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Three Year Follow-Up of Women Religious: Personality Factors, Vocational Interests, Personal Orientation

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January 17, 1973

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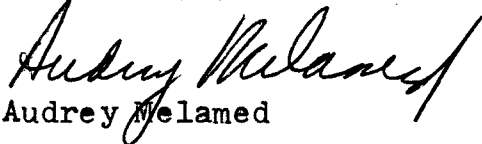
Dear Sr Ann Ida:

I am most grateful for all of the assistance given me by the Sisters of Charity of the Blessed Virgin Mary in preparing my master's thesis and especially Sr Mary de Cock and Sr Frances Shea.

Since the research concerns women religious and was originated in the Office of Research by Dr Gloria Lewis at Mundelein College and was completed through Dr Manuel Silverman of the Counseling Service, I would like the college to have a copy of the thesis.

My thanks again to all the BVM's for their help and for the opportunity as a non Catholic lay woman to learn about women religious and tear down any stereotypes I might have had.

Very truly yours,


Audrey Melamed

Survey cites vast changes in sisters

CHICAGO (RNS) — Profound changes in the personalities of Catholic women religious, stemming from renewal brought about by Vatican II, have begun to materialize in the direction of increased self-awareness and self-sufficiency, according to a study at Mundelein College.

Not only has the college, conducted by the Sisters of the Blessed Virgin Mary (BVM), been turned around — from a self-contained, authoritarian institution to a flexible, open center of learning — but the personalities of the sisters have undergone “striking and significant” changes.

The Mundelein study, conducted by a research team from Loyola University and Mundelein College, is one of only a few studies which examine the personalities of women religious at two points in time for a “before and after” comparison.

Between 1969 and 1972, the study claimed, the personalities of the nuns shifted in the direction of increased self-awareness and self-sufficiency. They became, in three years, “more self-confident, cheerful and expedient . . . they had fewer fears,” the study said.

According to the research, which will be published in the winter (February) edition of *Review of Religious Research*, the general trend among the nuns seemed to be toward a “more self-controlled behavior and toward a greater regard for others.”

In the religious life, the study maintained, the individual is no longer required to maintain absolute self-control, but a “greater leeway” for self-expression is provided.

The study went on to note that as the sisters interacted more freely among themselves and stepped out of their rather sheltered environment, they seemed to accept themselves, also, as more important and more useful.

At the same time, the study observed, the sisters became “more conservative” toward institutions, such as the church, and “more respectful of established ideas.”

It may be, the researchers suggested, that as their lifestyles became less restricted, women religious no longer attempted to radically alter their environments, but instead integrated and assimilated changes as they occurred.

When you put your money in . . .

some one else . . .

Slot machine: The cover of the Hartford, archdiocese boycott supplement.

Two Marriage Encounters deny ill will exists

By Dawn Gibeau
Associate Editor

THE MARRIAGE ENCOUNTER movement in the United States has evolved into two main branches, but the differing approaches are not negative differences and no ill will exists between the two branches, according to leaders of each.

Headquarters of one branch is the national Marriage Encounter office in Chicago. The other branch centers around Marriage Encounter of New York, Inc.

Question about the relationship of the two groups arose after a meeting of the New York group in New Orleans. Some people at the meeting expressed criticism of groups affiliated with the national office in Chicago.

However, Carmelite Father Jake Buettner of the national Marriage Encounter office said last week that New York and Chicago groups have met twice since October and

ship positions in New York Marriage Encounter.

“Marriage Encounter is a shared experience. Only a married couple can have this experience. Or a Catholic experience.”

The difference between the Chicago and New York groups, explained, are the techniques used.

Chicago participants are encouraged to put one word on one wall and one word on the other wall to describe themselves to their partner.

Couples use each day spend 15 minutes writing to each other about a topic, then 10 minutes reading what they wrote.

Gallagher said the groups “have an urgent

THREE YEAR FOLLOW-UP OF WOMEN RELIGIOUS
ON THE 16 PERSONALITY FACTOR QUESTIONNAIRE 1,2,3

Audrey R. Melamed, Manuel S. Silverman, & Gloria J. Lewis

Loyola University of Chicago

Abstract

Sixty two women religious were administered the 16 Personality Factor Questionnaire in 1969 and again in 1972. The Pearson product moment correlations ranged from .18 to .77: the mean correlation was .36. Statistical significance was reached on 14 of 16 factors. In a t difference analysis, significant differences were found on 9 of 16 factors. The results indicate that various personality characteristics have shifted in the direction of increased self-awareness, self-sufficiency, and inner resourcefulness. The investigators suggest that these shifts might, at least in part, be due to the growing modernization within religious communities and the resultant increasing flexibility and freedom of choice for women religious.

THREE YEAR FOLLOW-UP OF WOMEN RELIGIOUS
ON THE 16 PERSONALITY FACTOR QUESTIONNAIRE 1,2,3

In 1966, Vatican II initiated a process of modernization within religious orders. This adaptation and self-renewal has involved study of overall communities as well as an increased awareness of the individual woman religious. Examinations of women religious since Vatican II reveal a process of change, growth and self investigation which has been confronting the sisters, both internally and externally (Neal, 1971; Benz & Sage, 1968; Conboy, 1970; Gilberg, 1968).

In general, the religious realm was formerly viewed as a haven of security where talent, obedience, conformity, and manifested traits of piety were prerequisites for success. Since Vatican II a strong link with the past has been broken and there has been a growing emphasis placed on individual responsibility and freedom. According to Coville and his associates (1968), the modern world demands such religious who are enthusiastic, intelligent, well informed, mature, secure, stable, and well integrated personalities; such who are idealistic in living with conflict and opposition and capable in these changing times of assuming significant leadership.

The Sisters of the Blessed Virgin Mary, who own and operate Mundelein College have been deeply immersed in the process of change and growth through self renewal (Benz & Sage, 1968). The

community is no longer a total, self-contained, authoritarian institution, but has been "detotalized" (O'Dowd, 1970). In 1969 Mundelein College initiated a Graduate Study Program in Religious Education. In addition, vocational and personality testing was offered to the sister-teachers, both for their own edification and also for research purposes. Using the 1969 data, a descriptive study was initiated to assess certain personality characteristics of the women religious enrolled in the program. A more recent review of the literature (Melamed, 1973), revealed that although there have been a number of investigations examining personality characteristics of women religious, longitudinal studies have been very few in number. In light of the changes initiated by Vatican II and the effects of environment on personality, coupled with the availability of the 1969 data, a decision was made to initiate this longitudinal study to assess possible changes within the personalities of these women religious over a three year period of time.

In relation to the purposes of this investigation, the following specific null hypothesis was tested: No significant differences exist between the Ss' scores on the 16 Personality Factor Questionnaire (16PF) in 1969 and the Ss' scores on the 16 PF in 1972.

Method

The original sample, tested in 1969, consisted of 96 sister-teachers who responded to letters sent out by the Director of Research at Mundelein College. The letters were originally sent

to all of the sister-teachers in the new Graduate Program in Religious Education and to members of the BVM order taking a variety of courses in the summer of 1969. The sample for this study was comprised of 62 sister-teachers who responded to a new, 1972 mailing which was sent to the entire original sampling. The Ss ranged in age from 26 to 53 ($\bar{X} = 36$ in 1969); all Ss except one had taken final vows; and they had been in religious life from 7 to 44 years ($\bar{X} = 18$ years in 1969). The Ss consisted of 30 BVM's and 32 from 15 different orders ranging in self-renewal from conservative to progressive. At the time of the retest, 5 had left religious life. These five were included in the 1972 sample. Teaching experience ranged from 3 to 36 years ($\bar{X} = 15$ years in 1969, and $\bar{X} = 17$ years in 1972). Non-teaching experience included parish worker, religious coordinator, archdiocese worker, and school principal. In 1969, all except two had completed college and were working on advanced degrees. Further, more detailed descriptive materials regarding the sample are presented elsewhere (Melamed, 1973).

The Ss were administered the 16 PF in 1969 and again in 1972. For the original testing, the Ss were introduced to the test in group situations. Some of them filled out the test while still in the group, others took the test home and completed it within a few days time. For the 1972 administration, the 16 PF was mailed to the Ss along with a cover letter and stamped self-addressed envelope. The 62 Ss that returned the completed 16 PF in 1972 represent a return rate of 65%. The statistical analysis consisted of Pearson product moment correlation and t difference

tests. The 1969 and 1972 correlations measured the degree to which the relative ordering of the individual women religious scores changed over time in the selected personality characteristics. The t difference test measured the degree to which the overall group scores changed over time.

Results

The Pearson product moment correlations ranged from .18 to .77: the mean correlation was .36. Statistical significance was reached on 14 factors. According to the results in Table 1, significant relationships existed between the 1969 and 1972 scores on the following scales: A (reserved/warmhearted); B (low intelligence/high intelligence); C (ego weakness/ego strength); E (submissive/dominant); F (serious/happy-go-lucky); H (timid/venturesome); I (tough-minded/sensitive); L (trusting/suspicious); M (practical/imaginative); O (self-assured/apprehensive); Q₁ (conservative/experimenting); Q₂ (group-dependent/self-sufficient); Q₃ (uncontrolled/controlled); Q₄ (relaxed/tense). There were no significant differences found on factors G (expedient/conscientious) and N (forthright/shrewd). G shifted from a high score, indicative of conscientiousness and persistence, to a lower score indicative of less acceptance of group moral standards, self-indulgence, and lower super-ego strength. Although the mean remained approximately the same on N (forthright/shrewd) the correlation was the lowest.

Insert Table 1 about here

In the t difference analysis, statistically significant

differences were found between 1969 and 1972 scores on the following factors: A (reserved/outgoing) scored higher toward more outgoing; C (effected by feelings/emotionally stable) scored lower toward more effected by feelings; E (submissive/dominant) scored higher toward more dominant and independent minded; F (serious/happy-go-lucky) scored higher toward more happy-go-lucky; G (expedient/conscientious) scored lower toward more expedient, self-indulgent; L (trusting/suspicious) scored higher toward more suspicious and harder to fool; O (self-assured/apprehensive) scored lower toward more self-assured and confident; Q₁ (conservative/experimenting) scored lower toward more conservative, having respect for established ideas and tolerance of traditional difficulties; Q₄ (relaxed/tense) scored higher toward more tension, frustration, and drive. No statistically significant differences were found on the other seven factors.

Discussion

Both the correlational analysis and the t difference analysis indicate that between 1969 and 1972, various personality characteristics of these 62 women religious have shifted in the direction of increased self-awareness and self-sufficiency. The correlational analysis revealed that the changes were consistent on 14 of the 16 factors and the t difference analysis revealed significant group differences over the three year period of time on 9 of the 16 factors, all of which could be interpreted as shifting in the direction of increased self-awareness and self-sufficiency. It must also be noted that this study was undertaken with the knowledge that there was no control over the subjects during the three

year interval. Therefore interpretation of the results is decidedly limited regarding cause and effect due to the myriad of possible outside forces.

There are two factors to consider in regard to trait fluctuation: (1) trait change through learning and maturation; (2) state change which is reversible. Traits Q₃, M, N, and L are more liable to fluctuation with psychological state (Cattell, Eber, & Tatsuoka, 1970). According to the Test Service Division of IPAT (personal correspondence) the correlations between test and retest scores are largely influenced by age changes in the subjects. Thus, any further statistical evaluation would be very rough and approximate. No attempt was made to partial out the age differences as the women religious in this sampling ranged from 28 to 56 ($\bar{X} = 35$ in 1972).

Women religious as a group became slightly more outgoing (A), more affected by feelings (C), more dominant (E), more happy-go-lucky (F), more expedient (G), more suspicious (L), more self-assured (O), more conservative (Q₁), and more tense (Q₄). Pre-Vatican life style limited the interactions of women religious with others. Vatican II established a period of 12 years for self-renewal, and after about 6 years, in 1972, the women religious in this sample seem to have changed in many areas. It is interesting to note that the Ss had been more radical (Q₁) in 1969 than in 1972. It is suggested that perhaps they now have less to be radical about and have reached a plateau, presently assimilating the changes which have occurred during the early self-renewal period.

Before Vatican II, religious groups scored high on factor O (Catell, Eber & Tatsuoka, 1970). In 1969 the women religious in this study also scored high -- indicative of individuals who feel inadequate, are depressed, scrupulous, lonely, brooding, prone to guilt feelings, poorness of spirit, general unworthiness, and a strong sense of obligation. These characteristics appear to be similar to the profile of women religious on the MMPI (Coville, et al., 1968). However, in 1972, there was a significant change in the mean score for the women religious in this study on factor O, indicating that they were more self-confident, cheerful, expedient, vigorous, not as scrupulous, had less fears, and were more given to simple action. This post-testing was done six years after Vatican II, when many of the drastic changes (i.e. no habit or shortened habit, freedom to talk to others -- both religious and lay, handling of money, freedom to go out alone) had already taken place. Factor O in this study seems to have changed as individuals in religious life have been delegated more freedom. Over the three year period of this study, these women religious, presumably seeking new identity and awareness, appear to have assimilated some of these environmental changes.

Factor Q₁ shifted downward significantly. The characteristic expression on the high side is related to experimenting, liberal free thinking. Individuals who score high are more well-informed, more inclined to experiment with problem solutions, and less inclined to moralize. Although some orders have been involved with change from the beginning, not all orders have been as

progressive or willing to change. Six years after Vatican II, the women religious in this study seem to have become more conservative, respecting the established ideas and more tolerant of traditional difficulties. Since the normative life styles in their communities has become more liberal, it is possible that these women religious are no longer trying to radically alter their environments, but are acclimating, integrating and assimilating the changes. In other words, it is possible that they appear more conservative due to the liberalization of their life styles.

Factor G shifted significantly toward lower superego strength, indicating that the Ss in 1972 were less conscientious, persistent, moralistic, and staid. Factor C also shifted significantly from higher to lower ego strength. The common contribution seems to be toward self-controlled behavior, and a regard for others as opposed to emotional and impulsive behavior. In religious life the individual no longer is required to maintain absolute self-control and there is more leeway for self-expression.

The Ss also shifted significantly on factor F, indicating that they were happier, and on factor A, indicating a more warm-hearted, outgoing, participative nature. Also, no longer kept within strict regulations of having to conform to the stereotype of being obedient, mild, easily led, and docile, factor E shifted significantly toward assertiveness, aggressiveness, and noncompetitiveness. As the Ss were able to interact more freely among themselves and stepped out of their rather sheltered environ-

ments, they seemed to accept themselves as more important. This would help to explain the fact that they also became more tense, frustrated and driven as indicated by increased scores on factor Q₄. Finally, they shifted significantly on factor L, becoming more suspicious, self-opinionated, and harder to fool.

According to Cattell, Eber and Tatsouka (1970), factors H (timid/venturesome), I (tough-minded/sensitive), and M (practical/imaginative) have a constitutional component and would be less likely to shift because of any environmental changes. The Ss did not change significantly on these three factors, nor in intelligence, factor B, where they were quite high; or on factor N (forthright/shrewd) where they were rather low. This might be considered to be an indication of a rather unpretentious and naive attitude. "High N is negatively correlated with teaching success, and there are other indications that low-N individuals are more trusted and liked - perhaps by children." (Cattell, Eber & Tatsouka, 1970, p. 100). Almost all of the Ss were consistently engaged in teaching. Their scores seem to be congruent both with teaching and with religious life. Women religious in this study also maintained consistency in being self-sufficient and resourceful (factor Q₂) and continued to have strength about their self-concept (factor Q₃).

Summary

As the Catholic Church and community have sought to adapt to modern times, especially with the advent of Vatican II, changes

have taken place in the communities of women religious. These changes appear to have partially resulted in women religious being more able to seek new avenues for identification and fulfillment. In this three year follow-up study certain personality characteristics on the 16 PF have changed between 1969 and 1972. Although some personality traits have remained stable, there are strong relationships in the ordering of scores between 1969 and 1972 and a number have shifted significantly in the direction of increasing self-sufficiency and inner resourcefulness. It is suggested that some of these shifts are, at least in part, due to the increasing modernization in religious life and the resultant increase in flexibility and choice for each woman religious.

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Footnotes

1. Requests for reprints should be sent to Audrey R. Melamed, 1502 Sheridan Road, Highland Park, Illinois.
2. This study is based on the MA thesis of the senior author completed under the direction of the second author. The third author was mainly responsible for the gathering and initial analysis of the data from 1969. During the process of this research, Dr. Lewis was Dean of Students at Mundelein College, Chicago, Illinois.
3. The authors wish to acknowledge the review of this manuscript by Frank J. Kobler, Professor of Psychology and Director of Clinical Training, Loyola University of Chicago.

16PF Factor	1969		1972		1969-1972	
	\bar{X}	SD	\bar{X}	SD	r	t-diff
A (reserved/outgoing)	10.71	3.4	12.20	3.5	.53**	-3.58
B (less/more intelligent)	9.39	1.3	9.64	1.7	.35**	-1.11
C (effected by feelings/emotionally stable)	15.24	3.9	13.87	3.9	.26*	2.13*
E (submissive/dominant)	9.86	3.8	11.03	4.4	.42**	-2.18*
F (serious/happy-go-lucky)	12.94	4.6	13.89	4.6	.68**	-2.28*
G (expedient/conscientious)	14.68	3.9	12.34	3.3	.19	4.69**
H (timid/venturesome)	12.05	6.0	12.08	5.9	.77**	-0.30
I (tough-minded/sensitive)	13.69	2.2	12.98	2.9	.21*	1.88
L (trusting/suspicious)	6.50	3.0	7.87	3.0	.30**	-2.80**
M (practical/ imaginative)	14.53	3.7	13.09	3.3	.23*	1.10
N (forthright/shrewd)	8.71	2.6	8.75	2.6	.18	-0.15
O (self-assured/apprehensive)	14.36	4.5	10.31	3.6	.46**	7.77**
Q ₁ (conservative/experimenting)	11.29	2.7	8.61	2.7	.27*	6.36**
Q ₂ (group-dependent/self-sufficient)	11.08	2.9	10.44	3.3	.25*	1.42
Q ₃ (uncontrolled/controlled)	10.39	3.1	10.05	2.7	.31**	0.70
Q ₄ (relaxed/tense)	12.77	3.5	14.46	4.5	.35**	-2.77*

* $p \leq .05$

** $p \leq .01$

PERSONALITY CHARACTERISTICS OF WOMEN RELIGIOUS: A THREE YEAR FOLLOW-UP^{1,2,3}

Audrey R. Melamed

Manuel S. Silverman

Loyola University of Chicago

and Gloria J. Lewis

Mundelein College

Problem

A number of investigations have examined personality characteristics of women religious (Melamed, 1973). However, longitudinal studies are few in number. In lieu of the dramatic changes initiated by Vatican II, and the obvious effects of environment on personality, this particular longitudinal study was undertaken to assess possible changes within the personalities of a sample of women religious.

This study employs the 16 Personality Factor Questionnaire (16PF) and tests the following hypothesis: No significant differences exist between the Ss' scores on the 16PF in 1969 and the Ss' scores in 1972.

Method

Subjects. Ninety six sisters took the 16PF in 1969. Of that sample, 62 Ss completed the retest in 1972. The rate of return for retest procedures was 65%. In 1969, all subjects were enrolled in a master's degree program in religious education at Mundelein College in Chicago, Illinois. Thirty were members of the Sisters of Charity of the Blessed Virgin Mary, and the remainder were from 15 different orders. Most were working as teachers; non-teaching experience included parish worker, religious coordinator, archdiocese worker, and school principal.

Procedure. For the 1969 administration of the 16PF, the Ss were introduced to the test in group situations. Some completed the test in the group,

others took the test home and returned it completed within a few days time. For the 1972 re-test, since the Ss were scattered geographically, the 16PF was mailed to them along with a cover letter and stamped, self-addressed return envelope. The answer sheets were hand scored by stencil, and the statistical analysis, consisting of t difference tests, were performed at the Loyola University Data Processing Center.

Results

In the t difference analysis, statistically significant differences were found between 1969 and 1972 scores on the following factors: A (toward warm and outgoing); C (toward less stable); E (toward more dominant and independent minded); F (happier); G (more self-indulgent, not as conscientious); L (more suspicious, harder to fool); O (more self-assured, more confident); Q₁ (more conservatism, respect for established ideas, tolerance of traditional difficulties); Q₄ (toward tension, frustration, and drive). No statistically significant differences were found on the other seven factors (B, I, M, N, Q₂, & Q₃).

Summary

Sixty two women religious were administered the 16PF in 1969 and again in 1972. In a t difference analysis, significant differences were found on 9 of 16 factors. An examination of these results indicates that these personality characteristics have shifted in the direction of increased self-awareness, self-sufficiency, and inner resourcefulness. The investigators assume that these shifts are at least in part due to the growing modernization within religious communities and the resultant increasing flexibility and freedom of choice for women religious.

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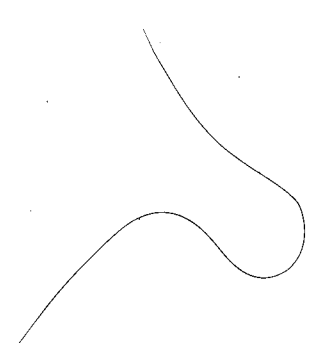
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Footnotes

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3. The authors wish to acknowledge the review of this manuscript by Frank J. Kobler, Professor of Psychology and Director of Clinical Training, Loyola University of Chicago.



THREE YEAR FOLLOW-UP OF WOMEN RELIGIOUS:
PERSONALITY FACTORS, VOCATIONAL INTERESTS
PERSONAL ORIENTATION

by

Audrey R. Melamed

A Masters Thesis Submitted to
the Faculty of the Graduate School of Loyola University
in Partial Fulfillment of the Requirements
for the Degree of
Master of Art

February 1973

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CHAPTER I

INTRODUCTION

Vatican II initiated a process of change within religious orders promoting adaptation to modern conditions (McAllister 1968), (Neal 1971). This self renewal involved study and reevaluation of the overall communities and an increased awareness of the individual sister (Benz and Sage 1968), (Rudy 1968). An examination of the recent history of women religious reveals a process of change, growth and self investigation which confronts the sister-teacher, internally and externally (Mauss 1969), (Conboy 1970), (DeMilan 1965), (Gilberg 1968), (Breen 1969).

Generally, the religious realm was formerly viewed as a haven of security where an individual could be certain of finding out who she was and where she was going. Since Vatican II a strong link with the past has been broken and changes have ensued with an emphasis on individual responsibility and freedom of choice (Wick 1970).

The very changes initiated by Vatican II have raised the question of "Who am I as a religious" (Dignan 1966). The changes which have occurred in the social structures of the congregations have been directed toward creating stable persons rather than building a safe stable superstructure. Internalized control for the individual sister should lead to a consequent increase in spontaneity, warmth, support and a deepening of the ideas of freedom, justice, responsibility and commitment. During the period of change and decrease of structure within the social order, Dignan (1967) feels there is increased anxiety for some individual sisters while for others it brings a greater ease of performance. Those in religious life

are confronted with a redefinition of themselves as religious as they seek a new identity for new freedoms which necessitate new responsibilities.

According to Dignan (1967) unlike the past where verbal interaction was limited, now there is a great deal of discussion among sisters as they attempt to redefine their roles in light of Vatican II. Dignan also feels that not enough attention has been given to the psychological effects of job satisfaction. Although she is aware that supernatural motivation can overcome many doubts and difficulties, this cannot undo the stress which is caused by roles which are never assimilated into a sister's identity. Dignan suggests that Superiors who are aware that time and training for an apostolic work is creating role conflict, should assist the individual in integrating the two roles, religious and vocational. Those suited for religious life are individuals whose ego identity is founded on basic trust, autonomy, initiative, and industry. They are capable of being adaptable, responsible, generous, open and dedicated to Christ and willing to serve him. "And there are in religious communities today women who brought these qualities to us but whose development was arrested because their identity as individuals was not carefully distinguished from that of the community (Dignan 1967 p. 124)."

According to Coville (1968) religious vocation in the past was a means of social advance which was appealing to an authoritarian, rigidly dominated immigrant population. Talent, obedience, conformity and manifested traits of piety were prerequisites for success in religious life. Taking vows gave one authority, prestige and deference from others. Coville feels this type of religious is outdated in the modern world which demands religious who are enthusiastic, intelligent, well informed, mature, secure,

stable and well integrated personalities idealistic in living with conflict or opposition and capable in these changing times of significant leadership.

Every community has been involved in reevaluation and self-renewal. Some communities, such as the Sisters of Charity of the Blessed Virgin Mary (BVM's), have renewed at a faster rate. "Their special appeal is their courageous attitude toward renewal (O'Connor 1971 p. 35)." The process of renewal has not been without its problems and there was polarization within BVM's toward traditionalism and modernization. After much discussion, self evaluation and prayer

BVM community was to be traditional since it described itself as Eucharistic, prayerful, consecrated by vow and apostolic; and yet it boasted a spirit of freshness which permitted it to be feminine, democratic and consciously open to wider communities. (O'Connor 1971 p. 91)

Although every community has not chosen to renew at the same rate as the BVM's, the Sister Formation Conference at Woodstock in 1968 stated

American sisters, especially in their chapters of renewal, are envisaging their lives more and more in terms of person in community. They relate this vision to the universal struggle on behalf of the human person and the community of mankind (O'Connor 1971 p. 118).

Within this framework of the detotalization of the structure of congregations there is a new awareness of the total person within the congregation. Because of the shift, there is a striving for a new identity and possibly some motivation toward living a fuller life as the individual attempts to become aware and develop uniqueness within community. This type of growth and becoming can be related to Maslow's (1954) self-actualization. An individual sister must do what she has to do to be ultimately at peace with herself and God.

What a man can be, he must be. This need we may call self-actualization ... refers to man's desire for self-fulfillment, namely to the tendency for him to become actualized in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming (Maslow p. 91-92).

Some communities, as the Sisters of Charity of the Blessed Virgin Mary (BVM), have adapted an outward change of dress which is a symbol of a far reaching change in the life style, government and ideology of religious orders of women (O'Connor 1971) (Sisters of Charity 1967). The change had been great enough that O'Dowd (1970) refers to Pre- and Post-Vatican life styles. One of O'Dowd's findings was that many of the sister-teachers are no longer told where and how to do their apostolic work but are now given the opportunity for choice.

The BVM's who own and operate Mundelein College have been deeply immersed in the process of change and growth through self renewal (Benz and Sage 1968). The community is no longer a total, self-contained, authoritarian institution but has been "detotalized" (O'Dowd 1970). It seems only natural that a community of innovative progressive nuns such as the BVM's would initiate in Mundelein College a Graduate Study Program in religious education in 1969, and in addition sanction vocational and personality testing of sister-teachers for their own edification. Members of the BVM order, (Thompson 1963), (Healy 1969), and (Cosgrove 1967), have investigated personality within their order. Dignan (1966, 1967), also a BVM, has written on change and ego identity since Vatican II.

These, and other studies reviewed in Chapter II, show that sister-teachers have certain personality traits which are modified during the

process of sister formation. Many of the studies are cross-sectional within an order and are directed toward refining the assessment of candidates. Thus far, no studies have been found by this investigator in which an attempt was made to assess the personality of sister-teachers and interpret the test material for the self-renewal, growth and self-actualization of the particular nun who is pursuing an active religious vocation. In addition, no studies were found in which follow-up was undertaken to evaluate change since Vatican II, if indeed change has occurred.

PURPOSE OF THE STUDY

This investigator hoped to help fill a gap in the body of knowledge on women religious actively engaged in their apostolic work since Vatican II with this three year follow-up study.

The intent of a study in 1969 was two-fold: to collect data concerning selected personality characteristics of sister-teachers; and to interpret the test material to the individual if it was desired. The data was scored and some interpretations given. However, the data was never fully analyzed. It seemed important, therefore, to analyze the data from 1969 and to retest the original sampling on the same instruments.

The purposes of the study are:

1. Compare to "women-in-general" the selected personality characteristics of women religious as determined by the test results on the Strong Vocational Interest Blank (SVIB), 16 Personality Factor Questionnaire (16PF), and Personal Orientation Inventory (POI) in 1969.
2. Compare to "women-in-general" the selected personality

characteristics of women religious as determined by the test results on the SVIB, 16PF and POI in 1972.

3. Correlate the differences between the results of 1969 and the retest in 1972 for the women religious in the study.

DESCRIPTION OF THE POPULATION

The subjects had all chosen a religious vocation and had been accepted into their religious communities after taking the vows of poverty, chastity and obedience. They represent nineteen different orders and were actively engaged in the apostolic work of teaching. They had prepared for a

way of life that is for a whole system of cultural and social patterns that make up the expected behavior of a full-time religious functionary. In other professions normal life may be affected by the kind of professional functions he performs. The professed roles like teaching, pastoral work, nursing, are directly affected by the fact that the former is a priest, brother, sister (Ficter 1969 p. 90).

During the summer of 1969 the sister-teachers were all enrolled in graduate or undergraduate classes at Mundelein.

SETTING

Mundelein College is a liberal arts college located in Chicago, owned and operated by the BVM's. The religious personality of the BVM's aspires toward growth and development. Their actions attest to what Von Kaam (1964) says:

It is clear that my project in life is a steady growth in the light of God's will as revealed in

my situation...Unauthentic spiritual life is therefore marked by stiffness, rigidity, formality and inability to move or change (p.11).

Aware of the needs of both the outside community and their teaching community, Mundelein was opened in 1932 preparing both lay persons and sisters for secondary education. In 1952 the college initiated a program for elementary teachers and was approved in 1962 by the National Council for Accreditation of Teacher Education. In 1962 the institution underwent a self-analysis to examine the college's position in relation to the changing education scene in Chicago. It determined to revamp where necessary in order to become an institution of superior performance. A program for women students returning to school was started and credit given for life experience. As was stated previously, in 1969 a Graduate Study Program was begun in religious education. The school is constantly reviewing policy and curriculum in order to make it more enriching and meaningful to the student body.

ASSUMPTIONS

This investigation assumes that certain selected personality characteristics are related to religious commitment and the apostolic work of teaching. Since changes have been found in certain selected personality characteristics (McCarthy 1942, Thompson 1963, Mastej 1954) in the formation of religious training, a further assumption is that Vatican II which initiated self-renewal and change within religious communities will have modified certain personality characteristics. The subjects will be involved in a process of growth within themselves and in the test results.

HYPOTHESES

In light of the above assumptions and descriptive data, the following null hypotheses were tested:

1. There are no significant differences between selected personality traits of subjects on the pre-test and women-in-general.
2. There are no significant differences between selected personality traits of subjects on the post-test and women-in-general.
3. There are no significant differences between subjects' pre-test scores and subjects' post-test scores.

LIMITATIONS

1. The original tests were not chosen with the intent of a three-year follow-up. One test, the SVIB, has been revised, the original test can no longer be scored, and the revision diminishes the original number of questions.

2. There could be no control over the setting in which the retest was taken since the subjects were working in various parts of the country.

3. The number of subjects in the original sampling diminished with follow-up because the subjects were either not located or not interested in retesting. However, a sufficient number of tests were returned to make the study valid.

4. The original sampling was all done at Mundelein College and the population of the sampling was dependent on the sister-teachers registered in the courses.

5. There was little control of the subjects during the three year retest interval. However, this is not a negative factor considering the purposes of the study.

ORGANIZATION

Chapter I has presented an introduction and brief overview of the research project. Chapter II presents a review of the literature relevant to the present study. Chapter III will include the methodology of the research design, description of the instruments utilized; the subjects, and the statistical procedures employed. Chapter IV delineates the results of the data analyses and Chapter V offers a summary, conclusions and recommendations.

CHAPTER II

REVIEW OF LITERATURE

In consideration of the extensive work done concerning personality and vocational choice for other occupational groups this review of the literature deals specifically with material relevant to sister-teachers and religious.

HISTORY OF RESEARCH OF WOMEN RELIGIOUS

The first significant application of empirical psychological methodology on religious was conducted by an American Catholic, Moore, in 1936. He attempted to determine the rate of mental illness among priests, religious brothers and sisters. He found that the total incidence of illness was lower than the general population. However, there was a tendency for a higher rate of schizophrenia among cloistered as opposed to active religious women. Moore felt that the incidence of psychotic breakdown was due to the prepsychotic personality of the individual entering religious life rather than the effects of religious life. Working with Moore, Peters (1942) studied 148 novices from different communities engaged in a variety of apostolic work. The sampling was found to have personality traits which fell into three groups: (1) undesirable; (2) desirable; and (3) sociability. Two rather distinct types of trait organization appeared to be mutually exclusive, (the undesirable and the desirable-sociability) and these had fairly normal distribution. She found no significant differences between the sisters and the published norms of adults women on neuroticism but the

sisters were significantly lower in self-sufficiency and dominance/submission.

Replicating Moore's study in 1958, Kelly found a decrease in mental disorders among cloistered orders and an increase in active women religious, indicating perhaps that stress might be a contributing factor. However, she did not feel that this nullified Moore's hypothesis concerning pre-psychotic personalities being attracted to religious life because of their perceptions of religious life.

Up until this time Sister Peter's research was the only study of sisters in formation (novices) which attempted to delineate personality traits.

Sisters had often been sent into the apostolic work of teaching before they had completed their schooling. However, Pope Pius XII believed sister-teachers in Catholic schools should receive the quality of education and academic degrees demanded by the state. In response to this the National Catholic Education Association set up a Sister Education and Professional Standards Commission in 1953 which surveyed the states of teacher education and decided that positive action was necessary in order to guarantee professional excellence in Catholic schools. A separate Sister Formation Program was started in 1954 to study assessment of candidates and methods of training and educating sisters. There was also an attempt to develop to the utmost that which was natural to the individual so the whole individual could be allowed to grow toward integration and maturity. It was felt that the work of the church could then be accomplished.

In 1956 a decree of the Sacred Congregations of Religious implemented the Apostolic Constitution Sedes Salientease of Pope Pius XII which reads

in part:

The particular signs and motives of genuine vocation must be attentively weighed in those admitted to the novitiate according to age and condition of the candidate. Both the moral and intellectual qualities of the candidate must be accurately and thoroughly examined. Moreover, their physical and psychological fitness must also be investigated, relying in this on the medical history and diagnostic judgment of an experienced doctor in relation to strongly hereditary diseases, especially mental ones. The judgment of the doctor must be recorded in the report of each candidate.

(REINDL, P. 2, 1965)

In lieu of Pope Pius XII's recommendation and the commission which had been set up giving a new awareness to the education of sisters, there was a gradual increase in the number of related articles by sisters. Half of the 521 articles on religious up to 1966 are unpublished and scattered across 33 university libraries, 72% were written between 1956 and 1966. Much of the research into religious life has been in an attempt to establish assessment programs for entrance into religious life which would delineate personality characteristics of priests, religious brothers and sisters. Assessment deals with evaluation of physical, social and psychological factors. The term "assessment" is meant to include instruments or procedures of psychological measurement which, when combined, contribute toward evaluation of a person and his characteristics leading to prediction of persevering in religious life.

PERSONALITY CHARACTERISTICS OF WOMEN RELIGIOUS ON MINNESOTA MULTIPHASIC PERSONALITY INVENTORY (MMPI)

Mastej (1954) used Bier's Modified Version of the MMPI in investigating personality characteristics of religious women. She included five discrete groups of women religious based on length of time in religious life and

one group of candidates as a control. All six groups scored considerably above the normative means of standard MMPI. The mean scores tended to increase with length of time spent in religious life. However, a closely similar pattern was found for all groups. The differences were quantitative rather than qualitative.

Utilizing Bier's MMPI in comparing 150 contemplative and 150 active women religious, Vaughan (1956) found the means were higher than normal for both groups; the contemplative group was higher than the active. Vaughan felt the differences between religious and normative means was due to certain subcultural factors which influenced the approach and response of religious and was not necessarily an indication of poorer psychological health.

Mother Sandra (1957) felt that the consistency of deviant scores (Mastej and Vaughan are but two examples) on personality tests for groups in religious life could be attributed to: (1) training in religious life evolves typical personality constellations; (2) interest in religious life is shown by individuals who have typical personality characteristics before entering an order; (3) typical personality is formed by general Catholic background. The sampling consisted of five groups of 150 subjects, junior professed nuns, novices, candidates, Catholic students and Protestant students. All five groups deviated from the norms established for the general population but were consistent with what one would expect from college students. The two religious groups had more deviant scores than the candidates or lay groups.

The results of Sandra's work concurred with Mastej and Vaughan. The patterns were all the same and like Mastej showed a quantitative rather than a qualitative difference. Novices secured the most deviant scores,

which according to Sandra might indicate basic personality trends reinforced by psychological tension due to the prospect of imminent separation from familiar surroundings and taking a new way of life. With increased time in religious life the junior professed did not have increased deviant scores. The scales elevated on the MMPI have a common psychological element manifested in mild depression, feelings of inadequacy, lack of confidence and introversion tendencies. Although deviant scores might be partly attributed to religious training they are even more related to the personality characteristics of those attracted to religious life.

Pre-Vatican religious life restricted interpersonal relationships and introversion trends became more prominent. Considerable time was spent in self-reflection and self-criticism to increase insight into one's individual personality and its limitations. According to Sandra the sister's concept was essentially negative for the deficiencies were stressed at the expense of capacity. Further, regularity and submission were stressed rather than independence and enterprise, thus imposing heavy psychological demands on the individual.

In evaluating the scientific status of screening for religious vocations, McCarthy (1957) concurs with Peters, Vaughan, Mastej and Sandra that individuals attracted to religious life generally have specific personality characteristics which can be identified through psychometric tests. However, while certain selected personality traits characterize them as a group, other personality traits indicate wide differences that one would expect in any occupational group. This follows Super's (1953) theory of vocational development. In addition, McCarthy (1956) feels that personality is changed by living in religious life. The degree and direction of that

change is probably a function of the behavioral demands made upon the individual at certain stages of life in religion and on the nature of the religious community rather than on the number of years spent in religion.

Garrity (1956) did a longitudinal investigation of changes in sister formation over a three and five year period on the MMPI. There were no significant differences between the two groups from when they entered. However, there were trends toward greater deviancy and variability in both groups after participating in the sister formation program, not statistically significant. The sisters in the study showed no inclination toward pathological adjustment which Garrity felt was a result of careful screening assessment before entrance. Individuals entering religious life had achieved a specific mature identity which was not modified or altered with a change in circumstances. In addition, religious life did not seem to be emphasizing conformity since she found a slightly greater variability in scores after sister formation. The religious community appears to be encouraging, to a great extent, the maintenance and expression of the native characteristics of the sisters participating in the training program. Garrity, unlike Sandra, did not see the sister formation program as necessarily self-deprecating or forming negative self-concepts.

Grace builds on nature (Daiyat 1959) and the congregations and church attempt to assess the individual candidate in as complete a manner as possible in order to determine if the individual is physically and mentally sound. Kobler (1964) believes that a considerable amount of deviation as revealed on the MMPI and Kuder Preference Record (KPR) is tolerated in applicants for religious life. He found that poor risks show extreme scores in the same general direction as the scores of their own group.

Assessment for mental health and perseverance are two different purposes:

In my judgment, what we want to be able to do is to make a clinical contribution to the screening process and not one of vocational assessment. Whether a man perseveres in religious life or not, for example, is not the same question, nor is it of the same importance as that of determining whether he is psychiatrically ill or potentially so (Kobler 1964 p. 169).

The evidence of Sandra, Mastej, Vaughan, Kobler and Garrity indicates as McCarthy has stated that those individuals who are attracted to and enter religious life score higher on the MMPI than the general population. These scores may vary from community to community. However, most religious appear to have similar profiles. During religious formation slight but non-significant changes occur.

Reindl (1965) agrees with Kobler that no single profile on the MMPI can be said to be typical of successful religious candidates and each community needs to have its own norms to fulfill its requirements. Utilizing the MMPI and five groups of sisters in a cross sectional study, Reindl found in contrast to Mastej, but in accord with Garrity, that emotional instability did not increase as length of time in religious life increased. Sandra's finding of higher scores in novices was not corroborated in Reindl's sampling; the greatest deviation occurred among postulants. Reindl felt it was difficult to draw any conclusions because of the inconsistency of the results when sister formation was studied with MMPI.

Recognizing the question of whether the MMPI is an appropriate measure of neurotic tendency in religious Dunn (1965), summarizing more than fifteen years of research, concludes that the evidence suggests that it is. The early studies in the 1940's showed that religious applicants

show signs of defensive behavior typical of persons with neurotic tendencies and this was confirmed by later findings. Dunn feels that the consistence of that evidence is impressive. It seems clear to him that there are definite differences between individuals attracted to religious life and those who are not. The religious appear to be more perfectionistic, withdrawn, insecure, and in some cases, depressed. Increased time in religious environments which promote seclusion, and enforced guilt with heightened awareness of self to perfectionistic tendencies increase the deviancy in tests of both male and female religious. Once they have left closed environments the personality test results resemble more closely normals in the general population. The studies at Fordham have been quite consistent in reflecting the psychological effects of religious training. Closed, insulated environments exacerbate the emotional instability of those entering religious life and these settings induce a crippling dependency and morbid preoccupation with self.

PERSONALITY CHARACTERISTICS OF WOMEN RELIGIOUS TEACHERS

The Guilford Zimmerman Temperament Scale (GZTS) was employed by Urschaltz (1959) to study personal adjustment of women religious educators as related to length of time in religious life and vocational value. Two hundred Catholic women and three hundred sisters (divided into three groups based on increased time in religious life) composed the sampling. The sisters were lower than the Catholic college women in ascendancy, sociability, objectivity, personal relationships and masculinity.

In investigating the relationship of personal adjustment and spirituality in a group of 82 sisters who had been members of religious teaching communities from one to 55 years, Kohls (1958) also used the GZTS. Subjects scored markedly below the norms in general activity, ascendance and sociability and above the norms in restraint, emotional stability and friendliness. Findings of Urschaltz and Kohls agree that the individual members of a religious teaching community show lower scores in ascendance and sociability as measured by the GZTS.

Kenoyer (1961) compared three groups of religious women at different stages of religious life and teaching experience with matched samplings of lay women on the GZTS. There was a significant difference between religious and lay women in restraint, ascendance, sociability, emotional stability, objectivity, friendliness, personal relations and masculinity. Ascendency and sociability appear to be changed by experience in religious life. The sister-teachers perceive themselves as more submissive and less inclined toward leadership. Religious training and experience result in scores which indicate habits of following as well as hesitancy to speak in public, bluff, persuade others and to appear conspicuous. Religious life places emphasis on the virtues of obedience and humility with a desire for humiliation as part of the ideal of sanctity. This milieu fosters and rewards intelligent following and sometimes gives limited opportunities for leadership. Social expectation pictures sisters as self-effacing and inconspicuous. This study presents further evidence of Kohls' and Urschaltz' findings that sister-teachers' scores on the GZTS's are lower in ascendency with a concomitant lowering of sociability. Kenoyer's results concur with the findings of others that religious women have selected personality

characteristics which are in part due to those who enter religious life and other differences are related to the effects of religious life.

Unlike the other studies reviewed, Becker's (1962) subjects were chosen by their Superiors because they were successful religious women educators. The eighteen subjects with an age limit of fifty and a maximum of ten years teaching experience represented thirteen of the largest teaching orders in the United States. These successful sister-teachers were characterized as optimistic, self-confident, able to concentrate, self-controlled, socially well-balanced, highly active, vigorous, serious-minded, dominant, emotionally stable, cooperative, extremely reflective, empathetic, warm and communicative. Although this population rated above the mid-range of normal except for impulsivity, which Becker felt would not be expected for those in religious life, nevertheless sociability was again found to be below average. Becker questions this finding since the sampling was chosen because they were successful teachers and members of community life. Since silence was observed in Pre-Vatican communities except when utility or charity required one to speak, it would seem to this author that sociability might decrease because of limited opportunities.

Thompson (1963) agrees with Gottlieb's statement:

Personality is a growing, changing, plastic structure that is subject to modification throughout life by the social influences that surround the individual at given stages (p. 4)

Thompson studied identification in sister formation for, "In the case of religious life this desired identification with a community is total and complete" (p. 7). Based on the assumptions that the same kind of young women seek admission to religious life and the congregation

admission policy had remained constant for a decade, Thompson did a cross sectional study of four groups of religious at various stages of development utilizing the 16PF. Results indicated that postulants tend to be more intelligent, confident, and secure than women-in-general. Vow sisters appear to have become more withdrawn, more serious, more shy and conservative and possibly a little less sure of themselves. Thompson feels that although changes occur during formation, "the sister who emerges more closely resembles the person she was when she entered than another sister who underwent an identical period of training" (p. 66).

Healy (1966) investigated academic aptitude and personality characteristics of Catholic-sister-teacher trainees at Mundelein College and compared them to lay-teacher trainees and non-teacher trainees. On the 16PF the sister-teacher trainees appeared to be more intelligent, possessed greater ego strength, tended to be more dominant, conscientious, adaptable, imaginative and have less free floating anxiety, were more inclined toward radicalism, more self-sufficient and more free from ergic tension than college women-in-general. Although they indicated a tendency to be more socially venturesome and personally more highly integrated these differences were not significant. When compared with the lay-teacher trainees the sisters were more restrained and more self-sufficient. Compared with the non-teacher trainees the sisters were more emotionally mature, less surgent, had less free floating anxiety and less ergic tension. These traits, however, appeared to be distinguishing characteristics of all Mundelein teacher trainees rather than sisters alone. The Mundelein groups resembled one another more than they resembled college women-in-general for they were more independent and more intellectual than college women-in-general. The

sisters were more emotionally stable than norm groups of college women or Mundelein lay students.

The findings of Cosgrove (1967), like Healy, did not support the stereotyped picture of the women religious who had an increased deference, abasement and minimal needs for autonomy, dominance and change. The sisters tended to be high in dominance. Cosgrove felt that differences might be due to the differences in Post-Vatican training where there are increased opportunities for personal decisions, responsibilities, cultivating deeper relationships and critical evaluation of current ideas and structure. Unlike Healy, the sisters in this study evidenced a lower academic ability but did not differ from lay students in performance. The sisters expressed a stronger need for achievement, order and affiliation but no other personality differences were found. Although Cosgrove's findings agree with Kenoyer that there are more similarities than dissimilarities when comparing sisters with their college peers, she did not find the increased shyness and submission that Kenoyer found; the sisters tended to be higher in dominance.

Cosgrove feels that because of Post-Vatican changes these sisters did not express higher tendency toward abasement, feelings of inferiority, guilt and social incompetence. The new directions are promoting instead an increased dominance and decreased deference which promote increased tendencies toward assertive positions of leadership rather than role subordination.

Thompson, Healy and Cosgrove are all members of Sisters of Charity of the Blessed Virgin Mary (BVM) and studied their own congregation. Thompson's study covered sister formation at both Mundelein, where Healy did her study and Clarke College where Cosgrove did hers. The sisters in

training spend their first two years at Clarke College and finish at Mundelein. The Pre-Vatican study of Thompson showed the sisters to be more shy, serious and silent, unlike the Post-Vatican studies of Healy and Cosgrove where results showed the sisters to be more dominant.

It is difficult to tell if the candidates are entering with different personality characteristics or if different characteristics are being nurtured in Post-Vatican sister formation. A question is also raised as to whether Post-Vatican influence is necessarily the cause since Becker's successful women religious educators resemble Healy and Cosgrove's "new" Post-Vatican sister.

PERSONALITY CHARACTERISTICS OF LAY TEACHERS

Jackson and Guba (1957) conducted a study in the Chicago area on a group of teachers and the qualities which characterized the group were their marked deference, orderliness, endurance, rejection of exhibitionistic and heterosexual strivings. They felt these qualities were closely related to the "stereotype model of a teacher as sexually impotent, obsequious, eternally patient, painstaking, demanding and socially inept - the stereotype frequently portrayed in mass media" (p. 187).

The findings of Cook *et al.* (1961) on students enrolled in an Educational Psychology course at Purdue University lent support to Jackson and Guba. They found, identified and labeled six factors: docility, dependence, authoritarianism, compulsivity/conformity, introversion/extroversion and avoidance. "These factors lend support to the other recent findings which suggest a discrepancy between idealized and observed personality character-

istics of teachers" (p. 871).

The results of Gillis (1963) were in considerable agreement with the other studies that teachers have greater dependency, docility, authoritarianism and conformity. Teachers appear to be more willing to minimize their own personal worth, repress aggression and defer to the authority of others. There is also a strong need for a highly structured environment with well-defined interpersonal relationships.

Utilizing the 16PF Lorenz (1966) studied selected personality characteristics of 135 women in five careers: social worker, occupational therapist, student nurse, elementary teacher, secondary teacher. Although the 16PF appeared to be of little value in separating elementary and secondary teachers, the results further confirmed Cook *et al.* (1961) findings of a tendency for those who had chosen teacher careers to be more docile and conforming.

VOCATIONAL INTERESTS

The earliest vocational testing was done in 1937 in Rumania on the Sisters of Charity by Constantinescu. The subjects were given a battery of tests on memory, attention, observation, imagination, reaction time and psychological tension. The results indicated some correspondence between those who ranked high on the tests and those who ranked high in their work and the same held true for those who ranked low.

The first to investigate vocational interests in women religious educators in the United States was Urschaltz (1956), utilizing the Kuder Preference Record (KPR) and an inventory which was developed to measure

three motivational types. Urschaltz chose the KPR rather than the SVIB because it covered more general areas of vocational interest and had a sub-scale of social service which she felt would have specific relation to the religious attitudes of women religious. The sampling of 219 sisters from nine communities was divided into three groups based on the number of years in order and teaching experience. The three motivational groups were: (1) personal spiritual perfection; (2) apostolic work of education; (3) integration of (1) and (2). She hypothesized that women religious educators would have an interest pattern different from women-in-general and higher in social service. She also anticipated a greater change in motivation with increased length of time in religious life. Results confirmed the hypothesis that the general interest pattern of women religious deviated significantly from the general population of women. Persuasive and clerical interest were far below the median while social service was above. On the social service scale, the sisters had a higher mean than both primary and kindergarten teacher norms, but lower than religious workers. There was a greater gain in motivational integration in the first years in religious life which was anticipated.

In 1962 Olheiser developed the Sister-Teacher Interest Scale (STIS) for the SVIB. In lieu of the various orders and their apostolic work, she felt:

'vocational choice' on the part of candidates to religious life and 'selective admission' on the part of religious communities have important implications for the candidates as well as for the religious community. From the viewpoint of the candidates, the work of the community will importantly influence diverse aspects of her life. Her status in the Community, her self esteem, her self-fulfillment will depend to a

great extent on the degree to which her occupational role will permit her to exercise her zeal and her creative potentialities fully in the service of the Church. From the viewpoint of the religious community, human resources are its greatest asset. To the extent to which the dispositions and talents of the religious community are matched with its works and enterprises, there is religious productivity and efficiency in its apostolic works (p. 1-2).

The criterion group of sisters were derived from a list of 16 qualifying congregations drawn from The Official Catholic Directory. Fifty-four independent houses from across the country were contacted. The Superiors chose from ten to twelve sisters who met specific requirements delineated by Olheiser. Six hundred women religious were contacted by mail and 94% responded. Strong's methodology and statistical procedures were then utilized for weight, item analysis, scoring and norming to develop the differential STIS.

Olheiser tested the STIS scale in four groups: (1) second year novices; (2) postulants; (3) female students in a Catholic college; (4) female students in a State University. Results indicated that 73% of the novices received A or B+ letter ratings. Explanation for this was based on the fact that the group was still in the preparatory program and some of the subjects might drop out, which would account for the scores not reaching A or B+. When the four groups were compared, the differences in the scores became progressively greater as they were further removed from the criterion group in religious orientation. In measuring the STIS scale with the other 27 occupational scales for women, the largest differences of means was found between sister-teachers and English teachers and the smallest were elementary teachers. Overlapping scores of less than 50% were found in all scores except elementary teachers and housewives.

A total of 86% of the sister-teachers earned letter ratings of A or B+ on STIS and 69% on the Elementary Teacher Scale. In order to place a given occupation in the same family of occupations a correlation of .60 has been assigned by Strong. Olheiser did not find sufficient correlation to include the sister-teacher in any occupational family.

Raymond (1963) studied women religious on the SVIB and was unable to find any research in this area. She compared 290 sisters preparing for religious vocation in a novitiate college with 290 secular women enrolled in a Catholic college for women. The interests of these two groups on four scales of the SVIB served as a criterion for comparing two other groups. One group had entered the novitiate college subsequent to the original testing. The other group consisted of professed sisters with a mean education of 14.8 years, engaged in teaching prior to college. The data revealed that none of the welfare or uplift scales reflected a pattern of interests which might have been characteristic of the women religious as Raymond had anticipated. The interest patterns of religious women were found to be different from women-in-general in a desire for non-leadership roles, a rejection of activities of a creative nature and by having less interest in intellectual activities. Raymond's study confirmed Olheiser's findings of no overlapping with other occupational scales and both studies indicate that interests of women religious differ from women-in-general and form a distinct group.

Additional research increased the 1964 SVIB form to 32 occupational scales and sister-teacher was in a separate category. When the occupational groups were increased to 58 on the 1969 SVIB, Raymond's assumption that sister-teacher was related to welfare or uplifting occupations was

confirmed. Nun-teacher is included in that family of occupations - YMCA staff member, recreation leader, director of Christian education, guidance counselor, social science teacher and social worker.

PERSONAL ORIENTATION OF TEACHERS

This author was unable to locate any studies in which the POI was used on women religious. Knapp (personal correspondence) at the Educational and Industrial Testing Service sent an abstract of a French dissertation in which Deschenes (1970) used the POI on three groups of women in professional careers: Group I was nuns; Group II, married women; Group III, ex-nuns. The highest profile was obtained by ex-nuns, lowest for nuns and the married women were usually in the middle position. The scales Inner-Directed, Other-Directed, Feeling Reactivity and Self-Acceptance of the POI reached statistical significance. The ex-nuns and the nuns differed significantly on all four scales; the ex-nuns and the married women on Feeling Reactivity.

In a report of the research based on the POI, Knapp (1971) reviewed the following literature concerning individuals in the educational field.

Constructs of psychological health measured on the POI and values measured on the Minnesota Teacher Attitude Inventory were investigated by Dandes. POI scale and teacher permissiveness and liberalism were positively correlated and the POI scale and authoritarianism and dogmatism were negatively correlated. Dandes concluded that there is a significant relationship between psychological health as measured on the POI and the values and attitudes which are important in teaching. The more psychologi-

cally healthy an individual is, the more he possesses attitudes and values which will increase his teaching effectiveness.

A sensitivity training program was conducted during a school year and POI was administered at the beginning, in the middle and at the end. Flanders found an increase in the direction of self-actualization between the first and last administration of the POI on eight of the twelve scales. Provost's findings add further support to the effectiveness of the POI to measure change toward self-actualization through sensitivity training. High school teachers involved in human relations training were found to increase on seven of the twelve scales of the POI. These studies seem to indicate that change which occurs during group interaction can be measured on POI.

Ford's results indicate that principals working in more free school situations are more self-actualized than those working in closed systems. The principals in an open climate or more free school system had a greater capacity for intimate contact and were more accepting of themselves and their own aggressiveness.

Mace found that teachers who wish to go into administration were more self-actualized on the Inner-Directed Scale than career teachers. The students tested by Pines in an introductory teacher education course who were more self-actualized tended to view teaching careers as less favorable and yet had a greater mastery of the education course. Individuals who are more self-actualized on the POI according to Mace and Pines want to either move out of teaching into administration or do not view teaching favorably. If self-actualized individuals are psychologically

healthier and therefore more effective teachers, it is disconcerting that those who appear more self-actualized are moving out rather than into the teaching role.

TEST-RETEST 16 - PERSONALITY FACTOR QUESTIONNAIRE

Stability coefficients reviewed by Cattell (1970) showed that test-retest on Form A over a two and one-half interval with an N of 44 had a correlation coefficient ranging from .36 (Q3 self-sentiment) to .85 (I premsia) with a mean of .62. On a group of 432 males on Form A with a four year interval the correlation coefficients ranged from .28 (B intelligence) to .63 (I premsia) with a mean of .47. Two hundred and four females were also tested on Form A over a four year interval and had a correlation coefficient ranging from .21 (N shrewdness) to .64 (H parmia) having a mean of .47.

McCarthy (1956) did a one to three year test-retest utilizing the 16PF on a congregation of teaching brothers (in the same environment) to determine the consistency of personality characteristics during the formation period. Groups 1, 2 and 3 were tested as postulants and retested at 1, 2 and 3 years respectively. Group 4 was tested first year of novitiate, Group 5 second year of novitiate, and both retested in three years. The 16 personality traits were assessed at a fixed number of occasions for a varying number of individuals. In Groups 1 and 2 there were no significant differences between occasion and trait, but there were in the three remaining groups which were all tested at a three year interval. In Group 3 there was not only a significant difference between occasion and trait, but

all traits were not effected in the same way. Traits A, M, Q4 and H had lower scores and C increased. These traits indicated a change toward reserved precise behavior and an increased concern with correctness of behavior and a reduction of nervous tension. McCarthy felt these changes were related to the situational demands peculiar to the learning of a new occupational role. Group 3 was taking vows at that time and establishing a vocational choice. No other group showed this, but each group did respond in a systematic way and evidenced a significant amount of intertrait variability. McCarthy believes that individuals having a variety of traits can be accepted in a vocation and changes can be specific to given personality traits rather than reflecting an overall tendency to change.

TEST-RETEST ON STRONG VOCATIONAL INTEREST BLANK

The Women's SVIB appeared in 1933, and in 1943 Strong refers only to the retest done by Burgermeister on women (a study of 164 freshmen women at Barnard who were retested one year later.) There was no statistical significant difference between the mean scores on the occupational scale and the correlations ranged between .63 and .86 with an average of .77 on the sixteen scales.

Darley and Hagenah (1955) have found that test-retest correlations on the SVIB are somewhat lower than reported in the literature for intelligence and higher than personality and attitude. They feel that the behavior which is measured with the occupational keys of SVIB seems to be fairly stable over time.

In the 1971 Handbook for the SVIB, Campbell reviews the literature

for test-retest on women and although there are more than in 1943 there are still less for women than for men.

At the University of Minnesota 112 sophomore, age 19, took the SVIB at a two-week interval and the median coefficient was .89. Fifty-six University of Minnesota freshmen, at age 17, from the College of Liberal Arts took the SVIB test-retest at a three and one-half year interval and the median coefficient was .58.

Two groups of freshmen, at 17, from the University of Minnesota took SVIB test-retest at ten year interval. A group of 327 had median coefficients of .52 and the group of 56 had median coefficient of .56.

In 1942 Strong tested 380 women psychologists with a median age of 40 in order to establish the first scale for women psychologists on the SVIB. Eighty-one percent of the 178 who were still listed in the American Psychological Association Directory in 1966 completed a retest. The median coefficient was .65 with a 24 year interval. The subjects became slightly more scholarly and less scientific in their interests, but the most dominant feature over the twenty year period was that there had been almost no change and this is in agreement with similar results among male samples (Campbell 1968).

Thomas (1955) found in a fifteen year retest of college women on the SVIB that the median correlation of 25 scales was .64 with a range from .38 to .88. This is considerably lower than that reported for men over a twenty-two year period.

Ninety-one University of Minnesota freshmen, age 17, from the College of Liberal Arts were retested at twenty-six year interval and the median coefficient was .49.

SVIB test-retest studies on women reveal only one group, the psychologists who were tested initially as adults actively engaged in their profession. Their retest scores were more similar to male samples than the other retest studies done on college women. Data indicates that vocational interests of teen-age girls may be somewhat constricted but they expand with education. The trend may be reversed in the highly educated women psychologists.

Present evidence, however, indicates that women's interests are generally less channelized or less profoundly intense than are men's. On the women's blank many high scores in Groups IV and V will be found. These differences appear to be culturally determined, primarily since there are fewer 'career' women than there must be 'career' men in our society, high scores in IV and V are pragmatically to be expected, for these occupations plus retail sales, include the greatest proportion of women who work for a short period before marriage (Darley and Hagenah 1955 p. 70).

TEST-RETEST ON PERSONAL ORIENTATION INVENTORY

Reliability of the POI on test-retest has only been reported on two studies according to Knapp (1971).

College students were administered the POI within a one-week interval by Klatter and Mogar. Correlations ranged from .52 to .82 and with the exceptions of three subscales, correlations ranged from .71 to .85.

Illardi and May examined 46 student nurses over a one-year period and reported a coefficient range of .32 to .72. These authors felt that POI findings were well within ranges of test-retest reliability studies on MMPI and EPPS.

SUMMARY

Changes in the cultural milieu affect both the institution-church and the individual-woman religious. The Catholic Church in keeping up with the modern world augmented reform which affected the training and education of women religious. An increase in research has resulted as those in religious life have pursued higher education.

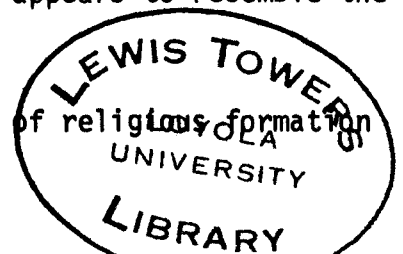
In investigating assessment of religious, findings indicate that although those interested in religious vocations had certain personality characteristics, there also were wide differences.

On the MMPI which has been widely used, religious were found to score higher than women-in-general. Although there was no definitive profile for persevering women religious, the scales elevated had a common psychological element, manifested in feelings of inadequacy, mild depression, introversion tendencies and lack of confidence.

Change was noted between Pre- and Post-Vatican studies of sister-teachers. The Pre-Vatican sister-teacher was found to be lower than the norms in ascendancy and sociability and higher in restraint, emotional stability and friendliness. They perceive themselves as more submissive, shy and withdrawn and are less inclined toward roles of leadership.

The Post-Vatican sister-teacher is more independent and sure of herself and does not fit the stereotyped picture of the submissive docile sister. The successful Pre-Vatican sister-teacher appears to resemble the "new" Post-Vatican sister-teacher.

Whether these changes are due to difference of religious formation



or the cultural milieu in which the sisters are reared before entrance into religious life remains a matter of conjecture.

Lay teachers investigated appear to fit the stereotyped picture of a docile, conforming individual.

The interests of sister-teachers are different from women-in-general and need to be more fully explored to assist the individual in her vocational choice as it relates to apostolic work.

Women religious are not as self-actualized as ex-women religious or married women. In addition, lay educators who are self-actualized are not as threatened by more free school situations. Individuals who are more self-actualized appear to be less interested in teaching.

In conclusion, the literature indicates that certain personality characteristics are manifested by women religious, however, there are also wide differences between individuals who enter religious life. Changes seem to occur within women religious which appear to be related to the religious and cultural environment.

Correlations for test-retest confirm findings that interests are more stable over time than certain personality characteristics or aspects of motivation. Also, the research evidence indicates that the SVIB, 16PF and POI are appropriate for test-retest use in this study.

CHAPTER III

EXPERIMENTAL DESIGN

Sister-teachers who volunteered for testing and interpretation in 1969 and for retesting in 1972 were studied longitudinally. The primary purpose was to delineate selected personality characteristics over the three year period. The present chapter will describe the experimental sample, the instruments, the procedure followed in obtaining the test results and the statistical methods employed.

SISTER-TEACHER SAMPLING

The original sample, tested in 1969, consisted of 96 sister-teachers who responded to letters (Appendix A) sent out by the Director of Research at Mundelein College. The letters were originally sent to all of the sister-teachers in the new Graduate Program in Religious Education and to members of the BVM order taking a variety of courses in the summer of 1969. The sample for this study was comprised of 62 sister-teachers who responded to a new, 1972 mailing (Appendices D and E) sent to the entire original sample.

All of the subjects were members of various religious congregations of women, had taught school and were registered at Mundelein in the summer of 1969. However, there were wide differences in age, teaching experience, length of time in religious life and education. A further description of the sample is presented in Table 1.

TABLE 1
 NORMATIVE DATA RANGE AND MEANS
 AGE, YEARS IN RELIGIOUS LIFE, TEACHING EXPERIENCE, SCHOOLING

Source	1969 Range	1969 Mean	1972 Range	1972 Mean
Age	25-65	35.56	25-65	38.56
Years in Religious Life	7-44	18.0	8-47	21.7
Years Teaching Experience	3-36	15.1	3-39	17.3
Years Completed School	15-20	17.2	16-20	18.2

Of the women religious, 45% were BVM's and 55% were from 15 different orders. Two women religious BVM's had not completed college in 1969, 41 had Bachelor's degrees, 8 had Master's degrees and 14 left the answer blank. In 1972, 1 more received a Bachelor's degree, 4 received Master's, 1 was a Master's candidate, and 44 left the answer blank.

There were 39 who listed themselves as Graduate Students in Religious Education, 3 as Special Students for graduate credit, and 16 as Special Students for undergraduate credit. One subject did not feel the categories applied.

All of the subjects except one had taken final vows. The subject who had not yet taken final vows left religious life after eight years, is single and doing secretarial work. Four other subjects left religious life and two are married.

A total of 60 of the 62 sister-teachers wished their tests interpreted to them.

The work experience which the sister-teachers had other than teaching is listed in Table 2.

TABLE 2
NON-TEACHING WORK EXPERIENCE*

Kinds of Work Experience	Number of Subjects	
	1969	1972
Parish	4	6
Archdiocese	0	3
Helping Roles (nurse, social worker, child care, etc.)	7	3
Principal	3	4
Administration	0	2
Religious Coordinator	0	11
Clerical-Sales-Technician	23	9
No experience other than teaching	22	18

*Totals do not add up to subjects as there was overlapping. Three subjects never had any other work experience except teaching.

INSTRUMENTS

The three tests utilized in this three year follow-up were the Strong Vocational Interest Blank (SVIB) revised by Dr. David Campbell, Cattell 16 Personality Factor Questionnaire (16PF), and Shostrom's Personal Orientation Inventory (POI). Each of these tests will be discussed with respect to nature, construction and scoring procedures.

STRONG VOCATIONAL INTEREST BLANK

The SVIB is the only standardized test found by this investigator which has been normed for women religious in the apostolic work on teaching. Strong and Campbell (1966) feel that the SVIB can help guide the student or employee into areas where they are likely to find the greatest job satisfaction. According to Super (1957) the first successful vocational interest inventory was the SVIB. Anastasi (1968) states that unlike other early tests, the SVIB has continually undergone research, extension and revision.

The methodology of this test is to differentiate the likes and dislikes between men/women in one occupation and men/women in other types of work. The test item analysis is based on providing the individual with "an index of the similarities between a person's interests and those of successful men (or women) in a wide range of occupations" (Campbell 1971 p. 1). The individual makes a choice of like, dislike or indifferent for every test item. The analysis is done by first comparing the responses to clusters of related items, for example, mechanical activities and second, to those individuals already established in a wide range of activities. Machine scoring provides a profile of the results.

The 1946 Form W of the SVIB was used to test the original sampling in 1969. This test had 400 items which were delineated into 30 occupational scales, and 9 families of occupations. There were three supplementary occupational scales including Catholic sister-teacher, which did not correlate sufficiently with the family groups to be included. The non-occupational scales consisted of masculine/feminine and academic achievement.

The 1969 revised women's form of the SVIB Form TW 398 was used in the 1972 retesting as the 1946 Form W could no longer be machine scored. Dr. David Campbell, who did the revision of the SVIB, was contacted and his suggestions were followed in utilizing the new form. Form TW 398 has 398 items and only 296 items are in common with the earlier Form W used in 1969. The Catholic sister-teacher items are comparable on both forms. Scoring for the revised Form TW 398 has 19 Basic Interest Scales, 58 Occupational Scales, delineated into 11 families of occupations. Catholic sister-teacher is now included in the social service family of occupations. In addition to feminine/masculine and academic achievement the non-occupational scales include diversity of interests and occupational introversion/extroversion.

Both the 1946 Form W and the 1969 Form TW 398 are divided into eight areas. However, there are differences in a few of the headings and item numbers as noted in Appendix H.

16 PERSONALITY FACTOR QUESTIONNAIRE

In order to arrive at as comprehensive a description of personality as possible, Cattell started by assembling all personality traits which occurred in both the dictionary compiled by Allport and Odbert (1936) and in psychiatric and psychological literature (Anastasi 1968). The list was first reduced to 171 traits by combining those which were obviously synonyms. Intercorrelations and factor analysis reduced this list to what "Cattell described as 'the primary source traits of personality,' a designation that seems to imply more universality and stability of results than appear justified by the antecedent research" (Anastasia 1968 p. 450).

The 16PF has been in use for 21 years increasing in reliability and validity.

Sister Thompson (1962) felt that the 16PF seemed to possess the most relevant characteristics of personality with the least irrelevant content for women religious. The 16PF Manual for 1970 contains a profile for nuns-missionary, priests, seminarians, priest-missionary and brothers. McCarthy (personal correspondence) has been collecting longitudinal data on 2,000 women religious in four communities which is as yet unpublished, but should form some normative data for the 16PF. As was noted in the review of the literature, several other studies also utilized the 16PF in studying women religious.

Forms A and B of the 16PF in the 1962 version consist of 187 three-choice items which give scores on the 16 bi-polar traits. Of the items, 184 actually contribute to the factor analysis and three are buffer items. Low scores represent one pole and high scores the other. Ten to thirteen items measure each variable. The personal preferences of the individual are indicated by a response of agreement, disagreement or uncertainty, which is scored 0, 1 or 2. The 16 variables are fully described in Appendix G.

PERSONAL ORIENTATION INVENTORY

In 1963 Shostrom developed the POI based on Maslow's theory of motivation and the development of the idea of the self-actualized individual. The self-actualizing individual lives a fuller, richer life than does the average individual. He/she is described as "developing and utilizing all of

his unique capabilities, or potentialities, free of inhibitions and emotional turmoil of those less self-actualized" (Shostrom 1968 p. 5).

The test consists of 150 two-choice comparative value judgments. Items were chosen empirically from significant value judgment problems which were seen by therapists at the Institute of Therapeutic Psychology. The scores were derived by Shostrom from Reisman's system of inner and outer directed, Maslow's self-actualization and May's and Perls' concept of time orientation. The scales are fully described in Appendix I.

The POI does not make the assumption that the individual knows the opposite of a question. Shostrom has the value items stated twice so that end poles of the dichotomy are made explicit, for opposites are often dictated by the context in which words are phrased.

The SVIB, 16PF and POI were selected for use in this study to provide a composite picture of the individual's interests, personality characteristics and motivational orientation.

PROCEDURE IN 1969

The original testing was done in 1969 by the Office of Research at Mundelein College and this investigator did not take part in that procedure. As was noted before, letters (Appendix A) were sent out to the women religious registered in Graduate Studies and the BVM's registered in courses at Mundelein College. Those who volunteered filled out a questionnaire (Appendix B) and were administered the SVIB, 16PF and POI hand scored by stencil. Individual appointments were arranged for 32 of the 96 sister-teachers for test interpretations.

PROCEDURE IN 1972

Utilizing the registrar's files at Mundelein, the Directory of the Sisters of Charity of the Blessed Virgin Mary and the files of the Graduate School, all the addressees of the original sampling were located except one listed by code number. A letter (Appendix D), questionnaire (Appendix E), SVIB, POI, 16PF and a stamped, self-addressed return envelope were sent to the original sampling. At the end of four weeks a second letter was sent to those who had not returned the test material (Appendix F). Four subjects refused to comply with the request for retest because they had not had interpretations in 1969. Letters and 1969 test interpretations were sent to them and one subject completed the tests and questionnaire. A deadline of 11 weeks after the original mailing was set for test results, and two tests which were received after that date were not included in the research.

DATA PROCESSING

The 16PF and the POI were hand scored by stencil. The individual answer sheets from the SBIV Form WE 1969 were transferred to NSC answer sheets and mailed along with the NSC answer sheets from 1972 to Dr. David Campbell at the University of Minnesota for processing. Descriptive statistics (percent and means) of the sampling (Tables 1 and 2) were based on tabulations of the questionnaires from 1969 and 1972.

DATA ANALYSIS

Information from 1969 and 1972 questionnaires, the raw scores of the POI, 16PF and SVIB were placed on IBM computer cards and processed by the Loyola Data Processing Center. Computer programming determined means, standard deviations of 1969 and 1972 SVIB, POI and 16PF and correlation coefficients between the 1969 and 1972 SVIB, POI and 16PF. The formula for Pearson was used:

$$r = \frac{EXY - (EX)(EY)}{N} \sqrt{\left[\frac{EX^2 - (EX)^2}{N} \right] \left[\frac{EY^2 - (EY)^2}{N} \right]}$$

The Pre- and Post- correlations measured the degree to which the relative ordering of the individual women religious scores changed over time in the selected personality characteristics and interests. The t-difference test measured the degree to which the overall group scores changed over time in the selected personality characteristics.

This chapter has included a description of the sampling population, the instruments, methods and procedures followed in obtaining and processing the data. Chapter IV will present and evaluate the results generated by data analyses.

CHAPTER IV

RESULTS OF DATA ANALYSIS

This chapter reports the findings of the Strong Vocational Interest Blank (SVIB), 16 Personality Factor Questionnaire (16PF) and the Personal Orientation Inventory (POI) for women religious in this study as well as comparisons with women-in-general or other related groups as indicated. The tests of the three hypotheses of this study are also included.

Pearson correlations were performed on the pre-1969 and post-1972 test variables on women religious in order to determine if the relative ordering of the individual scores remained the same. The t-difference method was performed on pre-1969 and post-1972 test variables on women religious in order to determine if the overall group differences remained the same. As will be noted in the various tables, if statistical significance is found in the Pearson correlation (r) it does not necessarily follow that there will be statistical significance in the t-difference test. The Pearson correlation and t-difference (t -diff) are not two sides of the same coin, for the data is not being evaluated in the same manner.

STRONG VOCATIONAL INTEREST BLANK

As was noted earlier, Dr. David Campbell had revised the women's form of the SVIB (see Handbook Campbell 1971 for details). After consultation with him, women religious were given the new Form TW 398 in 1972. Scoring of Form TW 398 and rescoreing of Form W was performed at the University of Minnesota under the direction of Dr. David Campbell.

In lieu of these changes, the 1969 profile is not completely accurate and the exact amount of inaccuracy cannot be detailed as it varies from scale to scale. According to Dr. Campbell (personal correspondence) the nun-teacher scale is exactly the same on both Form W and Form TW 398 so that the scale is directly comparable. In addition, the scales for Music Teacher, Music Performer, Social Worker, Dentist, Computer Programmer and Engineer are all based on the same criterion group for both Form W and Form TW 398 and directly comparable. On the Non-Occupational Scales, Academic Achievement, Introversion/Extroversion, Feminine/Masculine are directly comparable, but Diversity of Interests is not.

In adding or changing items, the comparability depends upon the items added and the popularity of the item in the same location on the earlier answer sheet. Although different forms were used in pre- and post-test, and some scales were directly comparable, all of the variables in the test were statistically analyzed. Therefore, in addition to changes over time, the results reflect the similarities and differences between Form W and Form TW 398 utilized on women religious in this study and the women-in-general on Form TW 398. Many factors compound the interpretation of the results and it is beyond the scope of this researcher to separate out the various factors. The overall results are given and notation made where the scales are comparable. Complete details of the exact changes found in Form W and Form TW 398 and item analysis of the various scales are found in Handbook for The Strong Vocational Interest Blank.

Appendix J contains a sample copy of one subject's answer sheets. Form WRA was the original profile sheet in 1969. Form 2000 represents the 1969 Form W data transferred to the new TW 398 profile sheet and

Form 4000 the 1972 Form TW 398 on the equivalent profile sheet.

SVIB WOMEN RELIGIOUS SCORES IN 1969
COMPARED TO WOMEN-IN-GENERAL

On Tables 3, 4 and 5 are listed the means and standard deviations of all scales of the SVIB (except the non-occupational scales) for women religious in 1969, women-in-general, and the results of the t tests and statistical significance.

Women religious in 1969 differed from women-in-general on the 19 Basic Interest Scales of the SVIB at the .05 confidence level and higher, thus rejecting the null hypothesis.

The Basic Interest Scales on Form W ranged from 5 to 12 items and on Form TW 398 from 6 to 18 items. The number of different items ranged from 1 to 7. Women religious scored higher than women-in-general on 11 of the scales and lower on 9 of the scales. There appeared to be no relationship between the number of items which were different and whether the scores were higher or lower.

Women religious differed from women-in-general on 46 of the 58 occupational scales at the .05 confidence level and higher. The null hypothesis was rejected for these scales. No statistical significance was found on the following occupational scales: English Teacher, Language Teacher, Recreation Leader, Translator, Mathematician, Math-Science Teacher, Life Insurance Underwriter, Registered Nurse, Dental Assistant, Executive Housekeeper, Instrument Assembler and Sewing Machine Operator. The null hypothesis was accepted for these 12 scales as women religious resembled women-in-general.

SVIB BASIC INTEREST SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND WOMEN-IN-GENERAL

Basic Interest Scales	Women Religious N = 62		Women In General N = 1,000		t-test of means
	1969 \bar{X} Form W	1969 SD Form W	\bar{X} Form TW398	SD Form TW398	
Public Speaking	51.2	10.7	50.0	10.0	- 3.50**
Law/Politics	49.2	10.3	↓	↓	2.94*
Merchandising	47.8	9.2	↓	↓	6.48**
Office Practices	52.4	8.5	↓	↓	- 7.09**
Numbers	48.3	8.7	↓	↓	5.02**
Physical Science	46.8	8.2	↓	↓	9.46**
Mechanical	52.1	7.2	↓	↓	- 6.23**
Outdoors	51.4	9.4	↓	↓	- 4.12**
Biological Sciences	49.0	9.6	↓	↓	2.94**
Medical Service	51.6	8.7	50.0	10.0	- 4.72**
Teaching	55.2	7.2	↓	↓	-15.44**
Social Service	53.3	7.6	↓	↓	- 9.78**
Sports	47.1	7.7	↓	↓	8.59**
Homemaking	47.8	9.3	↓	↓	6.47**
Religious Activities	52.7	4.9	↓	↓	- 8.07**
Music	51.0	10.2	↓	↓	- 2.93**
Art	52.6	8.9	↓	↓	- 7.66**
Performing Arts	48.7	9.6	↓	↓	3.82**
Writing	50.7	9.9	50.0	10.0	- 2.05**

Degrees of Freedom = 1060

* = Significant at .05 confidence level

** = Significant at .01 confidence level

SVIB OCCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND WOMEN-IN-GENERAL

Occupational Scales		Women Religious N = 62		Women-In-General N = 1,000		t-test of means
		1969 \bar{X} Form W	1969 SD Form W	\bar{X} Form TW398	SD Form TW398	
<u>Music Teacher (#)</u>	I	32.0	9.9	23.6	13.2	-19.47**
<u>Entertainer</u>		25.4	10.7	24.5	13.7	- 2.01*
<u>Musician Performer</u>		32.8	10.2	29.6	12.8	- 7.61**
<u>Model</u>		24.8	11.1	25.8	12.7	2.39*
<u>Art Teacher</u>	II	25.23	12.5	19.3	19.3	- 9.61**
<u>Artist</u>		27.4	10.2	25.9	13.8	- 3.34**
<u>Interior Decorator</u>		13.42	10.9	17.9	16.7	8.41**
<u>Newswoman</u>	III	30.3	11.2	28.4	14.8	- 3.96**
<u>English Teacher</u>		31.6	11.1	30.9	14.1	- 1.52
<u>Language Teacher</u>		31.6	9.2	31.7	13.7	0.23
<u>YWCA Staff Member</u>	IV	35.5	11.4	31.4	12.5	- 9.91**
<u>Recreation Leader</u>		34.0	11.3	33.3	12.0	- 1.75
<u>Dir. Christian Ed.</u>		30.4	9.3	22.3	14.3	-17.51**
<u>Nun-Teacher</u>		35.2	10.2	16.9	12.3	-44.75**
<u>Guidance Counselor</u>		34.8	13.3	28.9	14.0	-12.83**
<u>Social Science Teacher</u>		33.7	9.7	32.1	11.6	- 4.15**
<u>Social Worker</u>		32.2	11.4	24.5	12.9	-18.11**
<u>Speech Pathologist</u>	V	33.6	13.6	27.5	14.6	-12.78**
<u>Psychologist</u>		19.4	11.0	17.1	17.7	- 4.07**
<u>Librarian</u>		29.0	9.1	33.0	14.7	- 8.44**
<u>Translator</u>		26.1	8.6	26.7	14.6	1.28
<u>Physician</u>	VI	25.3	9.1	27.1	15.6	3.60**
<u>Dentist</u>		20.1	8.3	25.0	11.6	12.78**
<u>Medical Technologist</u>		25.8	9.4	27.7	14.3	4.11**
<u>Chemist</u>		12.6	8.3	11.7	18.8	- 1.51
<u>Mathematician</u>		17.6	9.4	16.2	17.2	- 2.55*
<u>Computer Programmer</u>		20.5	9.6	25.2	11.6	12.20**
<u>Math-Science Teacher</u>		32.5	7.4	32.1	12.1	- 1.00
<u>Engineer</u>		16.8	10.3	22.4	13.9	12.30**

Degree of Freedom = 1060

= Underscored occupations in Form W and Form TW398

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

SVIB OCCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND WOMEN-IN-GENERAL

Occupational Scales	Women Religious N = 62		Women-In-General N = 1,000		t-test of means
	1969 \bar{X} Form W	1969 SD Form W	\bar{X} Form TW398	SD Form TW398	
Army-Enlisted VII	34.5	8.4	31.0	11.2	- 9.40**
Navy-Enlisted	34.4	6.2	33.0	10.9	- 3.88**
Army-Officer	32.6	11.6	30.6	12.3	- 4.90**
Navy-Officer	34.0	6.7	35.8	10.1	5.31**
Lawyer VIII	23.3	9.1	26.3	13.6	6.79**
Accountant	19.0	8.6	23.8	12.2	11.97**
Bankwoman	27.4	10.0	29.3	11.6	4.92**
Life Ins. Underwriter	23.9	9.0	24.6	11.4	1.85
Buyer	19.3	10.0	21.6	9.9	6.80**
Business Ed. Teacher	25.5	10.0	24.4	12.4	- 2.69**
Home Economic Teacher IX	23.6	10.5	24.7	15.6	1.19*
Dietician	26.4	9.9	31.5	11.6	13.22**
Physical Ed. Teacher X	30.5	7.4	28.7	12.6	- 4.38**
Occupational Therapist	39.7	10.5	33.7	12.9	-14.16**
Physical Therapist	33.4	10.4	34.4	13.2	2.31*
Public Health Nurse	42.0	10.1	29.3	12.4	-31.06**
Registered Nurse	30.3	10.1	29.7	12.5	- 1.46
Lic. Practical Nurse	31.7	9.3	26.9	13.8	-10.71**
Radiology Technologist	29.5	10.0	30.9	14.1	3.06**
Dental Assistant	28.9	9.5	28.7	14.6	- 0.42
Executive Housekeeper XI	30.21	9.2	29.6	13.2	- 1.39
Elementary Teacher	40.2	8.8	34.7	13.1	-12.87**
Secretary	34.6	9.7	32.6	12.7	- 4.80**
Saleswoman	27.4	11.0	26.1	15.2	- 2.65**
Telephone Operator	27.0	12.3	25.0	17.1	- 3.65**
Instrument Assembler	27.5	9.9	27.2	14.0	- 0.66
Sewing Machine Operator	18.2	13.5	18.7	16.0	0.97
Beautician	34.1	7.7	31.3	11.2	- 7.54**
Airline Stewardess	25.7	12.2	26.8	14.2	2.37*

Degree of Freedom = 1060

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

On the seven occupational scales which were comparable on both forms women religious differed from women-in-general. There were 39 other occupational scales on which women religious differed. No conclusions could be drawn as to the reasons for this since item analysis was not done and the scales were not similar on the forms used for both groups of women.

SVIB WOMEN RELIGIOUS SCORES IN 1972 COMPARED TO WOMEN-IN-GENERAL

On Tables 6, 7 and 8 are listed the means and standard deviations of all scales of the SVIB (except the non-occupational scales) for women religious in 1972, women-in-general, and the results of the t-tests and statistical significance.

Unlike the 1969 test, all scales of the SVIB which the women religious took in 1972 are comparable to the scales for women-in-general.

Women religious differed from women-in-general on 14 of the 19 Basic Interest Scales on the SVIB at the .05 confidence level and higher. The null hypothesis was therefore rejected for these 14 scales. On the following Basic Interest Scales on the SVIB: Public Speaking, Merchandising, Medical Service, Homemaking and Writing, women religious did not differ from women-in-general and therefore the null hypothesis was accepted.

The standard deviation for women-in-general was the same for all Basic Interest Scales on the SVIB. However, for women religious the standard deviation was much less on Religious Activities and Teaching, indicating that in addition to the means being higher, the overall differences in item choice was closer for women religious as a group than women-in general.

TABLE 6

SVIB BASIC INTEREST SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND WOMEN-IN-GENERAL

Basic Interest Scales	Women Religious N = 62		Women-In-General N = 1,000		t-test of means		
	1969 \bar{X} Form W398	1969 SD Form W398	\bar{X} Form W398	SD Form W398			
Public Speaking	49.9	11.0	50.0	10.0	0.29		
Law/Politics	49.2	10.0	↓	↓	2.35*		
Merchandising	49.6	9.5			1.18		
Office Practices	51.5	9.6			- 4.41**		
Numbers	46.6	9.0			10.02**		
Physical Science	45.4	10.4			13.46**		
Mechanical	45.5	10.1			13.19**		
Outdoors	49.2	10.4			2.34**		
Biological Science	48.0	10.9			5.84**		
Medical Service	49.7	11.0			50.0	10.0	0.00
Teaching	53.3	7.9			↓	↓	- 9.77**
Social Service	55.8	9.4	-17.06**				
Sports	49.4	9.6	1.76				
Homemaking	49.6	10.3	0.00				
Religious Activities	57.1	6.9	-21.10**				
Music	51.5	9.5	- 4.41**				
Art	52.2	8.8	- 6.49**				
Performing Arts	50.7	9.8	- 2.56**				
Writing	50.5	10.7	50.0	10.0			- 1.46

Degree of Freedom = 1060

* = Significant at .05 confidence level

** = Significant at .01 confidence level

SVIB OCCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND WOMEN-IN-GENERAL

Occupational Scales		Women Religious N = 62		Women-In-General N = 1,000		t-test of means
		1972 \bar{X} Form TW398	1972 SD Form TW398	1972 \bar{X} Form TW398	1972 SD Form TW398	
Music Teacher (#)	I	29.9	11.2	23.6	13.2	-14.54**
Entertainer		24.2	11.8	24.5	13.7	0.67
Musician Performer		31.6	10.4	29.6	12.8	- 4.75**
Model		23.2	12.2	25.8	12.7	6.18**
Art Teacher	II	23.4	15.2	19.3	19.3	- 6.64**
Artist		25.0	11.6	25.9	13.8	2.00*
Interior Decorator		14.2	12.5	17.9	16.7	6.89**
Newswoman	III	28.2	12.7	28.4	14.8	- 0.42
English Teacher		27.4	13.0	30.9	14.1	-14.07**
Language Teacher		36.7	12.8	31.7	13.7	-11.10**
YWCA Staff Member	IV	35.9	12.6	31.4	12.5	-10.83**
Recreation Leader		36.5	11.6	33.3	12.0	- 8.25**
Dr., Christian Ed.		36.9	11.3	22.3	14.3	-31.38**
Nun-Teacher		33.3	12.4	16.9	12.3	-39.76**
Guidance Counselor		37.7	14.2	28.9	14.0	-19.08**
Soc. Science Teacher		37.2	12.1	32.1	11.6	-13.10**
Social Worker		28.8	11.1	24.5	12.9	-10.13**
Speech Pathologist	V	30.4	11.4	27.5	14.6	-16.12**
Psychologist		16.1	11.5	17.1	17.7	1.77
Librarian		33.0	9.4	33.0	14.7	0.21
Translator		22.6	10.3	26.7	14.6	8.67**
Physician	VI	21.6	12.1	27.1	15.6	10.91**
Dentist		18.7	10.3	25.0	11.6	16.31**
Medical Technologist		21.9	13.0	27.7	14.3	12.40**
Chemist		7.8	13.4	11.7	18.8	6.50**
Mathematician		14.9	11.4	16.2	17.2	2.36*
Computer Programmer		20.6	10.4	25.2	11.6	11.90**
Math-Science Teacher		30.6	11.1	32.1	12.1	3.73**
Engineer		14.4	11.2	22.4	13.9	17.64**

Degree of Freedom = 1061

= Underscored occupations same in Form W and Form TW398

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

SVIB OCCUPATIONAL SCALES IN GROUPS
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1972 WOMEN-IN-GENERAL

Occupational Scales	Women Religious N = 62		Women-In-General N = 1,000		t-test of means
	1972 \bar{X} Form W	1972 SD Form W	\bar{X} Form TW393	SD Form TW398	
Army-Enlisted VII	30.5	10.3	31.0	11.2	1.33
Navy-Enlisted	31.5	8.8	33.0	10.9	4.12**
Army-Officer	28.0	11.6	30.6	12.3	6.37**
Navy-Officer	29.5	7.9	35.8	10.1	18.50**
Lawyer VIII	21.3	11.3	26.3	13.6	11.23**
Accountant	16.3	19.7	23.8	12.2	18.56**
Bankwoman	27.4	11.9	29.3	11.6	4.88**
Life Ins. Underwriter	24.8	10.6	24.6	11.4	- 0.53
Buyer	17.5	9.7	21.6	9.9	12.14**
Bus. Ed. Teacher	25.1	11.9	24.4	12.4	- 1.70
Home Econom. Teacher IX	27.9	12.8	24.7	15.6	- 6.33**
Dietician	25.2	11.4	31.5	11.6	16.23**
Phys. Ed. Teacher X	29.5	9.8	28.7	12.6	- 1.93
Occupational Therapist	37.4	11.9	33.7	12.9	- 8.69**
Physical Therapist	34.4	13.6	34.4	13.2	0.00
Public Health Nurse	40.3	10.7	29.3	12.4	-26.85**
Registered Nurse	35.8	11.4	29.7	12.5	-14.75**
Lic. Practical Nurse	29.1	12.6	26.9	13.8	- 4.86**
Radiology Tech.	27.2	12.7	30.9	14.1	8.02**
Dental Assistant	29.5	11.1	28.7	14.6	- 1.69
Exec. Housekeeper XI	30.7	11.1	29.6	13.2	- 2.54*
Elementary Teacher	41.6	11.6	34.7	13.1	-16.00**
Secretary	33.5	10.7	32.6	12.7	- 2.15*
Saleswoman	26.7	12.4	26.1	15.2	- 1.22
Telephone Operator	27.4	12.6	25.0	17.1	- 4.37**
Instrument Assembler	14.3	11.3	27.2	14.0	6.35**
Sewing Machine Operator	19.0	13.3	18.7	16.0	- 0.58
Beautician	32.3	8.2	31.3	11.2	- 2.69**
Airline Stewardess	26.5	12.9	26.8	14.2	0.65

Degree of Freedom = 1061

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

On the occupational scales of the SVIB in 1972, women religious differed from women-in-general on 45 of the scales at the .05 confidence level and higher. The null hypothesis was therefore rejected for those 45 scales. There was no statistically significant difference between women religious and women-in-general on the following 13 scales: Entertainer, Newswomen, Psychologist, Librarian, Army Enlisted, Life Insurance Underwriter, Business Education Teacher, Physical Education Teacher, Physical Therapist, Dental Assistant, Saleswoman, Sewing Machine Operator and Airline Stewardess. The null hypothesis was therefore accepted for these 13 scales as the interests of women religious resembled women-in-general.

SVIB PRE- AND POST- TEST COMPARISON OF WOMEN RELIGIOUS

Women religious means and standard deviations for all scales on the SVIB for 1969 pre-test and the 1972 post-test, correlations, t-difference and statistical significance are listed on Tables 9, 10, and 11. Considering the number of variables on SVIB, the correlations and t-difference will be discussed first on the Basic Interest Scales and Non-Occupational Scales, and then the Occupational Scales.

Dr. David Campbell (personal conversation) strongly advised against statistical comparisons of correlations of this research project with other studies and suggested that the median be used with an intuitive approach.

I firmly believe that nothing in the history of scientific psychology has retarded progress as much as the concept of statistical significance. This concept was originally developed to relieve the investigator of deciding what was important - regrettably - a good many investigators have

been willing to have the power taken out of their hands. Indeed, many feel a great deal of discomfort when deprived of the security of a significant, socially acceptable t-test. (Campbell 1971 p. x).

The correlations (r) for the 19 Basic Interest Scales ranged from .51 to .81 with a mean of .69 and a median of .73. The Non-Occupational Scales correlations ranged from .37 to .87 with a mean of .67 and a median of .72. Statistical significance was reached at the .05 level and higher on the 19 Basic Interest Scales and the 4 Non-Occupational Scales. The null hypothesis had to be accepted that there was no difference between the pre- and post-test results on the Basic Interest Scales and the Non-Occupational Scales.

As was noted earlier, the pre- and post-testing was on different forms of the SVIB; yet, there was no apparent relationship between the number of items which were different on the various Basic Interest Scales in 1969 and 1972 and the degree of correlation.

The Non-Occupational Scales are directly comparable on both forms except for Diversity of Interest Scale. However, the correlation on that scale was quite high - .73.

Feminine/Masculine correlation was .37, the lowest on the entire SVIB, indicating that the relative ordering of the individual scores had fluctuated more than on any other scale. The Feminine/Masculine "scale is oriented toward intellectual femininity with the stress on art, music, and verbal activities - not on homemaking, children, or domestic concerns" (Campbell 1971 p. 236). Considering the changes in religious life since Vatican II, women religious have more of an opportunity to engage in verbal activities, and to be involved with the arts. Therefore, the

SVIB BASIC INTEREST SCALES AND NON-OPPCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969-1972

Basic Interest Scales	Women Religious N = 62		Women Religious N = 62		Pearson Correl.	t- diff
	1969 \bar{X}	1969 SD	1972 \bar{X}	1972 SD		
Public Speaking	51.2	10.7	49.9	11.0	.81**	1.47
Law/Politics	49.2	10.3	49.2	10.0	.74**	0.05
Merchandising	47.8	9.2	49.6	9.5	.64**	-1.72
Office Practices	52.4	8.5	51.5	9.6	.71**	1.08
Numbers	48.3	8.7	46.6	9.0	.80**	2.24*
Physical Science	46.8	8.2	45.4	10.4	.75**	1.65
Mechanical	52.1	7.2	45.5	10.1	.74**	7.59**
Outdoors	51.4	9.4	49.2	10.4	.79**	2.72*
Biological Science	49.0	9.6	48.0	10.9	.76**	1.15
Medical Service	51.6	8.7	49.7	11.0	.80**	2.29*
Teaching	55.2	7.2	53.3	7.9	.58**	2.16*
Social Service	53.3	7.6	55.8	9.4	.65**	-2.69**
Sports	47.1	7.7	49.4	9.6	.80**	-3.17*
Homemaking	47.8	9.3	49.6	10.3	.65**	-1.72
Religious Activities	52.7	4.9	57.1	6.9	.51**	-5.56**
Music	51.0	10.2	51.5	9.5	.51**	-0.43
Art	52.6	8.9	52.2	8.8	.58**	0.42
Performing Arts	48.7	9.6	50.7	9.8	.60**	-1.77
Writing	50.7	9.9	50.5	10.7	.73**	0.22
Non-Occupational Scales						
Academic Achievement	43.9	9.5	45.7	8.6	.72**	-2.08*
Divers. of Interest	50.1	9.9	52.2	10.6	.73**	-1.48
Feminine/Masculine	48.8	7.1	50.7	8.2	.37**	-1.74
Introversion/Extroversion	49.7	15.1	50.3	15.4	.87**	-0.63

Degree of Freedom = 610

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

t-diff = t difference method for t-test

SVIB OCCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969-1972

Occupational Scales	Women Religious N = 62		Women Religious N = 62		Pearson Correl.	t- diff
	1969 \bar{X} Form W	1969 SD Form W	1972 \bar{X} Form TW398	1972 SD Form TW398		
<u>Music Teacher</u> # I ϕ	32.0	9.9	29.9	11.2	.75**	2.09*
<u>Entertainer</u>	25.4	10.7	24.2	11.8	.79**	1.12
<u>Musician Performer</u>	32.8	10.2	31.6	10.4	.72**	1.26
<u>Model</u>	24.8	11.1	23.2	12.2	.87**	2.06*
Art Teacher II	25.2	12.5	23.4	15.2	.63**	1.19
Artist	27.4	10.2	25.0	11.6	.76**	2.51*
Interior Decorator	13.4	10.9	14.2	12.5	.67**	-0.66
Newswoman III	30.3	11.2	28.2	12.7	.86**	2.44*
English Teacher	31.6	11.1	27.4	13.0	.79**	-5.72**
Language Teacher	31.6	9.2	36.7	12.8	.73**	-5.43**
YWCA Staff Member IV	35.5	11.4	35.9	12.6	.89**	-0.48
Recreation Leader	34.0	11.3	36.5	11.6	.84**	-1.91
Dr. Christian Ed.	30.4	9.3	36.9	11.3	.66**	-5.95**
<u>Nun-Teacher</u>	35.2	10.2	33.3	12.4	.73**	1.82
<u>Guidance Counselor</u>	34.8	13.3	37.7	14.2	.79**	-2.60*
<u>Soc. Science Teacher</u>	33.7	9.7	37.2	12.1	.73**	-3.40**
<u>Social Worker</u>	32.2	11.4	28.8	11.1	.73**	3.23**
Speech Pathologist V	33.6	13.6	30.4	11.4	.84**	3.36**
Psychologist	19.4	11.0	16.1	11.5	.80**	2.95**
Librarian	29.0	9.1	33.0	9.4	.75**	-4.64**
Translator	26.1	8.6	22.6	10.3	.74**	3.99**
Physician VI	25.3	9.1	21.6	12.1	.69**	3.35**
<u>Dentist</u>	20.1	8.3	18.7	10.3	.82**	1.67
<u>Medical Technologist</u>	25.8	9.4	21.9	13.0	.78**	3.54**
Chemist	12.6	8.3	7.8	13.4	.74**	2.39*
Mathematician	17.6	9.4	14.9	11.4	.63**	1.58
<u>Computer Programmer</u>	20.5	9.6	20.6	10.4	.73**	-0.08
<u>Math-Science Teacher</u>	32.5	7.4	30.6	11.1	.81**	2.21*
<u>Engineer</u>	16.8	10.3	14.4	11.2	.84**	2.45*

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

t-diff = t difference method for t-test

ϕ = Occupation in a group or family

= Underlined, occupations are exactly same on W and Form TW398

SVIB OCCUPATIONAL SCALES
MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969-1972

Occupational Scales	Women Religious N = 62		Women Religious N = 62		Pearson Correl.	t-test of means
	1969 \bar{X} Form W	1969 SD Form W	1972 \bar{X} Form TW398	1972 SD Form TW398		
Army-Enlisted VII ϕ	34.5	8.4	30.4	10.3	.77**	4.79**
Navy-Enlisted	34.4	6.2	31.5	8.8	.60**	3.22**
Army-Officer	32.6	11.6	28.0	11.6	.80**	4.82**
Navy-Enlisted	34.0	6.7	29.5	7.9	.64**	5.71**
Lawyer VIII	23.3	9.1	21.3	11.3	.83**	2.28*
Accountant	19.0	8.6	16.3	10.7	.76**	2.72**
Bankwoman	27.4	10.0	27.4	11.9	.80**	-0.04
Life Ins. Underwriter	23.9	9.0	24.8	10.6	.84**	-1.22
Buyer	19.3	10.0	17.5	9.7	.75**	2.01*
Bus. Ed. Teacher	25.5	10.0	25.1	11.9	.82**	0.47
Home Econ. Teacher IX	23.6	10.5	27.9	12.8	.62**	-3.21**
Dietician	26.4	9.9	25.2	11.4	.63**	1.00
Physical Ed. Teacher X	30.5	7.4	29.5	9.8	.79**	1.23
Occupational Therapist	39.7	10.5	37.4	11.9	.70**	2.12*
Physical Therapist	33.4	10.4	34.3	13.6	.83**	-1.26
Public Health Nurse	42.0	10.1	40.3	10.7	.64**	1.48
Registered Nurse	30.3	10.1	35.8	11.4	.68**	-4.93**
Lic. Practical Nurse	31.7	9.3	29.1	12.6	.79**	2.48*
Radiology Tech.	29.5	10.0	27.2	12.7	.79**	2.36*
Dental Assistant	28.9	9.5	29.5	11.1	.74**	-0.55
Exec. Housekeeper XI	30.2	9.2	30.7	11.2	.73**	-0.54
Elementary Teacher	40.2	8.8	41.6	11.6	.71**	-1.32
Secretary	34.6	9.7	33.5	10.7	.78**	1.23
Saleswoman	27.4	11.0	26.7	12.4	.80**	0.68
Telephone Operator	27.0	12.3	27.4	12.6	.78**	-0.37
Instrument Assembler	27.5	9.9	24.3	11.3	.82**	3.94**
Sewing Machine Operator	18.2	13.5	19.0	13.3	.87**	-0.83
Beautician	34.1	7.7	32.3	8.2	.76**	2.57*
Airline Stewardess	25.7	12.2	26.5	12.9	.70**	-0.66

Degree of Freedom = 61

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

ϕ = Occupations in a group or family

increase in this score on the post-test with a low r indicates individual changes possibly related to personal adjustments to Vatican II.

On the Introversion/Extroversion Scale the correlation was .87, which was very high. The standard deviation was large for both pre- and post-testing indicating that there is a great deal of variability between the women religious on this scale. This is different from the small standard deviation on Religious Activities and the close similarities of interests of women religious on that scale. Women religious have some interests which are indicative of them as a group and some which are related to them as individuals. These findings are congruent with Super's theory and the results of McCarthy and Thompson.

On the t -difference test, statistical significance was reached at the .05 confidence level and higher on the following eight Basic Interest Scales: Numbers, Mechanical, Outdoors, Medical Service, Teaching, Social Service, Sports and Religious Activities. The null hypothesis was rejected for these scales and accepted for the other 11 Basic Interest Scales. The overall group scores increased on 7 Basic Interest Scales; 3 reached statistical significance and decreased on 11; 5 reached statistical significance and 1 scale remained the same.

On 14 of the Basic Interest Scales the standard deviations increased, indicating a greater overall variability between women religious as a group. In lieu of the test changes and the time lapse, no explanation for the group differences was feasible.

The means on all Non-Occupational Scales increased. Only Academic Achievement was statistically significant at the .05 confidence level. The null hypothesis was rejected for this scale and accepted on the other 3.

Correlations on the 58 Occupational Scales on the SVIB ranged from .60 to .89 with a mean of .76 and a median of .76. Statistical significance was reached at the .05 confidence level and higher and the null hypothesis was therefore accepted. There was no change between the individual relative ordering of the pre- and post-test scores for women religious.

Correlations on the 7 comparable scales (those underlined on Table 10) ranged from .72 to .84 with a mean of .76 and a median of .73. On the 51 Occupational Scales which had different criterion groups for Form W 1969 and Form TW 398 1972, the correlations ranged from .60 to .89 with a mean of .76 and a median of .77. Although the differences are greater than the similarities on all Occupational Scales, the overall correlations are high.

On 33 Occupational Scales the overall group scores decreased on 25 scales, increased on 8, and reached statistical significance at the .05 confidence level and higher. The null hypothesis was therefore rejected for these 33 Occupational Scales as there was an overall group change between pre- and post-testing. Of the remaining 25 Occupational Scales which did not reach statistical significance, 13 decreased and 12 increased. The null hypothesis was therefore accepted for these 25 Occupational Scales, as there was no overall group differences between pre- and post-testing.

As was noted before, 7 Occupational Scales were comparable on the pre- and post-testing. There was a decrease in the scores and statistical significance was reached at the .05 confidence level and higher on Music Teacher, Social Worker and Engineer. The null hypothesis was therefore rejected for these 3 scales as there was a difference between pre- and post-testing. There was no statistically significant difference on the remaining 4 comparable scales. The null hypothesis was accepted that there was no

difference between the pre- and post-testing on the overall group scores on Computer Programmer which increased, and Musician Performer, Nun-Teacher and Dentist, which decreased.

SUMMARY OF THE SVIB RESULTS

Although the item content on Form W 1969 and Form TW 398 1972 was different for the Basic Interest Scales, women religious' interests differed from women-in-general on 13 of the scales. No assumptions were made by this researcher as to why the women religious' interests were similar to women-in-general in 1972 on Public Speaking, Merchandising, Medical Service, Sports, Homemaking and Writing. Differences and similarities can be attributed to either test differences or changes in women religious over time.

In both 1969 and 1972 women religious differed from women-in-general on 36 of the Occupational Scales and were similar on 2 scales. There was a shift of interests on the 20 remaining scales. Women religious differed in all occupational scales in Group II which involved indirect limelight product-making occupations, and in Group IX which involved fairly mundane stereotyped occupations.

In 1969 women religious scored 35 = B on Nun-Teacher scale and in 1972 scored 33 = B on Nun-Teacher scale. The low scores and letter rating on the Nun-Teacher scale in both pre- and post-test could possibly be related to the five women religious who left religious life between 1969 and 1972. However, since the data for the criterion group for the Nun-Teacher scale was collected in 1962, four years before Vatican II, "detotalization" effects might possibly be reflected in how women religious in this study

answered the items on the Nun-Teacher scale. Item analysis would have to be performed between the women religious in this sample and the Nun-Teacher criterion group to assess the differences. This type of investigation was beyond the scope of this research project.

The correlations for 80 of the variables on the SVIB were significant at the .001 confidence level and at the .01 confidence level for only one variable. Although the pre- and post-test had 100 different items the correlations were .60 and higher, indicating that the degree to which the relative ordering of individual scores remained the same was quite high.

In approximately half of the variables, there was a significant difference in the manner in which the overall group answered the pre- and post-test. It was not feasible to determine if this was due to the three year follow-up, environmental changes or test differences. In 1969 women religious differed from women-in-general on 68 of the variables and in 1972 on 63 of the variables. The largest shift in one section was in the Basic Interest Scales.

Women religious differ in many scales from women-in-general indicating that as a group women religious have some distinct areas of interest. However, they also resemble women-in-general in some interests.

16 PERSONALITY FACTOR QUESTIONNAIRE

The 1969 and 1972 means and standard deviations have been converted to sten scores utilizing the following formula (Institute for Personality and Ability Testing, IPAT, Test Service Division):

$$\frac{\bar{X}_1 - \bar{X}_2}{SD_2} = z \text{ times } 2 + 5,5 = \text{sten score for this study } S\bar{X}$$

$$\frac{SD_1}{SD_2} = sz \text{ times } 2 = \text{sten standard deviation for this study } SSD$$

\bar{X}_1 = mean score of women religious in this study

\bar{X}_2 = mean score of General Female Population, Form A, Age 35

SD_1 = standard deviation women religious in this study

SD_2 = standard deviation General Female Population, Form A, Age 35

The sten scores derived with the preceding formula were utilized in comparing women religious in 1969 and 1972 with general female population and nuns-missionary. Formulas for the t-test obtained from IPAT are as follows:

$$t = \frac{S\bar{X} - 5.5}{SSD\sqrt{N}} = \text{women religious compared to general female population}$$

$$t = \frac{S\bar{X} - U_{pop}}{SSD\sqrt{N}} = \text{women religious compared to nuns-missionary}$$

N = Number in this research sample (Varies 1969-1972)

U_{pop} = nuns-missionary (Cattell, Eber and Tatsuoka 1970)

In 1969, women religious (Appendix C) were tested on 16PF Forms A and B 1962 Edition and no notation was made as to which form was taken by the subject. For this reason, the Test Service Division of IPAT was consulted. They considered the research project valid if the same editions for the pre- and post-test were used, although the forms varied and

correlations might possibly be slightly lower. In 1972, Form A 1962 Edition of 16PF was utilized for all subjects.

The 16PF Profile Sheet (page 66.) includes the low and high descriptions of the factors, as well as the average score (dark area) and the sten scores for 1969 and 1972 women religious for this study, and nuns-missionary.

16PF WOMEN RELIGIOUS SCORES IN 1969 COMPARED TO GENERAL FEMALE POPULATION

The sten means and standard deviations for women religious in 1969, general female population, the results of the t-tests and statistical significance are listed on Table 12.

Women religious differed from general female population on Factor A, B, G, I, L, M, N, O, Q1, Q2, and Q3 at the .05 confidence level and higher, thus rejecting the null hypothesis. There was no statistically significant difference on Factor C, E, F, H, and Q4, and the null hypothesis was therefore accepted for these variables.

In 1969, women religious were more reserved (A-low), more intelligent (B-high), more conscientious (G-high), more dependent (I-high), more trusting (L-low), more imaginative (M-high), more spontaneous (N-low), more scrupulous (O-high), more experimenting (Q1-high), more self-sufficient (Q2-high), and more lax (Q3-low) than the general female population. Women religious were similar to the average general female population on ego weakness/ego strength (low-C-high), submissive/dominant (low-E-high), serious/happy-go-lucky (low-F-high), restrained/impulsive (low-H-high), relaxed/tense (low-Q4-high).

16PF STEN MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND GENERAL FEMALE POPULATION

16PF	Women Religious N = 62		General Female Population B = 1701		t-test of means
	1969 \overline{SX}	1969 SSD	\overline{SX}	SSD	
1. A	4.8	2.1	5.5	3.3	- 2.63*
2. B	8.9	1.3		2.1	20.59**
3. C	5.1	1.9		4.2	- 1.66
4. E	5.3	1.8		4.1	- 0.88
5. F	5.3	2.1		4.3	- 0.75
6. G	6.1	1.8		3.3	2.65*
7. H	5.4	2.4		5.0	- 0.33
8. I	6.8	1.5		2.9	6.82**
9. L	4.7	2.0	5.5	3.1	- 3.15**
10. M	6.6	2.2		3.3	3.94**
11. N	4.0	2.0		2.6	- 5.91**
12. O	7.4	2.4		3.8	6.23**
13. Q1	7.3	2.0		2.8	7.09**
14. Q2	6.1	1.7		3.4	2.78**
15. Q3	4.7	2.1		3.0	- 3.00**
16. Q4	5.4	1.4	5.5	5.0	- 0.56

Degree of Freedom = 60 (formula IPAT)

* = Significant at the .05 confidence level

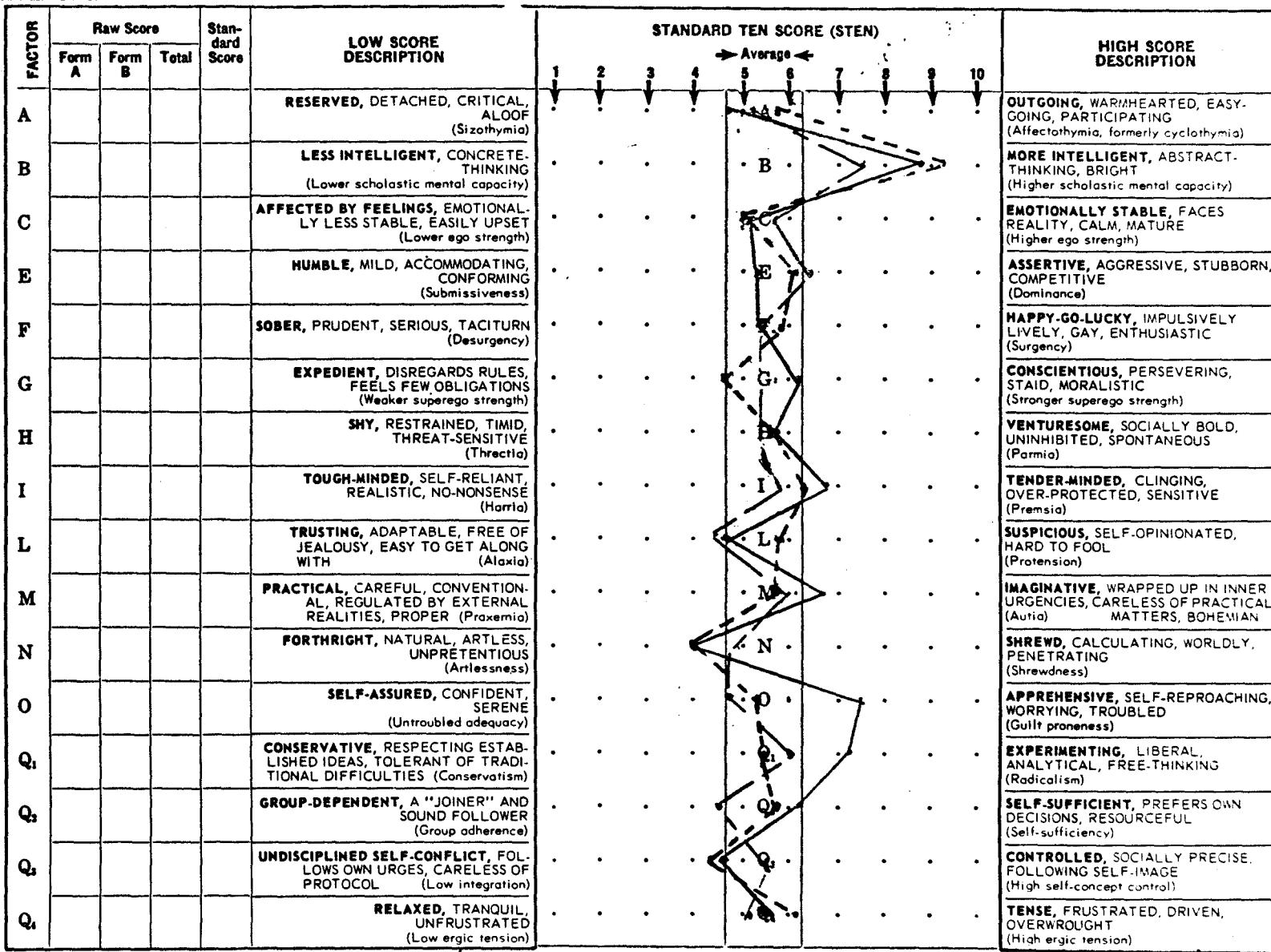
** = Significant at the .01 confidence level



— Women Religious 1969
 --- Women Religious 1972

16 PF TEST PROFILE

Mean General Population Female 5.5
 Nuns Missionary



Name: _____
 Comments: _____

16 PF, Forms A and B, Copyright © 1956, 1957, 1961, 1962, 1967, Institute for Personality and Ability Testing, 1602-04 Coronado Drive, Champaign, Illinois, U.S.A. All property rights reserved. Printed in U.S.A.

A sten of 1 2 3 4 5 6 7 8 9 10 is obtained by about 2.3% 4.4% 9.2% 15.0% 19.1% 19.1% 15.0% 9.2% 4.4% 2.3% of adults

16 PF-ABp-8A

16PF WOMEN RELIGIOUS SCORES IN 1969
 COMPARED TO NUNS-MISSIONARY

The sten means and standard deviations for women religious in 1969, nuns-missionary and the results of the t-tests and statistical significance are listed on Table 13.

Women religious differed from nuns-missionary on Factor B, C, E, G, I, N, O, Q1, Q2, Q3 at the .05 confidence level and higher, thus rejecting the null hypothesis. There was no statistically significant difference on Factor A, F, H, L, M, and Q4 and the null hypothesis was therefore accepted for these variables.

In 1969 women religious were more intelligent (B-high), more worrying (C-low), more submissive (E-low), more persevering (G-high), more dependent (I-high), more spontaneous (N-low), more apprehensive (O-high), more radical (Q1-high), more group-dependent (Q2-high), and more lax (Q3-low) than nuns-missionary. Women religious were similar to nuns-missionary, more reserved (A-low), sober/enthusiastic (low-F-high), shy/adventurous (low-H-high), more trusting (L-low), more imaginative (M-high), and more relaxed/tense (Q4-high).

16PF WOMEN RELIGIOUS SCORES IN 1972
 COMPARED TO GENERAL FEMALE POPULATION

The sten means and standard deviation for women religious in 1972, general female population and the result of the t-tests and statistical significance are listed on Table 14.

Women religious differed from general female population on Factor B, E, G, I, N, Q3, Q4 at the .05 confidence level and higher, thus rejecting the null hypothesis. There was no statistically significant difference on

16PF STEN MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND NUNS-MISSIONARY

16PF	Women Religious N = 62		Nuns-Missionary N = 93		t-test of means
	1969 \bar{SX}	1969 SSD	\bar{SX}	SSD	
1. A	4.8	2.1	5.1	2.2	-1.13
2. B	8.9	1.3	7.5	1.5	8.48**
3. C	5.1	1.9	5.6	1.7	-2.07*
4. E	5.3	1.8	6.3	1.9	-4.37**
5. F	5.3	2.1	5.4	1.9	-0.38
6. G	6.1	1.8	5.4	1.8	3.06**
7. H	5.4	2.4	5.4	2.1	0.00
8. I	6.8	1.5	5.9	1.8	4.72**
9. L	4.7	2.0	4.5	1.8	0.79
10. M	6.6	2.2	6.1	2.1	1.79
11. N	4.0	2.0	4.9	2.0	-3.54**
12. O	7.4	2.4	4.8	1.8	8.53**
13. Q1	7.3	2.0	6.0	2.2	5.11**
14. Q2	6.1	1.7	4.6	2.0	6.95**
15. Q3	4.7	2.1	5.4	1.8	-2.63*
16. Q4	5.4	1.4	5.1	1.7	1.79

Degree of Freedom = 60 (formula IPAT)

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

16PF STEN MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS-1972 AND GENERAL FEMALE POPULATION

16PF	Women Religious N = 62		General Female Population N = 1701		T-test of means	
	1972 \overline{SX}	1972 SSD	\overline{SX}	SSD		
1. A	5.7	2.2	5.5	3.3	0.71	
2. B	9.1	1.0	↓ 5.5 ↓	2.1	28.12**	
3. C	5.0	1.9		4.2	0.36	
4. E	6.1	2.0		4.1	2.34*	
5. F	5.8	2.1		4.3	1.12	
6. G	4.7	2.0		3.3	- 3.12**	
7. H	5.4	1.2		5.0	- 0.65	
8. I	6.3	2.0		2.9	3.12**	
9. L	5.8	2.0		5.5	3.1	1.17
10. M	5.7	2.0		3.3	0.78	
11. N	4.0	2.1		2.6	- 5.58**	
12. O	5.3	1.9		3.8	- 0.82	
13. Q1	5.4	1.8		2.8	- 0.43	
14. Q2	5.7	1.9		3.4	0.82	
15. Q3	4.5	1.8		3.0	- 4.34**	
16. Q4	6.1	1.8		5.5	5.0	2.60*

Degree of Freedom = 60 (formula IPAT)

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

Factor A, C, F, H, L, M, O, Q1 and Q2 and the null hypothesis was therefore accepted for these variables.

In 1972 women religious were more intelligent (B-high), more dominant (E-high), more expedient (G-low), more dependent (I-high), more spontaneous (N-low), more lax (Q3-low), more tense (Q4-high), than the general female population. Women religious were similar to the average general female population on critical/good-natured (low-A-high), ego weakness/ego strength (low-C-high), serious/happy-go-lucky (low-F-high), restrained/impulsive (low-H-high), trusting/suspecting (low-L-high), conventional/unconventional (low-M-high), does not care/scrupulous (low-O-high), conservative/experimenting (low-Q1-high), group-dependent/self-sufficient (low-Q2-high).

16PF WOMEN RELIGIOUS SCORES IN 1972 COMPARED TO NUNS-MISSIONARY

The sten means and standard deviations for women religious in 1972, nuns-missionary and the results of the t-tests and statistical significance are listed on Table 15.

Women religious differed from nuns-missionary on Factor A, B, C, G, L, N, O, Q1, Q2, Q3 and Q4 at the .05 confidence level and higher, thus rejecting the null hypothesis. There was not statistically significant difference on Factor E, F, H, I, and M and the null hypothesis was therefore accepted for these variables.

In 1972 women religious were more outgoing (A-high), more intelligent (B-high), more worrying (C-low), lower super-ego strength (G-low), more suspecting (L-high), more spontaneous (N-low), more anxious (Q2-high), more conservative (Q1-low), more self-sufficient (Q2-high), more lax (Q3-low)

16PF STEN MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1972 AND NUNS-MISSIONARY

16PF	Women Religious N = 61		Nuns-Missionary N = 93		t-test of means
	1972 \overline{SX}	1972 SSD	\overline{SX}	SSD	
1. A	5.7	2.2	5.1	2.2	2.13*
2. B	9.1	1.0	7.5	1.5	12.50**
3. C	5.0	1.9	5.6	1.7	- 2.47*
4. E	6.1	2.0	6.3	1.9	- 0.78
5. F	5.8	2.1	5.4	1.9	1.49
6. G	4.7	2.0	5.4	1.8	- 2.73**
7. H	5.4	1.2	5.4	2.1	0.00
8. I	6.3	2.0	5.9	1.8	1.56
9. L	5.8	2.0	4.5	1.8	5.08**
10. M	5.7	2.0	6.1	2.1	- 1.56
11. N	4.0	2.1	4.9	2.0	- 3.35**
12. O	5.3	1.9	4.8	1.8	2.06*
13. Q1	5.4	1.8	6.0	2.2	- 2.60*
14. Q2	5.7	1.9	4.6	2.0	4.52**
15. Q3	4.5	1.8	5.4	1.8	- 3.91**
16. Q4	6.1	1.8	5.1	1.7	4.34**

Degree of Freedom = 60 (formula IPAT)

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

and more tense (Q4-high) than nuns-missionary. Women religious were similar to nuns-missionary on more dominant (E-high), sober/enthusiastic (low-F-high), shy/adventurous (low-H-high), more dependent (I-high), more imaginative (M-high).

16PF PRE- AND POST-TEST COMPARISONS OF WOMEN RELIGIOUS

There are two factors to consider in regard to trait fluctuation: (1) trait change through learning and maturation; (2) state change which is reversible. Traits Q3, M, N and L are more liable to fluctuation with psychological state (Cattell, Eber and Tatsuoka 1970). According to the Test Service Division of IPAT (personal correspondence) the correlations between pre- and post-test scores are largely influenced by age changes in the subjects. Thus, any further statistical evaluation would be very rough and approximate. No attempt was made to partial out the age differences as the women religious in this sampling ranged in age from 25 to 65 with a mean of 35.

Women religious raw score means and standard deviations on the 16PF for 1969 pre-test and 1972 post-test, correlations, t-difference and statistical significance are listed on Table 16.

The correlations ranged from .18 to .77 with a mean of .36. There are no other three-year follow-up studies and therefore no comparisons could be made (Test Service Division, IPAT, personal conversation). Statistical significance was reached at the .05 confidence level and higher on A, B, C, E, F, H, I, L, M, O, Q1, Q2, Q3 and Q4. There was no difference between the pre- and post-test and the null hypothesis was therefore

16PF RAW SCORE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969-1972

16PF	Women Religious N = 62		Women Religious N = 61		Pearson Correl.	t- diff
	1969 \bar{X}	1969 SD	1972 \bar{X}	1972 SD		
1. A	10.71	3.4	12.20	3.5	.53**	-3.58**
2. B	9.39	1.3	9.64	1.7	.35**	-1.11
3. C	15.24	3.9	13.87	3.9	.26*	2.13*
4. E	9.86	3.8	11.03	4.4	.42**	-2.18*
5. F	12.94	4.6	13.89	4.6	.68**	-2.28*
6. G	14.68	3.9	12.34	3.3	.19	4.69**
7. H	12.05	6.0	12.08	5.9	.77**	-0.30
8. I	13.69	2.2	12.98	2.9	.21*	1.88
9. L	6.50	3.0	7.87	3.0	.30**	-2.80**
10. M	14.53	3.7	13.09	3.3	.23*	1.10
11. N	8.71	2.6	8.75	2.6	.18	-0.15
12. O	14.36	4.6	10.31	3.6	.46**	7.77**
13. Q1	11.29	2.7	8.61	2.7	.27*	6.36**
14. Q2	11.08	2.9	10.44	3.3	.25*	1.42
15. Q3	10.39	3.1	10.05	2.7	.31**	0.70
16. Q4	12.77	3.5	14.46	4.5	.35**	-2.77*

Degree of Freedom = 59

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

t-diff = t difference method for t-test

accepted for those variables. Trait G and N were not statistically significant, indicating that the relative ordering of the individual scores did not remain the same. Therefore, the null hypothesis was rejected for these two variables.

On Trait G there was a shift from a high score (conscientiousness and persistence, or high super-ego strength) to a lower score (lack of acceptance of group moral standards, self-indulgence and lower super-ego strength). The mean remained approximately the same on Trait N.

On the t-difference scores the overall group differences increased on 8 variables and decreased on 8 variables and were statistically significant at the .05 confidence level and higher on A, C, E, F, G, L, O, Q1 and Q4. The null hypothesis was therefore rejected for these traits. There was no overall group difference on B, H, I, M, N, Q2, Q3 and the null hypothesis was therefore accepted for these traits.

Women religious as a group became slightly more outgoing (A), more affected by feeling (C), more dominant (C), more happy-go-lucky (F), more expedient (G), more suspicious (L), more self-assured (O), more conservative (Q1), and more tense (Q4). Pre-Vatican life style limited the interactions of women religious with others. Vatican II established 12 years for self-renewal and half way through, in 1972, women religious appear to be changing in many areas. Having been more radical in 1969 than in 1972, they are perhaps reaching a plateau and are assimilating the changes which have occurred during the early self-renewal period.

SUMMARY OF 16PF

Women religious resembled the general female population on C, E, F, H, and Q4 in 1969 and on A, C, F, H, L, M, O, Q1 and Q2 in 1972. As the women religious became more involved in an "open-detotalized" society, they became more like women in the general population. Both in 1969 and 1972 women religious were similar to women in the general female population in ego strength/ego weakness (C), serious/enthusiastic (F), restrained/impulsive (H), and dissimilar in more intelligence (B), more conscientious (N), and more lax. All of the women religious in this study had a college education, and were involved in further graduate schooling, which probably accounts for the high score on B-Intelligence. Although Vatican II has opened many doors for women religious, their life style would in some instances still be restricted by their vows and the Church possibly keeping them naive with strong inner controls - super ego, allowing for greater freedom of action, yet dependent.

Women religious resembled nuns-missionary on A, F, H, L, M, and Q4 in 1969 and on E, F, H, I, and M in 1972. Both in 1969 and 1972 women religious were similar to nuns-missionary on sober/enthusiastic (F), shy/adventurous (H), and more imaginative/unconventional, and dissimilar in more intelligence (B), more worrying (C), more conscientious in 1969 and more expedient in 1972 (G), more spontaneous (N), more apprehensive (O), more radical in 1969 and more conservative in 1972 (Q1), more group dependent (Q2), more lax (Q-3).

In 1969 women religious differed from nuns-missionary on 10 of the 16 traits and in 1972 on 11 of the 16 traits; 8 traits remained stable and

5 shifted in significance between pre- and post-testing. Nuns-missionary may differ from women religious for several reasons: (1) the nature of their apostolic work; (2) the testing of nuns-missionary may have been done before Vatican II; (3) changes may occur slower on missions than in America and (4) the particular order of the nuns-missionary may be more conservative in its self-renewal.

The relative ordering of the individual scores on the 16PF traits appeared to be more stable than the overall group differences. Trait N (forthright/shrewd), a trait more liable to fluctuation with psychological state, had the lowest $r = .18$.

In 1969 and 1972, women religious differed from both the general female population and nuns-missionary in being more intelligent and more forthright. Women religious scored high on G in 1969, indicating they were more conscientious than both general female population and nuns-missionary, and low in G in 1972, indicating they were more expedient than either group. There were no differences between women religious and general female population and nuns-missionary in either 1969 or 1972 on serious/happy-go-lucky and shy/venturesome.

PERSONAL ORIENTATION INVENTORY

On the Personal Orientation Inventory (POI) the time and support ratio for women religious was not determined. Twelve scales are discussed; ten are complementary: (1) Self-Actualizing Values (SAV)/Existentiality (Ex) = Valuing; (2) Feeling Reactivity (Fr)/Spontaneity (S) = Feeling; (3) Self-Regard (Sr)/Self-Acceptance (Sa) = Self-Perception; (4) Nature of

Man, Constructive (Nc)/Synergy (Sy) = Awareness; (5) Acceptance of Aggression (A)/Capacity for Intimate Contact (C) = Interpersonal Sensitivity. The POI profile sheet, which has a short description of the variables, contains the mean scores of women religious for 1969 and 1972 and for the samples nominated as "Self-Actualized," "Normal," and "Non-Self-Actualized" (Shostrom 1966). The back of the profile sheet gives a brief description of what the POI measures.

The age and sex of the subjects was not indicated in the POI manual for the Self-Actualized Group, Normal Adult Group, Non-Self-Actualized Group. The Self-Actualized group and the Non-Self-Actualized group were carefully nominated by practicing, certified clinical psychologists and there has been a consistent difference between the two groups on this test (Shostrum 1966).

POI WOMEN RELIGIOUS SCORES IN 1969 COMPARED TO SELF-ACTUALIZED GROUP

The means and standard deviations for women religious in 1969, Self-Actualized Group, the results of the t-tests and statistical significance are listed on Table 17.

Women religious differed from Self-Actualized Group on TC, I, SAV, Ex, Fr, S, Sr, Sa, Nc, A and C at the .05 confidence level and higher and the null hypothesis was therefore rejected for these variables. They resembled Self-Actualized Group on Sy and the null hypothesis was therefore accepted for this variable.

In 1969, women religious differed from Self-Actualized Group in the following: (1) TC - did not live as fully in the here and now, were

PROFILE SHEET FOR THE PERSONAL ORIENTATION INVENTORY

NAME _____ DATE TESTED _____

AGE _____ SEX _____

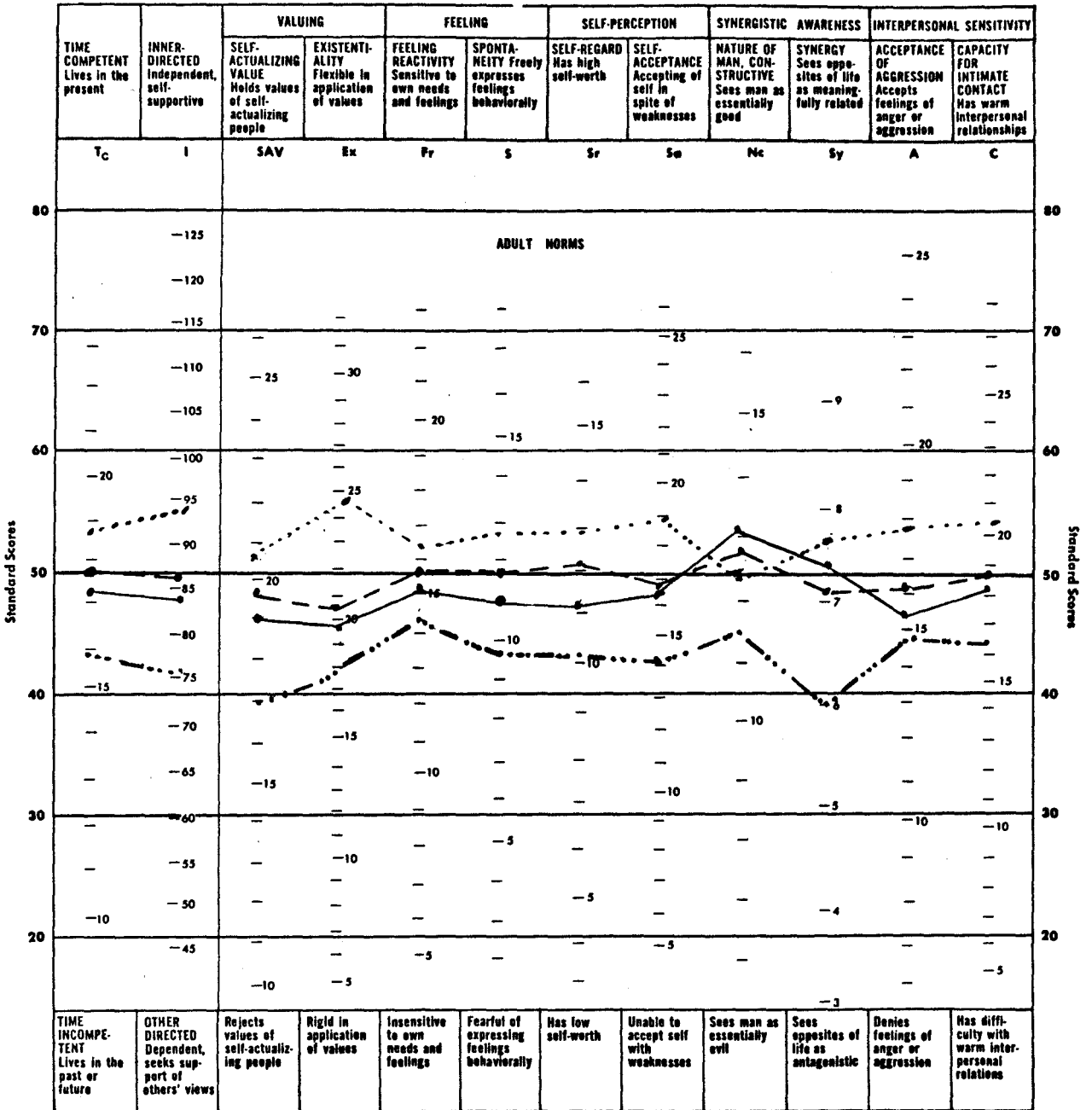
I T_i - T_c (Time) Ratio:
Self-Actualizing Average: T_i:T_c = 1:8
Your Ratio: T_i:T_c = 1:

1									
1	2	3	4	5	6	7	8	9	10

OCCUPATION _____

II O - I (Support) Ratio:
Self-Actualizing Average: O:I = 1:3
Your Ratio: O:I = 1:

1									
1	2	3	4	5	6	7	8	9	10



— Women Religious 1969 - - - Women Religious 1972 --- Non-Self Actualized Group
 Self Actualized Group Normal Adult Group Mean 50

Raw Scores

BRIEF DESCRIPTION OF WHAT THE POI MEASURES

Your profile on the *Personal Orientation Inventory (POI)* shows the degree to which your attitudes and values compare with those of self-actualizing people. A self-actualizing person is one who is more fully functioning and who lives a more enriched life than does the average person. Such a person is developing and utilizing his unique talents to the fullest extent. It is generally agreed that a self-actualizing person might be seen as the desired result of the process of counseling or psychotherapy.

The interpretation of your scores falls into two general categories, the ratio scores and the profile scores. If your ratio scores are close to the scores that self-actualizing persons make, you may consider your values and attitudes, as measured by the POI, to be similar to these people. Your profile scores will further help you to compare yourself with self-actualizing people.

RATIO SCORES

Interpretation of the $T_I - T_C$ Ratio

In order to understand the Time Incompetent - Time Competent ($T_I - T_C$) ratio, it is of help to consider time in its three basic components -- Past, Present, and Future.

The T_I (Time Incompetent) person is one who lives primarily in the Past, with guilts, regrets, and resentments, and/or in the future, with idealized goals, plans, expectations, predictions, and fears.

In contrast to the T_I person, the T_C (Time Competent) person lives primarily in the Present with full awareness, contact, and full feeling reactivity. Because it is known that the self-actualizing person is not perfect, he is understood to be partly T_I and partly T_C . His $T_I - T_C$ ratio is, on the average, 1 to 8. His ratio shows that he therefore lives primarily in the Present and only secondarily in the Past or Future.

If your score is significantly lower than 1 to 8, for example 1 to 3, this suggests that you are more time incompetent than the self-actualizing person. If your score is above 1 to 8, for example 1 to 10, this suggests that you are excessively time competent and this may perhaps reflect a need to appear more self-actualized than you really are.

Interpretation of the $O - I$ Ratio

In order to understand your score on the Support (Other - Inner) ratio, one should first understand that the self-actualizing person is both "other-directed" in that he is dependent upon and supported by other persons' views, and he is also "inner-directed" in that he is independent and self-supportive. The degree to which he is each of these can be expressed in a ratio. The $O - I$ ratio of a self-actualizing person is, on the average, 1 to 3, which means that he depends primarily on his own feelings and secondarily on the feelings of others in his life decisions.

If your score is significantly higher than 1 to 3, that is 1 to 4 or above, it may be that this indicates an exaggerated independence and reflects a need to appear "too self-actualized" in responding to the POI. On the other hand, if your score is lower than 1 to 3, for example 1 to 1, it would suggest that you are in the dilemma of finding it difficult to trust either your own or others' feelings in making important decisions.

PROFILE SCORES

On the Profile Sheet, short descriptions of each of the sub-scales are shown which describe high and low scores. In general, scores above the average on these scales, that is, above the mid-line shown by a standard score of 50, but below a standard score of 60 are considered to be most characteristic of self-actualizing adults. The closer your scores are to this range, the more similar are your responses to the POI responses given by self-actualizing people. The further below the score 50 your scores are, the more they represent areas in which your responses are not like those of self-actualizing people. If most of your scores on the profile are considerably above 60, you may be presenting a picture of yourself which is "too" healthy or which overemphasizes your freedom and self-actualization. Your counselor can discuss the psychological rationale of each scale in greater detail with you.

The ratings from this inventory should not be viewed as fixed or conclusive. Instead they should be viewed as merely suggestive and to be considered in the light of all other information. The *Personal Orientation Inventory* is intended to stimulate thought and discussion of your particular attitudes and values. Your profile will provide a starting point for further consideration of how you can achieve greater personal development.

TABLE 17

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND SELF-ACTUALIZED GROUP

POI Scale	Symbol	Women Religious N = 62		Self-Actualized Group N = 29		t-test of means
		1969 \bar{X}	1969 SD	\bar{X}	SD	
Time Competence	TC	17.34	3.1	18.93	2.5	2.82**
Inner Directed	I	85.18	12.7	92.86	11.5	3.74**
Self-Actualizing Value	SAV	19.07	2.8	20.69	3.6	2.74**
Existentiality	Ex	19.87	4.3	24.76	3.5	6.32**
Feeling Reactivity	Fr	15.10	3.0	16.28	2.8	2.09*
Spontaneity	S	11.00	3.2	12.66	2.9	2.78**
Self Regard	Sr	11.15	2.7	12.90	1.9	2.64**
Self Acceptance	Sa	16.58	3.6	18.93	3.5	3.45**
Nature of Man	Nc	13.27	1.5	12.34	2.2	-2.64**
Synergy	Sy	7.39	1.9	7.62	1.2	0.67
Acceptance of Aggression	A	15.39	4.0	17.62	3.1	3.13**
Capacity for Intimate Contact	C	18.18	3.7	20.21	3.4	2.95*

Degree of Freedom = 89

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

more burdened by guilt, regrets and resentments from the past, utilized more time incompetently; (2) I - more "other directed", sought approval from others and invested all power in the approving group; (3) SAV - rejected values of self-actualized people; (4) Ex - did not apply self-actualizing values; (5) Fr - not aware of their own needs and feelings; (6) S - feared expressing feelings behaviorally; (7) Sr - had low self-worth; (8) Sa - were unable to accept their weaknesses; (9) Nc - saw man as essentially better than the self-actualized group; (10) A - denied feelings of aggression; (11) C - had difficulty with warm interpersonal relationships. They were similar to Self-Actualized Group on Sy - the ability to see the opposites of life as meaningfully related.

The 1969 POI profile of women religious agrees with Sandra's description of sisters' self-concept being essentially negative with a crippling dependency. This was not found by Garrity or Becker, but fits the overall description of Pre-Vatican women religious, described by Dunn and Coville.

POI WOMEN RELIGIOUS SCORES IN 1969 COMPARED TO NORMAL ADULT GROUP

The means and standard deviations for women religious in 1969, Normal Group, the results of the t-test and statistical significance are listed on Table 18.

Women religious differed from Normal Group in the following:

(1) I - more "other directed", sought approval from others and invested all power in the approving group; (2) SAV - rejected values of self-actualized people; (3) Ex - did not apply self-actualizing values; (4) Fr - were

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND SELF-ACTUALIZED GROUP

POI Scale	Symbol	Women Religious N = 62		Normal Adult Group N = 158		T-Test of means
		1969 \bar{X}	1969 SD	\bar{X}	SD	
Time Competence	TC	17.34	3.1	17.70	2.8	1.37
Inner Directed	I	84.18	12.7	87.25	13.6	2.86**
Self-Actualizing Value	SAV	19.07	2.8	20.17	3.0	4.11*
Existentiality	Ex	19.87	4.3	21.80	5.1	4.70**
Feeling Reactivity	Fr	15.10	3.0	15.74	3.3	2.23*
Spontaneity	S	11.00	3.2	11.65	3.0	2.36*
Self Regard	Sr	11.15	2.7	11.97	2.7	3.28**
Self Acceptance	Sa	16.58	3.6	17.09	4.0	1.52
Nature of Man	Nc	13.27	1.5	12.37	1.9	-4.70**
Synergy	Sy	7.39	1.9	7.32	1.2	-0.41
Acceptance of Aggression	A	15.39	4.0	16.63	3.7	3.78**
Capacity for Intimate Contact	C	18.18	3.7	18.80	4.6	1.67

Degree of Freedom = 218

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

less aware of their own needs and feelings; (5) S - feared expressing feelings behaviorally; (6) Sr - had lower self-worth; (7) Nc - saw man as essentially better; (8) A - denied feelings of aggression. They were similar to the Normal Group on: (1) TC - lived in the here and now, burdened by the same guilts, regrets and resentments from the past, utilized time in the same manner; (2) Sa - accepted their weaknesses as well as the Normal Group; (3) Sy - had the same ability to see the opposites of life as meaningful; (4) C - had the same capability for interpersonal relationships.

The scales that they are similar to normal would appear to be necessary for carrying out their apostolic work. The nature of the religious environment seems to have kept a check on the values, self-awareness and aggressiveness of the women religious.

POI WOMEN RELIGIOUS SCORES IN 1969 COMPARED TO NON-SELF-ACTUALIZED GROUP

The means and standard deviations for women religious in 1969, Non-Self-Actualized Group, the results of the t-test and statistical significance are listed on Table 19.

Women religious differed from the Non-Self-Actualized Group on TC, I, S, Sa, Nc, Sy and C at the .05 confidence level and higher and the null hypothesis was therefore rejected for these variables. They resembled Non-Self-Actualizing Group on SAV, Ex, Fr, Sr, and A and the null hypothesis was therefore accepted for these variables.

In 1969 women religious differed from the Non-Self-Actualized Group in the following: (1) TC - lived more fully in the here and now with less guilt, regrets and resentments from the past, utilized time more competently;

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969 AND NON-SELF-ACTUALIZED GROUP

POI Scale	Symbol	Women Religious N = 62		Non-Self-Actualized Group N = 34		t-test of means
		1969 \bar{X}	1969 SD	\bar{X}	SD	
Time Competence	TC	17.34	3.1	15.82	3.6	-2.60*
Inner Directed	I	84.18	12.7	75.76	16.2	-3.46**
Self-Actualizing Value	SAV	19.07	2.8	18.00	3.7	-1.91
Existentiality	Ex	19.87	4.3	18.85	5.4	-1.23
Feeling Reactivity	Fr	15.10	3.0	14.26	3.8	-1.43
Spontaneity	S	11.0	3.2	9.79	3.4	-2.08*
Self Regard	Sr	11.15	2.7	10.21	3.3	-1.80
Self Acceptance	Sa	16.58	3.6	14.21	4.0	-3.58**
Nature of Man	Nc	13.27	1.5	11.29	2.0	-6.19**
Synergy	Sy	7.39	1.9	6.18	1.9	-3.43**
Acceptance of Aggression	A	15.39	4.0	14.74	3.5	-0.96
Capacity for Intimate Contact	C	18.18	3.7	16.47	4.3	-2.47**

Degree of Freedom = 94

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

(2) I - were more "inner-directed"; (3) S - expressed their feelings behaviorally more than Non-Self-Actualized Group; (4) SA - were more self-accepting; (5) Nc - accepted the nature of man as good; (6) Sy - saw the opposites of life as meaningfully related; (7) C - were able to form more warm interpersonal relationships. They were similar to Non-Self-Actualized Group on: (1) SAV - rejected values of self-actualized people; (2) Ex - did not apply self-actualizing values; (3) Fr - not aware of their own needs and feelings; (4) Sr - had a low self-worth; (5) A - denied feelings of aggression.

Although the women religious were the same as the Non-Self-Actualized Group on five scales, their scores overall were consistently higher, yet ranked lowest for Aggression. Considering how high they scored on the Nature of Man (indicating they felt that he was essentially good) it would seem to follow that they could not accept feelings of aggression, which would be bad.

POI WOMEN RELIGIOUS SCORES IN 1972 COMPARED TO SELF-ACTUALIZED GROUP

The means and standard deviations for women religious in 1972, Self-Actualized Group, the results of the t-test and statistical significance are listed in Table 20.

Women religious differed from Self-Actualized Group on TC, I, Ex, Sa, A, and C at the .05 confidence level and higher and the null hypothesis was therefore rejected for these variables. They resembled Self-Actualized Group on SAV, Fr, S, Sr, Nc, Sy and the null hypothesis was therefore accepted for these variables.

TABLE 20

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1972 AND SELF-ACTUALIZED GROUP

POI Scale	Symbol	Women Religious N = 62		Self-Actualized Group N = 29		t-test of means
		1972 \bar{X}	1972 SD	\bar{X}	SD	
Time Competence	TC	17.45	3.0	18.93	2.5	2.69**
Inner Directed	I	86.31	12.3	92.86	11.5	2.89**
Self-Actualizing Value	SAV	19.84	2.9	20.69	3.6	1.41
Existentiality	Ex	20.34	4.7	24.76	3.5	4.34**
Feeling Reactivity	Fr	15.71	3.2	16.28	2.8	0.96
Spontaneity	S	11.89	3.0	12.66	2.9	1.35
Self Regard	Sr	12.02	2.5	12.90	1.9	1.94
Self Acceptance	Sa	16.42	3.5	18.93	3.5	3.75**
Nature of Man	Nc	12.92	1.9	12.34	2.2	-1.46
Synergy	Sy	7.27	1.9	7.62	1.2	1.01
Acceptance of Aggression	A	16.05	3.4	17.62	3.1	2.48*
Capacity for Intimate Contact	C	18.77	3.9	20.21	3.4	2.01*

Degree of Freedom = 89

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

In 1972 women religious differed from Self-Actualized Group in the following: (1) TC - did not live as fully in the here and now, were more burdened by guilt, regrets and resentments from the past, utilized time more incompetently; (2) I - more "other-directed", sought approval from others and invested all power in the approving group; (3) Ex - were unable to apply self-actualizing values; (4) Sa - were unable to accept their weaknesses; (5) A - denied feelings of aggression; (6) C - had difficulty with warm interpersonal relationships. They were similar to Self-Actualized Group on: (1) SAV - accepting values of self-actualized people; (2) Fr - aware of their own needs and feelings; (3) S - expressed feelings behaviorally; (4) Sr - liked themselves because of their own strength as people; (5) Nc - saw man as essentially good; (6) Sy - had ability to see the opposites of life as meaningfully related.

All except five subjects were still in religious life in 1972, committed by vows to the authority of God, Church and their community, thus relinquishing inner-directedness to other-directedness. They are still not totally able to forget the past or the future and integrate them into the here and now, unable to utilize time completely competently. Having accepted self-actualizing values, they are having difficulty with application. They are aware of their own needs and feelings, able to act on them, have self-worth, but have difficulty accepting their weaknesses. Aggressive feelings are denied and they have difficulty forming warm interpersonal relationships.

By 1972, change had occurred in most of the orders of the women religious in this study. The Post-Vatican Open-Detotalized community has allowed greater implementation and awareness of self within the confines of a commitment to God through Grace and apostolic work.

POI WOMEN RELIGIOUS SCORES IN 1972
COMPARED TO NORMAL ADULT GROUP

The means and standard deviations for women religious in 1972, Normal Group, the result of the t-test and statistical significance are listed on Table 21.

Women religious differed from the Normal Adult Group on Ex, Sa, Nc, at the .05 confidence level and higher and the null hypothesis was therefore rejected for these variables. They resembled Normal Adult Group on TC, I, SAV, Fr, S, Sr, Sy, A and C and the null hypothesis was therefore accepted for these variables.

In 1972 women religious differed from Normal Adult Group in the following: (1) Ex - less able to apply self-actualizing values; (2) Sa - were less accepting of their weaknesses; (3) Nc - saw man as essentially better. They were similar to the Normal Group on: (1) TC - lived in the here and now burdened by the same guilts, regrets and resentments from the past, utilized time in the same manner; (2) I - were as inner-directed; (3) SAV - Accepted self-actualized values same degree; (4) Fr - were as aware of their own needs and feelings; (5) S - expressed feelings behaviorally; (6) Sr - had same degree of self-worth; (7) Sy - the same ability to see the opposites of life as meaningful; (8) A - were as accepting of own aggression; (9) C - similar capacity for warm interpersonal relationships.

In 1972, women religious had more of an opportunity to go out of their environment and thus they became more like normal population. This finding confirms Dunn's at Fordham.

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1972 AND NORMAL ADULT GROUP

POI Scale	Symbol	Women Religious N = 62		Normal Adult Group N = 158		t-test of
		1972 \bar{X}	1972 SD	\bar{X}	SD	
Time Competence	TC	17.45	3.0	17.70	2.8	0.96
Inner Directed	I	86.31	12.3	87.25	13.6	0.88
Self Actualizing Value	SAV	19.84	2.9	20.17	3.0	1.23
Existentiality	Ex	20.34	4.7	24.76	3.5	3.49**
Feeling Reactivity	Fe	15.71	3.2	15.74	3.3	0.10
Spontaneity	S	11.89	3.0	11.65	3.0	-0.89
Self Regard	Sr	12.02	2.5	11.97	2.7	-0.20
Self Acceptance	Sa	16.42	3.5	17.09	4.0	2.01*
Nature of Man	Nc	12.92	1.9	12.37	1.9	-2.78**
Synergy	Sy	7.27	1.9	7.32	1.2	0.29
Acceptance of Aggression	A	16.05	3.4	16.63	3.7	1.84
Capacity for Intimate Contact	C	18.77	3.9	18.80	4.6	0.08

Degree of Freedom = 218

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

POI WOMEN RELIGIOUS SCORES IN 1972
COMPARED TO NON-SELF-ACTUALIZED GROUP

The means and standard deviations for women religious in 1972, Non-Self-Actualized Group, the results of the t-tests and statistical significance are listed on Table 22.

Women religious differed from the Non-Self-Actualized Group on TC, I, SAV, Fr, S, Sr, Sa, Nc, A and C at the .05 confidence level and higher and the null hypothesis was therefore rejected for these variables. They resembled the Non-Self-Actualized Group on Ex and the null hypothesis was therefore accepted for this variable.

In 1972, women religious differed from the Non-Self-Actualized Group in the following: (1) TC - lived more fully in the here and now with less guilt, regrets and resentments from the past, utilized time more competently; (2) I - were more "inner-directed"; (3) SAV - more accepting of self-actualized values; (4) Fr - were more aware of their own needs and feelings; (5) S - were less fearful of expressing their feelings behaviorally; (6) Sr - had more self-worth; (7) Sa - were more accepting of themselves; (8) Nc - accepted the nature of man as good; (9) Sy - saw the opposites of life as meaningfully related; (10) A - were more accepting of their own aggressive feelings; (11) C - greater ability to form warm interpersonal relationships. They were similar to Non-Self-Actualized Group in the ability to apply the self-actualizing values, nevertheless they did score higher and the variance was less.

In 1972, women religious resembled Non-Self-Actualized Group only on SAV, indicating that given the opportunity to choose, take responsibility for oneself, and one's actions in acting autonomously within a community allows for self-awareness, growth and the possibility of self-actualization.

TABLE 22

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1972 AND NON-SELF-ACTUALIZED GROUP

POI Scale	Symbol	Women Religious N = 62		Non-Self- Actualized Group N = 34		t-test of means
		1972 \bar{X}	1972 SD	\bar{X}	SD	
Time Competence	TC	17.45	3.0	15.82	3.6	-2.84**
Inner Directed	I	86.31	12.3	75.76	16.2	-4.40**
Self Actualizing Value	SAV	19.84	2.9	18.00	3.7	-3.23**
Existentiality	Ex	20.34	4.7	18.85	5.4	-1.72
Feeling Reactivity	Fr	15.71	3.2	14.26	3.8	-2.39*
Spontaneity	S	11.89	3.0	9.79	3.4	-3.75**
Self Regard	Sr	12.02	2.5	10.21	3.3	-3.60**
Self Acceptance	Sa	16.42	3.5	14.21	4.0	-3.39**
Nature of Man	Nc	12.92	1.9	6.18	1.9	-3.09**
Acceptance of Aggression	A	16.05	3.4	14.74	3.5	-2.15*
Capacity for Intimate Contact	C	18.77	3.9	16.47	4.3	-3.23**

Degree of Freedom = 94

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

POI PRE- AND POST-TEST COMPARISON OF WOMEN RELIGIOUS

The means and standard deviations for women religious in 1969 and 1972 on POI, Pearson correlation (r) and statistical significance, t -difference and statistical significance are listed on Table 23.

The correlations ranged from .12 to .82 with a mean of .59. Knapp (personal conversation) at the Educational and Industrial Testing Service in San Diego, California, was consulted and since there are no other three-year follow-up reliability studies on the POI no comparisons could be made.

The correlations on TC, I, SAV, Ex, Fr, S, Sr, Sa, Nc, A and C were statistically significant at the .05 confidence level and higher. The null hypothesis was therefore accepted that there was no difference between the pre- and post-test. On Sy the correlation was very low and the null hypothesis was therefore rejected for this variable, indicating that there was change pre- to post-testing.

Sy (Synergy) had the lowest correlation and the next lowest was Nc (Nature of Man). Sy-Nc are paired for synergistic awareness. Nc measures the good/bad dichotomy in man and Sy the ability to relate all objects of life meaningfully. Since Shostrum (1968) considers these two variables complementary, it would seem logical that if Sy is low, Nc would also be low.

The relative ordering of the individual scores did not remain the same on Sy although the means were close and the standard deviations the same. The low correlation on Sy could possibly be related to the experiences which women religious encounter as they venture further from a "closed-total" society into a more "open-detotalized" society, changing their synergistic awareness concerning the paradoxes of existence and their views on the nature of man (Nc) as being essentially good or bad.

POI SCALE MEANS AND STANDARD DEVIATIONS
WOMEN RELIGIOUS 1969-1972

POI Scale	Symbol	Women Religious N = 62		Women Religious N = 62		Pearson Correl.	t-diff
		1969 \bar{X}	1969 SD	1972 \bar{X}	1972 SD		
Time Competence	TC	17.34	3.1	17.45	3.0	.58**	-0.32
Inner Directed	I	84.18	12.7	86.31	12.3	.82**	-2.22*
Self-Actualizing Value	SAV	19.07	2.8	19.84	2.9	.72**	-2.87**
Existentiality	Ex	19.87	4.3	20.34	4.7	.62**	-0.94
Feeling Reactivity	Fr	15.10	3.0	15.71	3.2	.67**	-1.93
Spontaneity	S	11.00	3.2	11.89	3.0	.38**	-2.02*
Self Regard	Sr	11.14	2.7	12.02	2.5	.71**	-3.44**
Self Acceptance	Sa	16.58	3.6	16.42	3.5	.62**	0.41
Nature of Man	Nc	13.27	1.5	12.92	1.9	.32**	1.39
Synergy	Sy	7.39	1.9	7.27	1.9	.12	0.35
Acceptance of Aggression	A	15.39	4.0	16.05	3.4	.71**	-1.30
Capacity for In- Timate Contact	C	18.18	3.7	18.77	3.9	.74**	-1.69

Degree of Freedom = 61

* = Significant at the .05 confidence level

** = Significant at the .01 confidence level

t-diff = t difference method for t-test

Although S (Spontaneity) reached statistical significance, the correlation is relatively low, indicating that the relative ordering of the individual scores was closer than on Sy, but not as close as those variables with higher r.

The total scores of the group increased on TC, I, SAV, Ex, Fr, S, Sr, A and C and decreased on Sa, Nc and Sy. Statistical significance was reached at the .05 confidence level and higher on I, SAV, S and Sr and the null hypothesis was therefore rejected for these variables as an overall group difference had occurred between pre- and post-testing. There was no difference between the pre- and post-testing on TC, Ex, Fr, Sa, Nc, Sy, A and C and the null hypothesis was therefore accepted for these variables that there had been no change pre- and post-testing.

Probably due to environmental changes during the three additional years since Vatican II, the women religious as a group appear to be more inner-directed, more aware of self-actualizing values, more spontaneous and have a higher regard for themselves.

SUMMARY OF POI RESULTS

In both 1969 and 1972 women religious were lower than Self-Actualized Group and higher than Non-Self-Actualized Group and similar to Normal Adult Group on TC - lived in here and now, burdened by some guilts and resentments from the past and utilized time the same way.

On In (Inner-Directed) women religious in 1969 and 1972 were more outer-directed than Self-Actualized Group and more inner-directed than Non-Self-Actualized Group. Women religious were more outer-directed than Normal

Adult Group in 1969 and resembled them in 1972.

They did not accept SAV (Self-Actualizing Values) as much as the Self-Actualized Group and Normal Adult Group in 1969 but were more accepting of these values than the Non-Self-Actualized Group in both 1969 and 1972. However, in 1972, they accepted SAV (Self-Actualizing Values) the same as the Self-Actualized Group and Normal Adult Group.

Both in 1969 and 1972 they were unable to apply Ex (Self-Actualizing Values) as much as Self-Actualizing Group and Normal Adult Group. Women religious could accept self-actualizing values slightly more than Non-Self-Actualized Group, yet they were similar to them in the ability to put the values into action. Although the degree to which women religious accepted self-actualizing values increased over three-year period, they apparently had not assimilated these values sufficiently to implement them.

In 1969, women religious were perhaps slightly more aware of their own needs and feelings (Fr) than Non-Self-Actualized Group, yet similar but much less aware than Self-Actualized Group and Normal Group. However, by 1972, the changes in environmental behavioral demands allowed women religious to become more aware of their own feelings so that they differed from Non-Self-Actualized Group and were similar to Self-Actualized Group and the Normal Adult Group.

Women religious were less fearful of spontaneously expressing their feelings (S) in 1969 and 1972 than Non-Self-Actualized Group. They became less fearful over time and in 1972 were similar to Self-Actualized Group and Normal Group. Perhaps as religious life became more open, the environmental situation was "safe" to express oneself without reprimand or repercussions.

Although women religious had slightly higher self-worth (Sr) than the Non-Self-Actualized Group, they resembled them and were lower in self-worth than Self-Actualized Group and the Normal Adult Group in 1969. Because of the opportunities of Post-Vatican life, by 1972, women religious became more aware of their strengths as individuals and were less self-effacing. They resembled Self-Actualized Group and Normal Adult Group and were unlike Non-Self-Actualized Group in their ability to assess, accept and like themselves.

In 1969 and 1972 women religious accepted themselves (Sa) less than Self-Actualized Group, more than the Non-Self-Actualized Group, were as self-accepting as Normal Adult in 1969, but were less self-accepting than Normal Adult Group in 1972. Women religious accepted themselves (Sr) because of their strengths in 1972, but were less accepting of their weaknesses (Sa) in 1972. With the shift in higher self-worth (Sr) women religious appear to be less accepting of their "new" selves. Sr-Sa represent a self-perception and it is harder to achieve Sa than Sr.

Women religious viewed nature of man (Nc) in 1969 as essentially good, perhaps "idealized" and did not resemble Self-Actualized Group, Normal Adult Group or Non-Self-Actualized Group. However, in 1969, women religious resembled Self-Actualized Group; their views of man and the dichotomies of existence possibly becoming more realistic.

In both 1969 and 1972 women religious were able to see the opposites of life (Sy) as meaningfully related in the same way as Self-Actualized Group and Normal Adult Group, but unlike the Non-Self-Actualized Group.

Women religious were unable to accept their own aggressive feelings (A) in the same manner as Self-Actualized Group in both 1969 and 1972.

However, a change occurred in their ability to accept anger and hostility as natural from 1969 to 1972. By 1972 they were less similar to the Non-Self-Actualized Group and more similar to the Normal Adult Group.

The ability of women religious to relate to others was consistently (1969-1972) the same as Normal Adult Group, lower than Self-Actualized Group and higher than Non-Self-Actualized Group.

During the three-year period women religious became more self-actualized and similar to normals only resembling Non-Self-Actualized in the ability to apply self-actualizing values.

There was more change on individual ordering of women religious on Sy (Synergy) ability to see opportunities of life as meaningfully than any other scale. The overall mean on this scale lowered and while on Nc (Nature of Man) scale the mean also lowered, there was higher correlation. The highest correlation was on In (Inner-Directed) indicating there was not a great deal of change in the relative ordering of the individuals.

The overall group changed on how they related to inner/outer-directedness. This would seem to follow the environmental changes as they had more opportunity to be self-directed. Along with these overall group differences in In (Inner-Directed) occurred changes in expressing feelings (S), self-worth (Sr), and accepting self-actualizing values (SAV).

As environmental changes occur, time is needed to learn about the self, and assimilate a new identity. McCarthy and Dunn indicated women religious responded to environmental changes in formation and the findings of this study are similar, i.e. that change does occur as a result of environmental interaction. In addition, these findings resemble Healy and Cosgrove, indicating a possible "new" woman religious.

SUMMARY AND CONCLUSIONS

Over the past twenty years there has been an increasing amount of research on women religious concerning assessment of candidates and personality changes related to sister formation programs. Longitudinal studies and the influence and effects of Vatican II have not been investigated to any great extent.

It seemed both timely and appropriate that a study be undertaken of a three-year follow-up of selected personality characteristics, motivation and interests of women religious, actively engaged in the apostolic role of teaching.

RESEARCH DESIGN

The pre- and post-testing of women religious three and six years after the initiation of self-renewal seemed a proper approach to enable this researcher to assess the following questions:

1. Do women religious have different personality traits, interests and motivations than women-in-general?
2. Has there been a change over time in women religious and can this be attributed in part to Vatican II?

INSTRUMENTS

The pre-test was administered by the Office of Research at Mundelein College utilizing the Strong Vocational Interest Blank (SVIB), Form W, 16

Personality Factor Questionnaire (16PF), Forms A and B, 1962 Edition, Personal Orientation Inventory (POI) and a questionnaire. The post-testing was conducted by this investigator by mail utilizing the Strong Vocational Interest Blank Form TW 398, 16 Personality Factor Questionnaire Form A 1962 Edition and Personal Orientation Inventory and a new questionnaire.

SUBJECTS

The 98 women religious who volunteered for the pre-testing were taking courses at Mundelein College in the summer of 1969. In 1972, 96 of the original sampling were sent post-testing material and 64 responded. Two were omitted from the research project because of the deadline.

ASSUMPTIONS AND HYPOTHESIS

The investigator assumed that: (1) women religious would have personality characteristics different from women-in-general; (2) change might occur over time, some of which might be related to the "detotalization" of religious life. The following hypotheses were therefore tested in the null form at the .05 confidence level: (1) women religious would differ from women-in-general on the pre-test on the SVIB, 16PF, POI; (2) women religious would differ from women-in-general on the post-test on the SVIB, 16PF and POI; (3) the scores of women religious would differ on the pre- and post-testing.

DATA ANALYSIS

Tabulating of questionnaires, scoring 16PF, POI and 16PF Sten scores and standard deviations was done by this investigator. SVIB pre- and post-tests were scored at the University of Minnesota. At the Loyola Data Processing Center, data was analyzed utilizing the Statistical Package for the Social Sciences for means, standard deviations and Pearson correlations. Computer programs were written for t-difference test and t-test of means.

STRONG VOCATIONAL INTEREST BLANK

Although the SVIB post-test was a new edition with 100 different items, the correlations on all scales were higher than either the 16PF or POI. These findings further verify Darley and Hagenah's on the consistency of interests related to occupations over time which appears greater than personality traits or motivation. Not only were the correlations high on the pre- and post-test, but the range of means and medians was fairly consistent on all scales. Therefore the results will be discussed together.

On the Basic Interest Scales, the means ranged from 45 to 57. Women religious scored lowest on Physical Science and Mechanical and highest on Social Service, Religious Activities and Teaching. The areas of high interest would seem to be consistent with the choice of religious vocation, serving mankind and God through the apostolic work of teaching.

Women religious in this study indicated interests similar to those in both verbally oriented (Group IV) and activity oriented (Group X) helping professions. The scores on the Nun-Teacher scale were relatively low;

mean of 34 over three years, letter rating B, compared to the criterion group of Olheiser. Whether this was due to Vatican II or the women religious in this study who left religious life (five at the time of post-test) was not determined. In Olheiser's study the second highest occupation for the criterion group of nun-teachers was elementary teacher, which was confirmed by this study. In addition, Raymond's hypothesis that women religious were interested in social service was also confirmed.

Academic achievement scale was lower for women religious than for other women with the same educational background. This finding does not agree with 16PF, for religious women scored much higher on intelligence than either general female population norms or nuns-missionary. However, on the 16PF, age was correlated for general female population but not necessarily educational background.

On the Occupational Introversion/Extroversion Scale the overall range for the 86 criterion groups of women's occupations was 40 to 62. The lowest scoring occupations are people oriented. The criterion group of nun-teachers scored 51 and the women religious in the study 50. No further statistical analysis was made of this finding nor was any attempt made to explicate the score.

The criterion group of nun-teacher scored 51 on Diversity of Interests Scale and women religious mean for 1969 and 1972 was 51.5. Women-in-general scored 49, and although the range is from 41 to 56, there appears to be no standard validity statistics to identify a criterion group of people with broad interests.

16 PERSONALITY FACTOR QUESTIONNAIRE

The 16PF average range (38% of adults score in this area) of sten scores falls between 5 and 6. The scores above and below 4 and 7 and particularly suggestive of high and low traits. These scores are based on the bipolarity of factor analyzed personality traits. When the sten scores were rounded to the nearest whole number women religious scored within the 5-6 average range in both 1969 and 1972 on A, C, E, F, G, H, L. Q2, Q3 and Q4, consistently high on B, low in N and shifted from high to average on I, M, O and Q1.

In pre- and post-testing women religious scored high 9 on Trait B, indicating that women religious have high general mental acapacity, are insightful, fast learning and intellectually adaptable. There is some indication that this measure of intelligence carries over into the personality realm some of the following; inclined to have more intellectual interest, better judgment, higher morals, persevering. Considering the nature of the population of this study, the higher score would seem to possibly go along with the aspects of personality mentioned.

At both testings women religious scored low, 4, on Trait N which indicates a complete directness, spontaneous outspokenness, an almost naive emotional genuineness with a natural warmth and liking for people. Occupationally missionary priests also scored low. "High N negatively correlated with teaching success, and there are other indications that low-N individuals are more trusted and liked - perhaps by children" (Cattell *et al.* 1970 p. 100). Although the superstructure of religious community life altered through Vatican II, almost all of the women religious in this study were consistently

engaged in the apostolic work of teaching. The description of this trait is congruent with both teaching and religious life.

In 1969 women religious scored high, 7, on Trait I indicating that they were more dependent, clinging and insecure than in 1972 when they scored 6. "Premia, I+, is associated primarily with an overprotected or, at least, sheltering-from-urgent-demands-of-life upbringing" (Cattell *et al.* 1971, p. 94). However, it must be noted that although environment and culture may alter the trait a "significant but slight relation to the AB blood group has been found" (*Ibid.*, p. 94). The communities of women religious have become less sheltered. Perhaps the change in trait depends on nurture. However, the inherent nature of the trait may allow for only a slight change.

On Trait M women religious scored high, 7, in 1969 and 6 in 1972. Individuals scoring M+ have an intense subjectivity and inner mental life. "The present hypothesis is that M+ represents a temperamental, partly constitutional capacity to dissociate ideational systems and memories. This may arise from some neurological quality determining sheer intensity of ideas and sentiments, though some relation to an indulgent, protective, family environment can also be discerned" (*Ibid.*, p. 98). Pre-Vatican religious life resembled a protective family environment. Trait M, like I, possibly has a physiological element which interacts with the environment and therefore, the shift on M as with I from high to average could relate to the Post-Vatican community environment. In addition, Trait M, like Q3, N and L is more liable to fluctuation with psychological state, although women religious in this study only fluctuated significantly on M.

Women religious in 1969 scored high, 7, on Trait O which is related to individuals who feel inadequate, are depressed, scrupulous, lonely, brooding,

have guilt proneness, poorness of spirit and general unworthiness, phobic symptoms, a strong sense of obligation and guilt feelings. Occupationally high scores on Trait 0 occur in religious groups. Therefore, in 1969, the women religious in this study resembled other religious groups. The characteristic expressions of source Trait 0 appear to this investigator to be similar to the profile of women religious on the MMPI, an apt description of the stereotype of women religious. However, in 1972 there was a two point drop in this trait indicating the women religious were more self-confident, cheerful, expedient, vigorous, not as scrupulous, had less fears and were given to simple action. The post-testing was done six years after Vatican II when many of the drastic changes (i.e., no habit or shortened habit, the freedom to talk with others - both religious and lay, handling money, freedom to go out alone) had already taken place. Women religious in seeking "a new identity" and awareness seem to have assimilated the environmental changes over the three year follow-up. Both the profile on the MMPI and Trait 0 alter as individuals in religious life leave "closed" environments.

It is of special interest to note the shifting on Trait Q1 from high score, 7, in 1969 to average score of 5 in 1972. The characteristic expression on the positive side is related to experimenting, liberal and free thinking. Individuals who score high are more well-informed, more inclined to experiment with problem solutions and less inclined to moralize. In 1969, self-renewal was only in its infancy, three years after Vatican II, although the BVM's had been involved in change from the beginning, not all orders were as progressive or as willing to change. Six years after Vatican II women religious have become more conservative, respecting the established ideas and tolerant of

traditional difficulties. Women religious, having changed their communities, are not continuing to radically alter their environments but appear to be acclimating, integrating and assimilating the change.

PERSONAL ORIENTATION INVENTORY

In 1969 women religious in this study were not only less self-actualized, but they resembled normals less and non-self-actualized individuals more. By 1972, women religious resembled non-self-actualized individuals least, normals most, and were fairly similar to self-actualized individuals.

In many of the studies on the POI reviewed in Chapter II, there was some kind of group sensitivity training which increased the post- scores in the direction of self-actualization. In this study there was no attempt by the investigator to change the women religious through a structured group interaction. However, the very nature of Vatican II has allowed for more group interaction within communities and with the lay population. The increase towards greater self-actualization on SAV, Fr. S, Sr, and Sy, and the decrease on Nc would seem to possibly be related to the more open, less rigid, community; the environment women religious now find themselves in.

Research with the POI has shown that with higher psychological health, individuals are more self-actualized and possess attitudes and values which increase teaching effectiveness. Women religious, according to the POI, have increased in psychological health, but whether this has increased their teaching effectiveness was not measured in this study.

SUMMATION

Interests remain essentially the same for women religious in the three-year follow-up. They continue to enjoy religious activities as well as teaching and social service. However, as noted previously, they do not score high on the nun-teacher scale.

The women religious are not as radical in 1972 as they were in 1969, they are more self-confident, independent and less anxious. As women religious venture into the world from their "open-detotalized" communities, they resemble the general female population more than women religious in missionary work.

Although change might have occurred merely with the passage of time, the motivation toward self-actualization, increased self-awareness and independence would indicate that the environmental changes affected the women religious. Not all orders were as "detotalized" as the Sisters of Charity of the Blessed Virgin Mary. Nevertheless, the overall changes in community life were not slight, even in relatively conservative orders (e.g., change in rule of silence).

IMPLICATIONS AND/OR RECOMMENDATIONS

Women religious in this study did not fit the stereotype description of a nun, nor did Becker's sampling of successful women religious before Vatican II. Dignan, A BVM and clinical psychologist, stated that there were Pre-Vatican women religious who were able to find their identity in community life. The changes since Vatican II are enabling more women religious to accomplish this.

The overall environmental change may decrease the number of women religious, but increase the strength of the individual. Exactly what the per-

sonality characteristics of women religious are in this new Post-Vatican era need to be investigated further. Unfortunately the limits of time and energy and the number of variables in the study did not permit further analysis of the data. Recommendations for additional statistical analysis of this research data to elucidate the profile of women religious would include:

(1) factor analysis; (2) intercorrelations of instruments; (3) correlation of age with order, with teaching experience with variables on tests; (4) extract subjects based on age, teaching experience, etc.; (5) compare BVM (N = 28) with other orders (N = 34).

Considering the vast changes which Vatican II initiated, the possibilities for further investigation are numerous. The criterion group for the Nun-Teacher Scale on the Strong Vocational Interest Blank was tested Pre-Vatican. Comparison and item analysis of a Post-Vatican criterion group of women religious would increase the validity of this scale. Although the population would probably diminish a longitudinal study at six and nine years, the self-renewal of women religious in this study would further the investigation of environmental changes and personal integration.

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MUNDELEIN COLLEGE CHICAGO

OFFICE OF THE DEAN OF STUDENTS

June 22, 1969

Dear Sister:

The Office of Institutional Research, Mundelein College, is conducting a research project designed to examine the new graduate program in Religious Studies. As a member of the first group of students enrolled in the program, the college is asking for your cooperation.

We would like to determine what kind of vocational-educational plans and interests the class has, as well as the social-personal attitudes and values it holds. Since Mundelein is interested in the responses of the group as a whole, you may fill out the information blanks and inventories anonymously.

However, for those who are interested, the opportunity is offered you to have your own responses on the inventories interpreted by a school counselor on a private basis. The fee for such interpretation is \$2.00, to be paid by the close of the summer session to Mrs. Beckerman, room 204, Skyscraper. To arrange an individual appointment, you can call Mrs. Beckerman (ext. 228).

There is, of course, no fee for taking the battery of inventories.

If the enclosed schedule of testing is not convenient for you, you may arrange special sessions through Mrs. Beckerman.

Please call me if you have any questions concerning this research project.

Sincerely,



Dr. Gloria J. Lewis
Director of Research

GJL:bb
Encl.

MUNDELEIN COLLEGE CHICAGO

OFFICE OF THE DEAN OF STUDENTS

June 22, 1969

Dear Sister:

The Office of the Dean of Students extends to you the opportunity to participate in a personal testing program to be offered during the first week of summer school.

Data from the testing instruments will supply you with information on yourself relevant to your future educational-vocational plans, as well as how you see yourself functioning in personal-social areas (on your job, within your community, and with your friends). The idea of offering this service comes from Sister Mary Cramer, head of your Personnel Board, who feels that such data should be extremely helpful now that members of the order have the opportunity to select their own areas of work.

There will be a \$2.00 fee to help cover the costs of both the supplies and a session with a school counselor to help you interpret your testing profiles. The fee must be paid by the close of the summer session, and may be turned in to Mrs. Beckerman, room 204, Skyscraper.

If the enclosed schedule of testing does not coincide with your free time, you may arrange special sessions through Mrs. Beckerman.

Sincerely,



Dr. Gloria J. Lewis
Director of Research

GJL:bb

Encl.

MUNDELEIN COLLEGE - SUMMER SESSION

NAME OR CODE NO. _____

(check the appropriate columns below)

1. YOUR AGE

- 21-25 _____
- 26-30 _____
- 31-35 _____
- 36-40 _____
- 41-45 _____
- 46-50 _____
- 51 and over _____

2. YOUR ORDER

- B.V.M. _____
- Other _____

3. YOUR TEACHING EXPERIENCE

APPROXIMATE LENGTH OF TIME

Elementary

- Primary _____
- Intermediate _____
- Upper _____

Secondary _____
(area) _____

Other teaching _____

4. NON-TEACHING WORK EXPERIENCE

APPROXIMATE LENGTH OF TIME

TYPE

5. CLASSIFICATION AT MUNDELEIN

- Graduate Student in Religious Studies _____
- Special Student (graduate credit) _____
- Special Student (undergraduate credit) _____

6. Briefly describe (in general) your educational/vocational goals.

TESTING HOURS

Tuesday, June 24th 1:00 to 3:00; 3:00 to 5:00

Thursday, June 26th. 1:00 to 3:00; 3:00 to 5:00

Saturday, June 28th. 10:00 to 12:00

You may choose any of the sessions listed above. The total testing time should be 3 hours -- maximum.

All sessions will take place in Galvin Hall, the Learning Resource Center (LRC).

Since many of the testing inventories are timed, you may participate during any part of a scheduled session -- starting and stopping when you wish. You may also complete the entire battery at one time (e.g. Tuesday, 1:00 to 5:00) if you do not tire.

The inventories we will use are:

The Strong Vocational Interest Blank

The Personal Orientation Inventory

Cottell's 16 P'F' Form A or B

MUNDELEIN COLLEGE CHICAGO

In the summer of 1969, you participated in a research project sponsored by the Office of Institutional Research here at Mundelein College. Hopefully you were able to have the tests interpreted to you at that time and they were beneficial to you.

Presently we are in the process of following up the "class" of 1969 with retesting. We would very much appreciate your taking the time from what must be a busy schedule to complete the enclosed tests and questionnaire. A stamped, self addressed envelope is enclosed for your further convenience.

We must emphasize, as we did in the summer of 69, the test results are for you as much as for us. If you are interested in the results of the enclosed tests, please indicate so on the questionnaire and we will forward the results to you as soon as possible. Also, as in '69, for those in the Chicago area, an individual interpretation will be arranged upon request.

Enclosed are a questionnaire and the three tests you previously took. Please read and follow the instructions on each test carefully before you proceed. Kindly use the answer sheets provided as the tests will be machine scored. Return all enclosed material in the self addressed stamped envelope.

Thank you in advance for what we trust will be your cooperation. With this cooperation we will be able to provide you with your own test results in the near future.

Sincerely yours,

Manuel S. Silverman

Manuel S. Silverman
Consulting Director of Counseling Services

Audrey Melamed

Audrey Melamed
Intern in Counseling Services

MUNDELEIN COLLEGE - SPRING 1972

CODE NO. _____

Interested in results YES _____ NO _____

1. YEARS OF SCHOOL COMPLETED THROUGH SUMMER, 1969 (Circle appropriate grade)

<u>High school</u>	<u>College</u>	<u>Graduate work</u>
1 2 3 4	1 2 3 4	1 2 3 4

2. YEARS OF SCHOOL COMPLETED AT PRESENT (Circle appropriate grade)

<u>High school</u>	<u>College</u>	<u>Graduate work</u>
1 2 3 4	1 2 3 4	1 2 3 4

3. DEGREES OBTAINED THRU SUMMER 1969. _____

4. DEGREES OBTAINED AT PRESENT 1972. _____

(check and fill in the appropriate columns below)

5. YOUR TEACHING EXPERIENCE SINCE SEPT. 1969 APPROXIMATE LENGTH OF TIME

Elementary

Primary _____	_____
Intermediate _____	_____
Upper _____	_____
Secondary _____	_____
(area) _____	_____
Other teaching _____	_____

6. NON-TEACHING WORK EXPERIENCE SINCE SEPT. 1969 APPROXIMATE LENGTH OF TIME

TYPE _____	_____
_____	_____
_____	_____

7. BRIEFLY DESCRIBE YOUR EDUCATIONAL AND VOCATIONAL GOALS AT PRESENT.

When did you enter religious life? _____

When did you take your final vows? _____

If you are no longer in religious life - When did you leave your order?
(put a circle around the month and year)

Month: 1 2 3 4 5 6 7 8 9 10 11 12

Year: 1969 1970 1971 1972

Please check: Single _____ Married _____ Children None _____ 1 _____ 2 _____

MUNDELEIN COLLEGE CHICAGO

We recently sent you materials regarding research we are attempting to complete.

Since you have either returned the materials uncompleted or not responded at all we assume that: (1) you see no value in this project; (2) you don't feel the results will ever reach you.

Although we may not be able to convince you regarding number one, please rest assured that any and all test data from this current effort (1972) as well as the initial project (1969 - if they were not interpreted then) will be shared with you.

Hopefully, this second letter has alleviated your reservations. Please complete the materials and return to us as soon as possible.

Thank you in advance for what we again trust will be your cooperation. We reiterate that with this cooperation we will provide you with your own test results in the near future.

Sincerely yours,

Manuel S. Silverman
Manuel S. Silverman
Consulting Director of Counseling Services

Audrey Melamed
Audrey Melamed
Intern in Counseling Services

APPENDIX G

121.

CATTELL FACTORS: LETTERS, POLAR NAMES AND DESCRIPTIONS AND SCORES

<u>Factor Letter</u>	<u>Score</u>	<u>Low Score Pole Name and Description</u>	<u>High Score Pole Name and Description</u>	<u>Score</u>	<u>Items</u>
A	0	<u>Sizothemia</u> reserved, detached, critical, aloof	<u>Affectothymia</u> outgoing, warmhearted, easygoing, participating	30	10
B	0	<u>Lower Scholastic Mental Capacity</u> less intelligent, concrete thinking	<u>High Scholastic Mental Capacity</u> more intelligent, abstract thinking, bright	13	13
C	0	<u>Lower Ego Strength</u> affected by feelings, emotionally less stable, easily upset	<u>Higher Ego Strength</u> emotionally stable, faces reality, calm, mature	36	12
E	0	<u>Submissive</u> humble, mild, accommodating, conforming	<u>Dominance</u> assertive, aggressive, stubborn, competitive	39	13
F	0	<u>Desurgency</u> sober, prudent, serious, taciturn	<u>Surgency</u> happy-go-lucky, impulsive, lively, gay, enthusiastic		
G	0	<u>Weaker Superego Strength</u> expedient, disregards rules, feels few obligations	<u>Stronger Superego Strength</u> conscientious, persevering, staid, moralistic	30	10
H	0	<u>Threctia</u> shy, restrained, timid, threat-sensitive	<u>Parmia</u> venturesome, socially bold, uninhibited, spontaneous	39	13
I	0	<u>Harria</u> tough minded, self-reliant, realistic, no-nonsense	<u>Premisia</u> tender minded, clinging, over-protected, sensitive	30	10
L	0	<u>Alaxia</u> trusting, adaptable, free of jealousy, easy to get along with	<u>Protension</u> suspicious, self-opionated, hard to fool	30	10
M	0	<u>Praxemia</u> practical, careful, conventional, regulated by external realities, proper	<u>Autia</u> imaginative, wrapped up in inner urgencies, careless of practical matters, Bohemian	39	13
N	0	<u>Artlessness</u> forthright, natural, artless, unpretentious	<u>Shrewdness</u> shrewd, calculating, worldly, penetrating	30	10
O	0	<u>Untroubled Adequacy</u> self-assured, confident, serene	<u>Guilt Proneness</u> apprehensive, self-reproaching, worrying, troubled	39	13
Q1	0	<u>Conservatism</u> conservative, respecting established ideas, tolerant of traditional difficulties	<u>Radicalism</u> experimenting, liberal analytical, free-thinking	30	10
Q2	0	<u>Group Adherence</u> group dependent, a "joiner" and sound follower	<u>Self Sufficiency</u> self-sufficient, prefers own decisions, resourceful	30	10
Q3	0	<u>Low Integration</u> undisciplined self-conflict, follows own urges, careless of protocol	<u>High Self Concept Control</u> controlled, socially precise, following self-image	30	10
Q4	0	<u>Low Ergic Tension</u> relaxed, tranquil, unfrustrated	<u>High Ergic Tension</u> tense, frustrated, driven, overwrought	39	10

DIFFERENCES BETWEEN FORM W 1946 AND FORM W398 SVIB

<u>Differences between eight areas:</u>		<u>ITEMS</u>	<u>FORM</u>
Part I	Occupations	128	--
Part II	Amusements	42	--
Part III	Activities	45	--
Part IV	Types of people	40	W
Part IV	Peculiarities of people	40	W398
Part V	Order of preference of activities	40	--
Part VI	Comparison of interest between 2 items	37	W
Part VI	Preference between 2 items	37	W398
Part VII	Rating of present abilities and characteristics	27	W
Part VII	Your abilities and characteristics	27	W398
Part VIII	School subjects	39	W
Part VIII	School subjects	37	W398

Differences in family groupings of occupations:

<u>1946</u>	<u>1969</u>
1. Music	1. Music-Performing
2. Art-Linguistic	2. Art
3. Social Service	3. Verbal-Linguistic
4. Life Insurance Saleswoman	4. Social Service
5. Business	5. Verbal Scientific
6. Non-professional, Home	6. Scientific
7. Health Related	7. Military-Managerial
8. Scientific	8. Business
9. Mathematics	9. Home Economics
*Speech Pathologist	10. Health Related
*Computer Programmer	
*Catholic Sister-Teacher	11. Non-Professional

* listed separately

SCORING CATEGORIES
FOR THE PERSONAL ORIENTATION INVENTORY BY SHOSTROM

<u>Items</u>	<u>Symbol</u>	
<u>I. Ratio Scores (2)</u>		
23	(1) Ti/Tc	<u>Time Ratio</u> Time Incompetence/Time Competence--measures whether or not use of time is efficient
127	(2) O/I	<u>Support Ratio</u> Other/Inner--measures whether reactivity orientation is basically toward others or self
<u>II. Sub-Scales (10)</u>		
26	(1) SAV	<u>Self-Actualizing Value</u> Measures affirmation of a primary value of self-actualizing people
32	(2) Ex	<u>Existentiality</u> Measures ability to situationally or existentially react without rigid adherence to principles
23	(3) Fr	<u>Feeling Reactivity</u> Measures sensitivity of responsiveness to one's own needs and feelings
17	(4) S	<u>Spontaneity</u> Measures freedom to react spontaneously or to be oneself
16	(5) Sr	<u>Self Regard</u> Measures affirmation of self because of worth or strength
26	(6) Sa	<u>Self Acceptance</u> Measures affirmation or acceptance of self in spite of weaknesses or deficiencies
16	(7) Nc	<u>Nature of Man</u> Measures degree of the constructive view of the nature of man, masculinity, femininity
9	(8) Sy	<u>Synergy</u> Measures ability to be synergistic, to transcend dichotomies
25	(9) A	<u>Acceptance of Aggression</u> Measures ability to accept one's natural aggressiveness as opposed to defensiveness, denial and repression of aggression
28	(10) C	<u>Capacity for Intimate Contact</u> Measures ability to develop contactful intimate relationships with other human beings, unencumbered by expectations and obligations

FORM WRA

1969 - 2000

HANRE'S REPORT FORM FOR
STRONG VOCATIONAL
INTEREST TEST - WOMEN

SEE OTHER SIDE
FOR EXPLANATION

LAST NAME FIRST DATE

GROUP	OCCUPATION	STD SCORE	C	C+	B-	B	B+	A	LETTER GRADE
I	MUSIC TEACHER	41							
	MUSIC PERFORMER	35							
II	ARTIST	20							
	AUTHOR	24							
	LIBRARIAN	17							
	ENGLISH TEACHER	29							
III	SOCIAL SCIENCE TEACHER	42							
	Y. W. C. A. SECRETARY	34							
	SOCIAL WORKER	46							
	PSYCHOLOGIST	36							
	LAWYER	37							
IV	LIFE INSUR. SALESWOMAN	27							
V	BUYER	14							
	BUSINESS EDUCATION TEACHER	28							
	STENOGRAPHER-SECRETARY	31							
	OFFICE WORKER	28							
VI	ELEMENTARY TEACHER	45							
	HOUSEWIFE	37							
	HOME ECONOMICS TEACHER	33							
	DIETITIAN	28							
VII	PHYS. ED. TEACHER (H.S.)	30							
	PHYS. ED. TEACHER (COLL.)	36							
	OCCUPATIONAL THERAPIST	44							
	PHYSICAL THERAPIST	45							
	NURSE	34							
VIII	PHYSICIAN	22							
	DENTIST	19							
	LABORATORY TECHNICIAN	15							
IX	MATH-SCIENCE TEACHER	29							
	ENGINEER	32							
NON-OCCUPATIONAL SCALES		60	63						
		MASCULINITY FEMININITY	ACADEMIC ACHIEVEMENT						
SUPPLEMENTAL SCALES		STD SCORE	C	C+	B-	B	B+	A	LETTER GRADE
	SPEECH PATHOLOGIST	37							
	COMPUTER PROGRAMMER	28							
	CATHOLIC SISTER TEACHER	51							

NOTES

10-48

TESTSCOR, INC. 2312 SHELING AVE., MINNEAPOLIS, MINNESOTA 55404

A GUIDE

TO UNDERSTANDING YOUR SCORES ON THE STRONG VOCATIONAL INTEREST BLANK

Your occupational interests are recorded by heavy lines on the scales opposite the appropriate occupations. In the example below the woman has a B rating in the

interests of a music performer (note the B at the top of the report blank), a C rating in the interests of artists, and an A rating in the interests of a music teacher.

GROUP	OCCUPATION	STD SCORE	LETTER GRADE											
			C	C+	B	B+	B-	A						
I	MUSIC TEACHER	47												
	MUSIC PERFORMER	37												
II	ARTIST	24												

An A rating means that the individual has the interests of persons successfully engaged in that occupation; a C rating means that the person does not have such interests; and the rating B+, B, and B- mean that the person probably has those interests but we cannot be so sure of that fact as in the case of A ratings. It is seldom that persons with C ratings are found in the occupation, and if so engaged they are either indifferent successes who are likely to drop out or are carrying on the work in some more or less unusual manner. The latter situation is exemplified by a physician with a rating of C in the interests of a physician who is engaged as superintendent of a hospital.

All high ratings (B+ and A) should be considered. One may choose one occupation so rated or plan to utilize one's interests in two or more such occupations. Thus, if one scores high in both lawyer and social worker one might study both subjects and become a lawyer for a social agency or a social worker well acquainted with legal matters affecting social problems.

The ratings from this test should not be viewed as 'conclusive,' they are not guaranteed. Instead they should be viewed as merely suggestive and to be considered in the light of all other information bearing upon one's vocational choice.

Occupations rated A and B+ should be carefully considered before definitely deciding against them; occupations rated C, C+, and B- should be carefully considered before definitely deciding to enter them. Remember only a few among all the hundreds of occupations are reported on here.

Remember also this is a test of your interests. Your abilities must also be considered. Interests point the way you want to go, abilities determine how well you can progress.

Men's interests change somewhat from 15 to 55 years of age, particularly from 15 to 25. Presumably the same holds true of women. Consequently, the younger the woman, particularly below 20 years of age, the less certainly can her interests be identified in terms of some occupation. Ratings of C+ or B- may change to B, B+, and possibly A ten years later when a 15 to 20 year old has become more nearly adult in her interests.

Scores on the FM (femininity-masculinity) scale indicate whether one's interests are similar to the interests of women or men. The average woman scores 50 on the scale. Higher scores indicate more feminine and less masculine interests than the average woman; lower scores indicate the reverse. Women with low FM scores are apt to be interested in mathematics, engineering, and other masculine pursuits. Several such college women have graduated from engineering schools.

EDWARD K. STRONG, JR.
Professor of Psychology

Stanford University, California

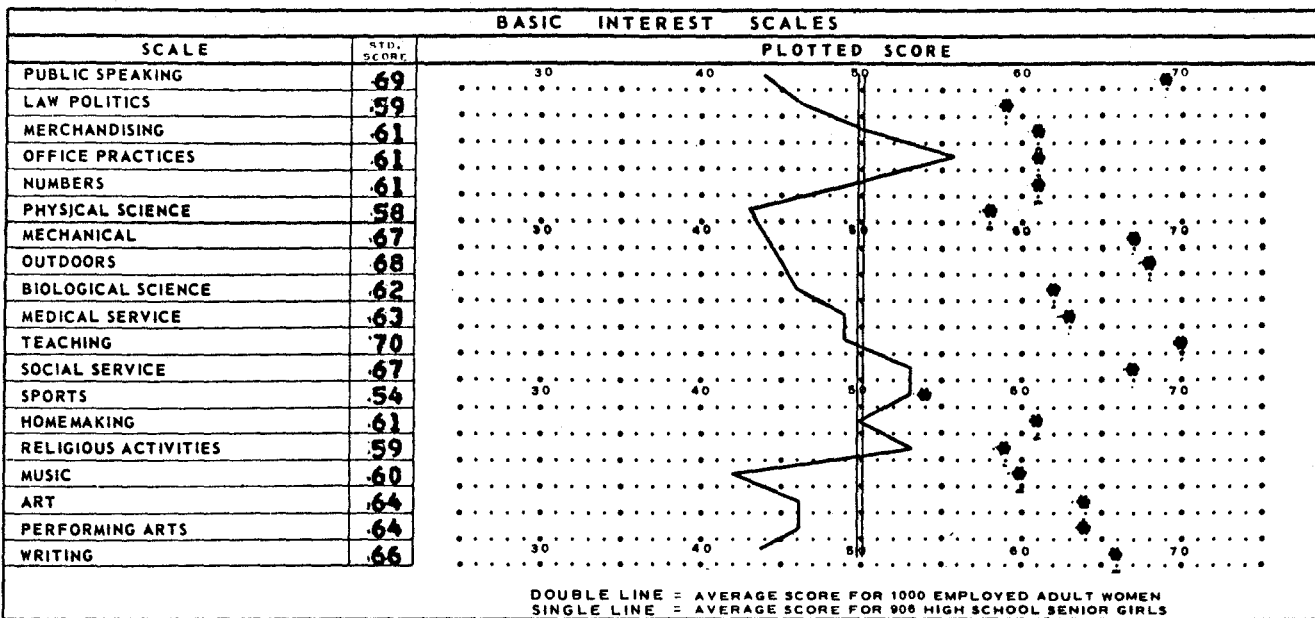
NOTE: The following data illustrate, for example, how women physicians differ from married women when both are scored for the interests of women physicians.

Ratings	Range of Standard Scores	Women Physicians	Married Women
A	45 and above	71.4%	1.0%
B+	40-44	11.2	2.8
B	35-39	9.2	4.8
B-	30-34	5.6	7.8
C+	25-29	2.0	12.6
C	24 and below	0.5	71.0

If a woman has a standard score of 45 in the interests of a physician it means that 71 per cent of women physicians and 1 per cent of married women score higher than she does. If she has a score of 25, it means that 99 per cent of women physicians and 29 per cent of married women score higher than she does.

See the author's VOCATIONAL INTERESTS OF MEN and WOMEN.

PROFILE — STRONG VOCATIONAL INTEREST BLANK — FOR WOMEN (Form TW398)



OCCUPATIONAL SCALES																
OCCUPATION		STD. SCORE	C	B-	B	B+	A	OCCUPATION		STD. SCORE	C	B-	B	B+	A	
I	MUSIC TEACHER	44						VII	ARMY - ENLISTED	34						
	ENTERTAINER	33					VIII		NAVY - ENLISTED	25						
	MUSICIAN PERFORMER	32							IX	ARMY - OFFICER	45					
	MODEL	19								X	NAVY - OFFICER	27				
II	ART TEACHER	43						XI			LAWYER	26				
	ARTIST	13					XII				ACCOUNTANT	20				
	INTERIOR DECORATOR	10							XIII		BANKWOMAN	29				
III	NEWSWOMAN	32								XIV	LIFE INS. UNDERWRITER	26				
	ENGLISH TEACHER	44						XV			BUYER	8				
	LANGUAGE TEACHER	37					XVI				BUSINESS ED. TEACHER	25				
IV	YWCA STAFF MEMBER	50							XVII		HOME ECONOMICS TEACHER	37				
	RECREATION LEADER	57								XVIII	DIETITIAN	46				
	DIRECTOR, CHRISTIAN ED.	46						XIX			PHYSICAL ED. TEACHER	31				
	NUN - TEACHER	40					XX				OCCUPATIONAL THERAPIST	64				
	GUIDANCE COUNSELOR	51							XXI		PHYSICAL THERAPIST	46				
	SOCIAL SCIENCE TEACHER	39								XXII	PUBLIC HEALTH NURSE	43				
	SOCIAL WORKER	43						XXIII			REGISTERED NURSE	49				
V	SPEECH PATHOLOGIST	39					XXIV				LIC. PRACTICAL NURSE	41				
	PSYCHOLOGIST	27							XXV		RADIOLOGIC TECHNOLOGIST	37				
	LIBRARIAN	30								XXVI	DENTAL ASSISTANT	35				
	TRANSLATOR	28						XXVII			EXECUTIVE HOUSEKEEPER	45				
VI	PHYSICIAN	26					XXVIII				ELEMENTARY TEACHER	49				
	DENTIST	17							XXIX		SECRETARY	35				
	MEDICAL TECHNOLOGIST	27								XXX	SALESWOMAN	31				
	CHEMIST	16						XXXI			TELEPHONE OPERATOR	27				
	MATHEMATICIAN	7					XXXII				INSTRUMENT ASSEMBLER	21				
	COMPUTER PROGRAMMER	27							XXXIII		SEWING MACHINE OPER.	13				
	MATH-SCIENCE TEACHER	30								XXXIV	BEAUTICIAN	26				
	ENGINEER	30						XXXV			AIRLINE STEWARDESS	45				

NON-OCCUPATIONAL SCALES

ADMINISTRATIVE INDICES

62	75	60	21	400	7	-8	63	30	6
AACH	DIV	FMI	OIE	TR	UNP	FC	LP	IP	DP

A GUIDE FOR UNDERSTANDING YOUR RESULTS

On the reverse side of this sheet are your scores from the Strong Vocational Interest Blank. These scores can tell you something about your vocational interests, but **THEY DO NOT TELL YOU ANYTHING ABOUT YOUR ABILITIES**—those have to be determined by other means. This point needs to be continually emphasized. These results are concerned with what you like to do, not with what you are capable of doing. Both types of information need to be considered in making future plans. Four types of scores are reported on the profile sheet on the reverse side; each is discussed below.

THE BASIC INTEREST SCALES These scales are concerned with specified types of activities, such as Teaching, Medical Service, or Merchandising. Your scores are printed after the scale names and are plotted visually in the right hand portion of the sheet. For a comparison group, a sample of adult women has been used here; their average scores have been set equal to 50 on each scale, represented by the broad vertical line at 50. The narrow, jagged line in the middle of the profile represents the average scores for high school senior girls. Thus, you can compare your scores with both teenage and adult women.

Women in relevant occupations usually average 58 or above on the relevant scale; that is, teachers score 58+ on the Teaching scale, artists 58+ on the Art scale, and so on. Therefore, scores over 58 are considered "high", and, analogously, scores below 42 are "low".

THE OCCUPATIONAL SCALES Each of these scales represents the vocational interests of women in the designated occupation, and your score tells you how your interests compare with them. On these scales, the women in the occupation average 50, and more than 67% score between 40 and 60. For example, most librarians score about 50 on the LIBRARIAN scale—two-thirds of them score between 40 and 60. If your score is 50 or above on the LIBRARIAN scale, you have many likes and dislikes similar to librarians.

The shaded area on each scale shows you the scores for the middle third of a sample of "women-in-general" drawn from diverse occupations; another third of this group scored higher, another third lower.

NON-OCCUPATIONAL SCALES and ADMINISTRATIVE INDICES These scales are for use only by professionally trained counselors; they are discussed at length in the Handbook for the SVIB, published by Stanford University Press.

SOME FREQUENTLY ASKED QUESTIONS ABOUT THE SVIB SCORES

1. Do these results tell me what I would be good at?

Positively not! These results can tell you something about the directions of your interests, and how they compare with successfully employed women. However, the scores are more related to what you like to do than what you can do. Although people generally like to do what they can do best, there are many exceptions to that, and these results definitely are not measures of ability.

2. Then how should I use this information?

In planning your future, you will want to find a career where you can find both success and satisfaction. Achieving success depends more on your abilities, while satisfaction is related to your interests. The results reported here can suggest occupational areas where you have similar likes and dislikes with the people employed there, and where you are likely to find the work interesting and satisfying.

You must also recognize that choosing an occupation is not a single decision—throughout your working life, you will need to make a series of choices. Each time you are faced with a decision, you should seek the best possible information about yourself, and about your alternatives. This inventory can help by providing some systematic information about occupations you might enjoy.

3. These results don't really tell me anything that I didn't already know, do they?

Perhaps not, but that depends. While most people know something of their own interests, few know how they compare with women in other occupations. Your scores give you some information about these comparisons, and may suggest possibilities that you had never considered before.

4. Wouldn't my scores change considerably if I filled in the test again—when I was in a different mood?

Probably not. In several research projects, people have been asked to fill in this test twice, or more, over intervals ranging from 2 weeks to forty years. Although there are always exceptions, most profiles—especially those for adults—are surprisingly stable. After age 25, very few people show any large shifts. Teenagers retested after two or three years do show some changes, though they are seldom extreme.

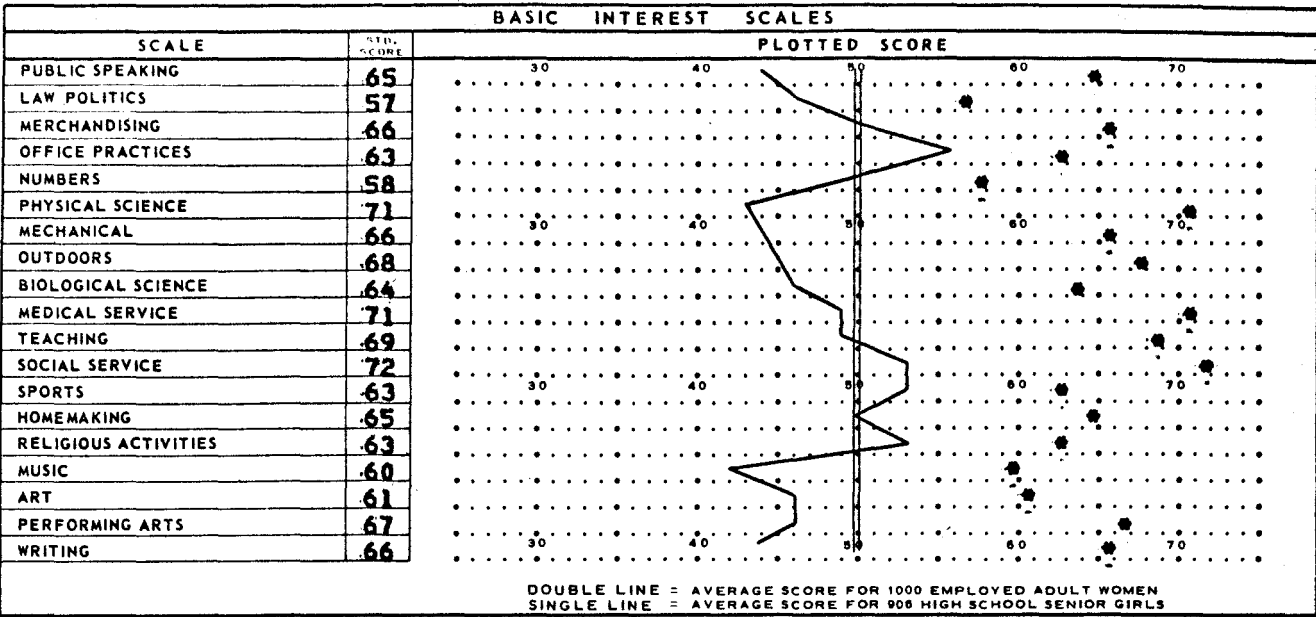
5. Is this test 100% accurate?

Of course not. Each individual is unique—and no test can reflect all of the diversity between human beings. These results, combined with other information, can be used as suggested guidelines, nothing more. If at all possible, you should discuss your plans with a professionally trained counselor.

For more information on this inventory, consult The Handbook for the Strong Vocational Interest Blank, Stanford University Press.

David P. Campbell, Director
Center for Interest Measurement Research
University of Minnesota
Minneapolis, Minnesota 55455

PROFILE — STRONG VOCATIONAL INTEREST BLANK — FOR WOMEN (Form TW398)



OCCUPATIONAL SCALES															
OCCUPATION		STD. SCORE	C	B-	B	B+	A	OCCUPATION		STD. SCORE	C	B-	B	B+	A
I	MUSIC TEACHER	39						VII	ARMY - ENLISTED	40					
	ENTERTAINER	29					VIII		NAVY - ENLISTED	29					
	MUSICIAN PERFORMER	28							ARMY - OFFICER	47					
	MODEL	10							NAVY - OFFICER	24					
II	ART TEACHER	31						IX	LAWYER	24					
	ARTIST	5					ACCOUNTANT		25						
	INTERIOR DECORATOR	-1					BANKWOMAN		33						
III	NEWSWOMAN	23					X	LIFE INS. UNDERWRITER	27						
	ENGLISH TEACHER	45						BUYER	19						
	LANGUAGE TEACHER	37						BUSINESS ED. TEACHER	30						
	IV	YWCA STAFF MEMBER	51						XI	HOME ECONOMICS TEACHER	42				
RECREATION LEADER		59					DIETITIAN	55							
DIRECTOR, CHRISTIAN ED.		47					XII	PHYSICAL ED. TEACHER		37					
NUN - TEACHER		39						OCCUPATIONAL THERAPIST		61					
GUIDANCE COUNSELOR		56						PHYSICAL THERAPIST		60					
SOCIAL SCIENCE TEACHER		41						PUBLIC HEALTH NURSE		43					
SOCIAL WORKER		42						REGISTERED NURSE		55					
V	SPEECH PATHOLOGIST	32						LIC. PRACTICAL NURSE	49						
	PSYCHOLOGIST	29						RADIOLOGIC TECHNOLOGIST	48						
	LIBRARIAN	38					DENTAL ASSISTANT	40							
	TRANSLATOR	26					XIII	EXECUTIVE HOUSEKEEPER	50						
VI	PHYSICIAN	33						ELEMENTARY TEACHER	53						
	DENTIST	25						SECRETARY	32						
	MEDICAL TECHNOLOGIST	40						SALESWOMAN	37						
	CHEMIST	26						TELEPHONE OPERATOR	36						
	MATHEMATICIAN	16						INSTRUMENT ASSEMBLER	19						
	COMPUTER PROGRAMMER	31						SEWING MACHINE OPER.	14						
	MATH-SCIENCE TEACHER	38					BEAUTICIAN	17							
	ENGINEER	33					AIRLINE STEWARDESS	46							

NON-OCCUPATIONAL SCALES

ADMINISTRATIVE INDICES

63	82	55	24	398	6	7	73	23	3
AACH	DIV	FMII	OIE	TR	UNP	FC	LP	IP	DP

APPROVAL SHEET

The master's thesis submitted by Audrey R. Melamed has been read and approved by members of the Department of Counseling and Guidance.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Art.

January 8, 1973
Date

Maurice S. Silverman, Ph.D.
Signature of Advisor