persons with different personality types have different interests and competencies, they tend to surround themselves with persons whose interests and competencies are congruent with their own. "Thus the personality types of co-workers, as much as job requirements, establish the working tenor of a given occupation" (Hansen & Campbell, 1985, p. 28).

Third, people search for environments that allow them to exercise their skills, express their attitudes and values, and take on problems and roles which are stimulating to them. Conversely, people avoid environments they find disagreeable.

Fourth, an individual's behavior to a great extent is determined by the interaction between his or her personality and the characteristics of his or her occupational environment.

Holland (1973) also states that individuals or working environments are rarely of one pure type. Thus he expanded his system to incorporate combinations of the six types. These combinations can be expressed by a Holland letter code and are based on the relative strength of each type in each person or working environment. "In theory, using all possible combinations of the six types, 720 classifications can be established. In practice, the use of the most strongly manifested one, two, or three types seems sufficient for most purposes" (Hansen & Campbell, 1985, p. 28). This is the theoretical basis of the Holland three-letter code so often used in career counseling.

Holland (1966) describes the development of his six personality types and basic occupational categories as follows:

The formulation for the types grew out of my experience as a vocational counselor and a clinician, and out of my construction of a personality inventory from interest material. After reviewing the vocational literature--especially factor-analytic studies of personality and vocational interests--I concluded that it might be useful to categorize people into six types. (p. 15)

The present types are analogous in some ways to those proposed earlier by Adler, Fromm, Jung, Sheldon, and others. They differ from these earlier typologies in their origin--which is largely our vocational

literature--and in their definitions. The six major factors identified by Guilford's comprehensive factor analysis of human interest--mechanical, scientific, social welfare, clerical, business, and aesthetic--approximate the present types. To the best of my knowledge, Guilford's factor analysis is the most explicit forerunner of the present typology. (p. 10)

Description of Personality Types

The following descriptions of the "pure" or extreme personality types also provide an understanding of the six corresponding General Occupational Themes of the SCII (Holland, 1973; Hansen & Campbell, 1985).

Realistic or R-type: people of this type are rugged, robust, practical, and physically strong. They have good motor coordination and physical skills but they avoid social settings that require verbal and interpersonal skills. They enjoy working with tools and machines. They prefer to work with things rather than ideas or people. Vocational preferences include such occupations as mechanic, crane operator, engineer, electrician, and fish and wildlife management.

Investigative or I-type: persons of this type are task-oriented, introspective, and asocial. They prefer to think through problems rather than act them out, enjoy ambiguous tasks, and prefer to work independently. They often have a strong scientific orientation. Investigative types prefer such occupations as astronomer, biologist, chemist, design engineer, psychologist, physicist, and research laboratory worker.

Artistic or A-type: Artistic type persons prefer free, unstructured situations which offer opportunity for self-expression. They resemble investigative types in being asocial and introspective but they have a greater need for individual expression. They describe themselves as independent, original, unconventional, expressive, and intense. Vocational preferences include artist, author, cartoonist, composer, singer, writer, and musician.

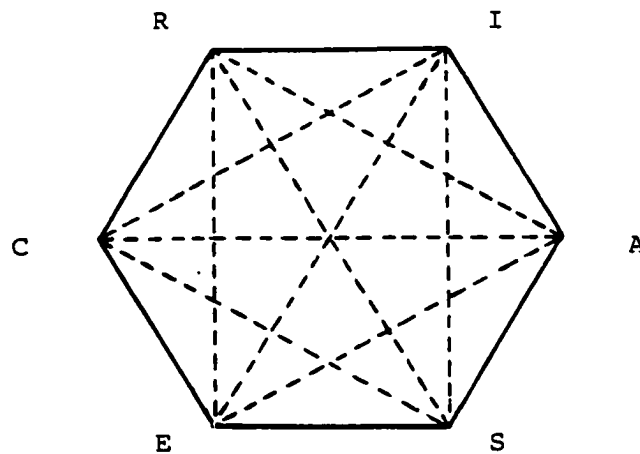
Social or S-type: persons of this type are sociable, responsible, humanistic, and enjoy working in groups. They have good verbal and interpersonal skills and prefer to solve problems through interpersonal manipulation of others or by discussions with others. They see themselves as being cheerful, popular, responsible, understanding, helpful, and idealistic. Typical vocations for this type are social worker, high-school teacher, guidance counselor, and speech therapist.

Enterprising or E-type: Enterprising people have a great facility with words, which equips them for selling, dominating, and leading. They have a strong internal drive to attain organizational goals and/or economic aims, while tending to avoid vocational settings which require lengthy periods of intellectual effort. Frequently these persons are involved in saleswork. They see themselves as aggressive, popular, cheerful, self-confident, and sociable. Their vocational preferences include business executive, real-estate salesperson, and hotel manager.

Conventional or C-type: persons of the conventional type enjoy highly ordered activities, both verbal and numerical, which characterize office work. They avoid ambiguous situations and problems involving interpersonal relationships. They describe themselves as dependable, stable, conscientious, efficient, obedient, calm, and orderly. Conventional types prefer such occupations as accountant, bookkeeper, clerical worker, quality control expert, bank examiner, and computer operator.

Holland's Hexagonal Model

Holland (1973) developed a hexagonal model for defining the relationships among the personality types and environmental types and their interactions (See Figure 1).



Holland's Hexagonal Model

Fig. 1. A hexagonal model for defining the psychological resemblances among types and environments and their interactions.

The intercorrelations between the types indicate that adjacent types are more positively correlated while types opposite each other have the least correlation. Thus, the shorter the distance between any two types, the greater their psychological resemblance. Table 1 gives the intercorrelations as reported by Holland (1973, p. 23).

Holland (1973) asserts that the hexagonal model serves three purposes: (a) It defines the degree of consistency in a person's personality pattern. Two-letter or three-letter codes composed of adjacent types are more consistent than codes composed of nonadjacent types. For example, a two-letter code of SA is more consistent than SC and much more consistent than SR. (b) The hexagon defines the consistency of a vocational environment in the

TABLE 1
INTERCORRELATIONS BETWEEN PERSONALITY TYPES

Scale	R	I	A	S	E	C
Realistic	---	.46	.16	.21	.30	.36
Investigative	.46	---	.34	.30	.16	.16
Artistic	.16	.34	---	.42	.35	.11
Social	.21	.30	.42	---	.54	.38
Enterprising	.30	.16	.35	.54	---	.68
Conventional	.36	.16	.11	.38	.68	---

same way. (c) The hexagon indicates degrees of congruence between a person and his work environment. The most congruent vocational environment for a Social person is a Social environment, while the most incongruent environment for that person would be a Realistic setting. By using the hexagon, intermediate degrees of congruence can be ascertained. Thus, the hexagon may be a useful tool in applying Holland's theory to the practical problems of vocational counseling.

Applying Holland's Theory to the SCII

In 1972 David Campbell and John Holland published a landmark article entitled "A Merger in Vocational Interest Research: Applying Holland's Theory to Strong's Data." The authors outline the initial procedures used in integrating Holland's theory and Strong's empirical findings.

The first step in the merger of the two systems was to construct six scales for the SVIB to represent Holland's six personality types. The authors call this initial process "informed, empirical, interactive intuition" (p. 357). Campbell carefully studied Holland's descriptions of his personality types and selected a cluster of SVIB items to represent each. The results were shared with Holland and each item on the scale carefully discussed. This resulted in a second selection of clusters prepared conjointly. Since there were

approximately 20 items in each cluster, the scales were tailored to exactly 20 items.

Campbell and Holland recognized that empiricists would be critical of the "armchair psychology" used in their early attempts at merging their systems. They defended their methodology by emphasizing the following:

1. Their intuition was well informed--both authors have had many years of experience in working with interest inventories.

2. The psychometric characteristics of the resulting scales were carefully studied.

3. In item selection they focused on several specific considerations--(a) the items had to be related to one, and only one, of the Holland types, (b) as much as possible, the items had to be occupationally oriented, (c) the items had to be clear and straightforward, (d) the only items used were those that were spread throughout the range of popularity, except for the extremes, and (e) the items that were chosen were valid in discriminating between occupational groups and thus were those items most useful in constructing the SVIB occupational scales.

Particularly when scale construction methodology depends on such subjectivity, scales should be submitted to rigorous analysis. Campbell and Holland (1972) used their new personality type scales to score all the occupational samples in the SVIB data archives to determine how the Strong samples would arrange themselves

within the Holland types. Campbell and Holland proposed that if Holland's typology was useful and if they had succeeded in their scale development, then two results should be obvious from the table of means: (a) "the means should arrange themselves in a reasonable manner, that is, to conform to common sense," and (b) "the means should be distributed over a wide enough range so that the differences between occupations have some practical impact" (p. 374). Both of these trends are clearly evident. Without exception the occupations with the highest mean scores belong to the appropriate Holland category. Thus Campbell and Holland conclude: "Clearly the results show that the Holland theoretical structure, when applied to the Strong data, provides a useful model for organizing the data" (p. 375).

The same procedure was used in developing the General Occupational Themes (GOT) for the 1974 SCII as Campbell and Holland used in their initial work at merging their constructs. In most instances the SVIB and SCII (1974) GOT scales are almost identical. The 1985 SCII General Occupational Themes have the same item content as the 1974 scales but have been renormed on new general reference samples. Scale intercorrelations for the 1985 GOT are presented in Table 2. Although the shape of the hexagon for the 1985 GOT may not be as regular as Holland's theory suggests, the pattern of intercorrelations supports his overall theory. The strongest

TABLE 2
 INTERCORRELATIONS BETWEEN GENERAL OCCUPATIONAL
 THEMES ON THE 1985 SCII

Scale	R	I	A	S	E	C
Realistic	---	.60	.09	.26	.30	.35
Investigative	.60	---	.34	.28	.13	.32
Artistic	.09	.34	---	.22	.09	-.03
Social	.26	.28	.22	---	.39	.39
Enterprising	.30	.13	.09	.39	---	.50
Conventional	.35	.32	-.03	.39	.50	---

correlations occur between adjacent scales, and the weakest correlations usually are between scales directly opposite each other (Hansen & Campbell, 1985).

Item Analysis of SCII According to Holland's Vocational Theory

A study by Hansen (1977) focused on describing the content of the Strong items, according to Holland's personality types. The statistical design of contrast groups was used to assign each item a Holland code. This required the selection of criterion and reference contrast groups, calculation of "like" response percentages for each contrast group for every item, calculation of percentage differences between criterion and reference

groups, and, finally, assignment of Holland codes based on the item percentage differences. This resulted in 35% of the items in the SCII item pool being assigned a one-letter Holland code and 41% assigned a two-letter code. Three-letter code items composed 16% of the item pool, 2% were assigned four-letter codes, and 6% were left uncoded because the item percentage differences did not reach the cutoff criterion.

Hansen (1977) concluded that Holland's theory may be used to guide a microscopic study of the content of individual items on the SCII. She found that the Holland codes assigned to the items are "reasonable" and will be useful for determining future revisional needs of the SCII. She also reports that the multiple codes assigned to SCII items support Holland's hexagonal structure. The most frequent two-letter codes were Holland types that are next to each other on Holland's hexagon: Investigative-Realistic (IR) or Realistic-Investigative (RI) and Artistic-Social (AS) or Social-Artistic (SA).

The Fit between General
Occupational Themes and
Holland's Hexagonal Model

The six SCII General Occupational Themes correspond directly to the six Holland personality types. Rounds, Davison, and Dawis (1979) studied the fit between the SCII General Occupational Themes and Holland's hexagonal model. SCII intercorrelation matrices for both

sexes, as reported in the SCII Manual (1974), were submitted to TORSCA 9 nonmetric scaling analysis. The Wakefield and Doughtie procedure was used to compare the obtained TORSCA coordinates with the expectations from Holland's hexagonal model. This study found that the SCII General Occupational Themes may be interpreted in the context of Holland's model for males but that for females the GOT-hexagonal fit was not good. Hansen and Campbell (1985) suggest the reason for this discrepancy is that until recent years women were excluded from many occupations. They project that as work environments open to both sexes a clearer configuration will emerge.

Sample Studies of Concurrent
Validity of the SCII

Leisure Activities Versus
Occupational Membership
as Criteria

Cairo (1979) compared leisure activities with occupational membership as criteria for determining the concurrent validity of the Holland scales and Basic Interest scales of the Strong Vocational Interest Blank (Form T399). The subjects of this study were 89 thirty-six-year old males representing a variety of occupations, who were part of a longitudinal study of career development which began in 1952 and concluded in 1973. Each subject completed a form indicating his current occupation and a description of the duties the job required. On a separate form, subjects indicated their preferred leisure

activity. Judges assigned leisure activities to the appropriate Holland scale. Holland scale scores and Basic Interest Scale scores were analyzed independently using two methods developed by Dolliver (1975). One method used the highest single score on relevant scales, and the other used scores above established cutoff points on relevant scales. The results indicate a greater congruence between interest scales and occupations than between interest scales and leisure activities; except when Basic Interest Scale cutoff scores were used. In other words, concurrent validity is somewhat higher when occupation rather than leisure activity is a criterion, except when Basic Interest Scale scores of 58 and above are used as a cutoff point. In comparing the concurrent validity of the Holland scales with the Basic Interest Scales, the results indicate that the Holland scales are more accurate predictors of a person's occupation than are the Basic Interest Scales. However, when cutoff scores were used, Basic Interest Scales were more accurate than Holland scales in identifying leisure activities.

Comparison of the Concurrent
Validity of Holland's Theory
for Men and Women in an
Enterprising Occupation

Doty and Betz (1979) studied the concurrent validity of Holland's theory for men and women employed in an Enterprising (E) occupation using Holland scale scores from both the Self-Directed Search (SDS) and the Strong-

Campbell Interest Inventory. The subjects were 45 male and 43 female sales managers. Using Holland theme scores from both instruments, the degree of personality-environment correspondence and the relationship of personality type to job satisfaction were examined.

The results indicate that Holland's theory is as valid for female as for male sales managers, although there is some difference in concurrent validity depending on the method used to obtain Holland theme scores. The Holland code type of the male managers was ES using all three scoring methods. This personality type is consistent with the description of the occupational environment. On the SDS the personality type of women also perfectly corresponded with their work environment; but on the SCII, standard and percentile scores described women as EA. However, women were more likely to have an E in their three-letter code and obtained significantly higher Enterprising scale scores than did men when SCII percentile scores were used. The study did find significant sex differences on the Realistic, Artistic, and Social scales using SDS scores and SCII standard scores in the direction of generally found sex differences.

Concurrent and Predictive
Validity of the SCII in
an 18-year Follow-up

Worthington and Dolliver (1977) studied the concurrent validity of the SCII (1974) and the predictive

validity of the Strong Vocational Interest Blank (SVIB) in an 18-year follow-up of former male students in mixed occupations who had taken an SVIB (Form M) in 1957. Of those, 220 had filled out questionnaires in 1969 concerning their occupations and 163 of them completed the SVIB (Form T399). During the 1977 study 130 subjects completed the SCII (1974) and the questionnaire. Their data were used to study concurrent and predictive validity of the 1974 SCII. The results, using the McArthur method, were compared with the previous 12-year follow-up of the same subjects.

The McArthur (1954) method classifies subjects with a two by three matrix: direct and indirect relationships between interest scale and occupation versus good hit, poor hit, and clean miss. The first categories are subjective classifications of whether an Occupational Scale offered a "direct" or "indirect" measure of interest in the occupation actually entered by the subject. The latter categories refer to the standard score for the relevant occupational scale. A good hit is a standard score of 45 or above, a poor hit is a standard score of 40-44, and a clean miss is a standard score below 40 on the subject's own occupational scale.

In 1972 Dolliver, Irvin, and Bigley found that for their sample, the 12-year predictive validity of the SVIB (Form M) taken in 1957 was greater than the concurrent validity with the SVIB (Form T399). This was somewhat of

a surprise since it is generally assumed that since the SVIB was constructed using the criterion of current occupations, it would demonstrate good concurrent validity.

The percentage of direct good and poor hits for all subjects in Worthington and Dolliver's study (1977) was 47%. The direct good hit rate alone was 39%. Whitton (1975), also using the McArthur method, studied SCII concurrent validity with male and female high-school and college students. She found 43% good hits for female students and 42% good hits for male students. Dolliver and Will (1977) found 65% SCII concurrent accuracy for 23 former college students when scores above a T score of 40 were considered accurate. However, when T scores of 45 or above were considered accurate, the rate of SCII concurrent accuracy fell to 38%. Worthington and Dolliver (1977) account for these differences by the differences in the subject pools and by different rater classification schemes.

In comparing the concurrent validity of the SVIB (Form T399) and SCII (1974), Worthington and Dolliver (1977) found the SCII "vastly superior to the SVIB." The SVIB (Form T399) used in 1969 had 41% direct and indirect good hits, whereas the SCII (1974) used in 1975 had 58% direct plus indirect good hits. When adjusted for chance factors the direct and indirect good hit rate was reduced to 29% for SVIB and 39% for SCII.

A Comparison of the Concurrent
Validity of Three Types of
Scales on the SVIB

Dolliver (1975) compared the validity of the Strong Vocational Interest Blank (Form T399) for the same subjects on the Holland scales, the Basic Interest scales, and the Occupational scales. He reports data to compare the SVIB Holland scales with Holland's Self-Directed Search using different subjects. He compares data from the Basic Interest Scales and Occupational Scales for the same subjects. He also compares the results of using the criteria of the single highest scale and scores above a specified cutoff. And, finally, Dolliver compares the results of the three types of scales--General Occupational Themes, Basic Interest Scales, and Occupational Scales. When cutoff scores were used, the SVIB Holland scales and the Basic Interest Scales predicted occupations held by 60% of these subjects. Approximately one-third of these accurate predictions were considered to be attributable to chance.

Concurrent Validity for
Other-sex and Same-sex
Twin Occupational
Scales

Dolliver and Worthington published another study in 1981 focusing on the concurrent validity of other-sex and same-sex twin Occupational Scales (OS). "Other sex" is when a subject is compared to the norms of the opposite sex. "Same sex" is when a person is compared to the norms

of his or her own sex. Twin Occupational Scales are those that have one scale normed on females in an occupation and the other scale normed on males in the same occupation. Generally, previous studies (Carter, Taylor, & Canning, 1941; Gough, 1975; McCornack, 1956; Strong, 1943) on earlier editions of the SVIB have shown that other-sex SVIB Occupational Scales are not quite as valid as same-sex scales. In Dolliver and Worthington's study participants included 80 male college graduates, 96 male college students, and 135 female college students. The concurrent validity of their own other-sex SCII twin OS was compared with their own same-sex scale. Although differences were obtained among occupational groups, age groups, and gender groups, overall the other-sex own SCII twin scale was about as accurate a predictor as the same-sex scale. However, the rate of accurate prediction was higher when SCII twin Occupational Scales both had high scores than when only one of those twin scales had a high score.

Concurrent Validity of General
Occupational Themes for
College Students

Spokane (1979b) published a study on the concurrent validity of the General Occupational Themes for college men and women. During freshman orientation 1,007 college students took the SCII, and follow-up data were obtained from 232 females and 386 males during their senior year. Spokane reports comparisons of concurrent

validity using the GOT. He found a 34.4% hit rate for women and a 39.7% hit rate for men. Additionally he found predictive validity hit rates of 34.4% for women and 43.6% for men. For Spokane, a hit was determined by comparing the highest GOT scale to the subject's stated occupational preference. If these two one-letter Holland codes matched perfectly, it was classified as a "hit."

Concurrent Validity of the
Criterion Groups of SCII

In the Manual for the SVIB-SCII (1985), Hansen and Campbell do not comment on the concurrent validity of the General Occupational Themes. However, they do report such data regarding the Occupational Scales. They mention two types of validity information that are relevant: (a) the contrast between the criterion groups and the reference groups (Men-In-General or Women-In-General), and (b) the mean scores of occupations on each other's scales.

The first type of concurrent validity is usually expressed in terms of Tilton percent overlap. This statistic ranges from zero to 100% and gives the percentage of scores in the criterion group that are matched by scores in the reference group. The less the overlap, the greater the discrimination. The median overlap for both women's and men's Occupational Scales is 36%. The scale with the best concurrent validity for males is Medical Illustrator, which has an overlap of only 15% between the criterion group and the Men-In-General (MIG)

reference group. The poorest male scale is Optometrist with an overlap of 53%. "This wide range of percent overlap indicates that the scales vary considerably in their validities" (Hansen & Campbell, 1985, p. 72). The test authors suggest that this wide range is due to the variation in distinctiveness among occupations. The scale for ministers is near the median for all occupations. It has a 35% overlap between the criterion group of ministers and the MIG reference sample.

Hansen and Campbell (1985) give little information regarding the second type of concurrent validity--the mean scores of the occupational samples on each other's scales. They do indicate that the SCII scales follow the pattern of the earlier SVIB means. "Mean scores for the various occupations on a given Occupational Scale tend to be normally distributed around the General Reference Sample mean, and range roughly across 30 to 40 scale points, that is, three to four standard deviations" (Hansen & Campbell, 1985, p. 73).

Concurrent Validity of 1981 SCII for College Majors

Hansen and Swanson (1983) studied the concurrent and predictive validity of the 1981 SCII and explored the usefulness of the SCII for predicting college majors. During summer orientation, 2,400 college freshman were given the SCII. A follow-up, designed to study vocational interests and college major decidedness occurred 3.5 years

later during the spring quarter of the student's senior year. In the follow-up only 615 of the original subjects were found and gave usable results. The authors used the McArthur method for determining the concurrent and predictive validity of the 1981 SCII Occupational Scales. The results indicated that the SCII (1981) can be used to predict college majors and that it has concurrent and predictive validity comparable to previous forms of the SCII. The concurrent validity during freshman orientation had a 46.5% direct excellent hit rate for females and a 39.5% direct excellent hit rate for males. The subsequent findings during the subject's senior year indicated 57.1% direct excellent hit rate for females and 59.3% direct excellent hit rate for males. The study also found that the SCII is dramatically more predictive of college majors for students who are satisfied with their majors or who have stable interests than it is for those students who are unsatisfied or who have unstable interests.

Comparison of Interest
Patterns of General
Dentists and
Pedodontists

Powell (1974) compared the interests of general dentists to pedodontists. These two profiles were also compared to the criterion group of general dentists which was established in 1932 (all norms have since been updated). It was found that both types of dentists compared more favorably with the interest patterns of

physicians, osteopaths, and physical therapists than they did with the criterion group of dentists. Powell concluded that dentistry has undergone many changes in the intervening years and that the dentist norms required updating. Powell also found that the dentist Occupational Scale could not distinguish between pedodontists and general dentists.

Concurrent Validity of SCII for Subgroups
of Graduate Students

Comparison of the Interest
Patterns of Dental Educators,
Practicing Dentists, and
Graduate Students

A study by Loupe, Meskin, and Proshek (1976) compared the interests of dental educators, practicing dentists, and graduate students in a school of dentistry. The interest profiles comparing practicing dentists and dental educators differed by at least 5 points (considered significant) on all but one Occupational Scale within the biological group. Practicing dentists had higher scores on the dentist, osteopath, and veterinary scales, while dental educators had higher scores on the psychiatrist, psychologist, and biologist scales. Graduate students were classified on the basis of whether they were working on a PhD or MS degree and then compared to each other. Major differences between the PhD and MS degree students occurred in biological and physical sciences, business, accounting, and sales. The MS

students had higher scores on the veterinary scale and on most scales in the business, accounting, and sales group. The PhD students were higher on the psychiatrist, psychologist, biologist, and mathematics scales. The authors concluded that systematic differences in interest profiles distinguish dental faculty from practicing dentists. These differences were generally replicated in the PhD versus MS degree student comparisons. When the groups differed, the profiles of the practicing dentists were closer to direct professional practice, service, and business, while the dental educators' interest profiles were closer to theoretical pursuits, research, and teaching. The MS degree students were more practice and business oriented, while PhD students were oriented toward research and theoretical pursuits. It is of interest that the general dentistry group used in this study became the criterion group for the 1985 SCII.

Concurrent Validity for Dental Students

Emling, Green, and Stevens (1980) compared the inventoried interests of 124 first-year dental students to 104 practicing dentists. They also compared these groups to the criterion group for the dentist Occupational Scale and the Men-In-General and Women-In-General reference samples.

In comparing the interests of dental students and practicing dentists to the general reference sample, it

was found that dental students and practicing dentists differed from the "average" person in that they both are more Realistic and Investigative. In comparing the students, dentists, and SCII criterion group to each other on the GOT, it was found that the student sample was significantly different from the dentists or SCII criterion group on both the Enterprising and Conventional scales. The SCII criterion group is less Realistic than the practicing dentists and less Artistic than the student group.

On selected Occupational Scales the responses of students and practicing dentists were compared to the criterion groups employed in the respective occupations. It was reported that the standardized mean of the dental student sample was lower (<5 points) than that of the practicing dentists on the dentist scale. Dental students were also significantly lower than practicing dentists on those scales dealing with business interests. The authors do not state which Occupational Scales were used in determining business interests. In general, it was found that the SCII is more predictive of vocational satisfaction for the practicing dentists than for the dental students.

The authors suggest that the most meaningful result from the Occupational Scales selected for this study is the pattern of scores. Even though there were significant differences between the student sample and the practicing dentist sample, the mean scores followed a

distinctive pattern. In general, the two groups have similar interest patterns. "In a fashion similar to classification by phylogenetic traits, it appears that this dental student sample can be classified with the more mature members of this vocational group" (Emling, Green, & Stevens, 1980, p. 793). The authors conclude that the SCII has some utility for the vocational counseling of undergraduate students considering health science careers.

The SCII and the Evaluation
and Prediction of Successful
Candidates for Religious
Careers

Several studies were found that utilized early editions of the SCII in studying seminarians and/or undergraduate theology students. Webb and Goodling (1958) tested the validity of the 1938 SVIB on Methodist theology students. A year later Goodling and Webb (1959) analyzed the faculty ratings of Methodist theology students. A study by Strunk (1959), using the 1938 SVIB, reports the interest and personality patterns of preministerial students. Davis (1963), using the 1938 edition, provided norms for ministers on all SVIB scales. Lepak (1968) found that the Minister Scale did not discriminate well with Roman Catholic clergy, so he created a priest scale using SVIB items which were highly discriminatory. This scale is now included on the SCII. Comparisons between the preceding studies and research on the 1985 SCII criterion group cannot be made safely because of the

extensive revisions on the SCII during the last 15 years. No studies regarding seminary students or ministers, utilizing either the 1981 or 1985 SCII, were discovered.

Using a computer search, one recent study (Comer, 1983) was found which contains implications for the present study. The author reports on the psychometric characteristics of a ministerial assessment battery which was being used to screen applicants to the United Methodist ministry. Since part of the process of screening involved seminary training, it is assumed that the results are comparable to the present study on SDA seminarians and ministers. Comer used data from the Minnesota Multiphasic Personality Inventory, Strong Vocational Interest Blank or Strong-Campbell Interest Inventory, the Shipley Institute of Living Scale, the Adjective Check List, and letters of recommendation. These five sources of data were combined via multiple regression to predict the psychologists' rating and the ordination decision.

Of specific interest to the present study is the use Comer made of Strong's instruments. Over the 10 years of data collection, a sample of 353 persons took the 1969 SVIB-Male (Form T399), but only 35 males took the 1974 SCII (Form 325). These data were compared to the data collected by the Midwest Career Development Center, 2501 North Star Road, Suite 200, Columbus, Ohio, 43221. This organization is an ecumenical consulting agency which

conducts evaluations of applicants applying for ministerial ordination in the United Presbyterian, United Methodist, and Lutheran Church of America denominations.

In spite of the small N for the 1974 SCII in Comer's study, the results on the scales reported are very similar to the data of the Midwest Career Development Center. The single exception is that on the R Theme there is a significant difference of three points between the means of the two groups (see Table 3).

Another important finding of Comer's study concerns the data from the Midwest Career Development Center. Analysis of variance was calculated for selected scales to test for denominational differences among the applicants. Comer found two significant differences for males, C-Theme and Academic Orientation.

One conclusion of Comer's study was that the Strong-Campbell Interest Inventory was not very influential upon psychologists' ratings of applicants. Vocational data accounted for only 3.1% of the psychologists' rating variance. Comer suggests that applicants have settled their vocational interest by the time of Deacon (having completed at least one year of seminary) and Elder (having completed seminary and served as a full-time pastor) evaluations. He proposes that the Strong-Campbell Interest Inventory may be of more value at the Methodist's candidacy level (not yet in seminary or ministry). "A measure of their vocational interests may

TABLE 3
 COMPARISON OF COMER'S DATA TO THAT OF MIDWEST
 CAREER DEVELOPMENT CENTER APPLICANTS FOR
 MINISTRY (MALES) ON THE 1974 SCII
 FORM T325 (COMER, 1983)

Scale	COMER N	COMER MEAN	COMER S.D.	MIDWEST N	MIDWEST MEAN	MIDWEST S.D.
R Theme	35	49.4	10.12	588	52.4	10.14
I Theme	35	50.4	9.6	588	51.1	8.89
A Theme	35	55.3	8.16	588	54.6	8.43
S Theme	34	60.2	7.65	588	60.6	7.56
E Theme	35	50.0	8.07	588	48.5	8.95
C Theme	35	47.2	8.32	588	47.5*	9.57
Acad. Orient.	35	51.5	11.49	587	52.3**	12.59
Minister	34	44.6	9.20	587	42.9	9.61
Priest	32	51.9	7.81	545	49.4	8.86

*Significant difference among Midwest groups $p=.03$, United Methodist males $N=135$, Mean=49.3, S.D.=9.47

**Significant difference among Midwest groups $p=.03$, no N, mean, or standard deviation are given

provide valuable information to the applicants themselves as they initially consider ministry" (Comer, 1983, p. 129).

A study by Banks, Mooney, Mucowski, and Williams (1984) includes the SCII in a test battery selected to screen candidates for the Roman Catholic priesthood. The participants were college graduates who had applied to a religious order. At the time of the study they were not seminarians. The instruments used were the Wechsler Adult Intelligence Scale-Revised, the Minnesota Multiphasic Personality Inventory, the Personality Research Form (Forms A and E), the Rorschach, and the SCII. Not all scales within each instrument were used in the study. Unfortunately for the purposes of the present study, the SCII is not referred to again in this article. The results and discussion are regarding the findings of the other instruments.

The SCII and Law Students

A study by Campbell (1976) analyzes the differential responses to female and male lawyer scale items on the SCII for 67 male and 35 female law students. This is not an attempt to establish concurrent validity of the SCII Occupational Scale for law students, but it does reveal that male law students are even more likely than female law students to get the "right" answers on the female lawyer scale, and that female law students are even

more likely than males to get the "right" answers on the male lawyer scale. A "right" answer is defined as the answer expected for that item according to the norms established by the male or female criterion group. "As far as getting points on the scale is concerned, male and female law students do not respond differentially from one another" (Campbell, 1976, p. 134). Thus, the author argues for combining the male and female scales.

Concurrent Validity for
Counseling Psychology
Graduate Students

The study most comparable methodologically to the present one was reported by Betz and Taylor (1982). They examined the vocational interests of 47 male and 67 female graduate students either majoring or minoring in counseling psychology and the concurrent validity of the SCII for this group. A subgroup of 43 of these students completed a questionnaire assessing satisfaction with their graduate program, interests in various types of coursework, and preferences for future employment. Based on the GOT, using two different methods, Betz and Taylor assigned a Holland code of ASI to the group. This code contains the same three letters found to characterize practicing psychologists (IAS). Thus, the students have somewhat stronger Artistic and Social interests relative to their Investigative interests than do practicing psychologists. The hit rate (including good and poor hits) was 89% for

the occupation of psychologist and provides relatively good evidence for the concurrent validity of the SCII in a group of counseling psychology graduate students.

Summary

In general, research has supported the concurrent validity of the SCII for different occupations and student groups. The support for the concurrent validity of the SCII is stronger for males than for females. Few studies have focused on the concurrent validity of the SCII for students in specified graduate programs. However, existing studies do support the concurrent validity of the SCII for specified subgroups of graduate students. Little recent research was found that studied the concurrent validity of the GOT and ministers (male) Occupational Scale for seminary students or for ordained ministers of a specified denomination. One study (Comer, 1983) did find that on the 1974 SCII some significant denominational differences exist.

CHAPTER III

RESEARCH DESIGN

Introduction

Chapter III describes the research design employed in determining the concurrent validity of the Strong-Campbell Interest Inventory (SCII) for Seventh-day Adventist (SDA) seminarians and ministers. This was primarily an ex-post facto study. An analysis was also made to discover if the type of preferred ministry made a difference in the inventoried interests of these samples.

Population and Sample

The two populations for this study were: (a) SDA male seminarians, enrolled in the Master of Divinity program at Andrews University, who were citizens of United States of America (USA), and (b) ordained Seventh-day Adventist ministers (male) who were employed in the USA. One-hundred-forty-five seminarians were potential subjects in the winter quarter of 1986. An invited sample of 100 of these seminarians was an adequate sample size for the present study. In the Data Analysis section of this chapter, it is pointed out that a sample size of 60 would be adequate for a study utilizing six variables. The

122nd Annual Statistical Report, 1984 indicates that there were 2,983 ordained SDA ministers in the USA. The SCII criterion group, which represents a much larger population, is composed of 255 subjects. Thus, an invited sample of 300 ministers was adequate for the study.

Seminarians were randomly selected by computer from the population. The ordained ministers were selected by stratified random sampling using random number tables. The SDA church in the USA is divided into eight areas referred to as "union conferences." These union conferences are further subdivided into "local conferences," which are roughly equivalent to states in terms of area. In order to achieve a representative sample of ministers, two local conferences within each union conference were randomly selected. Ordained ministers were then randomly selected from within those 16 local conferences in proportion to the number of potential subjects within each local conference.

The Variables

The dependent (or criterion) variables for this study were the interests of SDA seminarians and ministers as measured by the SCII.

The four independent variables for this study were as follows:

1. SDA seminary students as compared to the SCII criterion group of ministers,

2. SDA ordained ministers as compared to the SCII criterion group of ministers,
3. SDA seminarians as compared to SDA ordained ministers,
4. preferred type of ministry.

Instrumentation

The Strong-Campbell Interest Inventory was utilized to assess the interests of SDA seminarians and ministers. Since no such data exist, all subjects were administered the SCII for the purposes of the present study.

The 1985 edition of the SCII (Form T325) is a carefully constructed questionnaire containing 325 items that measure a subject's interest in a wide range of occupations, occupational activities, leisure activities, hobbies, types of people, and school subjects. The subject is asked to indicate "Like," "Indifferent," or "Dislike" in response to each item. The responses for all items are weighted +1, 0, and -1, depending upon the differential responses of the criterion group. Answers are analyzed by computer to obtain scores on 264 scales. The results are reported on a profile sheet which presents the scale scores in an organized and meaningful manner.

The SCII profile gives five main types of information: (a) scores on six General Occupational Themes (GOT), which correspond to John Holland's

personality types and compare the subject's responses to those of the general population; (b) scores on 23 Basic Interest Scales (BIS), which report consistency of interests and aversions in 23 specific areas, such as nature, medical service, art, and sales; (c) scores on 207 Occupational Scales (OS), which indicate degree of similarity/dissimilarity between the subject's interests and the interests of men or women who are satisfied workers in those occupations; (d) scores on two Special Scales measuring introversion-extroversion and degree of comfort in an academic setting; and (e) 26 Administrative Indexes that help identify unusual or invalid profiles. The present study focused mainly on the General Occupational Themes and the minister (male) Occupational Scale.

A variety of statistical evidence was used to select specific items for each General Occupational Theme scale: (a) item intercorrelations, (b) popularity of items among occupations of designated Holland types, and (c) item-scale correlations.

The GOT reference group is composed of 300 males (Men-In-General) and 300 females (Women-In-General). This general reference sample is constructed to represent "People-In-General" from all six of the GOT types. The mean age for the sample is 38.2 years and the educational level ranges from not completing high school to possessing a PhD degree. The raw-score means and standard deviations

on the six GOT scales for the reference groups are used in a standardization formula that converts all scores into distributions with standard-score means of 50 and standard deviations of 10. The formula is standard score $= \left(\frac{X - M_c}{SD_c} \right) 10 + 50$, where X is the raw score of a subject, M_c is the raw-score mean of the general reference sample, and SD_c is the raw-score standard deviation of the general reference sample. Because men and women have different distributions on these scales, subject's interests are normally compared to the general reference sample of their own sex (Men-In-General or Women-In-General). The computer profile for each GOT includes an interpretive comment based on the subject's percentile rank among Men-In-General or Women-In-General.

The GOT scales produce percentile scores which are listed as "Interpretive Comments." These scores reflect the relative position of a subject's score on each theme in the distribution of scores for his or her gender. Seven categories of interpretive comments correspond to seven percentile ranges in the following manner: very low (0-6%), low (7-15%), moderately low (16-30%), average (31-69%), moderately high (70-84%), high (85-93%), and very high (94-100%). These interpretive comments are used to obtain Holland codes (see Table 4).

The Manual for the SVIB-SCII (Hansen & Campbell, 1985) reports three samples which were tested and then retested over various time intervals to determine the

TABLE 4
 MEANS, STANDARD DEVIATIONS, AND STANDARD-SCORE INTERPRETIVE BOUNDARIES
 OF THE GENERAL OCCUPATIONAL THEME SCALES FOR THE
 MEN-IN-GENERAL SAMPLE (N=300)
 (Numbers in parentheses are percentiles)

Scale	Mean	S.D.	Interpretive Boundaries						
			Very low (0-6)	Low (7-15)	Mod. low (16-30)	Average (31-69)	Mod. high (70-84)	High (85-93)	Very high (94-100)
Realistic	53.5	9.6	29-37	38-42	43-48	49-58	59-63	64-67	68-72
Investigative	51.1	9.6	22-35	36-40	41-46	47-56	57-61	62-64	65-69
Artistic	47.4	10.1	24-31	32-35	36-41	42-53	54-58	59-62	63-66
Social	49.9	9.8	21-33	34-39	40-44	45-54	55-60	61-64	65-74
Enterprising	50.8	10.5	27-33	34-38	39-44	45-55	56-61	62-66	67-77
Conventional	50.4	9.5	23-36	37-39	40-44	45-54	55-60	61-64	65-79

(Hansen & Campbell, 1984, p. 30)

stability of the GOT scales. A sample of 180 individuals, tested at the beginning and end of a 2-week period, resulted in a median test-retest correlation of .91, indicating substantial stability. A sample of 102 students, tested at the beginning and end of a 30-day period, produced a median test-retest correlation of .86, which, although somewhat lower than the 2-week sample, is still relatively high. The final study was a 3-year study of 140 subjects which yielded a median test-retest correlation of .81. The latter figure is high enough to indicate that, in general, the General Occupational Theme scores are stable but that there is some shifting of interests over time (Hansen & Campbell, 1985).

Internal-consistency reliabilities of the six General Occupational Themes are also reported (Hansen & Campbell, 1985). Using a sample of 1,445 males, coefficients alpha ranged from .90 to .95 with a median of .92. For 1,410 females, the range was .90 to .93 with a median of .91.

In addition to the construct validity of the General Occupational Themes (see Chapter 2), the Manual for the SVIB-SCII reports a comparison between the SCII and the Vocational Preference Inventory (VPI). Correlations between comparable GOT and VPI scales are high (median = .765), which indicates that the two inventories measure similar interest traits.

The first step in constructing the Occupational Scales was testing a sample from each occupation. This sample became the criterion group and thus was selected with great care. Researchers for the SCII found the following sample characteristics to be important.

1. Job satisfaction. Since the scale should reflect the interests of satisfied workers, individuals unsatisfied with their occupations were eliminated from the sample.

2. Success. The researchers used a variety of methods to determine success in a vocation; such methods included sales-production figures, ratings by superiors, or some index of formal achievement (i.e., earning an advanced degree, or being licensed or certified).

3. Age. Samples were restricted to subjects between the ages of 25 and 60 where possible.

4. Experience. Samples were restricted to subjects who had been on the job at least 3 years.

5. "Performing in the typical manner." The subjects were also screened to reject subjects who were not performing occupations in the typical way (i.e., a lawyer who is now an actor, or a doctor who is now a writer).

6. An unintended criterion. The fact that most data collection was done by mail intimates the willingness of subjects to participate in the research project (Hansen & Campbell, 1985).

Demographic information regarding the 255-member minister (male) criterion sample is as follows: (a) The mean age was 41.1 years, (b) the mean years of education was 20.1 , and (c) the mean years of experience was 14.1. Three percent had completed a Bachelor of Divinity degree, 88% a Master of Divinity degree, and 8% a Doctor of Divinity degree. Fifty-nine percent were Lutheran ministers, 24% were Episcopal, and 17% were Presbyterian. Further, 93% of the minister criterion group were employed by churches, 89% served as pastors, and 2% were employed as chaplains.

The Occupational Scales were constructed "By comparing the item responses of an Occupational Criterion Sample with those of a General Reference Sample, identifying items yielding large response differences between the two samples, and then drawing these items together into a scale" (Hansen & Campbell, 1985, p. 47). Fifty-four of the 325 items are included on the Minister (male) Occupational Scale (OS).

A subject's raw scores are converted into standard scores on the basis of the distribution of that Criterion Sample. The Occupational Scales were normed by taking the raw score means and standard deviations of the Criterion Sample on that specific Occupational Scale and converting them to standard scores using the same formula as utilized in the General Occupational Themes. As with the GOT, the formula yields a mean of 50 and a standard deviation of

10. Raw scores of all subjects who take the inventory are converted in this manner for easy comparison to the Criterion Sample. On the minister (male) Occupational Scale, the minimum possible standard score is -3 and the maximum possible score is 68. The concurrent validity, or Tilton percent overlap, is 35.

Test-retest statistics for the 1985 Occupational Scales are reported for three samples tested and retested over 2-week, 30-day, and 3-year periods. These are the same samples used to study the reliability of the GOT. The median correlations on the Occupational Scales over these time periods are .92, .89, and .87, respectively. For the ministers (male) OS the test-retest correlations are .94, .89, and .86.

The magnitude of the test-retest correlations and the stability of the means over the three testing periods demonstrate that the SCII scales are quite stable over short time periods. Over longer time periods, the stability will be somewhat less but still high. (Hansen & Campbell, 1985, p. 59)

In addition to the SCII, a questionnaire was developed for the purpose of ascertaining demographic data, job satisfaction, and type of preferred ministry. Ministers who did not meet requirements similar to those required of the criterion group were eliminated from the sample. However, the upper age limit for ministers was 65 instead of 60 since most SDA ministers do not retire until age 65. The only applicable requirement for seminarians was satisfaction with their graduate program.

Procedures

Both the Dean and the Director of Testing at the SDA seminary at Andrews University granted verbal permission for the administration of the SCII to a randomly selected sample of 100 male seminary students. These students received the SCII, a questionnaire, and accompanying information in their mail boxes. They were asked to return the completed forms to a departmental secretary.

Written permission to administer the SCII to randomly selected ordained ministers in the USA was granted by the President of the North American Division of SDA (appendix A). Stratified random selection was used to determine the sample. The invited sample of 300 male ordained SDA ministers was mailed the SCII, a questionnaire, and accompanying information.

Subjects were encouraged to participate as follows: (a) Subjects were given the opportunity to participate anonymously; (b) subjects were guaranteed anonymity in the research report--they were told that the study was concerned with the group's results, not the interests of an individual; (c) subjects were offered a computer printout of their interest profile if they chose to identify themselves and would return a stamped self-addressed envelope; (d) a group session for interpreting SCII profiles was offered seminarians who chose to identify themselves; (e) a letter from the office of the

president of the North American Division of SDA encouraged the participation of all subjects; (f) a letter from the researcher briefly outlined the purpose of the study, the importance of the research, and the need for participation; and (g) the initial contact with the invited sample was followed-up with a letter and/or telephone call (appendix A).

Hypotheses

The following null hypotheses were tested:

1. There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the General Occupational Themes.

2. There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the Minister (male) Occupational Scale.

3. There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

4. There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the Minister (male) Occupational Scale.

5. There is no difference between the vocational interests of SDA seminarians and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

6. There is no difference between the vocational interests of SDA seminarians and the vocational interests of SDA ministers as measured by the Minister (male) Occupational Scale.

7. The type of preferred ministry makes no difference in the inventoried vocational interests of SDA seminarians and ordained ministers as measured by the General Occupational Themes.

8. The type of preferred ministry makes no difference in the inventoried vocational interests of SDA seminarians and ordained ministers as measured by the Minister (male) Occupational Scale.

Data Analysis

All scoring of the Strong Campbell Interest Inventory was done by computer at Consulting Psychologists, Press, Incorporated. Data returned from this company give standard score means on each of the General Occupational Themes, Basic Interest Scales, and Occupational Scales. These standard score means were utilized in testing the null hypotheses.

Hypotheses 1 and 3 were examined by the following methods:

1. Holland codes for each sample were determined by using the interpretive comments on the General Occupational Themes. A group mean was ascertained for each of the General Occupational Themes. Using only the group means which were 3 or more points higher than a mean of 50, a Holland code was determined for the sample groups by listing the themes in order of dominance. The Holland code thus generated was descriptively compared to the Holland code of the SCII criterion group.

2. The mean scores of each sample group were compared to the mean scores of the criterion group of male ministers. According to the Manual for the SVIB-SCII (Hansen & Campbell, 1985), 3-point differences on GOT means are indicative of "real" differences between groups. Following this method, it was noted for each of the six General Occupational Themes separately, whether the sample mean differed by 3 or more points from the mean of the criterion group.

Hypotheses 2 and 4 were examined by the following methods:

1. The mean scores of the sample groups on the Minister (male) Occupational Scale were compared to the mean score of the criterion sample. The Manual for the SVIB-SVII (Hansen & Campbell, 1985) indicates that a difference of 5 or more, which represents half a standard deviation, indicates "real" differences between groups.

2. McArthur's (1954) method of "good hit," "poor hit," and "clean miss" was used to determine concurrent validity. These categories refer to the standard score for the relevant Occupational Scale. Criteria used were: (a) a good hit was a standard score >44 on the Minister (male) OS, (b) a poor hit was a standard score between 40 and 44 on the Minister (male) OS, and (c) a clean miss was a standard score <40 on the Minister (male) OS.

McArthur's use of "direct" and "indirect" hits was not utilized in the present study since all subjects were either in the seminary or ministry and these occupations would be considered "direct" hits. Terminology employed by Spokane (1979a) was used in the present study because it more accurately reflects the recommendations of the Manual for the SVIB-SCII (Hansen & Campbell, 1985) that standard scores on OS >40 be used regularly for interest exploration. Thus scores >44 were classified as Excellent Hits, scores from 40 to 44 as Moderate Hits, and scores <40 as Poor Hits. In the case of "flat" profiles with no OS >44 , the three highest Occupational Scales were considered. If the Minister (male) OS was one of the three, it was considered an Excellent Hit (Hansen & Swanson, 1983). The percentage of Excellent, Moderate, and Poor Hits was determined.

Hypothesis 5 was examined using the methods outlined for hypotheses 1 and 3. The important difference is that the two sample groups of SDA seminarians and

ministers were compared to each other instead of the criterion group. An additional statistical methodology employed to test hypothesis 5 was Hotelling's T^2 to compare the centroids of the two groups (i.e., the vector of means on the six General Occupational Themes). If a significant difference was obtained, discriminant analysis was used to determine the variables which were most important in distinguishing among the groups.

Hypothesis 6 was examined using the methods outlined for hypotheses 2 and 4. The important difference was that the two sample groups of SDA seminarians and ministers were compared to each other instead of the criterion group. In addition, a t-test was used to determine the significance of the difference between the means of the two groups on the Minister (male) Occupational Scale at .05 level of significance.

Hypotheses 7 and 8 were examined in the following manner:

Seminarians and ministers indicated their "type of preferred ministry" on a questionnaire. The item included options of (a) administration, (b) preaching/public evangelism, (c) counseling, (d) teaching religion/Bible classes, and (e) pastoring/shepherding. The SCII profiles of both samples combined were grouped according to this classification system.

Once the subjects had been classified by type of preferred ministry, hypothesis 7 was examined by

procedures similar to those used to examine hypotheses 1 and 3. The main difference was that each of the new classification groups were compared to each other. An additional statistical methodology employed was one-way multivariate analysis of variance to compare the centroids of the groups (i.e., the vector of means on the six General Occupational Themes). If a significant difference was obtained, discriminant analysis was employed to determine the variables which are most important in distinguishing among the groups.

To ensure stability of the variance-covariance matrix, upon which multivariate analysis is based, it is recommended that at least ten times as many persons as variables be used (Kendall, 1975, p. 11). In this study a sample of 60 seminarians or ministers (6 x 10) would have been adequate.

Hypothesis 8 was examined using the methods outlined for hypotheses 2 and 4. The important difference was that the preferred type of ministry groups were compared to each other and not the SCII criterion group. Also one-way univariate analysis of variance was used to compare the groups on the Minister (male) Occupational Scale.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

Chapter 4 presents information concerning the data-producing samples and basic statistics from these two groups. This is followed by the testing of the hypotheses in order.

Samples

The research utilized two samples in order to study the inventoried interests of Seventh-day Adventist (SDA) seminarians and ministers. The first sample was composed of seminarians. One hundred seminarians, selected randomly, were asked to complete the Strong-Campbell Interest Inventory (SCII) and questionnaire. Three individuals returned the materials unused. These three packets were given to randomly selected seminarians. This process resulted in a total of 103 persons in the invited sample. Responses were received from 88 seminary students. Of that number, 75 individuals met the requirement of job satisfaction. These 75 responses became the seminarian data-producing sample.

Demographic information regarding the seminarian sample is as follows: (a) The mean age was 27.37 years, (b) the mean years of education was 17.20, (c) the mean years of ministerial experience was 1.72, (d) 12 subjects were Black, 54 subjects were Caucasian, 8 subjects were Hispanic, 1 subject was Oriental, and (e) the highest educational degree completed was a BA by 70 seminarians, an MA by 4 seminarians, and a JD and a PhD by 1 seminarian.

The second sample was composed of SDA ministers. Three hundred randomly selected ministers were asked to complete the SCII and questionnaire. Five persons declined participation and returned the materials. These five packets were mailed to other randomly selected ministers. This resulted in a total of 305 ministers in the invited sample. Responses were received from 216 ministers. Of that number, 189 ministers met the requirements for sample inclusion. These 189 responses became the minister data-producing sample.

Demographic information for the minister sample is as follows: (a) The mean age was 48.01 years, (b) the mean years of education was 17.57, (c) the mean years of ministerial experience was 20.56, (d) 8 subjects were Black, 157 subjects were Caucasian, 18 subjects were Hispanic, 5 subjects were Oriental, 1 subject was Polynesian, and (e) the highest educational degree completed was a BA or BS by 59 ministers, an MA by

47 ministers, an MDiv by 51 ministers, and MPH or MSPH by 4 ministers, an MEd by 4 ministers, a JD by 1 minister, a DC by 1 minister, a BD by 2 ministers, a PhD by 4 ministers, a DMin by 4 ministers, a ThD by 1 minister, and 9 ministers had completed no 4-year college degree.

Basic Data

Prior to testing the hypotheses, a presentation of the basic data may be helpful to the reader. Table 5 compares the mean scores of the seminarian sample, minister sample, and minister (male) criterion group on the six General Occupational Themes (GOT) and the Minister (male) Occupational Scale (OS). The comparison on the GOT is based on combined-sex norms as reported on the SCII profiles. Since combined-sex scores are the only standard scores reported on the SCII profile, and the criterion group's Holland code was generated by same-sex GOT means, it was necessary to calculate equivalent Men-In-General (MIG) GOT means for the seminarian and minister samples (Table 6). The same-sex GOT means (Table 6) were used in obtaining Holland codes for the samples. The combined-sex means generated by the samples were used for statistical analysis (Table 5).

While analyzing the data generated by the seminarian and minister samples, a possible misprint was discovered in the reported combined-sex-normed GOT means

TABLE 5
 COMPARISON OF COMBINED-SEX MEANS AND STANDARD DEVIATIONS OF THE
 SEMINARIAN SAMPLE, MINISTER SAMPLE, AND 1985 SCII
 (FORM T325) CRITERION SAMPLE (MINISTER-MALE)

Scale	Seminararian		Minister		Difference Between Means (Sem.-Min.)	Combined Sem./Min.		SCII Minister Means (N = 255)
	Mean (N = 75)	S.D.	Mean (N = 189)	S.D.		Mean (N = 264)	S.D.	
Realistic	53.36	9.50	53.33	9.06	.03	53.34	9.17	53
Investigative	51.44	10.18	48.95	9.58	2.49	49.66	9.80	52
Artistic	49.19	9.26	43.95	8.98	5.24	45.44	9.34	53
Social	63.24	6.32	57.67	7.68	5.57	59.25	7.73	60
Enterprising	49.07	10.87	49.10	10.54	-.03	49.09	10.62	49
Conventional	50.24	9.75	50.65	10.01	-.41	50.53	9.92	50
Minister (male) Occupat. Scale	48.92	8.27	42.49	9.69	6.43	44.32	9.74	50

TABLE 6

COMPARISON OF CALCULATED SAME-SEX GOT MEANS OF
THE SEMINARIAN SAMPLE, MINISTER SAMPLE,
AND MEN-IN-GENERAL REFERENCE GROUP

Scale	MIG Mean	Seminarian Same-sex Mean	MIG Minus Seminarian	Minister Same-sex Mean	MIG Minus Minister
R Theme	53.5	49.85	-3.65	49.82	-3.68
I Theme	51.1	50.35	-0.75	47.76	-3.34
A Theme	47.4	51.77	4.37	46.58	-0.82
S Theme	49.9	63.61	13.71	57.92	8.02
E Theme	50.8	49.83	-2.45	48.38	-2.42
C Theme	50.4	49.83	-0.57	50.26	-0.14

for the minister (male) criterion sample. The Manual for the SVIB-SCII indicates a mean of 50 on the Social theme for this group (Hansen & Campbell, 1985, p. 62).

Statistical calculations indicated that a mean of 60 would be more accurate. Jane L. Swanson, a research assistant at the Center for Interest Measurement Research at the University of Minnesota, was gracious enough to check the original data which confirmed the error (Appendix A). The corrected mean of 60 for the Minister (male) criterion group on the combined-sex-normed Social theme was utilized in the data analysis for this dissertation.

Testing the Hypotheses

Each of the eight hypotheses is stated in the null form, and tested by the methods outlined in Chapter 3 of this dissertation.

Hypothesis 1

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the General Occupational Themes.

This hypothesis was examined by two methods. Method 1 descriptively compared the Holland code of the seminarian sample to the Holland code of the criterion group. The seminarian Holland code was determined by utilizing the separate-sex-normed means of the sample (Table 6). Seminarian GOT means which were 3 or more points higher than 50 were utilized for the Holland code in order of dominance. The most dominant theme was Social with a mean of 63.61. No other mean is high enough to qualify for the Holland code. Thus the Holland code generated by the seminarian sample is S. The Holland code for the SCII criterion group of male ministers is SA. Thus, the SDA seminarian sample does not have the same Holland code as the SCII criterion group.

Method 2 compared the GOT means of the seminarian group to the means of the SCII criterion sample. A 3-point difference is indicative of "real" differences

between the groups. Differences of 3 or more points occurred on the Artistic Theme and the Social Theme. On the A-Theme the seminarian mean is 49.19, while the SCII criterion group mean is 53. On the S-Theme the seminarian sample mean is 63.24, while the SCII minister sample is 60. Thus, the seminarian sample possesses "significantly" less Artistic interests and "significantly" more Social interests than does the SCII criterion group. This null hypothesis was rejected.

Hypothesis 2

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the Minister (male) Occupational Scale.

This hypothesis was examined by two methods. Method 1 compared the mean of the seminarian sample to the mean of the SCII criterion group on the Minister (male) Occupational Scale. A 5-point difference indicates a "real" difference between groups on the Occupational Scales. As reported on Table 5, the seminarian mean is 48.92 and the SCII criterion mean is 50. Thus, there is no "real" difference between the two groups on the Minister (male) Occupational Scale using this method.

Method 2 calculated the percentage of Excellent Hits (>44), Moderate Hits (40 to 44), and Poor Hits (<40), using the standard score on the Minister (male)

Occupational Scale. As Table 7 indicates, of the 75 seminarians, 51 subjects had Excellent Hits (68%), 13 subjects had Moderate Hits (17.33%), and 11 subjects had Poor Hits (14.67%). The combined total of Excellent and Moderate Hits was 64 (85.33%). This null hypothesis was retained.

TABLE 7
FREQUENCIES AND PERCENTAGES OF EXCELLENT HITS,
MODERATE HITS, AND POOR HITS ON THE
MINISTER (MALE) OCCUPATIONAL SCALE

Sample	N	Excellent Hit		Moderate Hit		Poor Hit	
		f	%	f	%	f	%
Seminarian	75	51	68.00	13	17.33	11	14.67
Minister	189	86	45.50	38	20.11	65	34.39
Combined	264	137	51.89	51	19.32	76	28.79

Hypothesis 3

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

This hypothesis was examined by two methods. Method 1 descriptively compared the Holland code of the minister sample to that of the SCII criterion sample. The minister Holland code was determined by utilizing the separate-sex-normed means of the sample (Table 6).

Minister GOT means which were 3 or more points higher than 50 were utilized. The order of the themes in the Holland code was determined by dominance. However, in this instance, only the Social Theme, with a mean of 57.92, is high enough to qualify for the Holland code. Thus the Holland code generated by the minister sample was S. The Holland code for the SCII criterion sample of male ministers is SA.

Method 2 compared the GOT means of the minister group to the means of the SCII criterion sample. A 3-point difference is indicative of "real" differences between the groups. Table 5 reports differences of 3 or more points on the Investigative Theme and Artistic Theme. The minister sample mean on the I-Theme was 48.95, while the SCII criterion group mean was 52. On the A-Theme the minister sample mean was 43.95, while the criterion mean was 53. Thus, the SDA minister sample possesses "significantly" less Investigative and Artistic interests than does the SCII criterion sample. This null hypothesis was rejected.

Hypothesis 4

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the Minister (male) Occupational Scale.

This hypothesis was examined by two methods. Method 1 compared the mean of the minister sample to the mean of the SCII criterion group on the Minister (male) Occupational Scale. On Occupational Scales a 5-point difference between group means is considered indicative of "real" differences between the groups. The minister sample mean was 42.49, and the criterion sample mean is 50 (Table 5). Thus, there is a real difference between the SDA ministers and the criterion group on this scale with SDA ministers scoring "significantly" lower than the SCII criterion group of male ministers.

Method 2 calculated the percentage of Excellent Hits (>44), Moderate Hits (40 to 44), and Poor Hits (<40), using the standard score on the Minister (male) Occupational Scale. Of the 189 ministers, 86 subjects had Excellent Hits (45.5%), 38 subjects had Moderate Hits (20.11%), and 65 subjects had Poor Hits (34.39%) (Table 7). The combined total of Excellent and Moderate Hits was 124 (65.61%). This null hypothesis was rejected.

Hypothesis 5

There is no difference between the vocational interests of SDA seminarians and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

This hypothesis was examined using several methods. The first method descriptively compares the

Holland code generated by the seminarian sample to the Holland code generated by the minister sample. In examining hypothesis 1, it was noted that the seminarians produced a Holland code of S. In examining hypothesis 3, it was found that the minister sample also had a Holland code of S. So there is no difference between the Holland codes of the two samples.

Method 2 compared the GOT means of the seminarian group to the GOT means of the minister sample. As is the usual practice on the General Occupational Themes, a 3- or more point difference indicated "real" differences between groups. Such differences were found on the Artistic and Social Themes. On the A-Theme the seminarian mean was 49.19 and the minister mean was 43.95. On the S-Theme the seminarian mean was 63.24 and the minister mean was 57.67 (Table 5). Thus, the SDA seminarian sample possesses "significantly" greater Artistic and Social interests than does the SDA minister sample.

Method 3 employed Hotelling's test of the significance of the difference between the centroids of the seminarian and minister samples on the six General Occupational Themes. Table 5 reports the means of the samples and the differences between those means on the General Occupational Themes. Hotelling's test yielded an F of 9.0101 with 6 and 257 degrees of freedom resulting in a probability $<.00005$ which indicates significance. Since a significant difference was obtained, discriminant

analysis was used to determine the variables which were most significant in distinguishing between the groups. Table 8 displays the weights of the six scales on the discriminant function.

TABLE 8
DISCRIMINANT ANALYSIS OF THE SEMINARIAN AND
MINISTER SAMPLES ON THE GENERAL
OCCUPATIONAL THEMES

Scale	Standard Discriminant Function 1	Rank
Realistic	-28.1719	4
Investigative	-.8599	6
Artistic	46.5784	3
Social	104.5429	1
Enterprising	-47.2478	2
Conventional	-15.3435	5

It is common practice in discriminant analysis to include the variable with the highest weight and all others that are approximately 50% or more of that weight. Thus the Social theme discriminates most strongly. The Artistic theme and the Enterprising theme also discriminate to a lesser extent. Group means on the discriminant function were 36.179 for ministers and 42.784 for seminarians. Thus, the discriminant function indicates that the seminarians showed more social

interest, and to a lesser extent more artistic interest and less enterprising interest, than did the ministers. This null hypothesis was rejected.

Hypothesis 6

There is no difference between the vocational interests of SDA seminarians and the vocational interests of ordained SDA ministers as measured by the Minister (male) Occupational Scale.

This hypothesis was examined by several methods. Method 1 compared the mean of the seminarian sample to the mean of the minister sample on the Minister (male) Occupational Scale. On Occupational Scales a 5-point or more difference indicates "real" differences between groups. The seminarian sample mean was found to be 48.92 and the minister group mean was calculated to be 42.49 (Table 5). The difference of 6.43 points is indicative of a "significant" difference between the two samples.

The second method compared the percentage of Excellent Hits (>44), Moderate Hits (40 to 44), and Poor Hits (<40), using the standard score on the Minister (male) Occupational Scale, of the seminarian and minister samples. Of the seminarians 68% had Excellent Hits while 45.5% of the ministers had Excellent Hits (Table 7). Of the seminarians 17.33% had Moderate Hits while 20.11% of the ministers had Moderate Hits. Of the seminarians 14.67% had Poor Hits while 34.39% of the ministers had

Poor Hits. The combined percentage of Excellent Hits and Moderate Hits for seminarians was 85.33% and for ministers 65.61%. Thus, the vocational interests of the seminarian sample are more like the interests of the SCII criterion group than are the interests of the Seventh-day Adventist minister sample.

Finally, a t-test was employed to determine the significance of the difference between the means of the seminarian and minister samples on the Minister (male) Occupational Scale. The mean of the seminarian sample was 48.92 and the mean of the minister sample was 42.49. The difference between the means was 6.43. Variance of the seminarians was 68.4256 and variance of the ministers was 93.8559. The test of assumption of homogeneity of variance was upheld at the .05 probability level with an F of 1.3716 and probability of .1190. The usual pooled variance t-test produced a t of -5.0593 with 262 degrees of freedom and a probability <.00005 on a 2-tailed test. Thus the difference between the means is significant. There is a real difference between the interests of SDA seminarians and ministers as measured by the Minister (male) Occupational Scale. This null hypothesis was rejected.

Hypothesis 7

The type of preferred ministry makes no difference in the inventoried interests of SDA seminarians and

ordained ministers as measured by the General Occupational Themes.

The seminarian and minister samples were reclassified according to their indicated preferred type of ministry. Each of these groups--administration, preaching, counseling, teaching, and pastoring--were compared to each other to determine if differences in vocational interests do exist. Because of the small Ns which occurred in the counseling and teaching preference groups, some of the results must be considered with caution. In comparing the preferred type of ministry groups on the General Occupational Themes, several methods were utilized.

The first method descriptively compared the Holland codes of the five groups. Table 9 compares the combined-sex-normed means of the preferred type of ministry groups which were calculated directly from the scores reported on the SCII profile for each subject. These are the means which were utilized for data analysis. However, as with previous hypotheses, it was necessary to calculate same-sex-normed means (Table 10) in order to obtain the Holland codes. GOT means which were 3 points or more higher than 50 were utilized for the Holland code. The order of the themes was determined by dominance. This method produced a Holland code of SC for the administration group, S for the preaching group, SA for the counseling group, S for the teaching group, and S for the

TABLE 9
COMPARISON OF COMBINED-SEX-NORMED MEANS AND STANDARD DEVIATIONS OF
THE PREFERRED TYPE OF MINISTRY GROUPS ON THE
GENERAL OCCUPATIONAL THEMES
 (standard deviations in parentheses)

Group	N	R	I	A	S	E	C
Administration	55	53.36 (7.99)	50.42 (9.66)	43.44 (8.02)	58.40 (8.16)	51.75 (10.81)	53.85 (8.78)
Preaching	40	53.53 (10.01)	51.53 (9.44)	49.70 (8.66)	60.20 (8.22)	51.15 (11.42)	49.98 (9.93)
Counseling	10	50.50 (11.37)	48.20 (12.47)	51.70 (7.20)	64.20 (7.28)	45.70 (12.22)	40.40 (7.31)
Teaching	26	53.69 (9.41)	53.38 (7.98)	48.15 (9.51)	58.69 (6.18)	46.88 (8.18)	52.12 (9.57)
Pastoring/ Shepherding	129	53.43 (9.14)	48.16 (9.92)	44.00 (9.59)	59.03 (7.75)	47.88 (10.34)	49.69 (10.06)
Combined	260	53.34	49.68	45.47	59.24	49.02	50.50
SCII criterion group	255	53	52	53	60	49	50

TABLE 10
COMPARISON OF CALCULATED SAME-SEX-NORMED GENERAL OCCUPATIONAL
THEME MEANS FOR THE PREFERRED TYPE OF MINISTRY GROUPS

Group	N	R	I	A	S	E	C
Administration	55	49.85	49.29	46.08	58.67*	50.90	53.63*
Preaching	40	50.03	50.45	52.28	60.51*	50.33	49.56
Counseling	10	46.88	46.98	54.26*	64.59*	45.14	39.47
Teaching	26	50.20	52.38	50.74	58.97*	46.27	51.81
Pastoring/ Shepherding	129	49.93	46.94	46.63	59.32*	47.22	49.25
Combined	260	49.83	48.52	48.09	59.53*	48.30	50.11
Men-In-General Reference Group	300	53.5	51.1	47.4	49.9	50.8	50.4

*Qualifies for the Holland code of that group

pastoring group. Thus, all groups have S as the most dominant theme but the administration group includes a C in its code and the counseling group includes an A in its code.

The second method compared the GOT combined-sex-normed means of the preferred type of ministry groups to each other. As usual on the General Occupational Themes, a 3-point difference was considered indicative of a "real" difference. Some caution must be exercised, however, because it is recommended that groups contain at least 30 people to ensure that the differences are stable (Hansen & Campbell, 1985, p. 25). Thus, conclusions regarding the counseling (N = 10) and teaching (N = 26) groups must be considered with care.

The administration group demonstrated real differences (a 3- or more point difference) in interests from the preaching group on two themes (Table 9). On the A-Theme, administration had a mean of 43.44, while the preaching group had a mean of 49.70. Because the mean of the administration group fell more than 3 points below the mean of the preaching group, there is a "real" difference between the means in the negative direction. This indicates that the administration group has significantly less Artistic interest than does the preaching group. On the C-Theme, the administration group had a mean of 53.85, while the preaching group had a mean of 49.98. Because the mean of the administration group was more than 3

points above the mean of the preaching group, there is a real difference in the positive direction. This indicates that the administration group has "significantly" more Conventional interest than does the preaching group. Subsequent "real" differences note the direction of the difference, but do not reiterate the means since they are reported in Table 9. In comparing the administration group to the counseling group, real differences in the positive direction (administration group has "significantly" more interest) were found on the E-Theme and C-Theme, while real differences in the negative direction (administration group has "significantly" less interest) were found in the on the A-Theme and S-Theme. The administration group showed a positive real difference from the teaching group on the E-Theme and a negative real difference on the A-Theme. The administration group also demonstrated positive real differences from the pastoring group on the E-Theme and the C-Theme, while showing no negative real differences.

The preaching group indicated a positive real difference in interests from the administration group on the A-Theme and a negative real difference on the C-Theme. They produced positive significant differences from the counseling group on the R-Theme, I-Theme, E-Theme, and C-Theme, and a negative real difference on the S-Theme. The preaching group demonstrated a positive real difference from the teaching group on the E-Theme only,

while no negative real differences were found. They also produced positive real differences from the pastoring group on the I-Theme, A-Theme, and E-Theme. No negative differences were found.

The counseling group demonstrated positive real differences from the administration group on the A-Theme and S-Theme, and negative real differences on the E-Theme and C-Theme. They showed a positive real difference from the preaching group on the S-Theme, and negative real differences on the R-Theme, I-Theme, E-Theme, and C-Theme. The counseling group indicated positive real differences from the teaching group on the A-Theme and S-Theme, and negative real differences on the R-Theme, I-Theme and C-Theme. They showed positive real differences from the pastoring group on the A-Theme and S-Theme, and a negative real difference on the C-Theme.

The teaching group produced a positive real difference from the administration group on the A-Theme and a negative real difference on the E-Theme. They demonstrated no positive significant difference from the preaching group and a negative real difference on the E-Theme only. The teaching group showed positive real differences from the counseling group on the R-Theme, I-Theme, and C-Theme, and negative real differences on the A-Theme and S-Theme. They showed positive real differences from the pastoring group on the I-Theme and A-Theme, and no negative real differences.

Finally, the pastoring group demonstrated no positive real differences from the administration group, but had negative real differences on the E-Theme and C-Theme. They demonstrated no positive significant differences from the preaching group, but had negative real differences on the I-Theme, A-Theme, and E-Theme. The pastoring group showed a positive real difference from the counseling group on the C-Theme, and negative significant differences on the A-Theme and S-Theme. They showed no positive real differences from the teaching group, but did demonstrate negative real differences on the I-Theme and A-Theme.

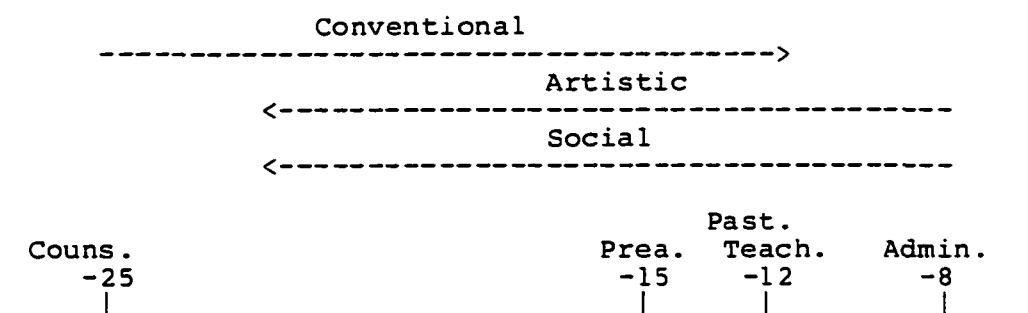
The third method employed one-way multivariate analysis of variance to compare the centroids of the preferred type of ministry groups. This was followed by discriminant analysis where significant differences were found. For the test of equality of group centroids F was 3.1384 with 24 and 873.3555 degrees of freedom and a probability $<.00005$. Because there was a significant difference between the centroids of the five groups, discriminant analysis was employed to determine which General Occupational Themes were most significant in distinguishing among the groups. This analysis produced significance on two functions.

The test of significance on function 1 produced a chi square of 73.1581 with 24 degrees of freedom and a probability $<.00005$. The group means of this discriminant

function were -8.657 for administration, -15.083 for preaching, -25.342 for counseling, -12.512 for teaching, and -12.887 for pastoring. Since it is common practice in discriminant analysis to include the variable with the highest weight and all others that are approximately 50% of that weight, the Conventional, Artistic, and Social Themes are shown to discriminate among the preferred type of ministry groups (Table 11). This discriminant function can be interpreted as indicating greater Conventional interests and lower Artistic and Social interests. On this function subjects with preferences for administration score higher than subjects who prefer teaching, pastoring, and preaching, and much higher than subjects who prefer counseling (see Figure 2).

TABLE 11
DISCRIMINANT ANALYSIS OF THE PREFERRED TYPE
OF MINISTRY GROUPS ON THE GENERAL
OCCUPATIONAL THEMES
(Function 1)

Scale	Standard Discriminant Function 1	Rank
Realistic	-17.9351	6
Investigative	23.4706	5
Artistic	-69.2411	2
Social	-66.7987	3
Enterprising	24.7928	4
Conventional	99.8610	1



Discriminant Analysis (Function 1)
 Fig. 2. Profile of preferred type of ministry groups

In Figures 2 and 3 the preference groups are placed along a horizontal scale according to their means on the function. Above this the major variables related to this function are indicated in order, with the most important at the top. The arrow indicates the direction of increasing strength with respect to the groups. If the weight of the variable on the function is positive, the arrow points to the right; if the weight is negative, the arrow points to the left.

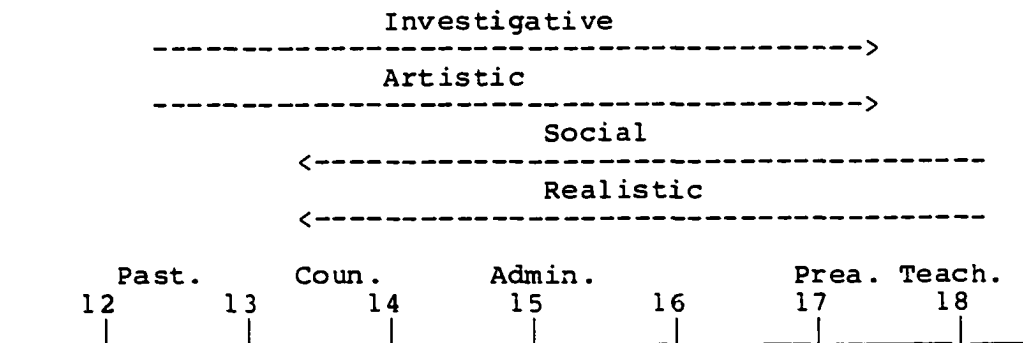
The test of significance on function 2 produced a chi square of 27.5668 with 15 degrees of freedom and a probability of .0244. The group means of this discriminant function were 15.051 for administration, 17.383 for preaching, 13.764 for counseling, 17.756 for teaching, and 12.643 for pastoring.

This discriminant function can be interpreted as indicating greater Investigative and Artistic interests and lower Social and Realistic interests (Table 12). On this function, subjects with preferences for teaching and

preaching score higher than subjects who prefer administration, counseling, and pastoring (see Figure 3). This null hypothesis was rejected.

TABLE 12
DISCRIMINANT ANALYSIS OF THE PREFERRED TYPE
OF MINISTRY GROUPS ON THE GENERAL
OCCUPATIONAL THEMES
(Function 2)

Scale	Standard Discriminant Function 2	Rank
Realistic	-54.2927	4
Investigative	87.0742	1
Artistic	72.3441	2
Social	-62.5853	3
Enterprising	30.9161	5
Conventional	13.6850	6



Discriminant Analysis (Function 2)
Fig. 3. Profile of preferred type of ministry groups

Hypothesis 8

The type of preferred ministry makes no difference in the inventoried vocational interests of SDA seminarians and ordained ministers as measured by the Minister (male) Occupational Scale.

This hypothesis was also examined using several methods. As with hypothesis 7, the results for the counseling and teaching groups must be considered with caution because of their small Ns. The first method compared the means of the preferred type of ministry groups on the Minister (male) Occupational Scale. As usual, a 5- or more point difference indicated real differences between the groups.

The means reported in Table 13 demonstrate that real differences in interests exist between the

TABLE 13

COMPARISON OF STANDARD SCORE MEANS OF THE PREFERRED TYPE
OF MINISTRY GROUPS ON THE MINISTER (MALE)
OCCUPATIONAL SCALE

Group	Mean
Administration	41.20
Preaching	47.57
Counseling	49.70
Teaching	46.85
Pastoring	43.70

administration group and the preaching group, the counseling group, and the teaching group. Real differences also exist between the pastoring group and the counseling group.

The second method compared the percentage of Excellent Hits (>44), Moderate Hits (40 to 44), and Poor Hits (<40), using the standard score means of the preference groups on the Minister (male) Occupational Scale. The percentage of Excellent Hits for the administration group was 38.18%, for the preaching group was 67.50%, for the counseling group was 70.00%, for the teaching group was 61.54%, and for the pastoring preference group was 49.61% (Table 14). The percentage of Moderate Hits for the administration group was 25.45%, for the preaching group 15.00%, for the counseling group 20.00%, for the teaching group 19.23%, and for the pastoring group 17.07%. The percentage of Poor Hits for the administration group was 36.36%, for the preaching group 17.50%, for the counseling group 10.00%, for the teaching group 19.23%, and the pastoring group 33.33%. The combined percentage of Excellent Hits and Moderate Hits for the administration preference group was 63.63%, for the preaching group 82.50%, for the counseling group 90.00%, for the teaching group 80.77%, and for the pastoring group 66.68%. Of the five groups, the administration and pastoring groups had the poorest hit rates. The best hit rates were for the counseling and preaching groups.

TABLE 14

FREQUENCIES AND PERCENTAGES OF EXCELLENT HITS,
 MODERATE HITS, AND POOR HITS ON THE MINISTER
 (MALE) OCCUPATIONAL SCALE FOR THE
 PREFERRED TYPE OF MINISTRY GROUPS

Sample	N	Excellent Hit		Moderate Hit		Poor Hit	
		f	%	f	%	f	%
Administration	55	21	38.18	14	25.45	20	36.36
Preaching	40	27	67.50	6	15.00	7	17.50
Counseling	10	7	70.00	2	20.00	1	10.00
Teaching	26	16	61.54	5	19.23	5	19.23
Pastoring	129	64	49.61	22	17.07	43	33.33
Combined	260	135	51.92	49	18.85	76	29.23

The last method used to test hypothesis 8 was one-way univariate analysis of variance to compare the preference groups on the Minister (male) Occupational Scale. Table 15 shows the ANOVA test which produced an F of 3.983 and a probability of .0037 which, since it is $<.05$, indicates that there are significant differences among the preference groups. T-tests on the preference groups indicate that significant differences exist between the administration group and the preaching group, the administration group and the counseling group, the administration group and the teaching group, and the preaching group and the pastoring group. This null hypothesis was rejected.

TABLE 15

ANALYSIS OF VARIANCE, T-TEST MATRIX, AND PROBABILITIES
FOR THE PREFERRED TYPE OF MINISTRY GROUPS ON THE
MINISTER (MALE) OCCUPATIONAL SCALE

Analysis of Variance

Source of Variance	D.F.	Sum of Squares	Mean Square	F Value	Tail Area Probability
Equality of Cell Means	4	1464.5850	366.1462	3.9830	.0037
Error	255	23441.2852	91.9266		

T-Test Matrix for Group Means on 255 Degrees of Freedom

	Admin	Preach	Counsel	Teach	Pastor
Admin	.0000				
Preach	3.1997	.0000			
Counsel	2.5789	.6269	.0000		
Teach	2.4744	-.3017	-.7999	.0000	
Pastor	1.6175	-2.2348	-1.9073	-1.5278	.0000

Probabilities for the T-Values Above

	Admin	Preach	Counsel	Teach	Pastor
Admin	1.0000				
Preach	.0016*	1.0000			
Counsel	.0105*	.5313	1.0000		
Teach	.0140*	.7631	.4245	1.0000	
Pastor	.1070	.0263*	.0576	.1278	1.0000

*Significant at .05 level

Summary

Using descriptive comparisons, one way analysis of variance, multivariate analysis of variance, discriminant analysis, and t-tests, seven of the eight hypotheses were rejected. In testing hypothesis 1 it was discovered that SDA seminarians differ significantly from the SCII criterion group on the General Occupational Themes. However, in testing hypothesis 2 it was found that there was no significant difference between the seminarian sample and the SCII criterion group on the Minister (male) Occupational Scale. Thus, hypothesis 2 was not rejected. Hypotheses 3 and 4 found significant differences between the SDA minister sample and the SCII criterion group on the General Occupational Themes and the Minister (male) Occupational Scale. Hypotheses 5 and 6 revealed significant differences between the seminarian and minister samples on the General Occupational Themes and the Minister (male) Occupational Scale. And, finally, hypotheses 7 and 8 found significant differences between the preferred type of ministry groups on the General Occupational Themes and the Minister (male) Occupational Scale.

CHAPTER V

SUMMARY, FINDINGS AND DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

Summary of the Study

Many studies have investigated the interests of subgroups of individuals using the Strong-Campbell Interest Inventory (SCII). Few studies, however, have focused on the concurrent validity of the SCII for groups of persons in a specified graduate or professional training program. Loupe, Meskin, and Proshek (1976) and Emling, Green, and Stevens (1980) report research findings which used the SCII with dental students. Betz and Taylor (1982) established the concurrent validity of the SCII for graduate students in counseling psychology. Comer (1983) studied the utility of the SCII as part of a ministerial assessment battery. But no study was discovered which investigated the concurrent validity of the SCII for seminary students of a particular denomination or seminary students in general. Therefore, a question of research interest for the present study was whether the 1985 SCII is a valid instrument in assessing the interests of the seminarians of a particular denomination.

One of the populations chosen for the present study was Seventh-day Adventist seminarians. The study proposed to examine the vocational interests of SDA seminarians and to examine the extent to which the standard scores of the sample group correspond with the SCII criterion group of ministers on the General Occupational Themes (GOT) and the Minister (male) Occupational Scale of the SCII.

A second question of research interest was whether or not ministers of different denominations have similar interests. Comer (1983) indicated that there may be denominational differences, but no other study was discovered which supported this hypothesis. Thus, the present study examined the vocational interests of SDA ministers to determine the extent to which the interests of SDA ministers correspond with the criterion group of ministers on the General Occupational Themes and the Minister (male) Occupational Scale of the SCII. This study also compared the interests of SDA seminarians and SDA ministers to each other on these same SCII scales.

The third question of research interest was whether or not the type of preferred ministry of the seminarians and ministers makes a difference in their inventoried interests. The study examined the interests of type of ministry preference groups and compared the findings to each other on the General Occupational Themes and the Minister (male) Occupational Scale.

A questionnaire was developed for the purpose of ascertaining demographic information, job satisfaction, and type of preferred ministry. The questionnaire and 1985 SCII were sent to 103 randomly selected SDA seminarians. Of the invited sample, 75 seminarians met the criterion of satisfaction with their graduate program. These 75 seminarians became the data-producing sample. In order to study the interests of SDA ministers, the 1985 SCII and questionnaire were mailed to 305 ministers. These ministers were selected by stratified random sampling. Of the minister invited sample, 189 persons met the criteria of age and job satisfaction, thus qualifying for inclusion in the data-producing sample.

The data generated by the two sample groups were examined by the generally accepted methods outlined in the Manual for the SVIB-SCII (Hansen & Campbell, 1985) for comparing group means. The data were also examined using McArthur's (1954) hit-rate methodology. Additional statistical analyses included Hotelling's T^2 test, t-tests, univariate analysis of variance, multivariate analysis of variance, and discriminant analysis.

Findings and Discussion

The findings of this study are summarized by considering each of the eight null hypotheses.

Hypothesis 1

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the General Occupational Themes.

This hypothesis was rejected. The results show that there is a significant difference between the interests of the SCII criterion group and the interests of SDA seminarians on the General Occupational Themes.

The study demonstrates that SDA seminarians possess fewer Artistic interests and more Social interests than do the members of the SCII criterion group of ministers. The difference is great enough to result in a Holland code of S for the seminarians, whereas the criterion group has a code of SA. A possible reason for the lower score on the Artistic theme is the conservative view of the SDA denomination in the area of the arts, literature, and theater. Perhaps the extremely high S score is due, at least in part, to the idealism of youth. The mean age of the seminarians was 27.37 while the mean age of the criterion group was 41.1. Also the mean years of ministerial experience for the seminarians was 1.72 while the mean years of ministerial experience for the criterion group was 14.1. Although studies (Hansen & Campbell, 1985) indicate that interests remain relatively stable, they also demonstrate that some shifting of interests does occur in time. Perhaps, as time goes by,

the idealism of the seminarians yields slightly to the realism of the ministry. In spite of the aforementioned differences, it is equally important to note that the strongest GOT for both groups is the Social theme. The interests of both groups revolve around being with people.

Hypothesis 2

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of SDA seminarians as measured by the Minister (male) Occupational Scale.

This is the single null hypothesis that was retained. No real differences were found between the seminarian sample and the criterion group on the Minister (male) Occupational Scale. The SDA seminarian sample produced a mean of 48.92, and the criterion group mean is 50. Comer (1983) reported a mean of 44.6 on this scale for applicants to the United Methodist ministry. Comer also reports data from the Midwest Career Development Center which has a mean on this scale of 42.9 for applicants for ministerial ordination in the United Presbyterian, United Methodist, and Lutheran Church of America denominations. Since a difference of 5 or more points is considered indicative of real differences between groups of the Occupational Scales, Comer's samples were significantly different from the criterion group. Thus, the SDA seminarians have interests much like the

interests of the SCII criterion group and significantly different from at least one of Comer's samples.

The hit rate (including Excellent and Moderate Hits) of 85.33% for the Minister (male) Occupational Scale provides relatively good evidence for the concurrent validity of the SCII in a group of SDA seminarians. This finding is comparable to the study by Betz and Taylor (1982) which reported an 89% hit rate for counseling psychology students on the Psychologist Occupational Scale. Betz and Taylor also concluded that this percentage offered good evidence of the concurrent validity of the SCII for counseling psychology students.

Hypothesis 3

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

The hypothesis was rejected. It was found that there is a significant difference between the interests of SDA ministers and the interests of the SCII criterion group as measured by the General Occupational Themes. The results of the study demonstrate that SDA ministers have significantly less Investigative and Artistic interests than do the members of the SCII criterion group. As with the seminarian sample, a possible explanation of the significantly lower mean on the Artistic theme is the

conservative view of the SDA denomination regarding the theater, literature, and the arts in general. Perhaps the difference in the Investigative theme is related to educational factors. The mean years of education for the minister sample was 17.57, while the mean years of education for the criterion group of ministers was 20.1. The mean years of ministerial experience for the SDA minister sample was 20.56, while the mean years of experience for the criterion group was 14.1. Thus, while the SDA ministers may have more experience in the ministry, they have spent much less time in an academic setting where they would be expected to do research and other academic investigation.

Since the minister sample had significantly fewer Artistic interests, the A-Theme was not found to be included in the Holland code for the sample. Thus, the Holland code for the SDA minister sample is S, while the code for the SCII criterion group of ministers is SA.

The results of this study generally support the findings by Comer (1983) that denominational differences do exist on the General Occupational Themes. In comparing the GOT means of the SDA ministers (Table 5) and Comer's United Methodist sample (Table 3), there is a real difference on the R-Theme, A-Theme, and C-Theme. SDA ministers have greater Realistic interests and Conventional interests and fewer Artistic interests than do the United Methodist ministers. This gives additional

evidence to the hypothesis that there are denominational differences on the General Occupational Themes.

Hypothesis 4

There is no difference between the vocational interests of the SCII criterion group of male ministers and the vocational interests of ordained SDA ministers as measured by the Minister (male) Occupational Scale.

This hypothesis was also rejected. The results show that there is a significant difference between the interests of the SCII criterion group and the interests of SDA ministers as measured by the Minister (male) Occupational Scale. On this scale the SDA minister sample mean was 42.49 and the criterion group mean was 50. Comer (1983) reports a United Methodist sample mean of 44.6 and a Midwest Career sample mean (United Presbyterian, United Methodist, and Lutheran Church of America) of 42.9. Two deductions are obvious: (1) All three samples are significantly different from the criterion group on this scale, and (2) SDA ministers are more like Comer's two sample groups than they are like the SCII criterion group on this scale.

The hit rate (including Excellent and Moderate Hits) of 65.61% provides evidence of moderate concurrent validity of the Minister (male) Occupational Scale for SDA ministers. The Poor Hit rate of 34.39% offers evidence that this scale is invalid for approximately one-third of

SDA ministers. Although these findings do not sound impressive, they are comparable to the findings reported by Worthington and Dolliver (1977). They reported 47% direct Excellent plus Moderate Hit rate on a mixed occupational group of male college graduates. The direct Excellent Hit rate was 39%. Dolliver and Will (1977) found 65% SCII concurrent accuracy for former college students when Excellent Hits and Moderate Hits were included. The hit rate was 38% for Excellent Hits alone. Whitton (1975) found 43% Excellent Hit rate for female high-school and college students and 42% Excellent Hit rate for their male counterparts. The results of the present study, which indicate an Excellent Hit rate of 45.5% for SDA ministers, are comparable to the findings of the preceding studies. Thus, in spite of the 34.39% of SDA ministers who made Poor Hits, the Minister (male) Occupational Scale must be considered to reflect a relatively high degree of concurrent validity for SDA ministers.

Hypothesis 5

There is no difference between the vocational interests of SDA seminarians and the vocational interests of ordained SDA ministers as measured by the General Occupational Themes.

This hypothesis was rejected. While some similarities between the groups were discovered, it was

found that there are significant differences between the interests of SDA seminarians and the interests of SDA ministers as measured by the General Occupational Themes. Although both samples produced a Holland code of S, other methods demonstrated real differences between the samples.

In comparing the means on the General Occupational Themes of the two samples, it was found that the seminarians have significantly greater Artistic and Social interests than do the ministers. Hotelling's test of the significance of the difference between the centroids of the seminarian and minister samples on the GOT found significance. Discriminant analysis demonstrated that the seminarians have significantly more Social interests, and to a lesser extent more Artistic interests and less Enterprising interests, than do ministers.

As discussed under hypothesis 1, perhaps the extremely high S score for the seminarians is due, at least in part, to the idealism of youth. The seminarian sample mean on the S-Theme was 63.24, the minister sample mean was 57.67, and the criterion group mean was 60. Thus, it was demonstrated that there is an even greater difference between the Social interests of SDA seminarians and SDA ministers than between the seminarians and the SCII criterion group of ministers.

Under hypotheses 1 and 3 it was mentioned that perhaps the conservatism of the SDA denomination regarding the arts is reflected in the significantly lower means on

the A-Theme of the SDA seminarians and ministers. The seminarians produced a mean of 49.19, the ministers produced a mean of 43.95, and the SCII criterion group had a mean of 53 on the Artistic theme. Thus, the more youthful seminarians have greater Artistic interests than do SDA ministers. Actually, the seminarians are more like the SCII criterion group of ministers on the A-Theme than they are like SDA ministers. It should be remembered, however, that there still is a significant difference between the interests of the seminarians and the criterion group on the A-Theme.

Hypothesis 6

There is no difference between the vocational interests of SDA seminarians and the vocational interests of SDA ministers as measured by the Minister (male) Occupational Scale.

This hypothesis was also rejected. The results indicate that there is a significant difference between the interests of SDA seminarians and those of SDA ministers as measured by the Minister (male) Occupational Scale. The first method compared the means of the two samples. The seminarian mean was 48.92, the minister mean was 42.49, and the SCII criterion group mean was 50. The difference between the means was found to be significant by two methods: (1) a difference of 5 or more points indicates significance, and (2) a t-test. It is worth

noting that once again the seminarian sample is significantly different from the SDA minister sample but is not significantly different from the SCII criterion group of ministers. Thus, on the Minister (male) Occupational Scale the interests of the seminarians are more like the interests of the SCII criterion group than they are like SDA ministers.

If one were to apply the hit-rate criteria of Excellent Hit (>44), Moderate Hit (40-44), Poor Hit (<40) to the mean scores of the two samples, the SDA seminarians as a group would score an Excellent Hit, while the SDA minister sample would score a Moderate Hit. While the scores demonstrate the concurrent validity of this scale for both groups, the concurrent validity for the seminarians is clearly superior.

The combined percentage of Excellent Hits and Moderate Hits for seminarians was 85.33% and for SDA ministers was 65.61%. When comparing these results to other findings under hypotheses 2 and 4, it was found that the seminarian's hit rate was extremely high and the minister's hit rate, although much lower, was still quite good. However, in comparing the hit rates of the two samples it is obvious that the interests of the seminarians are much more like the interests of the criterion group than are the interests of the SDA minister sample.

In several instances it has been noted that the seminarian sample is more like the SCII criterion group than they are like the SDA minister sample. Perhaps an examination of the demographic data would supply some insight into this phenomenon. Age does not appear to be a factor in this comparison because both the SDA minister sample and the SCII criterion sample have a mean age in the 40s. It is possible that educational background is, at least in part, responsible for this phenomenon. Of the seminarians, 100% were currently working on an MDiv degree. Only five of the seminarians had any degree other than a BA or BS. Of the minister sample only 27% had an MDiv degree as the highest degree received. Of the SCII criterion sample, 88% had an MDiv degree as the highest degree earned. Adventist ministers are a very heterogeneous group educationally. Nine had not completed a college degree, 59 had completed a BA or BS, and others had education in as diverse areas as Masters in Public Health, Masters in Education, Doctor of Philosophy, Doctor of Jurisprudence, and Doctor of Chiropractics. In spite of the heterogeneous educational background, all of these individuals are working as SDA ministers. Perhaps a reason why the interests of SDA seminarians are more like the interests of the SCII criterion group is that all individuals in both groups have specifically been educated for the ministry. Thus, at least educationally, the seminarians and the SCII criterion sample are homogeneous

groups while the SDA minister sample is a very heterogeneous group.

Hypothesis 7

The type of preferred ministry makes no difference in the inventoried vocational interests of SDA seminarians and ordained ministers as measured by the General Occupational Themes.

This hypothesis was rejected. The results demonstrate that the type of preferred ministry makes a significant difference in the interests of SDA seminarians and ministers as measured by the General Occupational Themes. There were three reasons why preferred type of ministry and not present occupation was used for this study. First, in order for the seminarians to be utilized, preferred type of ministry was required because the seminarians are currently students. Second, SDA ministers are often assigned to specific responsibilities and thus their present occupation may not reflect their real interests. Third, even within a pastor's daily responsibilities there are some tasks which are preferred over others. These tasks can be classified as types of ministry as follows: (a) administration, (b) preaching, (c) counseling, (d) teaching, (e) general pastoral tasks.

Because of small Ns the combined seminary and minister samples were regrouped according to their indicated preferred type of ministry. Even with combining

the samples, the counseling (N = 10) and teaching (N = 26) preference groups are so small that their results must be considered cautiously.

The single GOT which dominates the Holland codes of the five preference groups is the Social theme. The administration group, however, adds the Conventional theme which results in a Holland code of SC. This result might be expected since administration in the SDA denomination often includes working with budgets and other accounting procedures. The counseling preference group adds the Artistic theme to the S code which results in a Holland code of SA. The SCII assigns Holland codes of SA to ministers and social workers, and there is an A in the Holland codes of several teaching occupations. However, the Holland code for SCII guidance counselors is S. Thus, the counseling preference group's Holland code of SA, though not surprising, may not be expected.

In comparing the GOT means of the preference groups many real differences were discovered. Of the 60 comparisons of means, 29 were found to be "significantly" different. The preference groups demonstrated real differences from each other on virtually one-half of the General Occupational Themes. In general, the differences were found to be in the expected direction. For instance, the administration group had "significantly" more Conventional interests than did the preaching and pastoring groups. This difference might be expected since

administration often involves work with finances and budgets. The administration and preaching groups had "significantly" more Enterprising interests than did the counseling, teaching, and pastoring groups. This result might be expected because administration and preaching may involve more convincing and persuading than do the other groups. The teaching and preaching groups demonstrated "significantly" more Investigative interests than did the pastoring and counseling groups. This difference might be expected since teaching and preaching may involve more continual study and research than do pastoring and counseling. The reasons for some of the differences, however, are not readily apparent. For example, although it might be expected that the administration group would have less Artistic interest than the preaching, counseling, and teaching groups, it may not be expected that the pastoring group would also have "significantly" less Artistic interest than the preaching, counseling, and teaching groups. Neither is it readily apparent why the counseling group had "significantly" fewer Realistic interests than the preaching and teaching groups.

In comparing the General Occupational Theme means, it is also useful to look at similarities. The preaching and teaching preference groups have interests that are more similar than any other groups. They are significantly different only on the E-Theme. All the other groups differ "significantly" from each other on two

or more General Occupational Themes. The GOT that has the most similarities among the groups is the Realistic theme. On this theme, only the counseling group is "significantly" different from the other groups.

Multivariate analysis followed by discriminant analysis was used to determine the General Occupational Themes which were most significant in distinguishing among the groups. On function 1, subjects with a preference for administration scored higher than the other groups, while the counseling group scored the lowest of the groups. This discriminant function indicates greater Conventional interests and lower Artistic and Social interests. On function 2, subjects with preferences for teaching and preaching scored higher than the other groups. This discriminant function indicates greater Investigative and Artistic interests and lower Social and Realistic interests.

The overall results of testing this hypothesis indicate that the ministry is a heterogeneous occupation and that a minister's type of preferred ministry is related to his interests.

Hypothesis 8

The type of preferred ministry makes no difference in the inventoried vocational interests of SDA seminarians and ministers as measured by the Minister (male) Occupational Scale.

This null hypothesis was also rejected. The results show that the type of preferred ministry does make a significant difference in the interests of SDA seminarians and ministers as measured by the Minister (male) Occupational Scale. By comparing the means of the five preference groups, it was demonstrated that real differences in interests exist between the administration group (mean = 41.20) and the preaching group (mean = 47.57), the counseling group (mean = 49.70), and the teaching group (mean = 46.85). Real differences also exist between the pastoring group (mean = 43.70) and the counseling group (mean = 49.70).

Analysis of variance produced probabilities indicating significant differences between the administration group and the preaching group, the administration group and the counseling group, the administration group and the teaching group, and the preaching group and the pastoring group (Table 15). Thus, using two methods, more significant differences were found with the administration group than with any of the other preference groups. Perhaps one reason for this finding is that administration is often more involved with planning, budgeting, and programming; whereas, the other preference groups are all more involved in working with people on a routine basis.

Using the hit-rate method, the administration preference group had the poorest combined percentage of

Excellent and Moderate Hits (63.63%). The pastoring group was only slightly better (66.68%). The other three preference groups all scored over 80% combined percentage of Excellent and Moderate Hits. It might be expected that the administration preference group would score lower on the Minister (male) Occupational Scale than would the counseling, teaching, and preaching preference groups for reasons previously discussed. However, it is difficult to explain why the pastoring group scored lower on the Minister scale than did the preaching, counseling, and teaching preference groups. Perhaps the low Ns in these groups is an important factor.

It is important to remember that in spite of the differences in the hit rate between the groups, the results support the concurrent validity of the Minister (male) Occupational Scale for all preference groups. Even the lowest rate of 63.63% (administration) is higher than the hit rate of other studies (Worthington & Dolliver, 1977) which were utilized to demonstrate the concurrent validity of other Occupational Scales.

Implications and Recommendations

The findings of this study have implications in two major areas: practice and future research.

Practice

The present study has implications for the private practice of psychology, school counselors, the leadership

of the SDA church and of other denominations. The study revealed that there are significant differences between the interests of SDA ministers and the SCII criterion group of ministers. It was discovered that there are significant differences between SDA seminarians and the SCII criterion group on the General Occupational Themes but not on the Minister (male) Occupational Scale. It was shown that SDA ministers and seminarians have significantly different interests. Finally, it was demonstrated that persons who prefer a certain type of ministry have different interests than do persons who prefer other types of ministry. As a result of these findings the following implications are offered:

1. The professional working in vocational counseling must be aware of the fact that denominational differences do exist on the SCII. In counseling individuals aspiring to the ministry in a specific denomination, it would be advisable to utilize the norms for that denomination as they become available. However, it is also meaningful that the present study has provided general evidence for the concurrent validity of the SCII for SDA seminarians and ministers. In sum, with due caution the SCII criterion group norms for ministers may be used in the vocational counseling of potential seminarians and ministers of various denominations until norms for these denominations become available.

2. The professional who is involved in vocational counseling with clients who express an interest in the Seventh-day Adventist ministry would be advised to utilize the SDA norms (Table 5) rather than the SCII criterion group norms. It is suggested that the practitioner may find the norms for SDA ministers more useful for this purpose than the norms for SDA seminarians. Persons in the SDA minister sample have given some evidence of success in their work as demonstrated by ordination and length of experience. The seminarians have yet to prove themselves in the ministry and past experience indicates that many of them will eventually work in a profession other than the ministry.

3. The leadership of the SDA seminary and local SDA conferences may find the present research helpful in making the SCII an additional tool to be used in the selection of candidates for the seminary and the ministry. Although interests are only one factor to be considered in the selection process, the present study provides some objective data concerning the patterns of interests of SDA seminarians and ministers.

4. The finding that persons who prefer a certain type of ministry have interests that differ significantly from the interests of persons who prefer other types of ministry has implications that could be utilized by denominational leaders. Utilization of these findings could be helpful in the placement of ministers in the type

of ministry that correlates most positively with the inventoried interests of the individual.

Future Research

Although the study revealed significant findings, there is need for further research. Some suggested areas of study are:

1. A study of the concurrent validity of the SCII for seminarians in general may prove to be important. This study could provide support for the concurrent validity of the SCII for seminarians as a general group, as well as provide norms for the seminarians of different denominations.

2. It is suggested that ministers from several other denominations be the target for future research, allowing a comparison with the results of the present study.

3. On the basis of the data generated by the present study, the writer plans to publish norms on all SCII scales for SDA seminarians and ministers. If other researchers would publish complete norms for other denominations, these norms would provide a simple comparison as well as a useful vocational guidance tool.

4. A potential research topic which emerged during the present study is to compare the present job description of the minister to his preferred type of ministry and correlate the findings with job satisfaction.

If a minister is working in the type of ministry which he prefers, and not merely to which he has been assigned, is he happier about his work?

5. The finding that preferred type of ministry makes a significant difference in inventoried interests deserves more study. Other studies are needed which would provide for larger samples in each preferred type of ministry group. It also would be helpful to compare the groups on additional SCII scales to determine if differences exist in the expected direction. For example, Does the preaching group score higher on specific Occupational Scales involving saleswork than do the other preferred type of ministry groups? Does the administration group score higher on specific Occupational Scales involving various types of administration than do the other groups? Are the interests of the preaching group more like those of a salesperson or a minister? Are the interests of the administration group more like those of a minister or an administrator?

6. Further research is warranted regarding the nature of and the reasons for the differences in interests between SDA seminarians and ministers. The present study has demonstrated that certain differences do exist. A follow-up study might address questions such as: (a) Are these differences a function of age, experience, or other factors? (b) Are differences between the groups indicative of a shifting of interests within the SDA ministry?

APPENDICES

APPENDIX A
CORRESPONDENCE

Request for Authorization Letter
North American Division of SDA Authorization Letter
NAD Introduction Letter to Ministers
NAD Introduction Letter to Seminarians
Cover Letter to Ministers
Cover Letter to Seminarians
Follow-up Letter to Ministers
Follow-up Letter to Seminarians
Letter Correcting SCII Minister Norms

341 E. Washington
Berrien Springs, MI 49103
September 30, 1985

Robert Dale
North American Division of SDA
6840 Eastern Avenue, N.W.
Washington, D.C. 20012

Dear Bob,

Recently my dissertation committee approved my proposal topic. I wanted to research a topic that has some practical value and I think this one meets that criterion. Since an outline is enclosed it won't be necessary to make too many comments regarding the topic, except to say that I feel it could be of real interest to the North American Division and the Ministerial Association. You may be curious regarding the instrument--The Strong-Campbell Interest Inventory. The SCII is considered to be a non-intrusive instrument that compares the interests of the subject to the interests of people who are successful and happy in their particular careers. It has been widely used for many years in vocational counseling and is currently in use in SDA colleges and universities.

Originally I had considered studying the interests of seminary students and the ministers of only one conference. However, as my committee pointed out, in order for the results to be generalizable to the NAD, a random sampling of ordained ministers from throughout the division is required. This requirement will make my study more useful but it does have some practical difficulties. Thus, I am approaching you with the following requests.

One, I would like NAD permission to mail the SCII to randomly selected ministers throughout the United States. As a follow-up, these ministers will be offered a scored printout of their personal results.

Two, I am requesting a special grant to cover the extra costs of this study. In order to have a representative sample I will need approximately 400 subjects. The SCII will cost \$3.00 each to score. An additional extra cost is the additional mailings involved. A conservative estimate of this cost is \$100. Thus I am requesting a grant of \$1300. Of course I will still be paying for the

Bob Dale (continued)

usual costs incurred in doing a dissertation. In addition to the \$1300, it will cost me around \$2000.

Three, would you or someone in NAD be kind enough to write a cover letter that would be included with the material I send to the ministers. It is important for subjects to understand the legitimacy of the project and that the NAD is interested in the results.

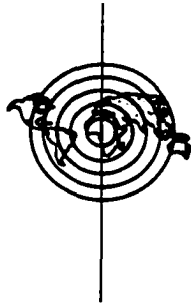
If you need further information you can reach me at the Child and Adolescent Unit at Battle Creek Adventist Hospital. Meanwhile I shall be anxious to hear from you.

Sincerely yours,

Lloyd Erickson

XC: Dr. Floyd Bresee

Office of the President
NORTH AMERICAN DIVISION



General Conference of

Seventh-day Adventists

CHURCH WORLD HEADQUARTERS: 6840 EASTERN AVENUE NW, WASHINGTON, DC 20012 USA
TELEPHONE: (202) 722-6000 • CABLE: ADVENTIST, WASHINGTON • TELEX: 440186

December 10, 1985

Lloyd Erickson
341 E. Washington
Berrien Springs, MI 49103

Dear Lloyd:

At a recent NAD Officers meeting it was voted to:

1. Grant you permission to mail the Strong-Campbell Interest Inventory to selected ministers.
2. Send a covering letter from NAD as per your request.
3. Cover up to \$1300 of costs, on the recommendation of Roger Dudley, Fred Thomas, and myself.

The small committee has now met, and we are recommending to take from FAA funds the \$1300 to cover these costs. We do need from you, specifically what you would like in the covering letter, and we will be happy to put this together for you.

I believe you wanted Elder Bradford to write this letter, but if you could send us a copy of what you would like sent out, we shall try to comply. Thank you for following through on this, and also we would appreciate receiving a bill through Roger Dudley for the amount needed to cover the cost of preparing and sending these letters.

May the Lord direct you in this particular study. Naturally, we shall be interested in the results when they are available.

Most cordially your friend,

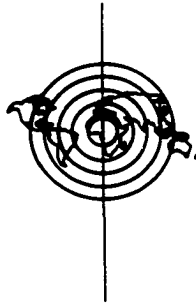
Bob

Robert L. Dale
Assistant to the President

sp

xc: F. Thomas, R. Dudley, G. Crumley

Office of the President
NORTH AMERICAN DIVISION



General Conference of

Seventh-day Adventists

CHURCH WORLD HEADQUARTERS: 6840 EASTERN AVENUE NW, WASHINGTON, DC 20012 USA
TELEPHONE: (202) 722-6000 • CABLE: ADVENTIST, WASHINGTON • TELEX: 440186

December 26, 1985

Pastors
North American Division

Dear Pastor:

Elder Lloyd Erickson is involved in making a study regarding the Strong Campbell Interest Inventory packet, and its results as it impacts on Seventh-day Adventist seminary students. The reason that this project is so important for the future of our church here in North America, is that the results from this study will help in the vocational counseling of young people who are considering a life of service in the Adventist ministry.

Because of the urgency of this study and of its wide importance, I would appreciate your taking the thirty minutes, or so, required to complete the SCII and the short questionnaire as quickly as possible, and returning it to Elder Erickson at Andrews University.

Thank you so much for taking the time to help us in this particular project. May the blessings of the Lord attend your work.

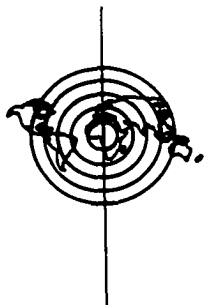
Sincerely,

C. E. Bradford
C. E. Bradford

sp

enclosures

Office of the President
NORTH AMERICAN DIVISION



General Conference of
Seventh-day Adventists

CHURCH WORLD HEADQUARTERS: 6840 EASTERN AVENUE NW, WASHINGTON, DC 20012 USA
TELEPHONE: (202) 722-6000 • CABLE: ADVENTIST, WASHINGTON • TELEX: 440186

December 26, 1985

Seminarians
Andrews University
Berrien Springs, MI 49104

Dear Seminarian:

Elder Lloyd Erickson is involved in making a study regarding the Strong Campbell Interest Inventory packet, and its results as it impacts on Seventh-day Adventist seminary students. The reason that this project is so important for the future of our church here in North America, is that the results from this study will help in the vocational counseling of young people who are considering a life of service in the Adventist ministry.

Because of the urgency of this study and of its wide importance, I would appreciate your taking the thirty minutes, or so, required to complete the SCII and the short questionnaire as quickly as possible, and returning it to Elder Erickson at Andrews University.

Thank you so much for taking the time to help us in this particular project. May the blessings of the Lord attend your work.

Sincerely,

C. E. Bradford

sp

enclosures

341 E. Washington
Berrien Springs, MI 49103
(616) 471-9030
January 19, 1986

Dear Pastor

Congratulations! You have been selected to participate in a project which will be of much value to the SDA ministry. A sample of 300 ministers and 100 seminarians are being asked to participate in this study. A central purpose of this research is to determine the value of the Strong Campbell Interest Inventory (SCII) in counseling academy and college students regarding potential careers in the SDA ministry. The SCII is currently in broad use in SDA schools and the results of this study will aid counselors in the vocational guidance process for prospective ministers.

I am asking you to complete the enclosed SCII and brief questionnaire. It will only take you about 30 minutes. The SCII is an interest inventory. It is not a personality test. It is an instrument which measures and categorizes the interests of people.

Please note the following items regarding this study:

- (1) Both the SCII and questionnaire must be completed and returned in the enclosed envelope for both portions to be of value.
- (2) If you desire to participate anonymously, please feel free to do so. Simply include all the requested information except your name. This study is concerned with the results of the entire sample and not the interests of an individual. Your completed forms are just as valuable without your name. By the way, the identification number on the instruments is merely an aid to help me follow-up delinquent participants. When your material has been returned those numbers will be destroyed.
- (3) You may wish to receive a computer profile of your interests, which compares your responses to groups of individuals in 207 occupations--including the ministry. This profile is usually of considerable interest. To receive this profile, simply include your name on the SCII and questionnaire, and include a stamped self-addressed envelope when you return the inventories to me.

(over please)

(4) Please mail your completed SCII and questionnaire no later than February 7, 1986.

I am an ordained SDA minister with 19 years of denominational employment. I have served as a pastor, academy Bible teacher, conference director of youth ministries, superintendent of education, and academy principal. I am currently on leave to complete a PhD in Counseling Psychology at Andrews University. I hope to complete my program by August, 1986. Therefore, I urge you to take the few minutes necessary to complete the SCII and questionnaire. Your participation is vital to this study and to future SDA ministers. If you have any questions, please write or telephone (616) 471-9030.

Thank you very much for your time and participation!

Sincerely,

Lloyd Erickson

PS: Remember to include a stamped self-addressed envelope if you wish to receive a computer profile of your interests as measured on the SCII.

341 E. Washington
Berrien Springs, MI 49103
(616) 471-9030
January 19, 1986

Dear

Congratulations! You have been selected to participate in a project which will be of much value to the SDA ministry. A sample of 300 ministers and 100 seminarians are being asked to participate in this study. A central purpose of this research is to determine the value of the Strong Campbell Interest Inventory (SCII) in counseling academy and college students regarding potential careers in the SDA ministry. The SCII is currently in broad use in SDA schools and the results of this study will aid counselors in the vocational guidance process for prospective ministers.

I am asking you to complete the enclosed SCII and brief questionnaire. It will only take you about 30 minutes. The SCII is an interest inventory. It is not a personality test. It is an instrument which measures and categorizes the interests of people.

Please note the following items regarding this study:

(1) Both the SCII and the questionnaire must be completed and returned in the enclosed envelope for both portions to be of value.

(2) If you desire to participate anonymously, please feel free to do so. Simply include all the requested information except your name. This study is concerned with the results of the entire sample and not the interests of an individual. Your completed forms are just as valuable without your name. By the way, the identification number on the instruments is merely an aid to help me follow-up delinquent participants. When your material has been returned these numbers will be destroyed.

(3) You may wish to receive a computer profile of your interests, which compares your responses to groups of individuals in 207 occupations--including the ministry. This profile is usually of considerable interest. To receive this profile, simply include your name on the SCII and questionnaire. I will arrange an evening when I will interpret profiles for the entire seminary group. If you are unable to attend this one hour session, I will place your profile in your mailbox.

(over please)

(4) Please give your completed forms to Pam Swanson no later than January 31, 1986.

I am an ordained SDA minister with 19 years of denominational employment. I have served as a pastor, academy Bible teacher, conference director of youth ministries, superintendent of education and academy principal. Currently I am on leave to complete a PhD in Counseling Psychology at Andrews University. I hope to complete my program by August, 1986. Therefore, I urge you to take the few minutes necessary to complete the SCII and questionnaire. Your participation is vital to this study and to future SDA ministers. If you have any questions, please write or telephone (616) 471-9030.

Thank you very much for your time and participation!

Sincerely,

Lloyd Erickson

PS: Remember to include your name if you want to receive a computer profile of your interests.

341 E. Washington
Berrien Springs, MI 49103
February 15, 1986
(616) 471-9030

Dear Elder

A few weeks ago I requested your participation in a study I am doing on the interests of SDA ministers and seminarians. At that time I mailed you a letter from Elder Bradford, a letter of information and instruction from me, a one-page questionnaire, a Strong-Campbell Interest Inventory, and a self-addressed stamped envelope.

To date I have not received your completed forms. Although I know you are very busy, I desperately need your help. I am recontacting you specifically because you are crucial to my research. Perhaps this note will serve as a reminder and you will now take time to finish the SCII and questionnaire.

By the way, each SCII costs \$3.00 whether or not it is used. With a total of 400 participants, this is an expensive project. I sincerely hope that you will complete and mail your forms this week. Your participation is vital to the success of this research which will have an impact on prospective ministers.

Thank you very much for your cooperation.

Sincerely,

Lloyd Erickson

PS: If our letters crossed in the mail, thank you for participating in this important project.

341 E. Washington
Berrien Springs, Mi 49103
February 2, 1986
471-9030

Dear

A few weeks ago I requested your participation in a study I am doing on the interests of SDA seminarians and ministers. At that time I placed in your mailbox a letter from Elder Bradford, a letter of information and instruction from me, a one-page questionnaire, and the Strong-Campbell Interest Inventory.

To date I have not received your completed forms. No doubt you are very busy with your study and work programs and have just let this project slide for a little while. Perhaps this note will serve as a reminder and you will now take time to finish the forms.

By the way, each SCII costs \$3.00 whether or not it is used. With a total of 400 invited participants, this is an expensive project.

I sincerely hope that you will complete your forms this week. Please give them to Pam Swanson when you are finished with them. Your participation is vital to the success of this research.

Thank you very much for your cooperation.

Sincerely,

Lloyd Erickson



UNIVERSITY OF MINNESOTA
TWIN CITIES

Center for Interest Measurement Research
Department of Psychology
Elliott Hall
75 East River Road
Minneapolis, Minnesota 55455

May 20, 1986

Lloyd Erickson
341 E. Washington
Berrien Springs, Michigan 49103


Dear Lloyd:

This letter is to document our telephone conversation last month regarding the Strong-Campbell Interest Inventory Occupational Scale for male ministers.

Table 6-2 in the 1985 Manual for the SVIB-SCII contains an error: the mean score of male Ministers on the Social Theme should be 60.

Good luck with your research.

Sincerely,


Jane L. Swanson
Research Assistant

APPENDIX B
QUESTIONNAIRES

Interest Questionnaire for Ministers
Interest Questionnaire for Seminarians

INTEREST QUESTIONNAIRE
FOR SDA MINISTERS

Please answer every item. It is very important that you do so. The only optional item is your name.

1. Name (optional) _____
2. Present job title _____ 3. Age _____
4. How many years have you been employed as an SDA minister? _____
5. How many years of formal education have you completed?

Please answer the following questions by placing the number for your most appropriate answer in the box next to each question.

6. What is your ethnic background?

	1 Black 2 Caucasian 3 Hispanic 4 Oriental 5 Other (please specify) _____
--	--

7. Highest degree completed?

	1 BA 2 MA 3 M DIV 4 Other (please specify) _____
--	---

8. How satisfied are you with your work as a minister?

	1 Not at all satisfied 2 Somewhat dissatisfied 3 Satisfied 4 Very satisfied 5 Extremely satisfied
--	---

9. If you had complete freedom to choose the type of ministry in which you would work, which of the following would be your first choice?

	1 Administration 2 Preaching/public evangelism 3 Counseling 4 Teaching religion or Bible classes 5 Pastoring/shepherding
--	--

(Now begin the SCII by reading the marking instructions.)

INTEREST QUESTIONNAIRE
FOR SDA SEMINARIANS

Please answer every item. It is very important that you do so. The only optional item is your name.

1. Name (optional) _____
2. Age _____
3. How many years have you been employed as an SDA minister? _____
4. How many years of formal education have you completed?

Please answer the following questions by placing the number for your most appropriate answer in the box next to each question.

5. What is your ethnic background?

<input style="width: 40px; height: 30px;" type="checkbox"/>	1 Black 2 Caucasian 3 Hispanic 4 Oriental 5 Other (please specify) _____
---	--

6. Highest degree completed?

<input style="width: 40px; height: 30px;" type="checkbox"/>	1 BA 2 MA 3 Other (please specify) _____
---	--

7. How satisfied are you with your seminary program?

<input style="width: 40px; height: 30px;" type="checkbox"/>	1 Not at all satisfied 2 Somewhat dissatisfied 3 Satisfied 4 Very satisfied 5 Extremely satisfied
---	---

8. If you had complete freedom to choose the type of ministry in which you will work, which of the following would be your first choice?

<input style="width: 40px; height: 30px;" type="checkbox"/>	1 Administration 2 Preaching/public evangelism 3 Counseling 4 Teaching religion or Bible classes 5 Pastoring/shepherding
---	--

(Now begin the SCII by reading the marking instructions.)

APPENDIX C
RAW DATA

RAW DATA
(N = 264)

The first digit indicates present occupation (1 = Minister, 2 = Seminarian). The next three digits constitute an identification number.

The next block consists of the following information:

First two digits = Age
 Next two digits = Years employed as a minister
 Next two digits = Years of formal education
 Next digit = Ethnicity (1 = Black, 2 = Caucasian, 3 = Hispanic, 4 = Oriental, 5 = Other)
 Next digit = Highest degree completed (1 = BA, 2 = MA, 3 = MDIV, 4 = BD, 5 = EdD, 6 = PhD, 7 = DMIN, 8 = ThD, 9 = MPH, 0 = None)
 Next digit = Preferred type of ministry (1 = Administration, 2 = Preaching/Public Evangelism, 3 = Counseling, 4 = Teaching religion or Bible classes, 5 = Pastoring/shepherding)

The next block of data consists of SCII General Occupational Theme standard scores as follows:

First two digits = Realistic theme
 Next two digits = Investigative theme
 Next two digits = Artistic theme
 Next two digits = Social theme
 Next two digits = Enterprising theme
 Next two digits = Conventional theme

Finally, the last block of data contains information on the SCII Minister (male) Occupational Scale and Basic Interest Scale as follows:

First two digits = Minister (male) standard score (OS)
 Next digit = Rating on Minister scale (OS)
 (1 = standard score > 44
 2 = standard score from 40 to 44
 3 = standard score < 40)
 Last two digits = Religious Activities standard score (BIS)

Blanks indicate missing data.

1006	542420351	426038665058	44264
1009	461418231	646051655147	45166
1011	551414205	715752625865	35364
1014	501012205	554136583748	30368
1016	533218221	403036615548	42266
1017	462117225	665134585171	34362
1018	471517221	514239696764	51168
1019	462216211	675750696147	59168
1020	310916215	645734634251	51168
1021	583418225	483136493847	33366
1024	452117225	565259452941	45162
1025	391416215	452929413334	22364
1027	642719244	395555594658	60166
1028	361120233	576358703951	53159
1029	603316211	586248636359	47168
1030	341019234	454732553750	45164
1032	551113205	574341535357	42262
1034	33111923	433733634447	43266
1035	492016211	463739596750	36362
1036	572518221	645843545571	30364
1037	603416265	533533464330	18353
1039	381814312	535161553444	51166
1040	350818233	574853703835	57168
1041	401215313	513541513340	30364
1042	461216315	643628636540	30368
1043	320717322	414550634852	50166
1046	381219235	605539665369	49168
1049	572217215	554533534740	38368
1050	543218215	634560576654	48166
1053	400819235	576548665666	55166
1054	370818232	485045656162	54166
1056	482517221	715541625858	42264
1061	63251718	394241584241	47166
1062	522116315	503732513437	27364
1063	290620131	555453535555	46164
1067	391119132	676161676052	57168
1068	562517215	373742615642	50166
1069	571918221	545048675045	45166
1070	401620231	585456614347	51168
1071	492820221	515056707075	59168
1072	431718215	645739614750	48164
1075	482418221	615635583251	40266
1077	5009182 4	645043515057	30359
1079	452418221	523946655548	48168
1080	361220225	506056594647	49164
1081	532118234	685643515042	31364
1082	573018225	524450575255	42266
1084	653717225	544430483737	29357
1086	613717225	415153635142	57166
1088	381421271	505435615852	47164
1089	401119235	493634463734	26362
1090	603517221	635033545551	28368
1091	512719235	615846546071	40264

1092	553412212	504849463944	31362
1093	461218231	506141514454	35366
1094	541917225	665147656252	50168
1096	401718235	605748553354	47168
1097	492717222	415551553750	48164
1098	532018225	293128384448	26359
1099	351119234	686758585559	56164
1100	482220234	324148594440	56168
1103	522718224	574446664747	49166
1104	330517231	545644666861	43268
1108	573018231	564258554251	43266
1109	481719231	596451696164	52166
1111	563316212	422929403438	26364
1112	421718235	555450676751	60168
1113	522517215	343849483642	47166
1114	341219234	656253584352	42266
1115	421819244	634347544659	40262
1116	321018231	485741535265	43264
1118	331219235	695145595148	42266
1121	522517222	323648383127	38359
1122	623016215	636045615361	43266
1123	633917215	504355545651	42266
1124	603017214	575060512842	48162
1125	331016211	544849624252	42266
1126	502518122	646353696361	51168
1127	421920235	535042574650	43268
1129	401317225	514938595138	42266
1130	421619235	656245575561	36366
1132	593116215	605445574357	40268
1133	633016312	525647574457	49166
1134	572917221	495048494155	38362
1136	583418322	544348665158	51166
1137	431518235	493843585548	38366
1138	431921275	555652595355	49164
1139	563318221	585656494266	43266
1140	563117225	585139533747	36366
1142	391519235	434232504141	29366
1144	562020415	525047664451	40266
1148	623216315	465660585651	51164
1150	401417125	454335494138	37359
1151	593515331	525240534841	34366
1153	624016215	595243625255	46166
1155	350817222	425158574747	53166
1161	412018231	514338503152	26366
1163	320918221	483843505642	26353
1165	583419265	605249584744	48164
1166	653014405	413133412933	23364
1169	380717235	636963573752	57168
1171	502216211	606256624652	55168
1172	521516215	574545695051	51168
1173	330922235	364853503937	43260
1175	371119233	454445636344	40264
1177	522818324	416048623852	53168
1180	593522275	485034483640	28362

1181	572821461	656552655855	49168
1182	623020251	606140665554	50164
1183	623018225	545030585148	38364
1184	391618115	385149676861	53168
1186	573517221	505031505842	24359
1187	401317512	414234614851	42268
1188	58 18221	442929443648	26359
1189	401020124	446252533938	52168
1190	623916215	434140515650	35364
1191	593417211	585832616059	40266
1192	643718125	405846514445	34366
1193	532620235	513835503748	45164
1195	533117221	433132453631	28364
1197	501818231	575134707465	42266
1198	532817225	514748576345	49166
1199	320816315	392830593442	38368
1200	573118221	655442465548	31364
1202	552217212	433540443441	33364
1205	634016212	596144627147	47166
1208	341216215	534149664165	47168
1209	623616215	605644584861	41262
1211	481416212	716763667472	55168
1212	623517422	604459596144	46164
1213	381316312	434443654250	53168
1219	532515304	555753585352	51166
1220	391017235	653643514254	36364
1221	310819231	536252624466	47160
1223	330916215	505644614138	39366
1227	320919235	656457585666	54164
1228	481219432	375535484645	45164
1229	633516215	594540634635	40268
1230	431920234	484930513437	31362
1231	573418221	524845655054	43268
1233	431516214	615843545568	45164
1234	411719271	375248494742	49164
1236	482017215	605241705857	50168
1237	431423235	655634663955	38366
1238	573017211	585044706666	52168
1239	321116211	373427456247	27357
1240	391217215	564935665864	42268
1242	633718225	543633734450	41268
1243	532717225	433729443440	26364
1244	583418225	575647594757	50168
1246	633416215	543829584442	36364
1248	330620235	464930554442	39362
1250	654016211	543441444671	32362
1252	411018225	513732533741	38357
1253	371518224	395036615347	43262
1254	40192423	665745616364	47166
1255	523018221	525046485544	26353
1256	330617212	524550625238	56166
1257	330619234	535855625352	57168
1258	462217215	535545655657	46166
1259	411318225	413832453142	34362

1260	612717215	664442584457	37366
1261	592017225	583825515058	32364
1262	36141721	645655586658	42266
1263	602216215	463232413141	21362
1265	6018172 1	535032514859	29366
1266	290417233	393947574835	42262
1267	331217312	464141554235	44264
1268	381716215	635131494465	20368
1271	350917212	636759596557	56166
1273	361419235	716760747471	62168
1276	371219235	453644635551	38368
1277	381216315	585856715875	56168
1278	633418225	593641553448	32362
1279	654118225	646155746264	60168
1280	440916212	594852624748	41266
1281	421019335	605849595771	47162
1282	450516212	585043545559	31360
1284	491518225	563850585541	49168
1285	431218233	585149634648	53168
1288	492018235	524250625144	47168
1290	431818221	666338595654	36364
1294	563316215	514543705754	55168
1296	381418222	584346624740	39368
1298	612218225	483841657437	55166
1299	613919232	513940553940	44262
1300	391614305	444233514135	30368
1998	450712205	525252625345	45166
1999	603820262	646157636766	59166
2002	240020211	504347593454	38368
2007	350017315	635256626047	45166
2008	280318215	635541655064	45168
2009	360817314	566342625364	44266
2010	270017211	585636633947	47168
2011	250017115	456333513242	38366
2012	250416114	525053635364	47166
2014	300316312	564743635158	41268
2016	230117215	403246664435	51168
2017	260116115	616551705355	53168
2018	250217211	575153517053	35357
2019	260318212	535253624151	46166
2021	260217215	484750665048	50168
2023	290116315	525155627161	49168
2024	270017211	423836594247	40266
2027	240316215	544850664852	56168
2028	220216315	425039573130	47168
2030	250016223	666947743745	53168
2033	220017215	534947593235	45168
2036	400118115	525265656155	55166
2038	260016215	515556595157	56166
2040	230218211	373449506652	36364
2041	280418315	536060675154	59166
2042	250116214	534148544459	42264
2046	260418215	514258664244	57164
2049	250118215	655747695350	57168

2054	250316115	353431533938	33366
2056	260017212	525656625042	51164
2057	290116112	706345716161	51168
2060	270020214	494758693935	58168
2061	320317115	636247677066	49166
2066	371118214	616841735769	51168
2069	320517411	433856653141	47168
2070	300217211	585853715054	60166
2071	240117215	554942544250	43266
2072	310118213	416162583330	55162
2074	240317112	696863695565	59168
2075	240017215	535152614841	44268
2076	240017215	564247715252	53168
2077	300018214	554950544445	38366
2078	340017212	556164664345	66168
2081	260418215	483633665552	42264
2082	380026262	545850557461	43264
2085	360017115	596961696766	62168
2087	260316115	424735615044	34364
2088	260016215	534844614342	39362
2090	260018112	414956675037	47168
2091	310817215	403734553440	43268
2092	310018215	716953703844	57168
2093	230016221	565842735362	51168
2095	330016215	443846623345	44268
2097	270117211	445840553761	41260
2099	280217215	363844634638	51168
2100	250016214	616064706561	61168
2102	280116115	543443635257	40264
2104	230116212	544962656145	49168
2106	300118215	595435634258	51166
2109	270417212	505047625651	56164
2110	250218215	645849624352	52166
2112	220016215	373243543237	50162
2113	250218212	645839664744	39366
2117	240117213	613553716845	60168
2119	320020215	695747636051	46166
2125	240117314	554330554251	34368
2126	260317215	656251715851	55166
2127	270218223	303762655231	54166
2130	260417312	716356716766	49168
2131	280216215	565559704447	62168
2134	220016215	583832554251	32368
2136	250218225	464755675248	61168
2137	250416215	465058574345	53168
2139	240219214	555864635155	54168
2140	260118215	395862513747	43268
2141	340116212	615748745148	56168
2145	270116215	716964746273	68168

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1986 Ph.D. Counseling Psychology (expected August, 1986)
Andrews University, Berrien Springs, Michigan

All classwork and comprehensive examinations are completed. Expect to complete required 2,000 hour internship and dissertation by August, 1986.

Dissertation Title: Concurrent Validity of the Strong-Campbell Interest Inventory for Seventh-day Adventist Seminarians and Ministers.

Major Advisor: Frederick A. Kosinski, Jr., Ph.D.

1971 M.A. Religion
Andrews University, Berrien Springs, Michigan

1966 B.A. Major: Theology
Minors: Secondary Education
Greek
Southern Missionary College, Collegedale, Tennessee

AWARDS AND ACHIEVEMENTS:

- 1966 President of Student Association, Southern College
Who's Who in American Colleges and Universities
Graduated with departmental honors
Elected to Alpha Mu Gamma (foreign language club)
- 1969 Denominational Certification for teaching religion
- 1971 Professional Certification for teaching religion
Ordained to SDA ministry

EMPLOYMENT HISTORY:

September, 1985 to August, 1986: Pre-doctoral Psychology Intern, Battle Creek Adventist Hospital, Battle Creek, Michigan

Worked as an intern psychologist on an inpatient adolescent unit and an adult unit in a psychiatric hospital. Duties included preadmission evaluations, psychological testing, individual therapy, family therapy, and group therapy.

June, 1984 to July, 1985: Seminar Coordinator, Institute of Church Ministry, Andrews University, Berrien Springs, Michigan

Planned and coordinated professional growth workshops sponsored by the Institute. Seminars included week-long workshops for administrators and upper level management consultants. Responsibilities also involved developing a five-year curriculum for the Administrator Seminars and also for the Professional Growth Seminars.

August, 1983 to May, 1984: Graduate Assistant for Educational and Counseling Psychology, Andrews University, Berrien Springs, Michigan

Assisted two professors in their class preparations and research projects. One major responsibility during this time was to develop a 250-page course syllabus for the class "Psychology of Character Development" which is currently in use at Andrews University. It is planned for this project to develop into a textbook.

August, 1981 to July, 1983: Principal, Okanagan Adventist Academy, Kelowna, British Columbia, Canada

Responsible for the normal administrative duties of a principal. The school is a coeducational day school with grades K-12. In addition to administrative tasks, I taught a class in journalism and another which focused on personal growth and development.

June, 1975 to July, 1981: Director of Youth Activities, Nebraska Conference of Seventh-day Adventists (SDA), Lincoln, NE.

Responsibilities included coordinating a great variety of activities for the children and adolescents in the church's college, three high schools, and forty elementary schools in the state. This included operating 3 months of summer camps for various age groups, children from low income families, and blind children. During the summer months as many as 70 high school and college students worked on the camp staff. Another primary responsibility was training adults in skills that would facilitate their work with various age groups. During this time, experience was gained in conducting group sessions and in counseling individuals.

June, 1972 to May, 1975: Director of Youth Activities and Superintendent of Education, Manitoba-Saskatchewan Conference of SDA, Saskatoon, Saskatchewan, Canada

Worked as coordinator of activities for children and youth for the SDA church in the provinces of Manitoba and Saskatchewan in addition to being Superintendent of Education of the five church schools in the area. Further experience was gained in group work through serving as a facilitator for the Five Day Plan to Stop Smoking. Twelve plans were conducted with approximately 500 participants. I also supervised 15 other facilitators who conducted 150 Five Day Plans with about 3,000 attendees.

June, 1969 to May, 1972: Teacher, Georgia Cumberland Academy, Calhoun, Georgia

Taught courses that focused on personal growth and development, marriage and family, and career exploration and planning. Provided career and personal counseling services for the students in the school (grades 9-12). Developed and coordinated a program in which students became actively involved in the activities and progress of the community.

August, 1967 to May, 1969: Pastor, Louisville, Kentucky

Provided pastoral services and care. Additional responsibilities included premarriage counseling, marriage and family counseling and grief therapy.