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A Study of Personality Changes
in Two Small Groups of
Maryknoll Seminarians

by

Thomas John Malone, M.M.

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

February
1967

LIFE

Thomas John Malone was born in New York City, May 25, 1904.

He was graduated from Fordham University in June 1925. He entered Maryknoll Seminary, New York, in September 1925 and was ordained to the priesthood on January 27, 1929 with the degrees of Bachelor of Sacred Theology and Master of Arts in Education from Catholic University.

He has served as a Maryknoll Priest in seminary work in this country, having held the Office of Rector at Maryknoll Major Seminary, New York, from 1953 until 1959. He also served as a missionary in South China for twelve years.

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CHAPTER I

INTRODUCTION

History

At present there are many books and innumerable articles being written about seminaries and seminary training. The Second Vatican Council has issued a document entirely devoted to Seminary Formation in which it calls for changes in the areas of administration, organization, spiritual formation, and the particular courses of study. In a recent article, Ralph Dunn (1965) provided a review of the various studies that have been made on the personality patterns among religious, limited, however, to a consideration of those studies which emphasized personality assessment and used the Minnesota Multiphasic Personality Inventory (MMPI).

Outside the area of Seminary education, a great deal of research has been done in various aspects of college education as reported in the various professional journals and in a volume such as The American College -- a Psychological and Social Interpretation of Higher Learning, compiled and edited by Nevitt Sanford. Ten chapters of The American College are based mainly on or inspired by observations made at Vassar College during the Mellon Foundation Research Program of which Sanford was director. This program, which began in 1952, was continued after 1958 under the direction of Mervin Freedman. If something similar could be done in one of our great seminaries we could have a more scientific basis on which to make changes. But even in the college situation and with the support of funds provided

by philanthropic foundations, Sanford (1962, p. 805) complains that the lack of previous research has put great difficulties in the way of finding out what is being accomplished in college. He declares:

there is a remarkable discrepancy between the wide public acceptance of the value of college education and the paucity of demonstrated knowledge that it does some good, and that the claims of rival systems of education continue to be almost entirely without support in established fact.

Bryant M. Wedge and James S. Davis, in a study (1958, p.2) made at Yale, agreed with Sanford and pointed out that the problem of personality development in higher education has not received much systematic attention from educators and psychologists, compared with the vast number of studies that have been done in child development. They write: "Nevitt Sanford has suggested that the reason for the neglect in this area may be the notion among psychologists that the personality is well formed by seventeen or thereabouts and that what happens after that is merely an expression or an unfolding of what has previously been established."

But there are others (Allport, 1937) who point out that entering college and grappling with abstract thought is a definite stage in personality development. In the study previously cited, Wedge (1958, p. vii) says:

The college age, second only to early childhood in personality development, may be a decisive epoch in the formation of healthy, adult personalities. It is a distinct period in psychological development and one strikingly subject to the influence of social experience. Yet there has been little scientific scrutiny of personality development in College and certainly no accepted general theory has been developed.

Freedman (1962) concludes from his study of the attitudes and values of students at Vassar, going back to the class of 1904, that the college years

are not only crucially formative ones, as far as attitudes and values are concerned, but they offer what amounts to a "last chance" for enlightenment before entering the "thruway" of life. He bases this conclusion not only on evidence that attitudes and values persist for long periods of time after college, but also on the evidence that the alumnae groups of different generations tend to react to their social situations today as if the same climate of opinion, that existed when they were in college, still existed.

Sanford, (1962, p. 809-810) sums up this discussion:

Until a few years ago it would hardly have occurred to the psychologist or psychiatrist who wished to understand the development and characteristic functioning of a particular adult personality to look to the college years for important determining events. Attention would have been primarily focused on childhood experience, and then next, in order of importance, on the contemporary life situation. Probably the greatest significance of the two chapters that follows lies in their evidence that some important changes in the personality itself do take place during the college years and later. This means that students of personality development cannot any longer neglect these periods as they have in the past; they will have to study the college student and the young adult as a part of their regular work, and not merely when they give incidental attention to education. If they do, then traditional educational research, as it continues to find out more about what methods have what effects with what kinds of students, will now be supplemented and supported by new talents and new techniques.

The two chapters which Sanford refers to are entitled "Personality Changes in College Students" (Webster, Freedman, and Heist, 1962) and "Studies of College Alumni" (Freedman, 1962). The authors treat of changes in skills, in information and in mental ability (pp. 816-821) during the college years, pointing out that "measures of ability can reflect only a part of personality functioning, and that, consequently, they will probably always be insufficient

predictors of later intellectual performance. (Webster et al, 1962, p. 821.). Greater emphasis is placed on interests, attitudes and values as being among the most important observable characteristics of personality. Attitudes toward the self, toward others and toward institutions reveal to some extent the underlying motives (or needs) and values that are more central to personality. They (Webster et al., 1962, p. 822) explain the process:

When education produces important effects, it is likely to alter what is valued; in turn, changes in values influence attitudes and interests. In the actual developmental process the reverse also occurs, because new experience leads to modifications of interests and attitudes, and over a period of time the central values also become involved. In this process interests and attitudes tend to be interdependent; the diversification and deepening of interests, which is commonly observed in young adults, is often accompanied by modifications of attitudes which in turn can lead to new or changed interests.... It should be remembered that although attitudes and values are treated in the following discussion as if they were separable features of personality, they are, in fact, bound up with aptitudes, abilities and other cognitive characteristics....

In a compilation of the researches in attitudes and values carried out prior to the end of World War II it was found that, in general, students in college changed in the direction of greater liberalism and sophistication in their political, social and religious outlooks, as well as a broadening of their interests during the college years.

In treating recent and contemporary studies, they (Webster et al., 1962, pp 824-825) point out that the most prominent work in recent years on the topic of changes in attitudes and values during the college years has been Jacob's (1957) survey of recent and on-going investigations. His

findings are summarized as follows:

Jacob reports that there is a profile of values which holds for 75 to 80% of all American college students. The current student generation are "gloriously contented" in their present activity and in their outlook toward the future. They are "unabashedly self-centered", aspiring above all to material gratifications for themselves and their families. Though conventionally middle-class they have an "easy tolerance of diversity" and are ready to live in a society without racial, ethnic, or income barriers. The traditional moral virtues, such as sincerity, honesty, and loyalty are highly valued, but there is little inclination to censor laxity, which students consider to be widespread. A need for religion is generally recognized, but students do not expect religious beliefs to govern daily decisions. Rather they expect that these decisions will be socially determined. The general tendency is to be "dutifully responsive toward government," but there is little inclination to contribute voluntarily to the public welfare or to seek an influential role in public affairs. "Students by and large set great stock in college, in general, and in their own college in particular," vocational preparation and skills and experience in social relations being regarded as the greatest benefits of college life. Jacob went on to report that among them (students) there were few significant changes in values during the college years, and that among the few changes that could be noted the most striking were in the direction of greater conformity with the prevailing profile.

Jacob's book was criticized by Riesman (1958) who noted the generally undifferentiated quality of his summaries. Webster, disagreeing with Jacob's report, found that students grow more heterogeneous. The general effect of Jacob's work, however, has been valuable because it has served to highlight several very important research problems.

Besides these criticisms, recent studies have shown differences in particular attitudes and values. For example, Plant (1958), using the E scale - a measure of ethnic prejudice or ethnocentrism - in a study of students over a two year period, who voluntarily withdrew from San Jose

State College, compared them with the students who remained. Having initially matched them on intelligence and ethnocentrism, he found that those who remained became significantly less ethnocentric in attitude, while those who withdrew did not. Later, Plant also found that college seniors are considerably less ethnocentric than they had been as freshmen. This agrees with the research (Webster, 1956) conducted at Vassar.

Another evidence of change has been found in the attitude towards religion. In a longitudinal study (Webster et al., 1962, pp. 826-7) carried out at the Center for the Study of Higher Education at the University of California, National Merit Scholarship winners (395 men and 175 women) were asked about their need to believe in a religion. They were asked to give their opinion about the emphasis that should be placed on teaching religion in college and to describe how their religious attitudes changed since entering college. The responses to the first question show definite change. The question was: "Do you personally feel that you need to believe in some sort of religious faith?" The proportion of affirmative responses decreased from year to year:

	Men	Women
At time of entrance	88%	91%
By end of freshman year	70%	76%
By end of sophomore year	61%	74%
By end of junior year	51%	69%

In the case of the men, the decrease continued but it seemed to level off for the women.

There is a similar trend in the data for men in various major programs. Some exceptions are noted; the engineers change the least and humanities

majors, who started with a larger majority professing a need to believe, change the most. The same is true of women studying the humanities. From this it is clear that a significant minority of these highly capable students change their religious attitudes during three years of college. There is a decreasing need for religious faith, especially among men, and a lessened belief that colleges should teach religious values. Changes appear to be related both to the academic major and to the sex of those who answered.

In the same study of National Merit Scholars, another finding that is quite general is that they become more liberal. In reply to the question: "Should the government provide medical and dental care for citizens who cannot afford such services?" the results were as follows:

	End of Freshman year		End of Junior year	
	Yes	No	Yes	No
Engineering-men	56%	29%	47%	42%
Mathematics-men	55%	19%	70%	11%
Humanities-men	57%	38%	77%	22%
Humanities-women	50%	39%	61%	26%

The engineers shifted significantly from positive to negative but for the mathematics and humanities majors the change was in the opposite direction. The authors commented that students of very similar ability may change attitudes in opposing directions during college. Whether this is due mostly to the kinds of students who enter the different programs or mainly to variations in the influence of different curricula cannot be decided from this data.

The authors conclude that today's students become more "liberal" in the

sense of being more sophisticated and independent in their thinking, and placing greater value upon individual freedom and well-being. Liberalism in religion and tolerance of ethnic differences would appear to have much the same meaning today as in the recent past.

The research at Vassar College emphasized such personality characteristics as intellectual functioning and achievement, authoritarianism (and its opposites), masculinity-femininity, and psychological health. Sanford (1956, 1958) presents some of the data obtained by using a number of scales, of which he gives a brief description. It is reproduced here to enable us to appreciate the amount of thinking and experimentation that must have been involved in making up these scales for this special kind of population. It will also enable us to understand better the data obtained.

Social Maturity. Low-scorers are authoritarian, compulsive, rigid, punitive, submissive to power, conventional, cynical, anti-intellectual, and emotionally suppressed. High-scorers are relatively free of these characteristics. The scale provided a measure of authoritarianism that was less ideological than the original F scale.

Impulse Expression. High-scorers, in contrast to low-scorers, have a greater readiness to express impulses, or to seek gratification of them in overt action or in conscious feeling and attitude. High-scorers are usually dominant, aggressive, autonomous, exhibitionistic, and express interests in sex, excitement, and change.

Developmental Status. A scale made up of attitude items that distinguish

older from younger students. In a sense such items reflect development from the freshman to the senior year - hence the name. High-scorers (seniors) in comparison with low-scorers (freshmen) are flexible and uncompulsive, impunitive toward persons but critical of the institutional authority of family, state, religion; high-scorers are also intraceptive, non-conforming, free of cynicism, realistic, and mature in interests. Content from the two previous scales also appear in this scale.

Dominance and Confidence. High-scorers endorse items avowing social confidence, imperturbability, and ability to lead. In an assessment study of Vassar alumnae in the age range 40 to 45, low-scorers were found to be more troubled and less self-confident than high-scoring subjects.

Repression and Suppression. One kind of subject, in responding to items in a personality inventory, will tend, often quite unconsciously, to reject (answer "false" to) a disproportionately large number of statements which seem inexact, peculiar, or unconventional because he has a strong need to present himself in a "favorable" light; while another subject will do just the opposite, that is, he will endorse many such items, which collectively give an impression of imprudence, unconventionality, and lack of inhibition. The first subject is a high-scorer on Repression and Suppression, the second a low-scorer. The "realistic" place to score on this scale is therefore near the mean.

Social Integration. High-scorers are likely to be quite conventional and free of symptoms of social alienation; low-scorers usually feel that they are

unhappy social isolates.

Masculine Role. High-scorers are usually active persons with interests and attitudes characteristic of men in our culture; low-scorers are, on the contrary, more passive, acquiescent, and conventionally feminine.

Vassar students were also studied by means of the Minnesota Multiphasic Personality Inventory (Hathaway and McKinley, 1951), a test designed to measure the type and degree of psychopathology in the personality. They discovered that there is a consistent trend for seniors to be higher than freshmen on the following scales: Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Schizophrenia and Mania. (The K, or Suppressor, Scale score does not differ significantly.) They find that seniors subscribed more frequently than freshmen to statements indicating psychological or physical disturbances and instability.

Are seniors more neurotic than alumnae? Freedman (1962, p. 863) in his study of Vassar alumnae, found that comparisons of alumnae (a representative sample) with senior scores on the MMPI are available for the class of 1955, tested again four years after graduation. The chief finding is that the alumnae are lower on all of the clinical scales. This indicates that the alumnae, as compared to their state as seniors, reveal less evidence of emotional difficulty, anxiety or psychological unease and more evidence of physical and psychological well-being.

In interpreting these interesting findings, Freedman (1962, pp. 864-5) has this to say:

Perhaps we should think of a developmental phase of late

adolescence, beginning at some point in high school... and terminating around the end of the sophomore year in college; followed by a developmental phase of young adulthood that begins around the junior year and carries over to a yet undetermined extent into the alumnae years. From this point of view, basic changes in quality of character, outlook on life and fundamental personality characteristics are consolidated by the end of the sophomore year, after the developmental phases of early and late adolescence, in which rapid change has taken place; and, for some time thereafter, little change takes place in these characteristics, or, at least, change is likely to be a more measured or gradual affair.

He feels that further research is needed to clarify the meaning of the results involving the RS scale (Repression-Suppression) and the MMPI. In the meantime, he (Freedman, 1962, p 865) offers these possible explanations:

One tenable hypothesis is that the subsequent rise in the RS score and the lowering of MMPI scores among alumnae are an indication that the gains or changes of adolescence, painful or difficult to integrate into the personality at times, have now been consolidated. However, one may posit an alternative view of things: higher scores obtained on the MMPI by seniors as compared to freshmen, the increase of "neurotic" symptoms which take place between freshman and senior years, should be regarded more properly as a kind of external phenomenon, a function of the considerable demands made by the faculty and administration of a school that maintains high standards of scholarship and academic performance. Considered from this point of view, the increased stability and well-being of alumnae as compared to seniors is primarily a product of the less rigorous lives of the former, the lessened intensity of demands made upon them. (underlining is mine)

Further studies in this area have been done with groups of seminarians. William C. Bier S.J. (1948) did an extensive study at Catholic University, comparing a group of seminarians with four other groups of Catholic students: Medical, Dental, Law and College. As a result of his findings he suggested an adaptation of the MMPI to make it more suited for use in testing

seminarians. However, in our present study the original form of the MMPI has been used. Bier does not, however, reject the MMPI as it stands but would seek greater refinement to make it more suited to specialized groups such as seminarians. Lest the impression be given that the seminarians would be substantially different, here is what Bier (1948, p. 50) states:

Are seminarians so special a group that the norms of personality adjustment or mental health, established for the population at large, are inapplicable to them? The answer to this question, on the basis of the present evidence is NO! The MMPI will serve as a substantially suitable instrument in the testing of seminary adjustment because it is accomplishing essentially the same thing, giving essentially the same differentiation in the seminary group as it is in the others. The seminarians do not present a substantially different picture of good and satisfactory, or poor and unsatisfactory adjustment, from that given by the members of the other occupational groups studied. When, however, nearly a third of the total number of differences attain significance at the .01 level, they demand serious consideration.

Three unpublished studies of seminarians conducted by Andrew J. McDonagh, John R. Gorman, and Leonard Murphy are also pertinent. Father Andrew J. McDonagh (1961) tested the first year college students of Quigley Seminary, in Chicago, using the MMPI as well as the Kuder Preference Record and the Mooney Problem Check List. This was being carried out as a companion thesis with that of John R. Gorman (1961) in which the latter used the same psychological instruments to study the fourth year high-school students of the same Seminary. Gorman reported a rise on the MMPI scores for the first year college students over the fourth year high-school students which he thought might be due to age and increased maturity.

Leonard Murphy, C.P. (1962) using the MMPI tested three groups of seminarians and retested them - the first group after one year, the second

group after two years and the third group after three years. He found that the responses on the scales 1 (Hs), 2 (D), and 3 (Hy) changed significantly in the direction of better adjustment. In general there was a tendency to better adjustment. He noted that there was a certain uniformity of responses that was maintained by the three groups. He concluded that these changes must be due to the training program that provided the seminarians with an increased sense of security, accomplishment, well-being and purposefulness.

Among Protestants, Gynther and Kempson reported a study they made on seminarians who had taken a 12 week course of training in Clinical Pastoral work. They noted that previous studies using weekly logs and student diaries, showed personal change in varying degrees but the only significant element was in the student's view of himself and of his relations with others. The authors criticized this method as too subjective. Later on they did a study (Gynther and Kempson, 1958) using objective tests and found that personality changes and shifts in self-perception were relatively minor. However, they criticized their study because the number of subjects was too small and the ministers, who were the subjects, were considerably older than the type of person found in clinical pastoral training who are usually young men with at least one year of seminary work. To meet these two objections and to secure additional evidence to support their own earlier findings they decided to repeat the study, (Gynther and Kempson, 1962) using six seminarians and a chaplain advisor. The students' ages were 22 to 27 with none having previous pastoral experience. During the first and final weeks of their twelve weeks

of training they were given the MMPI with standard instructions and the Inter-Personal Check List, with instructions to describe themselves and the other members of their group. The results showed practically no significant changes of external underlying personality or of self-perception changes. The authors added a note to confirm their findings. They stated that they gave the MMPI, using test-retest method to a total of 30 trainees (from three different training centers) including the ones reported and in the earlier study in 1958. In no case did change take place as defined in the method of analyzing psychological tests, so that the results of the different tests can be expressed in a common interpersonal language as described in the Interpersonal System of Personality by Leary. However, the authors suggest that seminarians might show significant personality changes if they undertook a full year of pastoral training instead of the usual three months.

It would be the expectation of most people that certain personality changes should come about in a seminarian as a result of his greater concentration on religious knowledge. Yet a study by Carol Martin and Robert C. Nichols (1962) at Purdue University did not find any significant differences between the informed and uninformed groups in the correlates of religious belief and personality. One hundred and sixty-three college students were tested, using the Pa, L and Mf scales of the MMPI. Results of previous studies showed the religious believer to be a conventional, conforming person to whom, being socially acceptable, means a great deal. He is rigid, prejudiced, unintelligent, suspicious and generally pessimistic. Surprisingly, the religious man seems to be more masculine than the irreligious. According

to these results, the non-believer is the one who is most likely to embody the traditional Christian values of humility and respect for his fellow-man. The authors wondered if these same personality correlates would be found in a group of subjects who are highly informed about the finer points of religious doctrine so that they would be likely to perceive the inconsistency of these aspects of behavior with their professed beliefs. Their group of subjects was therefore chosen on the basis of their superior grasp of religious knowledge as shown by a test administered by the authors. However, the results showed no significant differences between the informed and uninformed groups.

It has been generally accepted that age makes a difference in MMPI scores with a clear tendency for higher scores at higher age levels. William Bier (1948) confirms this tendency noted by Hathaway and McKinley (1951) and adjusted the means of his results for age differences. However, a recent study by Canter, Day, Imboden and Cluff (1962) finds no significant differences on the MMPI for different age groups. They took random samples of males, 20-29, 30-39, 40-49, 50-59 and 60-69 from the population of male adults employed as civilians in an Army Chemical Warfare Center in Maryland. A slightly shortened form of the MMPI (the SI scale was excluded) was administered to a group of 137 males with a mean age of 36. None was known to have had a psychiatric illness at the time of testing. They reported no significant differences among the mean scores for the different age groups. It was concluded that there is no need to correct the MMPI norms for age. They explain previous scores of MMPI score-increase-with-age as probably the result of sampling subjects suffering from some medical or neuro-psychiatric illnesses.

It should be added that in their testing they used the Morale-Loss Index of the MMPI and the Cornell Medical Index Health Questionnaire to eliminate any subject suffering from illness.

In preparing for this study, the study of adolescent personality and behavior by Hathaway and Monachesi (1963) was very helpful because of their expert analysis of the meaning of the scores in the different categories of the MMPI.

Other studies of seminarians by means of the MMPI have been done. Le Roy Wauck (1957) tested 206 major seminarians with the Kuder Interest Inventory, the Ohio State Psychological Examination, the Group Rorschach and the MMPI. He found significant differences at the .05 level on only two scales, the D scale and the Mf scale. He noted a difference in the Pt scale at the ten percent level, but none of the other scales were significant at or beyond the five percent level. This finding seemed to suggest a triad of scales D, Mf, and Pt with a peak on Mf as typical for successful seminarians. Seminary life, when taken seriously, does increase temporary or situational anxiety.

Another study resulted from criticism of William Bier's dissertation on the MMPI and seminarians. Patrick J. Rice S.J. (1958) tested whether Bier's group of seminarians constituted a good representative sampling of students for the priesthood. Rice chose what he considered a more homogeneous group of major seminarians. He investigated three null hypotheses of which two relate to this study:

1. That there is no difference significant at .05 level of confidence between the MMPI performance of the Bier group and Rice's homogeneous group.

2. That there are no intra-group differences within this more homogeneous group significant at the .05 level of confidence. Rice (1958, pp 31-33) remarks that:

The major null hypothesis of this thesis was the hypothesis of no difference in MMPI performance between the Bier group and the Experimental Group...significant at the .05 level of confidence. On the basis of the data presented above, the null hypothesis may be rejected, specifically for scales 3, 4, 5 and 6. In other words, the MMPI performance is so significantly different that the two groups may be said to be samples of significantly different populations. Consequently, Bier's contention that his subjects represented a good representative sampling of students for the priesthood must be accepted with qualifications. The statement cannot be read to mean that the Bier group may be used as a normative for scales 3, 4, 5 and 6.

Benko and Nuttin (1956), like Bier, made modifications of the MMPI at Louvain, Belgium for testing seminarians. They found that the Pt, Sc and Hs scales are those which "for our group of seminarians, are the most symptomatic. . ., it is the tendencies towards psychasthenia, schizophrenic or schizoid personality and hypochondriasis which are found in most characteristic fashion among seminarians, maladjusted to religious life".

There are two other studies similar to the investigation here presented: those of Hakenwerth (1966) and Murtaugh (1965).

Hakenwerth's study of the effect of religious life on the MMPI scores of religious Brothers is similar to the present study in that he retested 80 Brothers who had taken the MMPI before entering. He used the Pearson "r", chi square and the "t" test to measure the significance of the differences.

His general finding: the regime of religious life serves to maintain an elevation which, he reasoned, was largely the result of years of training.

However, he could not substantiate this as he had not tested the Brothers immediately after their training period.

Using a modification of Kobler's criterion, he singled out those profiles with a mean of 58+ on the clinical scales, and two or more scales above a T-score of 70 (excluding the Mf scale). These he called critical scores. He found that there were 14 scores that were critical before entry: five of these lowered their scores so that they were no longer in the critical category. The remaining 9 continued to be critical or worse. But he found 18 subjects who were critical in the retest who had not been critical in the test. He asks the question: Did these develop during the training period or after the work of the Order had begun? The answer, he says, is not clearcut, because of lack of data at the conclusion of the training period. He found significant differences on scales Mf, and Sc at .01; on F, Hy and Pt at .05.

Comparison of the mean scores of the five subgroups into which he had divided the 80 subjects according to the amount of time spent in the religious life showed no consistent pattern of change over the ten years of active life. Therefore, he reasoned that the amount of time is not a consistent factor. The rise must be in the training period.

The present thesis differs from Hakenwerth's in that: 1) the subjects were different - all seminarians; 2) they were retested in the last year of their college training period; and 3) coding was used, as well as the T-scores, to analyze the critical scores.

Murtaugh also made a longitudinal study investigating the predictability of the MMPI and Kuder for diocesan seminarians.

He investigated the MMPI and Kuder scores of 90 priests, ordained from five to ten years, as compared with their scores on the same tests taken during their time as major seminarians. He used the Pearson "r" and the "t" ratio to obtain correlations and differences between three categories: a) the total group's test and retest results; b) between the 90 responding ordained seminarians and the 55 non-ordained who were among the 206 major seminarians taking the tests between 1953 and 1955 incl.; c) between the 90 ordained who responded and the 56 who were also ordained but did not respond.

His thesis differed from the present one in that it retested subjects after from five to ten years in the priesthood. Although he did not find sufficient evidence to show that the MMPI is a reliable predictor of performance of candidates for the priesthood, yet the changes that took place on certain of the scales between the test as seminarians and the test as priests furnish a good basis for comparison with the present thesis.

His findings were as follows:

K. an increase on this scale shows greater psychological defensiveness in the priests.

F. a decrease on this scale indicated that the priests were more careful in the preparation of the protocols. This change in the priests is to be expected because of their priestly experience and maturity.

Pt. a decrease on this scale indicates in the priests a trend towards less minutiae, less scrupulosity, less obsessive-compulsive tendencies.

Ma. Murtaugh interpreted an increase on this scale as showing a slightly greater tendency to overt behavior, less social constriction, less behavioral inhibition. These changes can be charged to environmental differences between seminary and priestly life.

Hy. The increase on this scale is reasonable in that it correlates with the observable fact that many diocesan priests develop gastric and abdominal complaints and cardiac symptoms due to externally caused frustrations and worries rather than to excessive introversion and compulsive tendencies.

In comparing the scores of the ordained and the non-ordained seminarians, Murtaugh found that the only significant difference was on scale Pa i.e. 56.91 for the ordained and 53.09 for the non-ordained. This was a significant difference at the .01 level. According to Murtaugh's interpretation the higher score for the seminarians, who were later ordained, showed that they were more paranoid i.e. more sensitive, more worried, more suspicious than those who were not ordained or the non-successful ones. But he notes that this does not mean much because, 1) the difference is so slight and 2) it is still well within the normal range i.e. it is still below T-70.

Murtaugh further explains this finding: it seems logical that the seminarian who is more anxious to please his superiors and more eager to persevere would also be more sensitive, more worried, and more suspicious, especially when his superiors put him on trial or tested him. This finding

agrees with Wauck's (1956) statement that seminarians, as a group, tend to be more conscientious, socially sensitive, tactful and that seminary life, when taken seriously, does increase temporary or situational anxiety over one's well-being. Perhaps this factor should be tied in with the significantly higher Mf score of the successful seminarians, all of which indicates that the successful responding seminarians were more introspective and self-concerned, more sensitive and more interested in self-improvement.

The Question Under Investigation

In the above literature on the use of the MMPI in testing seminarians, the purpose has been to employ it as a screening device for guidance in determining the qualifications for admission of a young man to the seminary; it has also been used to identify those maladjusted students who could be aided by counseling and therefore saved for the seminary. With the exception of the aforementioned unpublished master's theses, the literature records few other specific studies of Catholic seminarians that would present evidence of significant change in personality, such as Sanford and Freedman's claim for college students. This thesis proposes to study the question: Is there significant change in personality effected by seminary training? It is hoped that light may be thrown on these secondary questions: In what area does change take place? Is it positive or negative, desirable or undesirable? How do our seminarians compare with other seminarians, with college students, with the general population? How do our results compare with those of Sanford and Freedman?

Procedure

The subjects are students at Maryknoll Seminary, Glen Ellyn, Illinois, in their senior year. Maryknoll Seminary provides a four year liberal arts course in the training process of Maryknoll priests. There is an orientation of the training towards the future missionary work of the students. The students enter in September and finish the school year in June. For freshmen and sophomores there is a three-month vacation at home and two weeks at Christmas. The summer vacation for juniors and seniors allows them five weeks at home. The remainder of the summer is devoted to apostolic work or taking summer courses. Christmas vacation is spent at home. Students are invested in the cassock in their junior year. But this does not constitute any official commitment to Maryknoll. No student takes any official step into the Society until the conclusion of his novitiate training which takes place at Hingham, Massachusetts after graduation from Glen Ellyn. At the end of ten months of novitiate training he takes his first temporary Oath which makes him a member of the Society. All the seniors are in good health. All have been in the seminary here for at least three years. All have been tested with the MMPI when they applied for admission, therefore, several months before beginning their studies. Those who took the retest were volunteers.

The short form of the MMPI was chosen for the retest because this form had been used to test the seniors when they were pre-freshmen. The literature on this personality test is so massive that it is not necessary here to demonstrate its validity. This test was also chosen because the results can

be compared with those of other institutions where the MMPI was used.

As a result of the review of the literature, especially the long study made by Sanford and Freedman at Vassar, it is theorized that significant change should take place in the seminary just as much as, if not more, than in college. The seminary population is a normal one, although slightly elevated on the MMPI scales as is true of all college populations, according to Bier and others. However, against this theory would be the findings of Gynther and Kempson who did not find any significant changes in their studies of seminarians after three months of intensive pastoral training, although they noted that three months was hardly sufficient time. Another doubt is raised by the study of Martin and Nichols since they did not find any significant differences between informed and uninformed religious groups in the correlates of religious belief and personality. Consequently, the religious training aspect of seminary life would not seem to bring about significant personality changes. The theory that significant personality change will take place in the seminary is tested by setting up the null hypothesis:

No significant personality changes take place at
Maryknoll Seminary as a result of three years and
some months of seminary training.

This hypothesis will be tested at the .05 level of significance.

In May of 1965, less than a month before graduation, volunteers among the senior class were asked to cooperate in this experiment by taking a retest in the MMPI. It was a very busy time for them, yet 18 agreed. The

tests were administered by psychology students, under the direction of the professor of psychology. This is called Group A. Scoring was by hand, the Means and the Standard Deviations as well as the T scores were obtained by following the directions of the Manual. Then the "t" ratios were calculated according to the statistical formula and the "p." value obtained. The same calculations were carried out for the pre-freshman tests of this Group A. These tests had been filed under code numbers by the professor of psychology.

The same procedure was followed in regard to Group B. This Group was made up of 23 seniors of the 1966 class who volunteered to take the retest in September of this school year (i.e. 1965-1966). Again, the tests were administered and scored by psychology students under the direction of their professor.

CHAPTER II

DESCRIPTION OF RESULTS

The results are presented as follows:

- I. Results of the pre-freshman test (A) and the senior re-test (B) are shown for Groups I and II and for the combined groups according to the same means, standard deviations, T scores and probability of occurring through chance alone. The results are also plotted according to their T scores to show the profiles of the Groups graphically and according to rank order. Finally the scores were coded according to the method described in the MMPI manual.
- II. The results of Group I were compared with those of Group II according to means and according to their codes.
- III. The "High" scores in each group were determined, as well as the "Normals", for purposes of comparison, by means and standard deviations, as well as by codes.
- IV. Finally the frequency of similar codes of both groups was found in order to discover more about the deviant individual scores in each group and to seek an understanding of the underlying cause if any is present.

I. Results of the combined groups, totalling 41 students:

1. Comparison of the two tests, A and B, for the two Groups and the combined group: Table I records the results of the MMPI tests

during the pre-freshmen period and during the senior year for the two groups, 18 of the class of 1965 and 23 of the class of 1966, and then for the combined groups.

Significant differences between the pre-freshmen test (A) and the senior re-test (B) are noted on scale K. A significant difference below the .05 level of significance is also noted in scale 3 (Hy) for Group I, but this does not appear in the results for Group II, nor for the combined Group.

2. Tables II, III, and IV give the same information but in separate tables. Table II for Group I, Table III for Group II, and Table IV for the combined groups. It should be noted that there is no significant difference shown on any of the clinical scales for Group II. However, there is a significant difference at .02 level on validity scale K.
3. Figure 1 gives the profiles for Group I, showing the T scores for the A. and B tests. There is a fairly regular elevation of the re-test results over those of the pre-freshmen test, with slight peaks on scales 3 (Hy), 5 (Mf) and 8 (Sc) and definite lowerings on scales 6 (Pa) and 9 (Ma).

Figure 2 gives the profiles for Group II, showing the T scores for the A and B tests. Here there is a slight elevation on scales 1 (Hs) and 3 (Hy), while scale 2 (D) drops, forming the familiar conversion V shape of the Neurotic Triad. The other scores are all below the pre-freshmen scores, showing a slight elevation on scales

5 (Mf) and 7 (Pt) with a depression on scale 6 (Pa) and a mild slope on scales 8 (Sc) and 9 (Ma).

Figure 3 illustrates the difference of the total group (i.e. Groups I and II combined) in T scores on the two tests, A and B. There are mild elevations on scales 1 (Hs), and 3 (Hy), 8 (Sc), and 9 (Ma).

II. Comparison of the results of Group I and II:

1. The profiles of Group I and II are plotted on Figure 4.

Group II shows an elevation of 2.7 T units on scale 1 (Hs) and 2.4 units on scale 3 (Hy), but is well below Group I on all the other scales except 4 (Pd) and 9 (Ma) where they are both the same. These profiles correspond with Table V where the two Groups are listed in the Rank Order of their T units, showing, in the case of Group I, an overall rise in B test of 47.1 units, while Group II shows a decrease of 7.7 units on B test.

The difference is also reflected in Table VI where the mean T scores of each Group, and the combined groups are compared with the results of College males, and of Bier's, Gorman's and McDonagh's seminarians.

A further evidence of difference between Group I and Group II is shown in Table VIIa and Table VIIb. In Group I, four students exceeded their pre-freshmen score each by 10 or more units, or each by one standard deviation. One of these was 22 units (over two standard deviations) above his pre-freshmen score. There were

no scores that were 10 units less than the pre-freshmen results. However, in Group II, there were only two who exceeded their pre-freshman results while there was one whose score was 14.3 units less than his pre-freshman score.

2. Comparing Groups I and II according to the Rank Order of the MMPI scales, as shown on Table VIII, Group II is lower on scales 5 (Mf), 7 (Pt), 2 (D), and 8 (Sc) while they are equal on scale 9 (Ma), on the senior test.

III. Comparison of the "Highs" in both Groups:

In order to find out more about the Groups, those who had a score on any scale of 70 T score units or above were selected to compose a "High" group. These are listed in Table IX according to the Rank Order of their means. The T scores are also plotted to show the difference in profiles for both tests and for both groups in Figures 5 and 6.

In Figure 5, the score of the B test for Group I is elevated, in all the scales, rather consistently. There is a positive slope to a peak on scale 4 (Pd), a leveling off to scale 5 (Mf), the typical V on scale 6 (Pa), and peaks on scales 7 (Pt) and 8 (Sc). This latter becomes a spike, going up to a mean of 73.8 T units and then a sudden slope to scale 9 (Ma) which marks a score of 60.2.

In figure 6, the profiles for tests A and B for Group II's "Highs" do not show much change. There is the neurotic triad with the conversion V, a flattening out through scale 4 (Pd) to scale 5

(Mf) where B test results are 4.8 units less than those of test A. The remainder of the profile on scale 7 (Pt), scale 8 (Sc), and scale 9 (Ma) drops slightly below the A test results, showing a well defined paranoid valley.

In Figure 7, the contrast between the "Highs" and the "Normals" in Group I is considerable. The Normals stay between 50 and 60 T units with a slight peak on scales 3 (Hy), 5 (Mf), and 9 (Ma) with lows on scales 1 (Hs), 2 (D), 4 (Pd), 6 (Pa), 7 (Pt), and 9 (Ma), while the Highs rise abruptly to scales 4 (Pd) and 5 (Mf) with a noticeable valley on scale 6 (Pa) in both A and B. Both A and B rise to scale 7 (Pt) with B continuing to its highest point on scale 8 (Sc) falling rapidly then to scale 9 (Ma), 13 T units below. The Highs became higher on test B, while the Normals dropped on scales 2 (D), 3 (Hy), 5 (Mf), 7 (Pt) and 9 (Ma).

Group II's Highs and Normals are plotted on Figure 8. These profiles show a contrast, but not as great as that in Group I. High B stays about an average of 10 T units above Normal B. Both are shown by means of dotted and straight lines. In general, High B is lower than High A, showing a movement toward normalcy. The Normals of B test show a distinct neurotic triad and conversion V, and then a negative slope except for a slight elevation on scale 8 (Sc) which indicates a movement to greater normalcy.

Looking at Tables IXa and IXb, in which the Highs and the Normals are compared according to the MMPI scales and the mean T

scores of each scale, the following findings appear:

Table IXa: the Highs in Group I are on an average 5.31 T units higher in the results of B test over those of A, with the greatest elevation on scale 8 (Sc), ten units; on scale 4 (Pd), 8.7 units; on scale 7 (Pt), 4.6 units; on scale 3 (Hy), 4.1 units; and on scale 5 (Mf), 3.2 units.

Whereas, in comparing the results of the Highs in Group II on the two tests, very little change is found: scale 5 (Mf) decreased 4.8 units in B test and scale 8 (Sc) dropped 3.7 units. There was a rise of 3.9 units on scale 4 (Pd), but only a slight rise on scale 3 (Hy) amounting to .5. In Group I three Highs moved to normalcy on test B, while three Normals became Highs. In Group II, five Highs became Normals, while five Normals became Highs, of which only three were significantly High.

Table IXb shows the differences between the Normals of both Groups:

Group I, surprisingly, shows a mean increase of only .5 units on the B test which indicates how deviant the Highs are.

Group II also shows that the differences between the results of the Normals, on both tests, are minimal, amounting to a mean difference of .4.

Turning again to Figures 7 and 8, where the profiles of Highs and Normals are shown, the contrasts are clearly indicated.

In Figure 7 the Highs of Group I show wide differences in the results of tests A and B. The results of test A scarcely rise beyond 65 T units, while test B results soar above 70 on scales 7 (Pt) and 8 (Sc). The Normals for Group I are all within the one Standard Deviation band except for scale 5 (Mf) which goes beyond 60 units. The Highs of Group I are notably elevated on the psychotic tetrad except scale 9 (Ma).

In Figure 8, as expected, the contrast between the Normals and the Highs of Group II is not so great. The neurotic triad is consistent, with the Highs ranging from 5 to 10 units above the Normals. Scale 5 (Mf) is a peak in the A test results, but levels off in the B test results. There is a negative slope in the psychotic tetrad with scales 8 (Sc) and 9 (Ma) falling away gradually from 7 (Pt).

An explanation of Table IXc.

This will be clearer if a synthesis is made. Group I started with 8 Highs (deviants) and 10 Normals as a result of the pre-freshman test. As a result of test B, the following changes are noted which would reflect the influence of three years of seminary training:

More deviant	Changed from Normal to dev.	Changed to non-dev.	Changed to less dev.	No change noted
(No. 1*	(No. 9*	(No. 3	2 (No. 6	7 subjects
3 (No. 2*	3 (No. 10*	3 (No. 5	(No. 8	
(No. 4*	(No. 11	(No. 7*		

Group II started with 11 Highs (deviants) and 12 Normals.

2 (No. 1*	(No. 12*	(No. 2	(No. 6	7 subjects
(No. 4*	(No. 13*	(No. 3*	(No. 9	
	5 (No. 14	5 (No. 5*	4 (No. 10	
	(No. 15*	(No. 7	(No. 11*	
	(No. 16*	(No. 8*		

(* more than .05 level of significance)

From Table IXc it was discovered that 13 (ten of whom were significantly below .05) became more deviant or changed from normal to deviant. There were 14 (five significantly below .05) changed to non-deviant or less deviant. And in 14 subjects there was no change noted. Therefore, in line with the search for significant changes at the .05 level of significance or lower, the following statements can be made: 15 subjects changed significantly (5 favorably and 10 unfavorably); 12 changed moderately (9 favorably and 3 unfavorably); and 14 showed no notable change according to this method of analysis.

Finally, another study was made, using a modification of Kobler's criterion. According to Kobler (1964), if the applicant has a mean score of 58+ on the MMPI scales, including one or more scores at or above 70, and high scores, especially on scales 7 (Pt) and 8 (Sc), the applicant would be further clinically evaluated regarding suitability for religious life.

Hakenwerth modified Kobler's criterion by rating as critical those

profiles with a mean score of 58+ on the clinical scales and two or more scales above a T-score of 70 (excluding the Mf scale). Applying this criterion to the scores of the 41 subjects of this study the following results are noted:

Four were in the critical category as a result of the test before entry (3 in Group I and 1 in Group II). During the seminary course all four lowered their scores so that they were no longer in this category.

But it was discovered that there were nine in the re-test who were in the critical category who had not been in this category in the entry test.

Comparing these results with Hakenwerth's it is interesting to note that, proportionately, about the same number developed neurotic tendencies i.e. 18 of Hakenwerth's subjects (18 out of 71 because 9 of his original 80 subjects continued in the critical category) or 25% became critical while 9 out of 41 in this study, or 22% became critical.

The areas in which an elevation of score took place were the following: scale 8 (Sc) had six at 70 or above; scale 4 (Pd) had five above 70; there were four above 70 on scale 7 (Pt); three on scales 3 (Hy) and 9 (Ma) and two each on 6 (Pa) and 1 (Hs).

Although the samples are small, from this study one may conclude that about 22% of the students, during their seminary life from freshman up to and including part of the senior year, will tend to be confused about their goals, experience inability to relate with their peers, feel anxious about sex matters, will be secretive and will be subject to day-dreaming and fantasy thinking (Sc). Moreover, there are closely related obsessive-compulsive items,



doubts and unreasonable fears as well as excessive vacillation in making decisions (Pt). It would be expected that some would experience antagonism towards authority and show unconventional and even aggressive behavior.

Hakenwerth concludes that the elevation in the scores of his subjects is not an indication of personality breakdown but rather due to the added stress caused by taking on a higher goal of self-perfection, compliance to a detailed Rule of life, and greater concern for others. He would see the elevation of scores as largely situational. This would explain, he hypothesizes, why the 18 subjects, who obtained critical scores on the re-test only, were not detected by the pre-entry test - they were not yet experiencing the situational stress of religious life which elevates certain scores.

The findings from this study would seem to support Hakenwerth's conclusion i.e. that the elevation of scores is not an indication of personality breakdown but due to the situation.

IV. Results of the Coding:

In Tables Xa, Xb, and Xc the T scores are coded according to the Hathaway method. Table Xa shows the scores for each number of Group I (No. 18), first the score on the A test, then below it, the score on the B test.

The following are worthy of note:

F (raw score): the highest is 13 on the B test for subject No. 5 whose score on test A was only 1.

The Handbook notes that a rise in F also means a rise in scales 8 (Sc) and 6 (Pa).

This is very true in this subject who was 101 on scale 8 (Sc) and 82 on scale 6 (Pa).

Subject No. 10 scored 11 on test A, but he dropped to 4 on test B with a parallel movement away from scale 8 (Sc) which dropped from 94 to 57 T units.

K (raw score): the highest was 27 and the next was 24.

There were 13 between 15 and 25. The lowest score was 7.

Ten subjects were noted to have increased in score for K, while 6 decreased and 2 remained the same.

Further study of K showed that 2 subjects decreased by 1 unit; 1 subject by 2 units; and 3 subjects, by 3 units. It was also noted that 4 subjects increased by 1 unit; 1 subject, by 2 units; 1 subject, by 3 units; 1 subject, by 5 units; 1 subject, by 6 units; 1 subject, by 11 units; and 1 subject by 12 units.

Significant changes took place in subjects No. 5, 10, 12, and 6 and to some extent in No. 7, 17, and 18. Numbers 5, 6, 12, 17, and 18 moved towards abnormality significantly, while numbers 7, 10, and 14 showed significant moves toward normality. This will be clearer if, in addition to the codes, the T scores for these are given:

Subject	Scales in T scores									Code	F:K
	1	2	3	4	5	6	7	8	9		
No. 5 (A test)	44	51	47	48	67	53	48	50	48	5 - 1	1:10
(B test)	44	<u>70</u>	55	<u>76</u>	<u>76</u>	<u>82</u>	<u>77</u>	<u>101</u>	<u>73</u>	8''''6''75492'3 - 1	13:11
No. 6 (A test)	54	41	56	57	57	62	50	51	43	6453 - 9	1:16
(B test)	54	58	58	<u>71</u>	<u>90</u>	<u>76</u>	62	<u>76</u>	65	5''''684'9723 - 0	5:16
No. 12 (A test)	39	58	49	71	71	44	44	40	48	45'2 - 1'867	7:9
(B test)	59	<u>72</u>	62	67	<u>73</u>	59	<u>81</u>	<u>86</u>	58	87''52'43 <u>169</u>	7:7
No. 18 (A test)	52	32	56	60	57	62	66	67	73	9'876453 - 2'	5:12
(B test)	52	53	55	60	63	53	<u>75</u>	<u>73</u>	<u>70</u>	789'543 - 0	6:13
No. 17 (A test)	49	44	51	57	43	53	60	51	70	9'74 - 52	2:12
(B test)	65	56	<u>71</u>	64	61	59	66	<u>74</u>	55	83'7145629	5:24

The next three, Numbers 7, 10, and 14 moved significantly towards normality in Test B:

Subject	Scales in T scores									Code	F:K
	1	2	3	4	5	6	7	8	9		
No. 7 (A test)	41	65	53	64	<u>74</u>	<u>79</u>	<u>77</u>	69	45	675'824 - 19	4:10
(B test)	41	56	51	42	67	56	52	55	55	42689 - 14	8:7
No. 10 (A test)	<u>70</u>	46	67	<u>71</u>	67	53	<u>81</u>	<u>94</u>	63	8''''7''41'359 - 0	11:20
(B test)	57	44	64	<u>74</u>	65	62	62	57	55	4'5367189 - 2	4:21
No. 14 (A test)	54	56	65	48	<u>76</u>	50	60	65	45	5'3872 - 9	3:17
(B test)	47	36	65	41	63	65	50	55	58	36598 - 2'4	2:14

Number 7 with three scales above 70 T units in Test A reduced all to less than 70 T units in Test B, moving significantly towards normalcy. Number 10 with scale 8 (Sc) in the nineties and scale 7 (Pt) in the eighties and two others 70 or more, was able to reduce all four of the scores to less than 70 T units

except scale 4 (Pd) in Test B, thus moving in a very significant way towards normalcy. Note that his abnormal F score of 11 dropped to a normal of 4.

Code Frequency:

Because of the small number in the sample of Group I, one-point code frequency as shown in Table Xc is of limited value.

Code 2 occurred once.

Code 3 occurred once.

Code 7 occurred once.

Code 4 occurred five times.

Code 5 occurred eight times.

Code 6 occurred five times.

Code 8 occurred six times.

Code 9 occurred six times.

In regard to the frequency of two-point Codes, here again, the small number of subjects made the results of dubious value:

Code 45 occurred three times.

Code 93 occurred three times.

All the other Codes listed in Table Xc had a frequency of only one or two.

Table Xb shows the codes of Group II:

Scale F: does not go any higher than the raw score 7. The mean for Test A is 3.6 while for test B it is 2.6, a decrease of one unit which is significant at the .02 level of significance. (of. Table III)

K (raw scores) ranging between 27 and 15 are as follows:

<u>Score</u>	<u>Frequency</u>	<u>Increase of Frequency</u>	<u>Decrease of Frequency</u>
27	1	2 units - 2	1 unit - 3
25	1		
23	5	3 units - 7	2 units - 2
22	2		
21	4	5 units - 2	4 units - 1
20	2		
19	4	6 units - 6	
18	4		
17	4	9 units - 1	
16	5		
15	4	13 units - 1	

The remaining K scores were all below 15 units, the lowest being 9 units. The median is 4.2. This is another way of showing the elevation of K in test B.

The Codes of the clinical scales: Subjects No. 1, 7, and 20 show spectacular changes; while Nos. 2,3,5,6,8,12,17,18,21, and 23 also show changes but less spectacular. They become clearer if the T scores are listed with the codes.

Scales that show a movement towards abnormalcy:

<u>Subject</u>	<u>Scales in T scores</u>									<u>Code</u>	<u>F:K</u>
	1	2	3	4	5	6	7	8	9		
No. 1 (A test)	<u>77</u>	63	67	67	65	65	66	67	55	1'34875629 -	7:21
(B test)	54	51	<u>71</u>	<u>76</u>	<u>73</u>	65	58	53	58	453'679 -	2:19
No. 7 (A test)	52	53	67	60	73	53	66	59	48	5'378 -	3:22
(B test)	65	60	<u>73</u>	69	<u>71</u>	65	66	<u>71</u>	45	358'47162 - 9	6:25
No. 5 (A test)	59	56	65	<u>74</u>	69	62	64	69	60	4'5637 6012 -	4:23
(B test)	54	56	67	<u>71</u>	69	50	64	59	<u>70</u>	49'53782 -	2:15
No. 8 (A test)	54	44	60	53	<u>76</u>	53	50	56	48	5'38 - 2	5:17
(B test)	65	48	<u>76</u>	60	<u>71</u>	65	62	59	50	35'1678 -	3:20

The following had no scales over T 70 in test A, but escalated in one or two scales over T 70 in their B test which shows a movement towards abnormalcy:

<u>Subject</u>	<u>Scales in T scores</u>									<u>Code</u>	<u>F:K</u>
	1	2	3	4	5	6	7	8	9		
No. 2 (A test)	41	63	44	57	49	41	58	51	53	274 - 613	3:10
(B test)	59	68	60	62	<u>71</u>	65	<u>77</u>	61	48	75'264831 -	5:13
No. 21 (A test)	52	51	51	60	57	56	66	56	53	74 <u>568</u> -	7:9
(B test)	65	51	62	<u>71</u>	55	53	<u>71</u>	65	65	47'18935 -	3:22
No. 10 (A test)	57	46	58	67	69	56	58	48	60	5497316 -	3:18
(B test)	59	44	67	<u>71</u>	53	53	54	55	55	4'3189 - 2	1:23
No. 23 (A test)	44	41	62	57	53	53	52	53	68	934 - 21	6:11
(B test)	41	51	56	60	47	41	54	48	<u>75</u>	9'43 - 16	4:14
No. 12 (A test)	47	53	51	43	57	50	56	46	38	57 - 94	7:9
(B test)	57	60	60	62	<u>74</u>	56	64	50	45	5'74321	7:15

The following scales show a movement toward normalcy. No. 20. is the most significant in this scale.

<u>Subject</u>	<u>Scales in T scores</u>									<u>Code</u>	<u>F:K</u>
	1	2	3	4	5	6	7	8	9		
No. 20 (A test)	67	58	<u>71</u>	62	<u>82</u>	56	<u>82</u>	<u>88</u>	50	857''3'1426 -	5:12
(B test)	54	51	<u>64</u>	55	<u>78</u>	53	62	65	48	5'8374 -	2:18
No. 6 (A test)	<u>70</u>	56	87	60	<u>73</u>	53	62	61	65	51'397842 -	2:17
(B test)	<u>47</u>	36	55	50	45	50	46	50	60	93 - 25	0:19
No. 17 (A test)	52	60	53	55	<u>71</u>	65	<u>73</u>	63	60	75'68294 -	2:16
(B test)	57	46	65	55	61	59	58	53	50	356714 -	3:21
No. 18 (A test)	57	51	65	64	<u>71</u>	62	<u>73</u>	50	68	75'93461 -	7:16
(B test)	59	41	67	64	61	50	58	61	55	3458179 - 2	4:19
No. 3 (A test)	57	44	<u>71</u>	60	63	50	52	61	55	3'58419 - 2	3:18
(B test)	41	51	47	62	53	44	50	53	55	49 - 16	3:16

Subject No. 20 changed vastly in the seminary from three scales: 8 (Sc), 5 (Mf), and 7 (Pt) over 80 T units and one, scale 3 (Hy), over 70 T units, to a score on his B test with only one score still over 70 T units, scale 5 (Mf), and that was reduced by four units. This change has been reflected in the subject in that he is now less anxious, less confused, less aggressive and hostile, more ready to go out to others although he still finds it hard to do so, to come out of his shell, as it were.

Frequency of one-point and two-point codes:

The one-point code is of limited value because of the small number of subjects. Table Xc shows a frequency of 7 on Code 3, of 9 on Code 4, of 11 on Code 5, of 3 on Code 6, of 5 on Code 7 and 3 on Code 8, with 4 on Code 9. The two-point code which, according to the Atlas, can be reversed, has three Codes of greater frequency:

Code 35 has 4 and Code 53 has 2.

Code 57 has 3 and Code 75 has 3.

Code 43 has 3 and Code 34 has 1.

Code 93 has 3.

Code 94 has 2.

The remaining Codes listed in Table Xc had a frequency of one.

Summary of the results of Coding:

	Those whose scores had primes over T 70, which were not present in the results for test B or were greatly reduced.	Those whose scores had primes and increased or whose scores did not have primes but acquired them in Test B.
Group I:	No. 1	No. 5
	No. 7	No. 6
	No. 10 (moved from 4 scores above 70 to 1 above)	No. 11
		No. 12
	No. 14	No. 17
		No. 18
Totals:	4	6
Group II:	No. 3	No. 1
	No. 6	No. 2
	No. 13	No. 5
	No. 17	No. 7
	No. 18	No. 8
	No. 20 (Moved from five scales above T70 to one scale above)	No. 10
		No. 12
		No. 21
		No. 23
Totals:	8	9
Grand Totals:	10	15

	Those whose scores above T 54 in- creased.	Those that decreased.	Those that practically remained unchanged.	
Group I:	No. 3	No. 2	No. 13 (remained high with one scale over T 70)	
	No. 8	No. 4		
	No. 9			
	No. 15			
	No. 16			
Totals:	5	2	1	(18)
Group II:	No. 16	No. 9	No. 4 (remained high with one scale over T 70)	
	No. 22	No. 14	No. 11	
		No. 15		
		No. 19		
Totals:	2	4	2	(23)
Grand Totals:	7	6	3	(41)

From these figures it appears that the seminary benefited ten students substantially and six others to some extent in moving towards what the MMPI test would designate as a more normal personality. However, it would seem, that, unless other variables were operating which were not obvious, fifteen moved towards the abnormal noticeably and seven others to some extent. Three did not seem to change sufficiently to show any increase or decrease.

CHAPTER III

DISCUSSION

The results of the MMPI tests taken by two groups of the classes of 1965 and 1966 in their pre-freshman period and again in their senior year show no significant changes except in Scale K.

However, in Group I a significant difference at .05 level of significance is found on Scale 3 (Hy).

And in Group II a significant difference at .01 level of significance is found on Scale K, and on Scale F at .02 level of significance.

Explanation of Scales.

The MMPI has four basic validity scales: the Cannot Say (?) scale, the L (Lie) scale, the F (Validity) scale and the K (Correction) scale. They help in the formation of assumptions about the validity or truthfulness of the profile pattern produced by the clinical scales. In this test there were no omissions i.e., "Cannot Say" score. No score was recorded for the L scale which detects an assumption of showy virtue, an attempt to answer in a way that will be considered socially desirable. Scores on this scale greater than 9 from among the 15 items would indicate that the subject had probably answered the other items in this same fashion, rendering the whole test results questionable. In fact, raw scores of 6 or 7 would take on importance in the profile.

The F scale is made up of 64 items such as "I have convulsions", "I don't think people are basically good", etc. These items are rarely marked true.

If there are many statements marked in the affirmative this would suggest overemphasis on faults and complaints. This could be interpreted as an evidence of facetiousness or it could also mean that the subject was appealing for help through appearing to be in great trouble. A high F score could also be due to the following as noted by Hathaway and Monachesi (1963):

- a) poor reading ability and poor comprehension;
- b) the distortion and miscomprehension may be a symptom of severe mental disturbance;
- c) it may be due to carelessness or uncooperative behavior.

The norm is to consider all raw scores of F that are over 15 as making a profile of doubtful validity. The highest that occurred in these tests was one score of 13 and another of 11. The mean for Group I, test A, was 3.5 and for test B, 3.19; for Group II, test A, the mean was 3.6 but in test B this was reduced to 2.6 which was of significant difference at the .02 level of significance and in the direction of greater normality. This probably indicated greater comprehension of the statements or greater carefulness in deciding whether the statement was true or false.

Angers (1963) observes that the F scale which is made up of 64 items consists of very unusual statements about one's self. A person whose score is more than 7 (65 T units) may have one of the following difficulties: inability to read, incorrect recording of answers, lack of cooperative attitude, schizoid personality, overly frank and dramatic verbal habits or a desire to present an exaggerated picture of difficulties. The Manual (p. 23) adds "high F and low K scores are indications of an attitude of self-criticism or a wish

to appear in an unfavorable light which may be either deliberate or unconscious.

The K scale is called a suppressor scale. It is made up of 30 items whose purpose is to sharpen the discriminating power of some of the scales. It is combined with Scales 1 (Hs), 4 (Sc), and 9 (Ma) to improve their validity. This scale was made up after an analysis of MMPI profiles which were obtained from some subjects that judges thought should have a high score but did not and from profiles of other subjects who were judged to be more normal but, paradoxically, obtained high scores. The K items were intended to push low scores higher for persons thought to be disturbed and to lower the scores of persons judged to be better adjusted. The K scale's function, then, is to bring about better differentiation of borderline mental adjustment i.e., in the case of those whose profiles showed a T score of 70 or more on one or more scales. So the use of K is justified principally in regard to scores around 70 T units.

According to Dahlstrom and Welsh (1965, p. 142) there is "increasing evidence that K is an important personality measure as well as a useful suppressor factor in statistical correction of some of the personality scales". In their extensive treatment of the K scale, they distinguish two groups taking the MMPI test: those of high status or higher socio-economic background and those in the opposite category.

The former, i.e., those of high status, will want to appear sociably desirable and will tend to emphasize their adequacy, self acceptance, and stress "descriptions of self as even-tempered, accepting, patient, unassuming,

self-reliant, optimistic and conscientious." In another study of High K normal subjects by Gough, McKee and Yandell (1955) they characterized them as "enterprising, ingenious, resourceful, aggressive, clear-thinking, energetic, rational, versatile and high in initiative." They were also seen as immature, impulsive, outspoken and tense more frequently than subjects in general.

There is a certain amount of unconscious evasiveness and self-deception in this group, unwilling to admit any fault in self, family or circumstances.

After successful counseling, K scale values typically rise as the individual reacts to treatment and gains value from it resulting in an increase of the concept of ego-strength, self-maintenance and self-enhancement, more accurate self-insight.

Hathaway and Monachesi (1963) state that the normal expression of K is circumspect; social desirability set; or, with low score, candid; low self-esteem.

The Manual (p. 18) puts it this way: "if it is to be given any concrete nonstatistical meaning, the K score is to be thought of as a measure of test-taking attitude, and is related to the L and F attitudes but is somewhat more subtle and probably taps a slightly different set of distorting factors. A high K score represents defensiveness against psychological weakness, and may indicate a defensiveness that verges upon deliberate distortion in the direction of making more "normal appearance!."

All this data indicates that K scale has important implications for measuring personality. An elevation of 55-60 T score for a college student may be considered typical (a raw score of 15-18) and not necessarily a product of a conscious set to deceive or cover up. However, when they range up to

the high sixties and the low seventies, the possibilities increase that they are responding in a special defensive manner. The authors of the Handbook go on to say that this general elevation on K that characterizes college student groups still reflects defensiveness but it should be viewed as part of a general self-concept in which self-enhancement and personal self-esteem are but a part.

The second group are those who are not concerned about status nor about appearing socially desirable etc. Their K score will usually be low. So a low K score is usually interpreted as tending to indicate a person who is overly candid and open to criticism and the admission of symptoms even though they may be of minimal strength. However, the Manual adds, it may be that a low K score could also be the result of a deliberate attempt to obtain bad scores or make a bad impression (plus getting).

In interpreting the scores, the Handbook gives these guidelines:

0-8 raw score: depending on background, this indicates one who is moderately disturbed emotionally or has personality difficulties, if from a low socio-economic status; but it implies low ego-strength and inadequacy of defenses if the subject is from a middle or upper status background.

8-15: the typical normal and psychiatric patient subject will be found in this range.

15-25: in this range will be found the upper status

subject, the hysteroid neurotic and the highly defensive normals, Scale 3 (Hy) is strongly correlated with K and a moderate peak on Scale 3 is often paired with a K score in this range.

Over 25: Such high K scores, according to Dahlstrom and Welsh, reveal "extreme facades of self-sufficiency and adequacy as well as freedom from personal defects" - a high degree of defensiveness.

In the present results, both Group I and Group II scored higher elevations on K in their B test in senior year than in the pre-freshman A test. As a combined group of 41 subjects their total K scores would come to 82. Among these no scores were found between 0 and 7. From 7 to 14 inclusive there were 25 scores, while between 15 and 25 inclusive there were 55 scores with the means ranging from 15.4 to 17.1 for Group I and from 16.3 to 18.7 for Group II. There were only two scores over 25, both on 27, one of which was in Group I and the other in Group II.

Furthermore, it was noted that there were 12 subjects whose K score decreased from 1 to 4 units; but there were 27 subjects whose K scores became elevated between 1 and 13 units. There were only two among the forty-one whose scores remained the same in both tests.

How is it to be explained that 2/3 of the total 41 became more defensive, some extremely so, while only 1/3 lessened in defensiveness?

The answer to this might be contained in the report of Dunn (1965, p.134): "... a summary of more than fifteen years of research seems to confirm the findings of the pioneer studies of the early forties that religious and religious applicants show signs of defensive behavior typical of persons with neurotic tendencies." Murray (1957) concluded from his studies of major and minor seminarians that there was a positive relationship between increasing deviancy on the MMPI scales and increasing years in seminary training. This he attributed partly to the typical personality characteristics of those attracted to the priesthood and partly due to sacerdotal training. Or were those who volunteered to take the tests among those who were more inclined to increase in defensiveness? Or was it the time of year or the circumstances or both that affected the subjects so that their scores were elevated, as the Handbook suggests when it points out that the state of mind of the subject at the time of test-taking will have a bearing on the test results?

There might be some basis in this latter situation which would explain some of the defensiveness and the tendency to play a role, as Hathaway suggests. The seniors have a status to maintain. They saw themselves as responsible for the orientation of the new students during a five day period of conferences, discussions and individual guidance. They wore a distinctive garb, they were beginning their second year of philosophy; they were the heads of student projects and the officers of student organizations. Consequently, they would have good reasons for being defensive, aware of the role they were playing as the patterns for the new students, responsible for their introduction to the life of the seminary. All of this is true of Group II whose

scores showed a significant difference over their scores as pre-freshmen.

However, Group I took the test at the end of their senior year, a few weeks before graduation when they would be expected to be more mature, more aware that they were not the models they expected they might be and yet as a result of their courses in theology, philosophy, psychology, and participation in the liturgy, there would be a development of ego-strength, of their sense of adequacy, of self-enhancement, of greater social ease from living in small groupings. All this would increase the attitude and disposition that the K scale measures without, however, being as unrealistic as the less mature Group II.

Some preliminary remarks on the interpretation of the clinical scales in general.

The Manual points out that there are three generalized patterns to be observed in the clinical scales: the neurotic, the behavior problem and the psychotic.

The neurotic: Scales 1 (Hs), 2 (D), and 3 (Hy), the neurotic triad, tend to be dominant among neurotics. 7 (Pt) is usually considered as related to neuroticism and is a fourth indicator.

Behavior problem: Scales 4 (Pd), 5 (Mf) and 9 (Ma) with scale 6 (Pa) less clearly related, are thought of as indicating the presence of behavior problems.

Psychotic: Scales 8 (Sc) and 6 (Pa) elevated, with scale 7 (Pt) depressed, form the psychotic triad, according to Gough, but others consider that scales 6 (Pa), 8 (Sc) and 9 (Ma) form the psychotic triad. Dahlstrom and Welsh (1965) think it might be better to refer to the psychotic tetrad which would include scales 6 (Pa), 7 (Pt), 8 (Sc) and 9 (Ma).

Three dimensions of the profile are used in interpretation:

Elevation, Slope and Phase.

Elevation refers to the absolute values of the T scores, scaled along the vertical lines on the profile. The heavy black line drawn across the standard profile is at the T score level of 50. Scores that go as high as 70 and as low as 30 are considered to fall within the normal elevation, i.e., within two standard deviations from the mean (standard deviation is 10).

Slope indicates whether the neurotic triad or the psychotic triad is higher. This is designated positive, if there is a slope upwards from the neurotic to the psychotic; and negative if it descends from an elevated neurotic triad.

Phase means the patterning among the scales: e.g., profile Spikes, i.e., isolated scales that have high elevation; the neurotic triad; the psychotic triad; paranoid valley i.e., the V formed by sharp elevations of scales 6 (Pa) and 8 (Sc) with scales 7 (Pt) and 9 (Ma) relatively lower. Conversion V i.e., elevations on scales 1 (Hs) and 3 (Hy) with scale 2 (D) relatively lower.

The Manual points out that we should be careful not to think that the majority of people having deviant profiles are mentally ill. It adds that if a truly representative cross-section of the population were to be tested there would be a greater number of deviant profiles among persons who are not obviously abnormal than from persons having admitted or obvious difficulties. Interpretation of the results on Scale 3 (Hy):

Hathaway and Monachesi (1963) state that scale 3 (Hy) was derived from criterion patient groups who combined physical complaints with the protest that they were not neurotic. According to the Manual, scale 3 (Hy) measures

the degree to which the subject is like patients who have developed conversion type hysteria symptoms. The Handbook explains that it was developed to aid in identifying patients who use the neurotic defenses of the conversion form of hysteria. Such patients use physical or somatic symptoms as a means of solving difficult conflicts or avoiding mature responsibilities. But this resort to physical disorder may appear only under stress, while in ordinary circumstances no clear personality inadequacy is readily demonstrable. The need for a personality measure to reflect or to reveal such predisposition before breakdown was partly the motivation behind the development of the scale.

It is said that this scale is one of the most interesting. It contains 60 items, many of which seem to be contradictory. The items make up two categories: somatic items, i.e., dealing with physical complaints, and social facility items. The Handbook (p.58) explains further:

The somatic items from scale 1 (Hs), that appear on this scale as well, are the more specific in bodily reference, such as head, eyes and chest. There are also a few describing tensions, fears and worries. In contrast there are also a number of items that involve the denial of any kind of troubles. These may be denials of inadequacy, base impulses, and of any sensitivity in social situations. Many items demonstrate a protest that the other people are trustworthy, responsible and likable.

It can be taken for granted that most seminarians would give the expected answer: False, to this item: "I wake up fresh and rested most mornings."

The Handbook cautions that there may be more variability on the results of this scale because the items are phrased in the present tense, they contain ambiguous adverbial modifiers that are subject to different interpretations and frequently refer to experiences that are also ambiguous and open to

individual interpretation. Therefore, this scale could be expected to show less test-retest agreement than other scales.

Hathaway and McKinley (1951) note that subjects high in scale 3 (Hy) would consider themselves unusually well-socialized e.g., they would answer False to such statements as: "Frequently have to fight against showing that I am bashful", and "I get mad easily and get over it soon", and again: "Some people are so bossy that I feel like doing the opposite of what they request, even though I know that they are right". The authors add that in spite of their implication of a very socialized make-up, the items include "unhappy" and "blue" admissions. These latter items are to be contrasted with those in which the subjects say that they are not repressed or shy with others.

Hathaway and Monachesi (1963 p. 58) note the presence of the "conversion V" in the profiles of high (Hy) scales. They note that hysteria is classically a chief neurotic trait in young people; that it is often indicative of immaturity. It also suggests the pressure for "conformity in Western culture and can be expected as a trait at moderate levels, among well-behaved and intelligent children." High intelligence and achievement would be found among those with high (Hy) scales. They summarize their comments on those with high (Hy) scales "...indicates a pattern of acceptance of middle-class values. One may loosely generalize about high scale 3 adolescents by saying that they are intelligent and strive for achievement and their parents are in the professional class."

The Handbook quotes a study by Hathaway and Meehl (1961) in which they report the adjectives used by peers of those with high (Hy) scales in

describing them as: fair-minded, persevering, prone to worry, enterprising, alert, generous, mature, clear-thinking, assertive, socially forward, adventurous, affectionate, sentimental, co-operative, good-tempered, grateful, verbal, courageous and individualistic, can mix well socially and have wide interests. In another rating which was not quite so flattering, that done by professional judges, those who scored high on the (Hy) scales were said to be clever, enterprising, enthusiastic, imaginative, impatient, thankless, infantile, inhibited, both irresponsible and responsible, spunky.

The psychological picture, therefore, of high scale 3 (Hy) normals is one of social participation and easy accessibility, ready involvement in activities and participation in social activities.

W. P. Angers (1963, p. 121) in the Catholic Counselor says that the scale is composed of items that indicate a "person who is immature, unrealistic, kindly, courteous, naive, narcissistic, lacks insight, is amenable to group ideas and has need of social acceptance."

Finally, scale 3 (Hy) is strongly correlated with scale K and a moderate peak on scale 3 (Hy) is frequently paired with a K score in this range. Scale 3 (Hy) also correlates with scale 1 (Hs), .52 for normals and .71 for clinical cases.

Group I showed a rise in this scale which was significant at the .05 level of significance. Group II showed a rise but not to the extent that it amounted to a significant difference.

Is there any explanation, in the case of Group I, why their score on scale 3 should be higher than that of other seminarians and college males (cf. Table VI)? (Group II's score on scale 3 is also higher, actually higher than that

of Group I but the difference with Group II's pre-freshman is not great enough to be significantly different). Our seminarians would consider themselves unusually well-socialized because the seminary has been organized on a small group basis during the past three years to provide an opportunity for greater inter-personal relations and to promote personality development through social living. Moreover, during the past year, the seminary has become more open. There has been less emphasis on silence and greater participation in apostolic and educational opportunities out-side the seminary. The athletic program has been broadened so that greater numbers find themselves in competition with nearby seminaries and colleges. The emphasis on the Missions of the Church arouses a greater interest in people. Groups of foreign students, groups of children and adults from Chinatown, groups of pupils from different parishes, Sisters' Day and Brothers' Day - for all these - the students are called upon to act as guest-masters. In this way they are given a means of overcoming bashfulness and shyness. However, there remains a great deal of immaturity. There are many who are unrealistic, naive, narcissistic and lacking in insight. They would fit into the picture, however, of high scale 3 (Hy) normals as "one of social participation and easy accessibility, ready involvement in activities and participation in social activities" given in the Handbook.

Scale 5 (Mf).

This scale ranks first according to the mean T scores for Group I in test B (63.8) and ranks second in the mean T scores for Group II in test B (60.7). In the rank order of the MMPI scales for the High group in Group I, scale 5 (Mf) ranked second (65.3) in test A and fourth (68.5) in test B. In the High group in Group II, scale 5 (Mf) ranked first in both tests, 70.3 in test A,

and 65.5 in test B.

This scale was designed to identify the personality features related to the disorder of male sexual inversion. It measures the tendency toward masculinity or femininity of interest pattern. As Bier (1948) describes it, it is built upon the assumption that men and women have characteristic patterns of interest and that these interests may be interpreted as indices of masculine and feminine tendencies. The concept here, as in the other MMPI scales, is that this tendency - possessed within proper limits - is a necessary component of the normally adjusted personality, but that its excess - in the direction of the interest pattern characteristic of the opposite sex - may become a disabling personality disorder. Clinical evaluations of high scale 5 (Mf) men mention homosexuality as a frequent problem. But, as Drake and Oetting (1959) caution, basing a hypothesis of homosexuality on an elevation of Scale 5 (Mf) would be extremely risky. The Manual also warns that homosexual abnormality must not be assumed on the basis of a high score without confirmatory evidence.

The generalized interpretation of high scores includes positive appreciation of art, literature, music, acceptance of education, non-violence and cultural stability as ideals. According to Drake and Oetting (1959) it is not a simple scale to interpret. It is found to be high among men in an educational setting.

Bier (1948) thought that the divergence between the test scores of seminarians and the general test norms and the scores of the other groups that he had tested must be due to the unsuitability of this scale for a seminary group.

In a study (Jalkanen, 1955) of Lutheran seminarians, whose average age was 24 and half of whom were married, it was found that their scores on Scale 5 (Mf) were about 1.5 standard deviations above the norm. This would mean that their average score was about 65 T units.

Comparing the results of our seminarians with those of Bier, the score for the combined groups (62.2 T units) is slightly less than that (63.43 T units) for his group of seminarians.

Comparing Group I's test A results (61.9) with test B results (63.8) we see a little elevation. However, in Group II, there is a slight drop from test A results (63.5) to test B results (60.7).

What is the explanation of the high score on scale 5 (Mf)? The seminary atmosphere had a tendency to increase the score in the case of Group I but a decrease took place in the case of Group II. What is most significant is the fact that these students were already high on Scale 5 (Mf) when they applied for entrance to the seminary.

Is there any reason to be alarmed? Remembering that these subjects are equivalent to college men and according to the Handbook the general college mean is T 60 we would be only slightly over this. Furthermore Bechtold and Dahlstrom (1953) found Scale 5 to be the most frequent peak in the profiles of college men, with 30% of the group having Scale 5 as the first or second high score in their record. Finally, the mean for college men across the country ranged from .5 to 1 standard deviation above the mean for the normative group of Minnesota men.

Discussion of Scale 8 (Sc) and the findings of the present thesis.

The Manual states that scale 8 (Sc) measures the similarity of the sub-

ject's responses to those patients who are characterized by bizarre and unusual thoughts or behavior. There is a splitting of the subjective life of the schizophrenic person from reality so that the observer cannot follow rationally the shifts in mood or behavior.

Because of the heterogeneous nature of schizophrenia, this Scale took the most time in formulating. It correlates highly with Scale 7 (pt) .68 to .84. This scale is also the longest, being made up of 79 items. It consists of statements which indicate a personality with certain characteristics such as: bashfulness, oversensitivity, cautiousness, uncertainty, resignation.

According to the Handbook, many of the items reflect bizarre thinking, social alienation, peculiarities of perception and feelings of persecution. Some items reflect poor family relationships and lack of deep interests, part of the basic syndrome.

The five items having the highest correlation with the total scale are:

"I hear strange things when I am alone."

"I cannot keep my mind on one thing."

"Even when I am with people I feel lonely much of the time."

"My memory seems to be all right."

"I am worried about sex matters."

Matheway and Monachesi (1963) describe those with high (8c) scales as having poor contact with reality, inappropriate emotional responses, poor ability in social relations, with unusual or erroneous perceptions of the motives and mental content of other people.

Drake and Oetting (1959) see the scale as indicative of a person's distortion of his world, i.e., perceiving things differently from others and

often reacting to things in an unusual way. Their most characteristic finding was that of disorganized thinking - confused, vague about their goals, lacking in knowledge or information, lacking in academic motivation. Scale 8 (Sc) appears to be associated with many of the characteristics of Scale 7 (Pt) except that there are more evidences of disorganized thinking or confusion.

Mello and Guthrie (1959) basing their conclusions on counseling sessions among college students with high (Sc) scales reported that they have problems in peer relationship and group acceptance, are frequently preoccupied with sex and sexual confusion, bizarre fantasies, and day-dreaming. They point out that Scale 8 does not seem to show the malignant qualities that are found in older subjects. Hathaway and Meehl (1961) contend that most persons with Scale 8 scores over a T score of 75 show schizoid thinking but not so severe as to constitute definite illness.

In the present results Scale 8 (Sc) ranks third in the A test of the highs of Group I (63.7) but moves to first place in their B test (73.8) with a standard deviation of 13.58.

Among the highs of Group II, Scale 8 (Sc) ranked fourth in test A (63.6 and S.D. 7.13), while in test B, Scale 8 (Sc) dropped to fifth place and lowered in mean (59.9 and S.D. 6.47).

To what do we attribute the rise of ten T units in Group I and a decrease of 3.7 T units in the case of Group II? (cf. Table IXb).

One reason for the magnitude of disparagement between the results of Group I highs on test A and test B is that two of the subjects had unusually high scores compared with their peers, one scoring 86 T units and the other 101. These two scores raised the mean by 5.7 T units.

The fact that Group I took the test in May of their senior year while Group II took it in September may be a contributing influence because the seniors are in a greater state of nervous excitement and anxiety a month before graduation than at the beginning of the academic year.

However, this would hardly make that much difference. Examining into the subjects who were over 70 T score there were five on test B, whereas there was only one in the A test. It seems more likely that scale 8 characteristics were latent in these five and were brought out by their experience in the seminary. These characteristics were their inability to relate easily with their peers, also an inability to communicate (although there was an obvious desire to do so) always being on the periphery, never deeply involved with their group, drawn to extra-curricular activities that did not involve much inter-personal relationships such as book-keeping, darkroom work, typing, practising an instrument; a sense of being alone, of not being able to share the thinking and interests of the others, some confusion of mind and vagueness of goals, a tendency to day-dreaming and fantasy thinking. These would be some of the characteristics which would be accentuated in a seminary atmosphere or even in the priesthood which does impose certain periods when a man must be alone with God and with himself, so that this vocation would seem to be too much for a person with schizoid tendencies. All of this group of five have discontinued within the last six months.

In Group II, while the mean of the highs lowered 3.7 units, and the one subject who scored high on Scale 8 (Sc) in the A test dropped down below T 70 in the B test, there were two other subjects who moved from a T score of 67 in test A to a T score of 73 in test B, and from 59 in test A to 71 in test B.

This latter subject had scores slightly above 70 on Scale 3 (Hy) and Scale 5 (Mf). It is difficult to see any characteristics that would mark these two as high (Sc) scales since they seem to be at ease with their associates. However, there is some evidence that indicates the presence of the characteristics enumerated by Angers (1963) although not in a very serious way; i.e., a certain amount of bashfulness, oversensitivity, secretiveness, cautiousness, uncertainty, with some defensiveness and some hostility.

Scale 7 (Pt)

The name psychasthenia is derived from the concept of a weak will that cannot resist the behavior regardless of its mal-adaptive character. It is often seen among patients in mental hospitals, but much more frequently among normal groups by counselors and personnel workers. This scale was made up from the items chosen after they were submitted to:

139 normal married males - ages 26 - 43

200 normal married women - ages 26 - 43

265 college students, as a check on the effect of age and education.

20 psychiatric patients, probable psychasthenia cases who were the criterion group.

The scale consists of 48 items.

Psychasthenia refers to a group of individuals who are frequently troubled by excessive doubts, compulsions, obsessions and unreasonable fears, who are often disabled by vacillation, excessive worry and lack of confidence.

This scale was devised to help in the evaluation of the neurotic pattern of psychasthenia or the obsessive-compulsive syndrome. Besides the obsessive

ruminations and the compulsive behavior rituals, there are some forms of abnormal fears, worrying, difficulties in concentrating, guilt feelings, excessive vacillation in making decisions, and also excessively high standards of morality or intellectual performance, self-critical or even self-debasing feelings and attitudes plus assumption of rather remote and unemotional removal from some personal conflicts that make up the general condition that scale 7 (Pt) tries to measure. Items having the strongest correlation with the total score in the scale are:

"I frequently find myself worrying about something."

"Almost every day something happens to frighten me."

"I am certainly lacking in self-confidence."

"Even when I am with people I feel lonely much of the time."

"Much of the time I feel as if I have done something wrong or evil."

The height of scale 7 (Pt) is sometimes taken as an indication of the strength of the super-ego.

In their study of adolescents Hathaway and Monachesi (1963) characterize those high on scale 7 as being dependent, desiring to please, having feelings of inferiority, indecisive and anxious.

Peaks on scale 7 (Pt) are not frequent, even in psychiatric populations. There is a striking absence of these patterns among prisoners.

Drake reported that college counselors found a group of subjects with peak scores on scale 7 to be very unresponsive in the interview.

According to Mello and Guthrie (1958), the college men with peak scores on scale 7 (Pt), who came for counseling, were characterized by obsessive-

compulsive ruminations and morbid introspective trends. Their problems were mainly about ineffective study habits, poor personal relations, difficulty with authority figures. They were very concerned about religious values and morality, and many had problems with homosexual impulses. They were the most seriously disturbed among the college men seeking counseling. They showed strong resistance in counseling and were hostile toward the counselor and the counseling process, and yet they persisted in receiving counseling more than others. Improvement came very slowly.

Angers (1963) sees scale 7 (Pt) as consisting of statements that are indicative of persons who are apprehensive, tense, hesitant, insecure, self-conscious, perplexed, anxious, agitated, and who have feelings of inadequacy. A high elevation on this scale is usually accompanied by a slight elevation on scale 2 (D), although it is not unusual to find it elevated alone. Such a person is quite anxious and without insight into the actual basis of his anxiety.

In Group I, in test A, scale 7 (Pt) was the high point for one subject and second high in the scores of 6 subjects. In test B, it was high point for 2 subjects and next to high for 5 subjects. Here, there was an increase in anxiety.

In Group II, in test A, scale 7 (Pt) was high for 5 subjects and second high for 3; in test B, there was only one subject for whom scale 7 (Pt) was high point and only three in whose score it was next highest which showed a lessening of anxiety.

In Group I, very little change is noted. In one subject, scale 7 (Pt) moved from second high to first. In Group II, there was a considerable

decrease in the position of scale 7 (Pt) as high point: 5 subjects had scale 7 (Pt) as high point on the A test, but all except one moved to normalcy. The same number had scale 7 (Pt) in second place.

Since scale 7 (Pt) indicates people who are apprehensive, tense, hesitant, insecure, self-conscious, perplexed, anxious and have feelings of inadequacy, this would probably be true of freshmen or pre-freshmen as they regarded the test with some fear and trepidation. Tendencies to scrupulosity (obsessive-compulsive) are increased in the religious atmosphere of the seminary. (The codes seem to confirm these findings since there are 9 that are either 75 or 57. Scale 5 (Mf) is associated with 20% of the total number of high or second high 7's.) This would seem to bear out the findings of Father Eugene Kennedy (1964) that, in general, applicants for the seminary are shy, timid, insecure, lacking in self-confidence and not at ease in social situations. Scale 6 (Pa).

According to the results of the present testing, it was found that scale 6 (Pa) was high point in six scores and second in 5 scores.

Hathaway's description of the construction of scale 6 (Pa) is very brief. It was derived from patients having paranoid symptoms, i.e., paranoid state, paranoid condition, paranoid schizophrenia. They tended to have ideas of reference, to feel that they were persecuted by individuals or groups, and to have grandiose self-concepts. Milder symptoms were suspiciousness, an excess of interpersonal sensitivity, and an underlying rigidity of opinions and attitudes. Hathaway considered the present scale as a temporary one until a better one could be worked out. But that has not yet been achieved.

However, in combination with scale 8 (Sc) it is more effective in identifying paranoid schizophrenics than any single scale or pool of items.

Related to scale 4 (Pd) it identifies anxiety. Among normals it is related to sensitivity and suspiciousness. Angers (1963) says the scale is composed of 40 items and is part of the psychotic triad. It consists of statements that are indicative of persons who are aggressive, critical, irritable, sensitive, moody, easily hurt by criticism, stubborn, and skeptical. If this is the only scale of the psychotic triad that is elevated to some extent, one may be meeting a person who is mean, nasty tempered, or on the contrary, naive and highly sensitive to criticism.

The most differentiating statements among college-subjects according to J. W. Little (1949) are:

"I believe I am being plotted against."

"I think most people would lie to get ahead."

"Most people are honest chiefly through fear of getting caught."

"The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it."

"I do not often notice my ears ringing or buzzing."

One of our subjects did have a score over 80 on scale 6 (Pa). In fact, he had the combination mentioned by Hathaway as indicative of paranoid schizophrenia - 86. Other high scale 6's were all below T score 70. However, in his B test this subject did not show a high scale 6 (Pa) in his score. Hathaway and Monachesi (1963) describe the adolescent who is high on scale 6 as perfectionistic, stubborn, hard to know, or with moderate scores, socially

acceptable.

The Manual notes that scores of 80 and above are almost always significant of disabling abnormality while those with scores from 70 to 80 should be checked by clinical judgment.

Scale 4 (Pd).

Findings on this scale were as follows:

Group I - A- 2 high pt and 3 seconds

B- 2 high pt and 4 seconds

Group II- A- 3 highs and 3 in second place

B- 6 highs and 2 in second place

This scale measures the similarity of the subject to a group of persons whose main difficulty lies in their absence of deep emotional response, their inability to profit from experience and their disregard of social mores. They are commonly likable and intelligent; their more frequent disgressions are lying, stealing, alcohol or drug addiction and sexual immorality. No therapy is especially effective with high scale 4 scorers, but time and careful intelligent guidance may lead to adequate adaptation.

Angers (1963) suggests that scale 4 (Pd) contains statements that might indicate a person who is irresponsible, undependable, impulsive, egocentric, defiant, asocial, individualistic, tactless, improvident and deficient in the ability to calculate his own social stimulus value. A young married person will ordinarily be slightly elevated on this scale, probably because he is still free from the responsibilities that marriage imposes. Moderately high T scores (60-68) are also associated with intelligence, education, a good

background and appealing personality.

This scale was made up from a criterion group of patients 17 to 22 years, of both sexes, who had been diagnosed as psychopathic personalities of the asocial and amoral type, better designated as psychopathic deviates. None was psychotic or neurotic and most of the hysterics and clearly schizophrenics had been eliminated. Eventually 50 items were selected.

Hathaway and Monachesi (1963), reporting on the study of adolescents, contribute helpful observations. The scale suggests self-centered immaturity. They are usually rebellious against family or society. Not all those who are high scale 4 (Pd) are known for delinquency or other anti-social behavior. By the age of 21 this negative reaction is apparently over, and this pattern is less often found in mature persons. Either a more relaxed acceptance of cultural norms or development of the more frequent adult neurotic patterns of scales 1 (Hs), 2 (D), and 3 (Hy) seems to replace the high scale 4 (Pd).

In summary, adolescents with high scale 4 (Pd) profiles are prone to a considerable number of troubles. They are due rather to character defect than to neuroticism. Apparently, urban life and broken homes contribute to the reaction.

The items that have the highest correlation with the total score on scale 4 (Pd) are:

"I believe that my home life is as pleasant as that of most people I know."

"In school I was sometimes sent to the principal for cutting up."

"No one seems to understand me."

"At times I have very much wanted to leave home."

"My parents have often objected to the kind of people
I went around with."

Mello and Guthrie (1958) found fewer cases of the classic asocial, amoral psychopathic patterns among the university students who came to them with peaks on scale 4 (Pd). Rebelliousness was characteristic of them, rather than the acting out of base impulses. They resented authority and were hostile toward their parents, whom they blamed for their troubles. They were concerned about vocational choices. This concern was complicated by unstable relationships with the opposite sex and at times by a rejecting father. Their response to therapy was poor because of a resort to intellectualization and stereo-typed repetition of their problems.

Drake and Oetting (1959), who worked with college students, found delinquency rare among those with a high scale 4 (Pd). However, they discovered evidence to show that it indicates antagonism to authority. In combination with other scales, scale 4 (Pd) is often associated with aggressive behavior. Especially when paired with scale 9 (Ma) and with scale 2 (D) coded low, is this true. With scale 7 (Pt) it suggests conflicts at home. With high scale 6 (Pa) it may suggest anxieties and with a high scale 7 (Pt) introversion. Drake points out also that a high score on scale 4 is not always related to outward evidences of aggressiveness. It can be found coded high in patterns associated with behavior indicative of internalized feelings.

Looking over the scores there are 6 subjects with codes of 45, four with coded scores of 47 or 74, and four 49's or 94's. Dahlstrom and Welsh (1965) characterize the 49's as tending to be overactive and impulsive, irresponsible

and untrustworthy, shallow and superficial in their relationships. The hypomania indicated by the high score on scale 9 (Ma) seems to activate and energize the pattern related to scale 4. To satisfy their own ambitions and desires, they may expend great amounts of energy and effort, but they find it difficult to stick to duties and responsibilities imposed by others etc.

This is a very interesting scale. Further study of the seminarians who are high on this scale seems to reveal a process of development of internalization that would aid in understanding them better.

Scale 4 (Pd) then reveals a person who is rebellious, cynical, disregards rules, is socially aggressive, and selfish.

The present findings show that 6 subjects in whose score scale 4 (Pd) was high point or next to it, were found to have a score in the B test with scale 4 (Pd) moved out of the high point position or the next position. Several retained scale 4 (Pd) as their high point or second; and 6 subjects who did not have scale 4 (Pd) in the high point or second position in the A test were found to have scale 4 (Pd) in these positions in the B test.

One interpretation of this would be that the students who are no longer high in scale 4 (Pd), are the ones who became more mature. Those who retained the scale, as high point or second, are going through the process of internalization, of questioning things they formerly accepted on authority, and rebellious, to some extent, towards authority, showing aggression as the expression of a new found sense of independence and self-confidence. Those in whose scores scale 4 (Pd) came into prominence in the B test are also going through this phase of development from adolescence to adulthood.

Scale 9 (Ma).

This scale was high point in 9 scores and second point in 3 scores.

Hathaway and McKinley (1951) explain that this scale was built up with 24 criterion cases, young people who were diagnosed as either hypomania or mild acute-mania. The more severe cases could not co-operate satisfactorily in sorting the inventory items. The authors see this type of personality as made up of two factors, one constant, and one variable. The constant factor is close to what is called optimism, while the variable tendency is related to the usually episodic excitement of mania or hypomania which is seen in an abnormal degree. This comes and goes. There are 46 items in the scale.

The Manual says that this scale measures the personality factor, characteristic of persons with marked over productivity in thought and action. Sometimes it is difficult to distinguish these people from normals who are merely ambitious, vigorous and full of plans. However, the hypomanic gets in trouble from undertaking too many things; he is active and enthusiastic. His activities may interfere with other people, through his attempts to reform social practice, his enthusiastic stirring up of projects in which he may then lose interest, or his disregard of social conventions. Here he can be mistaken for a psychopathic deviate.

According to the Handbook, 3 features characterize this personality type; overactivity, emotional excitement, and flight of ideas. The following questions are the most differentiating for college men:

"At times I have very much wanted to leave home."

"I don't blame anyone for trying to grab everything he can get in this world."

"I have often had to take orders from someone who did not know as much as I did."

"At times my thoughts have raced ahead faster than I could speak them."

Angers (1963) lists confident, hypersensitive, not persistent, aggressive, charming, expansive, irritable, and impatient as characteristic of hypomanics.

Drake (1959) found that high coded 95 was associated with mother conflict and 97 with family conflict in general.

Hathaway and Monachesi (1963) describe the hypomanic as expansive, optimistic, decisive, not bound by custom. It is probably an indication of normal adjustment when youths have moderately high scores on scale 9 (Ma).

They see a positive relationship between high scale 9's and city life, whereas high scale 8's are frequent in rural areas. The findings of high scale 9's among those of middle achievement and middle social economic levels suggests that this background is conducive to this optimism and self-confidence. Low scale 9 (Ma) is a predictor of good conduct - they are usually quiet and well-behaved.

Of the nine subjects who had scale 9 (Ma) as high point, only 3 of these were over 70 T units. Of these, two moved away from a high score on scale 9 (Ma) in their B test. However, there were 4 in whose B test scores, scale 9 (Ma) became the high point but still under 70 T units. Two of the subjects retained scale 9 (Ma) as their high point, one of them moving above 70 T units.

In the profile for the combined groups (figure 3) there was a rise in scale 9 (Ma) on the B test of 2 T units. In the rank order for Group I, scale 9 (Ma) ranks 7 in both tests (52.3 and 55.7). For Group II, scale 9

(Ma) ranks 7 in test A (56.2) and 6 in test B (56.2) although its mean T score remained the same. (cf. Table VIII)

Scales 1 and 2.

Scales 1 (Hs) and 2 (D) are the two scales that ranked 8th and 9th for Group I for both tests and for Group II they are 8th and 9th in test A while in B test, scale 1 (Hs) is in the 7th position with scale 2 (D) at the bottom. There seems to be nothing significant to report on either of these scales, yet, since interpretation of MMPI scales is not by single scales but by patterns, they should be studied to see in what way these personality scales might have influenced the general picture.

Scale 1 (Hypochondriasis):

Hathaway and McKinley (1951) describe the procedure of establishing this scale, the first in the inventory. The reason Scale 1 (Hs) was chosen, according to Hathaway, as their first attempt was that it was relatively clearcut clinically and because there were good clinical cases easy to obtain. The same could be said for "Depression" which was chosen for the second scale. They define hypochondriasis as an abnormal psychoneurotic concern over bodily health.

The criterion group consisted of 50 cases, carefully selected, of pure, uncomplicated hypochondriasis. The normal or control cases were 109 males and 153 females between the ages of 26-43 inclusive. All were married and were individuals visiting hospital patients or who had come with patients. Another normal group consisted of 265 college students, mostly freshmen. An item was selected tentatively only if it showed a percentage frequency

difference between the criterion group and the normal group at least twice its standard error. Fifty items were finally chosen but later revisions were necessary so that the scale now consists of 33 items.

They noted that physical symptoms alter the personality pattern only moderately in the direction of scale 1 (Hs). There are only 8 items in the scale that do not overlap with other scales. The items include generalized aches and pains, specific complaints about digestion, breathing, thinking, vision, sleep, peculiarities of sensation and a few that relate to general health and competence. Some of the statements that correlate the highest with the total scale are:

"I have a great deal of stomach trouble."

"I am troubled by discomfort in the pit of my stomach every few days or oftener."

"I am troubled by attacks of nausea and vomiting."

"During the past few years I have been well most of the time."

"I am about as able to work as I ever was."

"Often I feel as if there were a tight band about my head."

These last three items are also listed in scales 2 (D) and 3 (Hy). In fact, twenty of the 33 items in scale 1 (Hs) also appear in scale 3 (Hy).

Persons with this disorder show an abnormal concern about bodily functions. Their worries and preoccupations dominate life and often seriously limit their activities and interpersonal relations. According to the Handbook, the classic picture of the hypochondriac includes egocentricity, immaturity, and lack of insight into the emotional basis of their preoccupations with bodily functions.

The Manual also points out that the high scale 1 (Hs) is immature in his approach to problems. In college groups, peaks on scale 1 (Hs) are quite rare.

In the present results there were only two who had a high score on scale 1 (Hs). In the first instance the score was in the A test but in the B test, scale 1 (Hs) score was normal. In the second subject, scale 1 (Hs) appeared as his high point in his code after test B but it was below T score 70. Scale 1 (Hs) appeared as the second high point in two subjects but after B test it was no longer among their high points. One subject, after the B test, had scale 1 (Hs) as a second high point. This seminary group reflects the general pattern that scale 1 (Hs) rarely appears as a peak score in college subjects. When it does it is usually indicative of immaturity.

Scale 2 (Depression).

This scale, like scale 1 (Hs) was developed empirically with the aid of a group of 50 depressed patients whose replies were compared with several groups of normals to get those items that would indicate the difficulty of depression. Sixty items were selected.

The scale measures symptomatic depression i.e., a general frame of mind characterized by poor morale, lack of hope in the future, dissatisfaction with the patient's own status generally. Feelings of hopelessness and worthlessness, slowing of thought and action, frequently with thoughts of death and suicide, are present. The most differentiating items are:

"I do not worry about catching diseases."

"I feel weak all over much of the time."

"I have a good appetite."

"My sleep is fitful and disturbed."

"I am afraid of losing my mind."

"My memory seems to be all right."

The scale is sensitive to any depressing reaction. Angers (1963) describes scale 2 (D) items as expressing depression, dejection, discouragement, despondency, subjective distress. Of the three neurotic scales, scale 2 (D) shows attitudes toward the symptoms, while scales 1 (Hs) and 3 (Hy) indicate them.

Hathaway and Monachesi (1963) say that adolescents who admit frequent crying, feelings of hopelessness and loneliness will have a high score on this scale.

The Manual calls attention to the "smiling depression" i.e., depression well hidden from casual observation. A high score suggests a personality that lacks self-confidence, has a tendency to worry, has narrowness of interests and introversion. The Manual goes on to declare that this scale together with scales 1 (Hs) and 3 (Hy) will identify the greater proportion of those persons not under medical care who are commonly called neurotic, as well as individuals so abnormal as to need psychiatric attention.

In the present results, scale 2 (D) occurs only twice as a high point but drops back in the B test where it occurs once as a second high point but below T score 70.

On the other hand scale 2 (D) appears twenty times as a low score. This is in line with the Handbook which states that younger subjects tend to score

below the adult level. The score levels of the typical normals seem to indicate moderate levels of depression. Older subjects tend to range upwards because of increasing responsibilities, an attitude of pessimism about the world, which they justify as only being realistic, and a common lack of energy and forcefulness in meeting demands and challenges. Lower scores reflect a naturalness, buoyancy, freedom of thought and action that lead to easy social relations, confidence in taking on tasks and effectiveness in a variety of activities. This describes the subjects in the present study.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Resume of the method.

The purpose of this study is to answer the question: Is there any significant change effected by seminary training?

The null hypothesis was set up that no personality changes would be found which would be significant beyond the .05 level of significance.

The subjects were 41 Maryknoll seminarians at the college level who had been tested with the MMPI previous to their entrance and who were now in their senior year. The instrument used was the Minnesota Multiphasic Personality Inventory test.

In May 1965 eighteen seniors agreed to take the MMPI test again. In September another group of seniors, twenty-three, agreed to submit to a re-test. There was no pressure put on anyone to take the test. Those who did so knew that the results would be used in this thesis.

In the administration of the test, to save time, the following instructions were given: "Answer all questions to number 366 inclusive. After that, answer only those seven which are encircled." Thus everyone who took the test answered every item that is on the nine clinical scales.

The results were treated as follows:

- a) The Means, Standard Deviations and the significance of the differences were obtained for the total group of forty-one, using the "t" test to determine the significance of the difference. Comparison was made

by profiles, by tables showing the rank order of T scores and the rank order of the scales.

- b) Comparison was made of Group I (1965 seniors) with Group II (1966 seniors). Comparison was made of the "highs" and normals of each group according to profiles and tables of means, standard deviations and "t" tests.
- c) Comparison was further made by Coding, each subject being coded according to the Hathaway method, with a study of the scales to discover changes in individuals and what they might signify.

Resume of the Results.

A. Results for the combined groups, the total 41 students.

- a) For the total groups there was a significant difference on but one scale - K and this was less than the 1% level. (.01)
- b) For the total group there were elevations on Scales 1 (Hs), 3 (Hy), 4 (Pd), 6 (Pa), 8 (Sc) and 9 (Ma) over the results for the A test but in no case did any reach significance at the .05 level.
- c) In general the scores of these subjects are higher, more deviant, than Bier's, Gorman's, McDonagh's, and Murphy's seminarians and the College males. (cf. Table VI)

B. Results for the individual Groups and a comparison of them.

- a) Group I had an elevation on scale 3 (Hy) that was

significant at the .05 level, thus moving towards greater deviancy on this scale. Group II's score on validity scale F dropped significantly below the .02 level, moving towards greater normalcy but there was a rise on scale K significant at the .02 level, indicating an increase in defensiveness.

- b) Group I had an overall rise of 47.1 T units while Group II's overall T unit score was lower by 7.7 T units. Therefore, for the combined groups there was an overall elevation of 39.4 T units.
- c) The highest mean score for Group I on both tests was on scale 5 (Mf) with scale 8 (Sc) next. For Group II the highest mean score in test A was also on scale 5 (Mf) with scale 7 (Pt) next, but, in the B test, Group II scored highest on scale 3 (Hy) with scale 5 (Mf) next.
- d) In a comparison of the T scores, Group I had 4 subjects who were each more than 10 units (1 standard deviation) in excess of their A test results.

Group II had only two subjects exceeding their A test by more than 10 units each, while one subject scored 14 units less than his A test.
- e) Study of the "highs" and "normals":

Group I highs, in their profile, tended towards an

elevation of the psychotic tetrad with a peak on scale 8 (Sc).

In Table IXa these results appear from the study of Group I highs:

3 who were deviant on test A became more deviant on test B.

3 who were not previously deviant became deviant on test B, two significantly so at .01 and .05 level of significance.

3 who had been among the deviants moved out of this class in test B results, one getting significantly better scores at .02 level of significance.

2 who were deviant became less deviant.

For Group II the highs were less deviant in their B test, showing a profile less elevated, with a mild neurotic triad and a negative slope on the psychotic side. Studying the results on Table IXa as was done for Group I, the following changes appear:

2 subjects became much more deviant in test B.

5 who were not previously deviant became deviant in test B. (To be exact, two of these actually lowered their mean (53.6 T units to 52.5 and 57.6 T units to 56.7) but in each case one scale was over 70 T units, which put them among the highs).

5 who had been in the deviant category moved towards normality (i.e., they had no score over 70 T units in the B test and three of these changed radically at .02 and .01 levels of significance).

4 subjects became less deviant, one significantly so at .01 level of significance, yet each retained a scale with a score of 70 or over T units.

- f) The normals of both Groups remained almost the same and resembled each other closely. (cf. Table IXc).
- g) Using Hakenwerth's modification of Kobler's criterion, it was found that:

4 subjects were in the critical category before entry but all four moved into the normal category during the seminary course.

9 who were not in the critical category before entry were found to have scores on the retest that placed them in the critical category.

Of these 9, six were high on scale 8 (Sc), five on scale 4 (Pd), four on scale 7 (Pt), and three each on scales 3 (Hy) and 9 (Ma), and two each on scales 6 (Pa) and 1 (Hs).

C. Study of the results of the individual scores:

- a) The codes for all of Group I are available in Table Xa, for Group II in Table Xb and a listing of the frequency of one-point codes and two-point codes is given in Table Xc. Considerable study was devoted to the coding to see if patterns could be discovered and if this method of studying the subjects would reveal a deeper knowledge of personality changes and what causes them but much more research will be needed. However, one gets an acquaintance on a small scale with the vast research that has been done in this field. One student with the classic code 86 at a very high elevation was

found. In fact this subject's score was so deviant that it seriously biased the total on scales 8 (Sc) and 6 (Pa).

- b) From an analysis of the coding and the T scores these findings resulted:

Of the group of 41 students:

10 moved significantly towards normality.

6, who were not classed as abnormals,
moved closer to the mean.

15 moved beyond the T score of 70 therefore into the abnormal group.

7 increased in that direction but not to that extent.

3 remained the same.

In trying to be brief, these results have been oversimplified. They are explained more fully in the discussion of the coding in the text.

Comparing the results of the senior test with those of the pre-freshman test, the findings were as follows:

1. Findings as a result of analysis into "highs" and normals for differences which were measured for significance by a "t" test:

27 subjects changed:

15 changed significantly at .05 level of significance. (10 unfavorably)
(5 favorably)

12 changed moderately (3 unfavorably)
(9 favorably)

14 did not show any noticeable change
according to this method of analysis.

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2. Findings as a result of Coding:

This method differentiates more finely and examines
the score of each individual:

16 became more normal:

10 moved from the abnormal range to
the normal, except for two: these
two subjects reduced, in one case,
5 scales over 70 to one over 70,
and in the other subject four scales
over 70 were reduced to one over 70.

6 moved closer to the mean.

22 became less normal:

15 moved into the abnormal range or were
already there.

7 increased their scores in the direction
of the abnormal range.

3 did not show noticeable change.

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The normals showed very little change. There would be much value in
asking all the seniors to take the MMPI test before they leave the seminary:

1. For counseling purposes while still seniors or
later at the Novitiate.
2. For a continuing program of research which might
enable the faculty to discover how the seminary
can be more effective in bringing about favorable
personality change.

In this small group of subjects there was one student with 7 scales over
70, there were five students with 4 scales over 70, four with 3 scales, and

seven with 2 scales. Two of these have since dropped out. The fact that these young men can carry on in the seminary despite this degree of deviation supports Dr. Kobler's (1964) finding that a considerable amount of deviation is tolerable in religious applicants and perseverance in the religious life is not necessarily a measure of adjustment.

Conclusions.

- a) An overall rise in scale K at .01 level of significance indicates a rise in defensiveness.
- b) Although the null hypothesis must be accepted, namely, that there was no overall change, significant at .05 level, yet there were significant changes in a number of subjects both away from normalcy and towards normalcy.
- c) Of the two Groups, the more deviant is Group I. The reason may be, or it is at least a contributing reason, that the time of year and the circumstances (the month of May, a few weeks before graduation) may have increased the nervous excitement to an extent that would affect the scores. Group II took the test in early September before academic pressure was felt and vocational decisions had to be made.
- d) The trend of colleges and seminaries, to score highest on scale 5 (Mf) in both test A and B, is true of this study also, although there is a lowering in test B. (cf. Fig. 3)
- e) Although significant changes were not recorded for the

group as a whole, except on scale K, nor in the Groups, except on scale 3 (Hy) in Group I and scales F and K in Group II, yet there were significant changes in a number of the subjects that may provide some clues to the effectiveness of the seminary in bringing about desirable personality change: according to the findings of this study of 41 subjects, slightly over half (22) moved towards more deviant behavior while slightly less than half (16) moved towards normalcy.

The findings of the present thesis confirm those of Murtaugh on scales K, F, Hy, Pt, and Ma.

In comparing the findings of the present thesis with those of Hakenwerth, it is noted that there are rises on F, and Hy, but not to the extent of .01 for the combined group. Likewise there is a rise on Pt., but it is not significant.

Also noteworthy is Hakenwerth's finding that 18 subjects moved into the critical category somewhere between their entry and the time of retest. In the present study there were 10 out of 41 who were normal at testing but had become deviant on retests. However, the critical criterion adopted in this thesis was more demanding than that of Hakenwerth - if a subject had one or more scores at T-70 or above, he was considered critical. Using Hakenwerth's criterion, there were 9 who would be placed in the critical category.

Finally three recommendations might be made on the basis of this investigation:

1. That all seniors be given the MMPI tests.
2. That those who were the subjects of this investigation be retested at the end of their third theology to see if any significant personality changes take place during the years of theology study.

3. That testing take place at the end of sophomore year.
Freedman (1962) suggests that "fundamental personality characteristics are consolidated by the end of sophomore year." He hypothesizes that little change takes place after that or that whatever change the student undergoes will be more measured and gradual. This would fill in the gaps in the longitudinal studies carried out by Murtaugh and Hakenwerth and give a more adequate picture of the personality development of the seminarian along his course of studies and into the priesthood. It would parallel the studies made by Sanford and Freedman among the college students of Vassar and provide a scientific basis for judging the effectiveness of seminarian training in the development of a personality modeled on Jesus Christ.

Can the questions raised on p. 21 be answered? Is there significant change in personality expected by seminary training? Yes, according to the findings of this investigation.

In what area does change take place?

In increased defensiveness (K); in increased social participation and

easy accessibility, with some immaturity and naivete (Hy); greater comprehension of the statements in the test and greater cooperativeness and care in taking it (F).

Is it positive or negative, desirable or undesirable?

14 did not change noticeably

12 changed moderately: 9 favorably
3 unfavorably

15 changed significantly: 5 favorably
10 unfavorably

The presence of change, positive or negative, is also brought out by using a modification of Kobler's criterion for finding subjects in the critical category:

4 subjects who were critical before entry improved to such an extent that they were no longer critical in the retest. Three lowered their scores on scale 7 (Pt) and all four lowered their scores on scales 1 (Hs), 2 (D), 4 (Pd) and 6 (Pa).

9 who were not in the critical category at entry were found in the critical category in the retest. The areas of elevated scores were on scales: 8 (Sc), 4 (Pd), 7 (Pt), 3 (Hy), 9 (Ma) and 2 (D). Therefore, there was, in the case of these 9, an increase of cautiousness, secrecy, obsessive-compulsive tendencies, doubts, fears and indecisiveness, an increase of activity and involvement without any depth and a slight

tendency to discouragement, sadness and introspection.

How do our seminarians compare with:

other seminarians?

The combined groups were slightly more deviant than those of McDonagh, except on scale 2 (D); Gorman, except on scales 2 (D) and 5 (MF); Bier, except on scales 2 (D) and 5 (Pf). cf. Table VI. They were less well-adjusted than Leonard Murphy's seminarians, showing an increase on scales 1 (Hs), 3 (Hy) but agreeing with his finding of a decrease on 2 (D).

College males?

Combined groups were slightly more deviant except on scales 1 (Hs), 2 (D) and 9 (Ma).

general population?

Combined groups were generally higher in the clinical scales and therefore more deviant according to the MMPI.

How do these results compare with those of Sanford and Freedman?

Sanford and Freedman found a consistent trend for seniors to be higher than freshmen on scales 1 (Hs), 2 (D), 3 (Hy), 4 (Pa), 8 (Sc) and 9 (Ma). This trend is true in this investigation except for scale 2 (D), on which there was a slight decrease.

They found no significant change on the K scale whereas this study revealed a significant increase in K.

They found that seniors subscribed more frequently than freshmen to statements indicating psychological or physical disturbances and instability.

Psychological disturbances were verified in this study but no significant physical disturbances were noted as the rise on 1 (Hs) was very slight.

Does the time of testing the Seniors i.e., in September or in May, have an influence on the scores?

Group A, which was made up of seniors who were tested in late May, was more deviant than Group B who took the test in September. There is some evidence to indicate that this was due to the increased strain on seniors just before graduation. But there were two whose scores were abnormally high which tended to bias somewhat the results and make it difficult to draw a clearcut conclusion.

It was also hoped that the results of this investigation might show the effects of the unit system which had been introduced three years before. The seniors in Group A started under the traditional system and went through the rather difficult period of transition. The seniors in Group B came in when the system was already in operation.

The Si scale would have been very helpful in showing the degree of sociability of those who took the test, which would have been a good measure by which to compare the two groups for tendencies toward isolation or to sociability. The Si scale was not used in the entry test so it was not used in the retest. However, the fact that Group A was more deviant, that they were significantly higher on Hy, and showed an increase on Sc, which was almost significant, might be attributed to the unit system, but this evidence would not be conclusive, even though Group B's score on the retest was lower than the test score on Sc, which would indicate a greater ease in social situations.

Again, however, it is necessary to point out that two subjects in Group A had extraordinarily high scores on Sc. Further data is certainly needed before a clearcut decision can be reached.

Can anything be learned from the scores of the nine who were not in the critical category at the time of their pre-freshman test but whose score in their senior year would place them in that category? (The critical category is that described on p. 32).

1. Hakenwerth, as noted before, had a similar finding but was not sure if this development took place during the time of teaching as trained members of his society. He reasoned that it must have been during the training period. However, as a result of this investigation, it is clear that this change took place in the seminary situation. The periods of vacation at home might have had some influence, but they were brief as compared with the nine or ten month residence in the seminary during the school year.

2. The scores of these 9 subjects in Table XI in the appendix p. 137 show the following important findings:

<u>Subject</u>	<u>Test</u>	<u>Average Means for the Nine Scales Including 5 (Mf)</u>	<u>Scales Over 70 T Units (5 (Mf) is excluded)</u>
1	A	58.3	
	B	62.7	7(Pt), 8(Sc), 9(Ma)
2	A	51.5	
	B	68.5	2(D), 7(Pt), 8(Sc)
3	A	53	
	B	63.4	3(Hy), 8(Sc)
4	A	51	
	B	72.6	2(D), 4(Pd), 6(Pa), 7(Pt) 8(Sc), 9 (Ma)
5	A	52.3	
	B	67.7	4(Pd), 6(Pa), 8(Sc)
6	A	59	
	B	65	3(Hy), 8(Sc)

(findings continued)

<u>Subject</u>	<u>Test</u>	<u>Average Means for the Nine Scales Including 5 (Mf)</u>	<u>Scales Over 70 T Units (5 (Mf) is excluded)</u>
7	A	64	
	B	62.2	4 (Pd), 9 (Ma)
8	A	65.7	
	B	62.1	3 (Hy), 4 (Pd)
9	A	55.8	
	B	62	4 (Pd), 7 (Pt)

The following points are clear from an analysis of these findings:

a) There is a significant gap between the average score of the pre-freshman test and the senior test results for 2, 3, 4, 5 and to a lesser extent for 6 and 9. If these subjects had been tested earlier, e.g., after sophomore, these changes might have become evident and counseling might have checked these unwholesome developments.

b) 1, 2, 4, 5 are high in the psychotic area of the scales. Dr Kobler notes that high scores on 7 (Pt) and 8 (Sc) are an indication of a subject who should be investigated more fully. It is significant that one of these withdrew after graduation and three during the novitiate year which followed their graduation from the seminary at Glen Ellyn.

c) 7, 8, 9 might be classed among those with behavior problems. In the case of 7 and 8, their pre-freshman test score average was actually higher than their senior average, but they did not have the two or more scales over 70 that would have put them in the critical category in their pre-freshman test. The presence of a high score on 4 (Pd) indicates a person who is aggressive, independent and often has trouble with authority figures such as

his father or the authorities in the college. This is very true in the case of these subjects. Here again an earlier acquaintance with these test results would have made it possible for them to get counseling that might have helped them correct this tendency.

d) Personal contact with these subjects and a knowledge of their personalities and problems corroborates the test results. In fact, some counseling was received by 1, 2, 4, 5 but without much effect. They were very aware of their difficulty in relating with others and did try hard to change without much success. This would indicate that this was a deep personality weakness, this tendency to be withdrawn and to be unable to enter into the world of others.

These further conclusions therefore suggest themselves:

- 1) Psychological tests before entry do not always uncover inherent or latent weaknesses.
- 2) In the case of these subjects, the environment of Maryknoll Seminary may have contributed to the development of these tendencies. The phrase "may have contributed" is used because it is not certain how much was a latent personality defect in the individual which only came to light in the seminary and would have come to light in any kind of environment as maturation proceeded. Testing after each year would be necessary to discover such weaknesses so that a remedy such as counseling could be prescribed.
- 3) The fact that #1, #2, #3, #4 left during the novitiate seems

to indicate that these subjects could live here with their problems where they are largely taken up with studies and extra-curricular activities. Whereas the emphasis on the spiritual side of life at the novitiate with time for reflection, reading and prayer made them painfully aware of their personal problem of relating with others.

INTERPRETATION OF THE DATA:

The general finding of increased defensiveness against psychological weakness, concern about status, with feelings of being unusually well-socialized, easily accessible, ready for involvement and participation in social activities, accompanied by some worry and immaturity, could be verified by observers of Maryknoll seminarians at this stage of their development, i.e. seniors in college. Priests who were here for the Biblical Institute during the summer were heard to remark on the social ease of the seminarians they met. This finding has been discussed in more detail on pp. 45-55.

In the studies of groups, generally, it is found that there are individuals who improve considerably during a period of training and there are some who regress in personality development. Whether this is mainly due to the environment or to their own temperament or to the interaction of both cannot always be determined. After subjecting the individual scores to various tests, dividing the subjects into "highs" and "normals", coding the scores, classifying them according to critical categories, the general picture shows a little more than half the seminarians increasing in neuroticism and the remainder moving towards the norm or average, some in a very significant way.

What is most difficult to explain is how and why the nine subjects whose scores at the pre-entry test were within the normal range became significantly or critically neurotic by their senior year. It is also puzzling that four should have shown a critical rise in a tendency to schizoid behavior while the scores of three indicated a strong inclination towards behavior that was

rebellious and aggressive. Some explanation of these developments has been attempted in the previous section. To what extent the seminary environment is responsible is not clear. In some cases the weakness was already present but in a latent condition as one could infer from the higher scores in the pre-entry test, yet not high enough to be in critical category. It remained for the stresses and strains of seminary life to bring these weaknesses out into the open. In the case of those inclined to schizoid behavior, despite the social organization of this seminary, they still found it difficult to communicate with their roommates and unit-mates. In this situation, the natural tendency would be to turn to prayer and spiritual reading. While this would ordinarily be an admirable means of aiding a troubled person to handle his problems, in the case of these young men who were already experiencing difficulties in relating with their peers, the resort to private spiritual exercises probably increased the tendency to withdraw and live in fantasy, and gave them, therefore, a very laudable excuse to withdraw further.

In regard to those with behavior problems, the confusion between freedom and authority, the emphasis on conscience and personal decision, the talk about civil disobedience, the transition in the seminary from the traditional view of the man who keeps the rule exactly and fully as the man who was the model seminarian, a view influenced by monastic life, to the new type of spirituality that emphasizes the pastoral and the apostolic, which involves reducing rules to a few basic ones so that the student may have the freedom to learn how to make the right choices and accept responsibility for the working out of his own spiritual and religious life in the midst of apostolic

life, all these changes may have encouraged those who were already inclined to oppose authority to reject what little authority still remained in the contemporary seminary.

The two weaknesses of this thesis have already been noted:

- 1) the smallness of the sample;
- 2) the possibility that those who volunteered to take the retests were members of the senior class who experienced anxiety about their personality problems.

This places the findings and the interpretation of the data on shaky evidence. It is hoped that further research will be done in this area so that scientific testing and study will furnish an empirical basis on which to build the program of personality development and spiritual formation in the seminary.

Table I

MMPI SCORES OF 41* STUDENTS AT MARYKNOLL SEMINARY IN GLEN ELLYN

A = score from test taken before entry into Maryknoll*

B = score from test taken in senior year at Glen Ellyn*

<u>Test Item</u>	<u>Mean A</u>	<u>Std. Dev.</u>	<u>Mean B</u>	<u>Std. Dev.</u>	<u>Diff. bet. Means</u>
F(1)	3.5	2.4	3.9	3.0	- .4
F(2)	3.6	2.0	2.6	1.8	+1.0
F(3)	3.6	2.2	3.2	2.5	+ .4
K(1)	15.4	4.3	17.1	5.4	-1.7
K(2)	16.3	4.2	18.7	3.5	-2.4
K(3)	16.0	4.5	17.9	4.6	-1.9
Hs + .5K(1)	11.8	3.1	12.0	2.6	- .2
Hs + .5K(2)	12.7	3.5	13.4	2.6	- .7
Hs + .5K(3)	12.3	3.4	12.8	3.0	- .5
D(1)	17.2	4.2	18.0	4.0	- .8
D(2)	16.6	5.0	15.7	4.8	+ .9
D(3)	16.9	3.9	16.7	4.0	+ .2
Hy(1)	19.5	4.0	21.6	3.7	-2.1
Hy(2)	21.8	4.1	23.0	4.9	-1.2
Hy(3)	20.8	3.2	22.3	3.8	-1.5
Pd + .4K(1)	22.3	2.9	23.2	4.5	- .9
Pd + .4K(2)	22.3	3.6	23.2	3.5	- .9
Pd + .4K(3)	22.3	3.2	23.2	4.1	- .9
Mf(1)	26.5	4.7	27.5	4.3	-1.0
Mf(2)	27.3	4.9	26.3	5.2	+1.0
Mf(3)	26.9	4.9	26.8	5.3	+ .1
Pa(1)	10.1	2.5	11.0	3.0	- .9
Pa(2)	10.0	2.1	9.7	2.5	+ .3
Pa(3)	10.0	2.4	10.3	2.8	- .3
Pt + 1K(1)	27.5	5.0	28.7	4.8	-1.2
Pt + 1K(2)	28.0	4.1	26.8	4.2	+1.2
Pt + 1K(3)	27.8	4.9	27.6	4.9	+ .2

Table I (continued)

<u>Test Item</u>	<u>Mean A</u>	<u>Std. Dev.</u>	<u>Mean B</u>	<u>Std. Dev.</u>	<u>Diff. bet. Means</u>
Sc + 1K(1)	27.2	5.9	29.1	7.1	-1.9
Sc + 1K(2)	26.6	4.9	26.1	3.4	+ .5
Sc + 1K(3)	26.8	5.4	27.4	5.7	- .6
Ma + .2K(1)	17.8	4.1	19.4	3.2	-1.6
Ma + .2K(2)	19.2	3.1	19.4	3.3	- .2
Ma + .2K(3)	18.5	3.8	19.4	3.3	- .9

Table I (continued)

<u>Test Item</u>	<u>t ratio</u>	<u>p. (probability)</u>
F(1)	- .42	.8
F(2)	+2.48	.02
F(3)	- .87	.4
K(1)	-1.57	.2
K(2)	-3.22	.01
K(3)	-3.33	.01
Hs + .5K(1)	- .212	.8
Hs + .5K(2)	- .926	.4
Hs + .5K(3)	- .889	.4
D(1)	- .571	.6
D(2)	+ .641	.6
D(3)	+ .101	.8
Hy(1)	-2.333	.05
Hy(2)	- .870	.4
Hy(3)	- .644	.6
Pd + .4K(1)	- .823	.4
Pd + .4K(2)	-1.285	.2
Pd + .4K(3)	-1.486	.2
Mf(1)	- .69	.6
Mf(2)	+ .644	.6
Mf(3)	+ .129	.8
Pa(1)	- .973	.4
Pa(2)	+ .613	.4
Pa(3)	- .345	.8
Pt + 1K(1)	- .68	.4
Pt + 1K(2)	+1.38	.2
Pt + 1K(3)	+ .448	.6
Sc + 1K(1)	- .74	.4
Sc + 1K(2)	+ .45	.6
Sc + 1K(3)	- .46	.6
Ma + .2K(1)	-1.51	.2
Ma + .2K(2)	- .309	.8
Ma + .2K(3)	-1.43	.2

Table I (continued)

Probability values are estimated according to Fisher's table of "t" (Table XIII, p. 87 in Smith's A Simplified Guide to Statistics, Third Edition).

At 17 degrees of freedom: .05 is 2.110; .02 is 2.567; .01 is 2.898.

At 22 degrees of freedom: .05 is 2.074; .02 is 2.508; .01 is 2.819.

At 30 degrees of freedom: .05 is 2.042; .02 is 2.457; .01 is 2.750.

(The Table does not go beyond 30 degrees, so the probability values of 40 were really those of 30).

* The numeral one (1) after the name of a test item designates the scores of 18 students, members of the class of 1965, who, in May of 1965, took the test a second time; the numeral two (2) designates the score of 23 students, members of the class of 1966, who in September of 1965, took the test a second time; the numeral three (3) designates the combined scores for both of these groups, which have a total of 41 subjects.

The difference between the means is marked + or -. The plus sign indicates a movement towards better adjustment, the minus sign is to show an increase of score and therefore a movement towards poorer adjustment.

Table II

MMPI SCORES OF MEMBERS OF THE CLASS OF 1965 AT MARYKNOLL SEMINARY IN GLEN ELLYN, ILLINOIS.

A = score from test taken before entering Maryknoll (before Sept. 1961)

B = score from test taken in the senior year (May, 1965)

<u>Test Item</u>	<u>Mean A</u>	<u>Std. Dev.</u>	<u>Mean B</u>	<u>Std. Dev.</u>	<u>Diff. bet. Means</u>	<u>t ratio</u>	<u>p. (probability)</u>
F	3.5	2.4	3.9	3.0	- .4	- .42	.8
K	15.4	4.3	17.1	5.4	-1.7	-1.57	.2
Hs + .5K	11.8	3.1	12.0	2.6	- .2	- .212	.8
D	17.2	4.2	18.0	4.0	- .8	- .571	.6
Hy	19.5	4.0	21.6	3.7	-2.1	-2.333	.05
Pd + .4K	22.3	2.9	23.2	4.5	- .9	- .823	.4
Mf	26.5	4.7	27.5	4.3	-1.0	+ .69	.6
Pa	10.1	2.5	11.0	3.0	- .9	- .973	.4
Pt + 1K	27.5	5.0	28.7	4.8	-1.2	- .68	.4
Sc + 1K	27.2	5.9	29.1	7.1	-1.9	- .74	.4
Ma + .2K	17.8	4.1	19.4	3.2	-1.6	-1.51	.2

Table III

MMPI SCORES OF 23 MEMBERS OF THE CLASS OF 1966 AT MARYKNOLL SEMINARY IN GLEN ELLYN, ILLINOIS.

A = score from the test taken before entering Maryknoll (before Sept., 1962).

B = score from the test taken in the senior year (Sept., 1965).

<u>Test Item</u>	<u>Mean A</u>	<u>Std. Dev.</u>	<u>Mean B</u>	<u>Std. Dev.</u>	<u>Diff. bet. Means</u>	<u>t ratio</u>	<u>p. (probability)</u>
F	3.6	2.0	2.6	1.8	+1.0	+2.48	.02
K	16.3	4.2	18.7	3.5	-2.4	-3.22	.01
Hs + .5K	12.7	3.5	13.4	2.6	- .7	- .926	.4
D	16.6	5.0	15.7	4.8	+ .9	+ .641	.6
Hy	21.8	4.1	23.0	4.9	-1.2	- .870	.4
Pd + .4K	22.3	3.6	23.2	3.5	- .9	-1.285	.2
Mf	27.3	4.9	26.3	5.2	+1.0	+ .644	.6
Pa	10.0	2.1	9.7	2.5	+ .3	+ .613	.4
Pt + 1K	28.0	4.1	26.8	4.2	+1.2	+1.38	.2
Sc + 1K	26.6	4.9	26.1	3.4	+ .5	+ .45	.6
Ma + .2K	19.2	3.1	19.4	3.3	- .2	- .309	.8

Table IV

MMPI SCORES OF THE COMBINED GROUPS, 18 MEMBERS OF THE 1965 CLASS, AND 23 MEMBERS OF THE CLASS OF 1966, A TOTAL OF 41 SUBJECTS.

A = score from the test taken before entering Maryknoll.

B = score from the test taken in the Senior year at Glen Ellyn.

<u>Test Item</u>	<u>Mean A</u>	<u>Std. Dev.</u>	<u>Mean B</u>	<u>Std. Dev.</u>	<u>Diff. bet. Means</u>	<u>t ratio</u>	<u>p. (pro- bability)</u>
F	3.6	2.2	3.2	2.5	+ .4	- .87	.4
K	16.0	4.5	17.9	4.6	-1.9	-3.33	.01
Hs + .5K	12.3	3.4	12.8	3.0	- .5	- .889	.4
D	16.9	3.9	16.7	4.0	+ .2	+ .101	.8
Hy	20.8	3.2	22.3	3.8	-1.5	- .644	.6
Pd + .4K	22.3	3.2	23.2	4.1	- .9	-1.486	.6
Mf	26.9	4.9	26.8	5.3	+ .1	+ .129	.8
Pa	10.0	2.4	10.3	2.8	- .3	- .345	.8
Pt + 1K	27.8	4.9	27.6	4.9	+ .2	+ .448	.6
Sc + 1K	26.8	5.4	27.4	5.7	- .6	- .46	.6
Ma + .2K	18.5	3.8	19.4	3.3	- .9	-1.43	.2

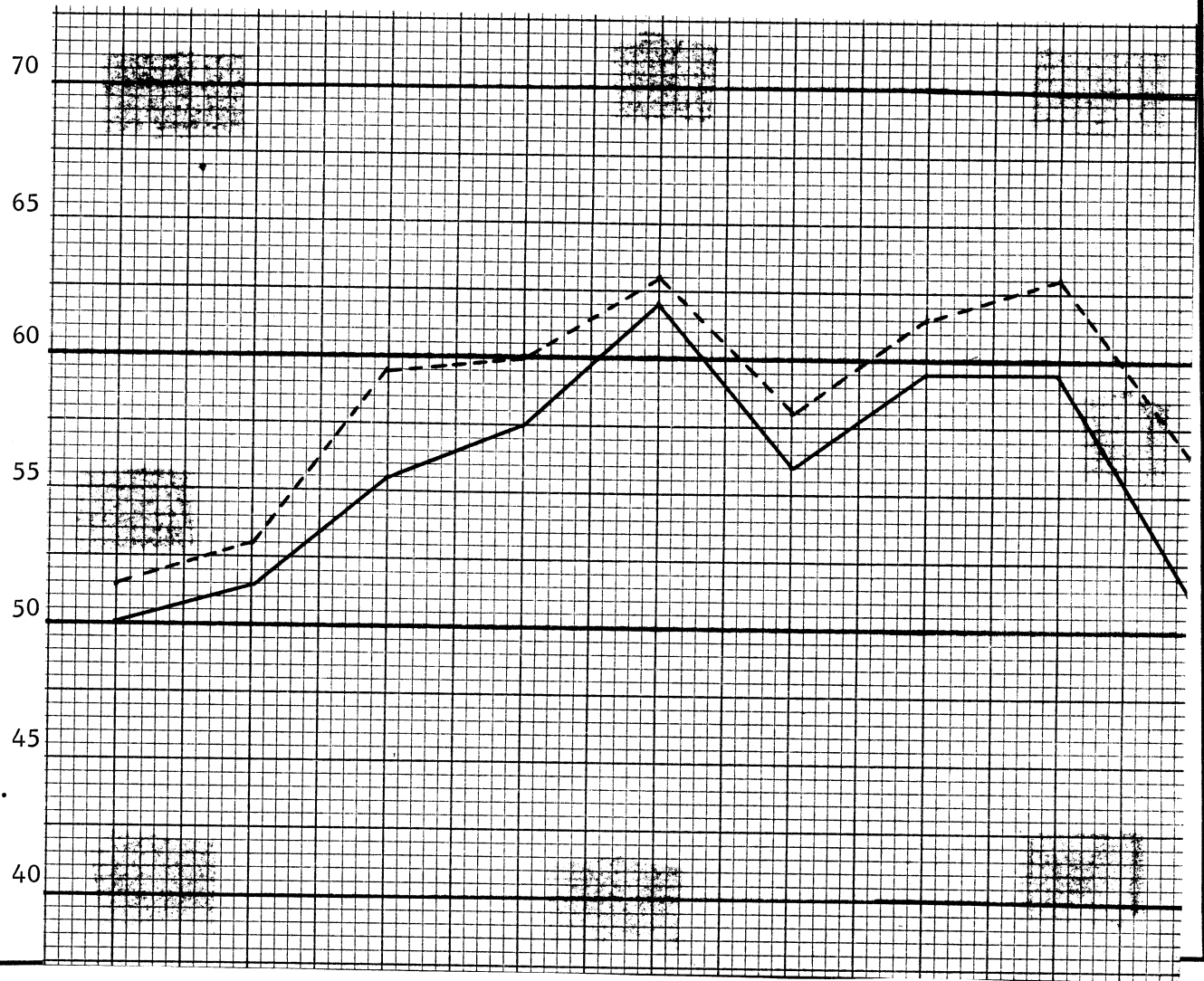
Figure 1.

Group I (No. 18):

Comparison of Pre-freshman and Senior Scores

T scores

1(Hs) 2(D) 3(Hy) 4(Pd) 5(Mf) 6(Pa) 7(Pt) 8(Sc) 9(Ma)



Code:

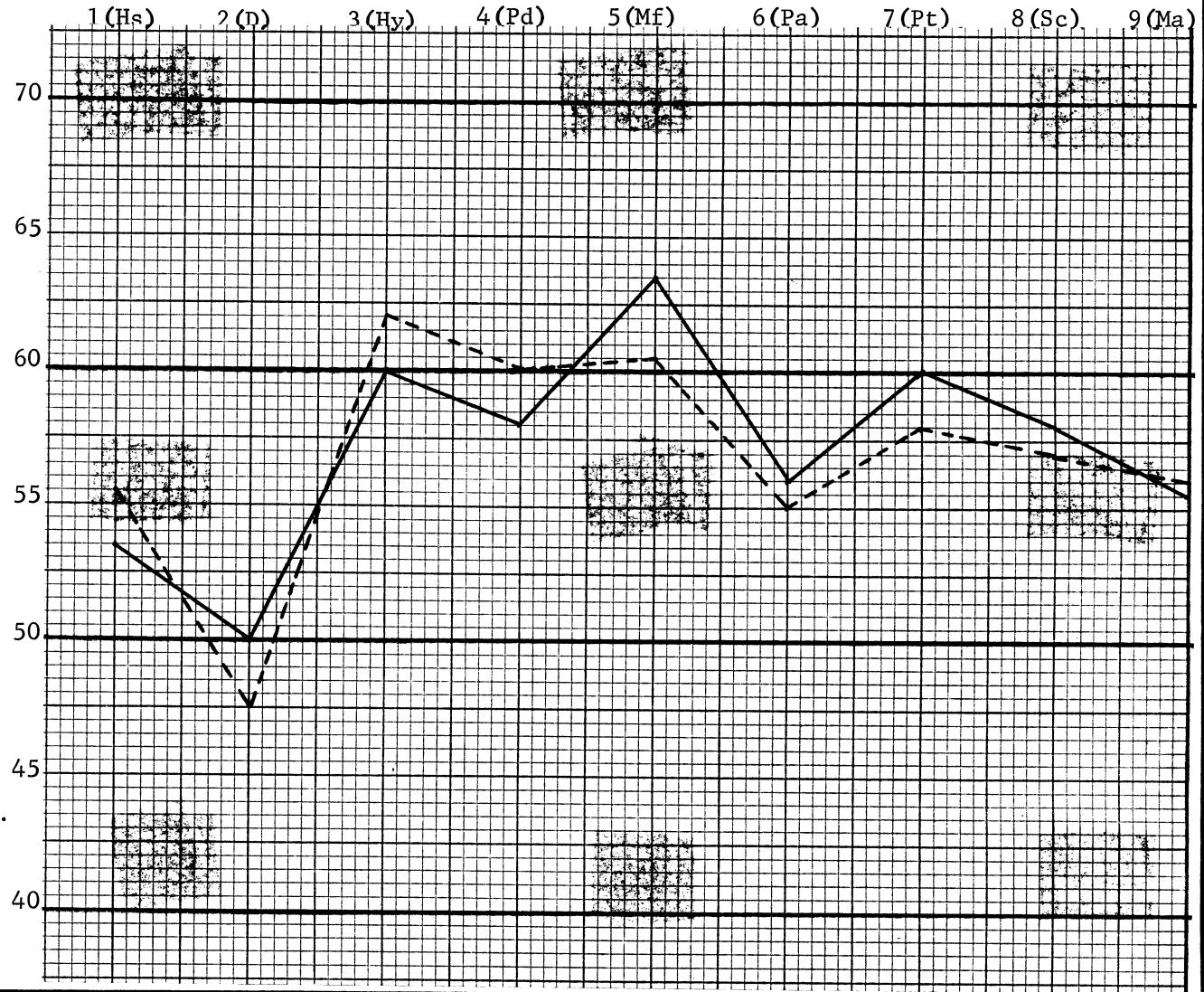
— Test A
(pre-freshman
score).
----- Test B
(Senior score).

Figure 2.

Group II (No. 23):

Comparison of Pre-freshman and Senior Scores

T scores



Code:

— Test A
(pre-freshman
score).
----- Test B
(senior score).

Figure 3.

Group I and II (No. 41):

Comparison of the combined Pre-freshman and Senior Scores

T scores

1(Hs)

2(D)

3(Hy)

4(Pd)

5(Mf)

6(Pa)

7(Pt)

8(Sc)

9(Ma)

70

65

60

55

50

45

40

Code:

—— Test A
(pre-freshman
score).
----- Test B
(senior score).

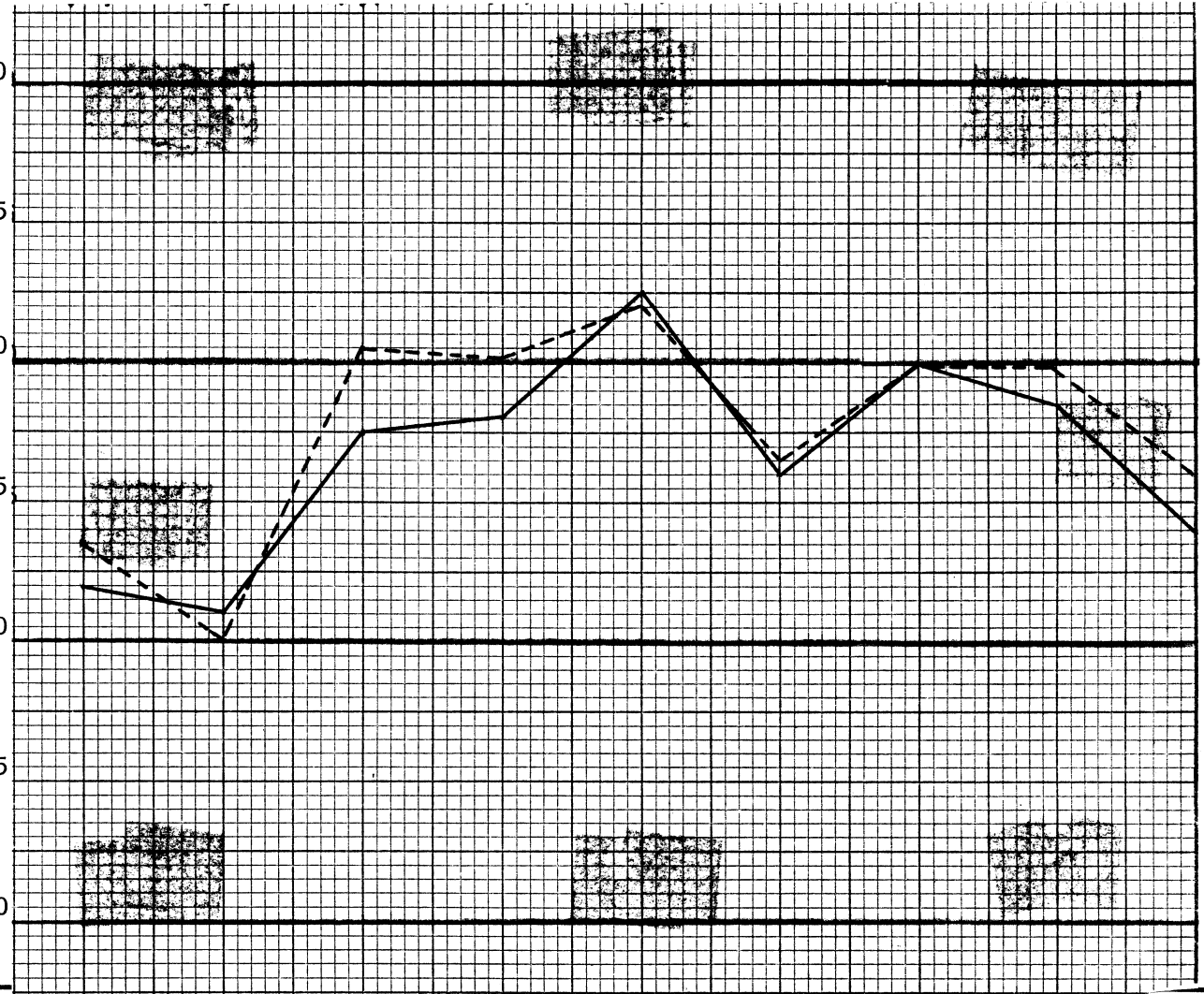


Figure 4.

Group I and II (No. 41):

Comparison of the two senior tests

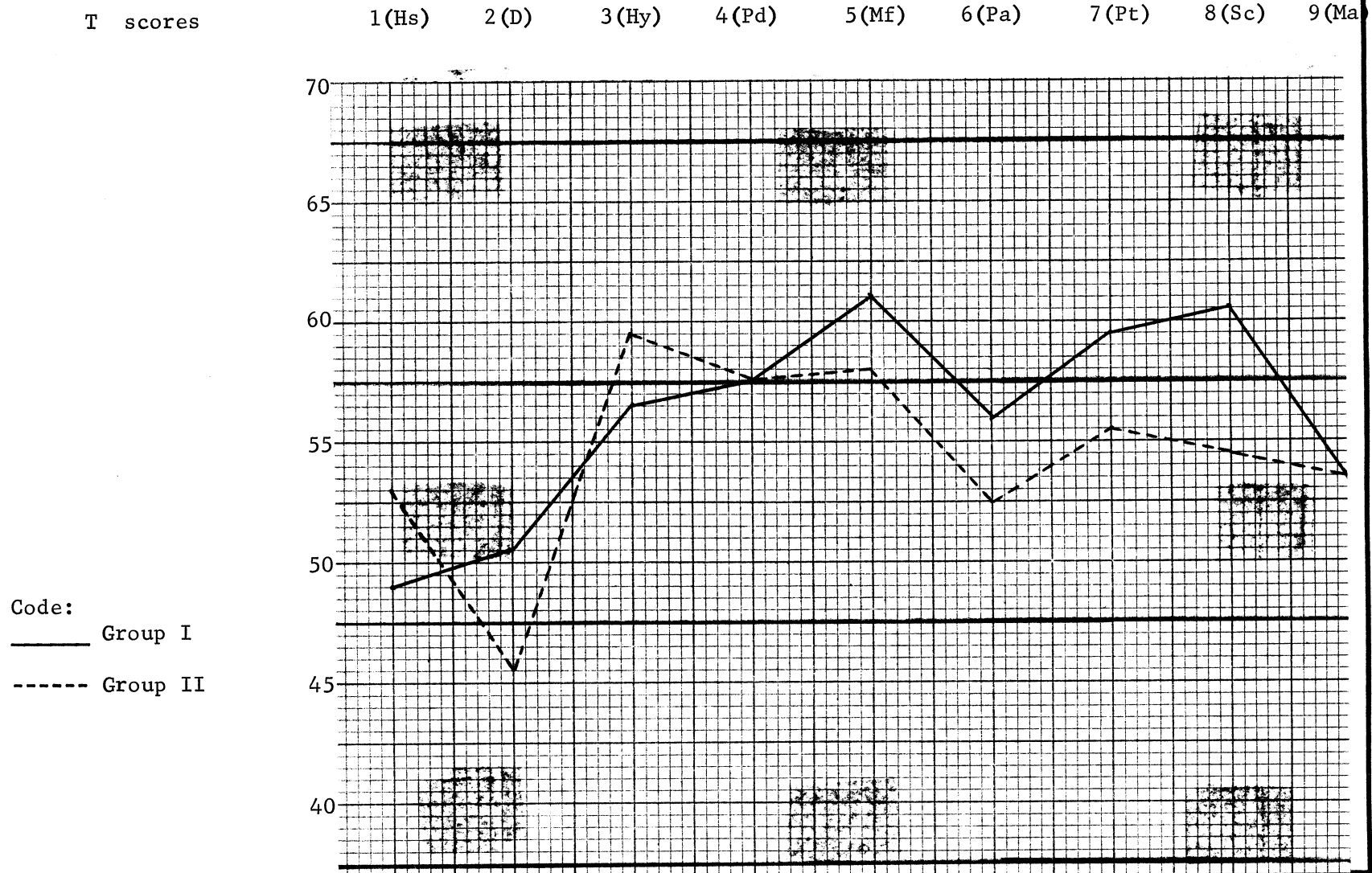


Table V

T SCORES ACCORDING TO RANK

Group I:

Group II:

A Test		B Test		A Test		B Test	
1.	49.4	1.	51.5	1.	46.8	3.	47.2
2.	50.4	2.	51.8	2.	49.0	20.	48.7
3.	50.6	5.	52.5	3.	49.5	12.	50.6
4.	51.5	17.	52.7	4.	50.7	7.	52.5
5.	51.6	15.	53.1	5.	53.2	10.	52.7
6.	52.3	11.	53.3	6.	53.4	5.	53.0
7.	52.3	6.	54.2	7.	53.6	6.	53.3
8.	53.1	9.	55.6	8.	54.8	13.	53.4
9.	54.6	10.	57.5	9.	55.7	15.	55.2
10.	56.0	16.	58.1	10.	56.4	17.	56.0
11.	57.6	13.	58.6	11.	56.8	14.	56.7
12.	58.3	18.	60.0	12.	57.0	19.	57.3
13.	59.0	12.	61.5	13.	57.1	1.	57.1
14.	59.0	14.	63.0	14.	57.6	2.	58.6
15.	60.0	8.	63.4	15.	58.6	23.	58.8
16.	61.8	7.	67.7	16.	59.0	11.	60.4
17.	63.0	4.	68.5	17.	61.3	18.	61.4
18.	<u>68.0</u>	3.	<u>72.6</u>	18.	62.3	8.	61.7
	1008.5		1055.6	19.	62.3	9.	62.0
				20.	63.0	22.	62.1

A rise of 47.1 units on
Test B.

Table V

T SCORES ACCORDING TO RANK (continued)

Group II:

	A Test		B Test
21.	64.2	21.	62.2
22.	65.7	4.	63.4
23.	<u>68.4</u>	16.	<u>65.0</u>
	1316.4		1308.7

A lowering of 7.7 units on Test B

Table VI

COMPARISON OF THE SCORES ON THE MMPI SCALES OF GROUPS I AND II AND THE COMBINED GROUP WITH COLLEGE MALES, FATHER BIER'S SEMINARIANS, FATHER GORMAN'S SEMINARIANS, AND FATHER McDONAGH'S SEMINARIANS.

T scores:	College Males (N. 5035)	Group I (N 18)	Group II (N. 23)	Combined Groups (N. 41)
MMPI scales:				
K	54.5	59	62	61
1 (Hs)	52.3	51.7	55.4	53.5
2 (D)	52.8	53.2	47.8	50.2
3 (Hy)	55.0	59.3	61.9	60.6
4 (Pd)	56.3	60.0	60.2	60.1
5 (Mf)	58.5	63.8	60.7	62.2
6 (Pa)	53.0	58.8	55.0	56.9
7 (Pt)	56.7	61.7	57.8	59.7
8 (Sc)	56.9	63.0	57.3	60.1
9 (Ma)	58.7	56.2	56.2	56.2

MMPI scales continued on following page.

Table VI

COMPARISON OF THE SCORES ON THE MMPI SCALES OF GROUPS I AND II AND THE COMBINED GROUP WITH COLLEGE MALES, FATHER BIER'S SEMINARIANS, FATHER GORMAN'S SEMINARIANS, AND FATHER McDONAGH'S SEMINARIANS.

T scores(continued)

		Bier's (N. 177)	Gorman's (N. 188)	McDonagh's (N. 135)
MMPI scales:				
	K	---	51.4	---
1	(Hs)	51.08	50.9	53.17
2	(D)	53.4	49.4	53.18
3	(Hy)	57.01	52.4	55.02
4	(Pd)	52.29	53.2	54.59
5	(Mf)	63.43	65.2	57.80
6	(Pa)	54.33	52.3	56.23
7	(Pt)	53.9	55.4	58.54
8	(Sc)	53.09	57.4	57.98
9	(Ma)	54.66	52.4	52.75

Table VI (continued)

McDonagh's seminarians were first year college level, diocesan, and non-boarding.

Gorman's seminarians were senior high school students, all from the same area, diocesan, non-boarding.

Bier's seminarians were drawn from diocesan seminarians and three religious societies, all in philosophy and theology, from different parts of the country. Bier considered them a representative sampling but Rice found in his study that they were not sufficiently representative.

For the purpose of this thesis, they do provide a basis for comparison. The subjects of this testing were all seminarians. They were tested during their senior year, after being through three years in a boarding seminary.

Comparison:

Compared with College males, Group I is higher in all scales except Hs and Ma.

Compared with Bier's seminarians, Group I is higher in all except scales Hs and D.

Compared with Gorman's seminarians, Group I is higher in all scales.

Compared with McDonagh's seminarians, Group I is higher in all except in scale Hs.

Compared with College males, Group II is higher in all scales except scales Hs, D and Ma.

Compared with Bier's seminarians, Group II is higher in all except scales D and Mf.

Compared with Gorman's seminarians, Group II is higher in all except scales D and Sc. (a minute difference of .1)

Compared with McDonagh's seminarians, Group II is higher in all except scales D, Pa, Pt, and Sc.

Table VIIa

COMPARISON OF THE MEAN T SCORES OF GROUP I FOR DIFFERENCES IN SCORES BY T UNITS.

Group I:	A(pre-freshman)	B(senior)	Differences
1.	49.4	51.5	2.1
2.	50.4	51.8	1.4
3.	50.6	72.6	22.0
4.	51.5	68.5	17.0
5.	51.6	52.5	.9
6.	52.3	54.2	1.9
7.	52.3	67.7	15.4
8.	53.1	63.4	10.3
9.	54.6	55.6	1.0
10.	56.0	57.5	1.5
11.	57.6	53.3	- 4.3
12.	58.3	61.5	3.2
13.	59.0	58.6	- .4
14.	59.0	63.0	4.0
15.	60.0	53.1	- 6.9
16.	61.8	58.1	- 3.7
17.	63.0	52.7	- 9.3
18.	68.0	60.0	- 8.0

According to the Manual, 10 is the standard deviation for the T scores.

Number of those exceeding their pre-freshman test by 10 units or one standard deviation = 4. Number of those whose results are 10 units less than their pre-freshman score = none.

Table VIIb

COMPARISON OF THE MEAN T SCORES OF GROUP II FOR DIFFERENCES IN SCORES BY T UNITS.

Group II:	A(pre-freshman)	B(senior)	Differences
1.	46.8	57.1	10.3
2.	49.0	58.6	9.6
3.	49.5	47.2	- 2.3
4.	50.7	63.4	12.7
5.	53.2	53.0	- .2
6.	53.4	53.3	- .1
7.	53.6	52.5	- 1.1
8.	54.8	61.7	6.9
9.	55.7	62.0	6.3
10.	56.4	52.7	- 1.7
11.	56.8	60.4	3.6
12.	57.0	50.6	- 6.4
13.	57.1	53.4	- 3.7
14.	57.6	56.7	- .9
15.	58.6	55.2	- 3.4
16.	59.0	65.0	6.0
17.	61.3	56.0	- 5.3
18.	62.3	61.4	- .9
19.	62.3	57.3	- 5.0
20.	63.0	48.7	-14.3
21.	64.2	62.2	- 2.0
22.	65.7	62.1	- 3.6
23.	68.4	58.8	- 9.6

According to the Manual, the standard deviation for the T scores is 10.

Number of those exceeding their pre-freshman test by 10 = 2.

Number whose results are less by 10 = 1.

Table VIII

RANK ORDER ACCORDING TO MEAN SCORES ON THE PRE-FRESHMAN TEST.

Group I:			Group II:	
	<u>Scale:</u>	<u>Mean</u>	<u>Scale:</u>	<u>Mean:</u>
1.	5 (Mf)	61.9	5 (Mf)	63.5
2.	8 (Sc)	59.4	7 (Pt)	60.2
3.	7 (Pt)	59.3	3 (Hy)	59.7
4.	4 (Pd)	57.8	8 (Sc)	58.3
5.	6 (Pa)	56.1	4 (Pd)	58.0
6.	3 (Hy)	55.5	6 (Pa)	56.2
7.	9 (Ma)	52.3	9 (Ma)	55.7
8.	2 (D)	51.4	1 (Hs)	53.4
9.	1 (Hs)	50.1	2 (D)	50.0

Both groups are highest in scale 5 (Mf). Group I scores are slightly lower on scales 7 (Pt), 3 (Hy), 4 (Pd), 6 (Pa), 9 (Ma), and 1 (Hs).

Table VIII continued on following page.

Table VIII (continued)

RANK ORDER ACCORDING TO MEAN T SCORES ON THE SENIOR TEST.

Group I:			Group II:	
	<u>Scale:</u>	<u>Mean:</u>	<u>Scale:</u>	<u>Mean:</u>
1.	5 (Mf)	63.8	3 (Hy)	61.9
2.	8 (Sc)	63.0	5 (Mf)	60.7
3.	7 (Pt)	61.7	4 (Pd)	60.2
4.	4 (Pd)	60.0	7 (Pt)	57.8
5.	3 (Hy)	59.3	8 (Sc)	57.3
6.	6 (Pa)	58.8	9 (Ma)	56.2
7.	9 (Ma)	56.2	1 (Hs)	55.4
8.	2 (D)	53.2	6 (Pa)	55.0
9.	1 (Hs)	51.7	2 (D)	47.8

Group I and Group II are the same on 9 (Ma), but on scales 1 (Hs) and 3 (Hy), as well as on scale 4 (Pd), the scores of Group I are lower than Group II. On scales 5 (Mf), 2 (D), 8 (Sc), 7 (Pt), and 6 (Pa) the scores of Group I are higher than those of Group II.

Figure 5.

Group I (No. 18):

Profiles of the "high" group on the Pre-freshman and Senior Scores

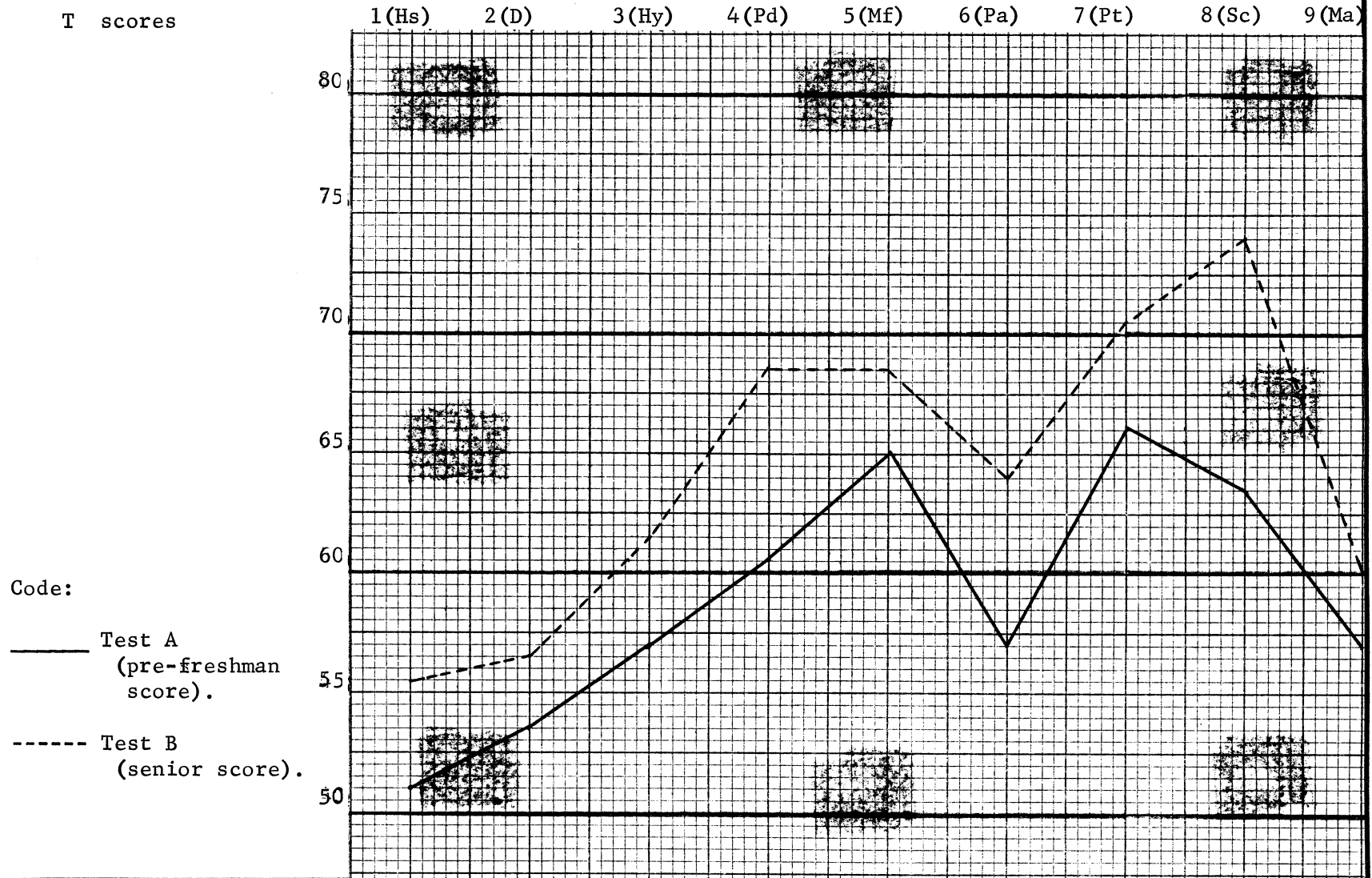


Figure 6.

Group II (No. 23):

Profile of the "high" group on the Pre-freshman and Senior Score

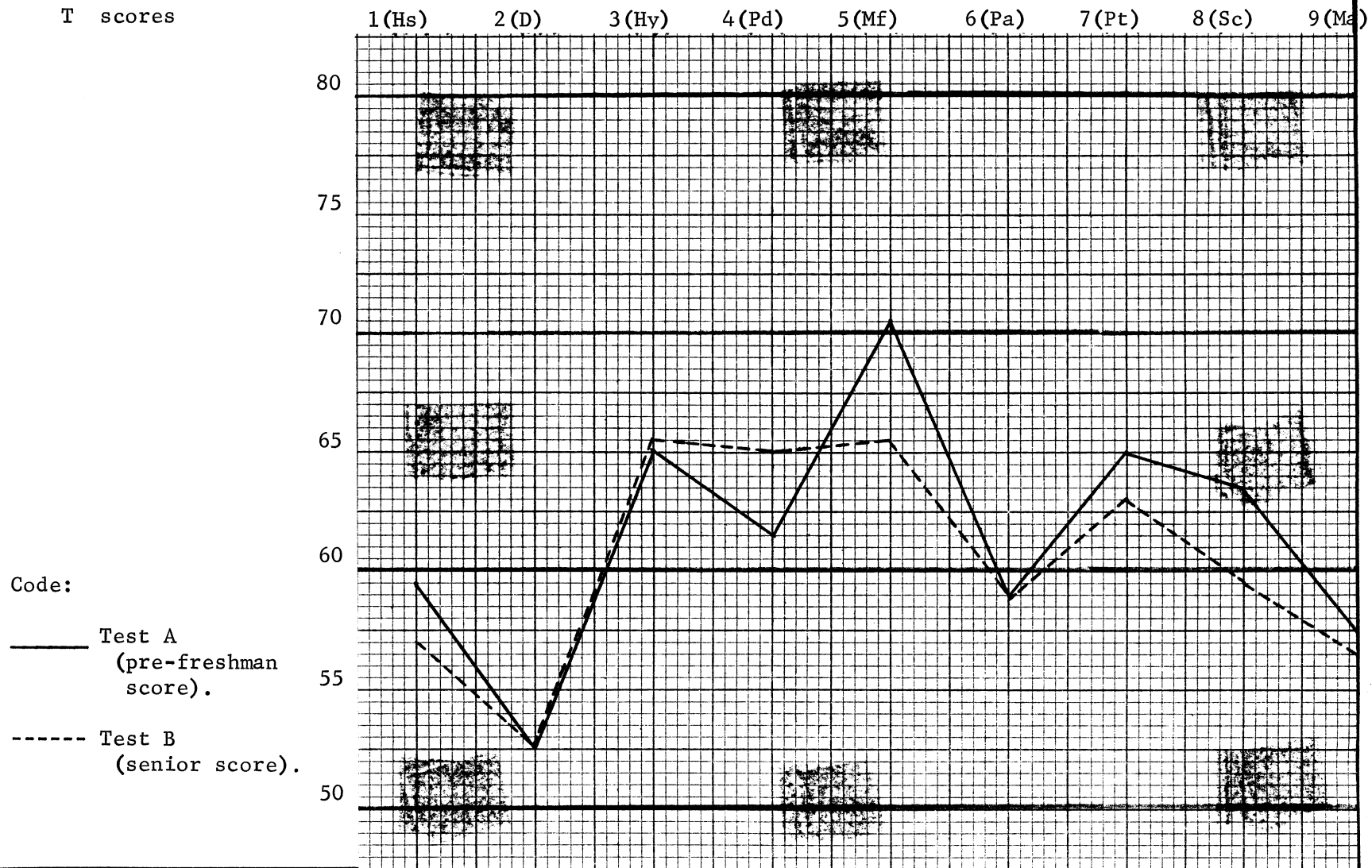


Figure 7.

Group I (No. 18):

Profiles of the "normals" and "highs" on Test A and Test B

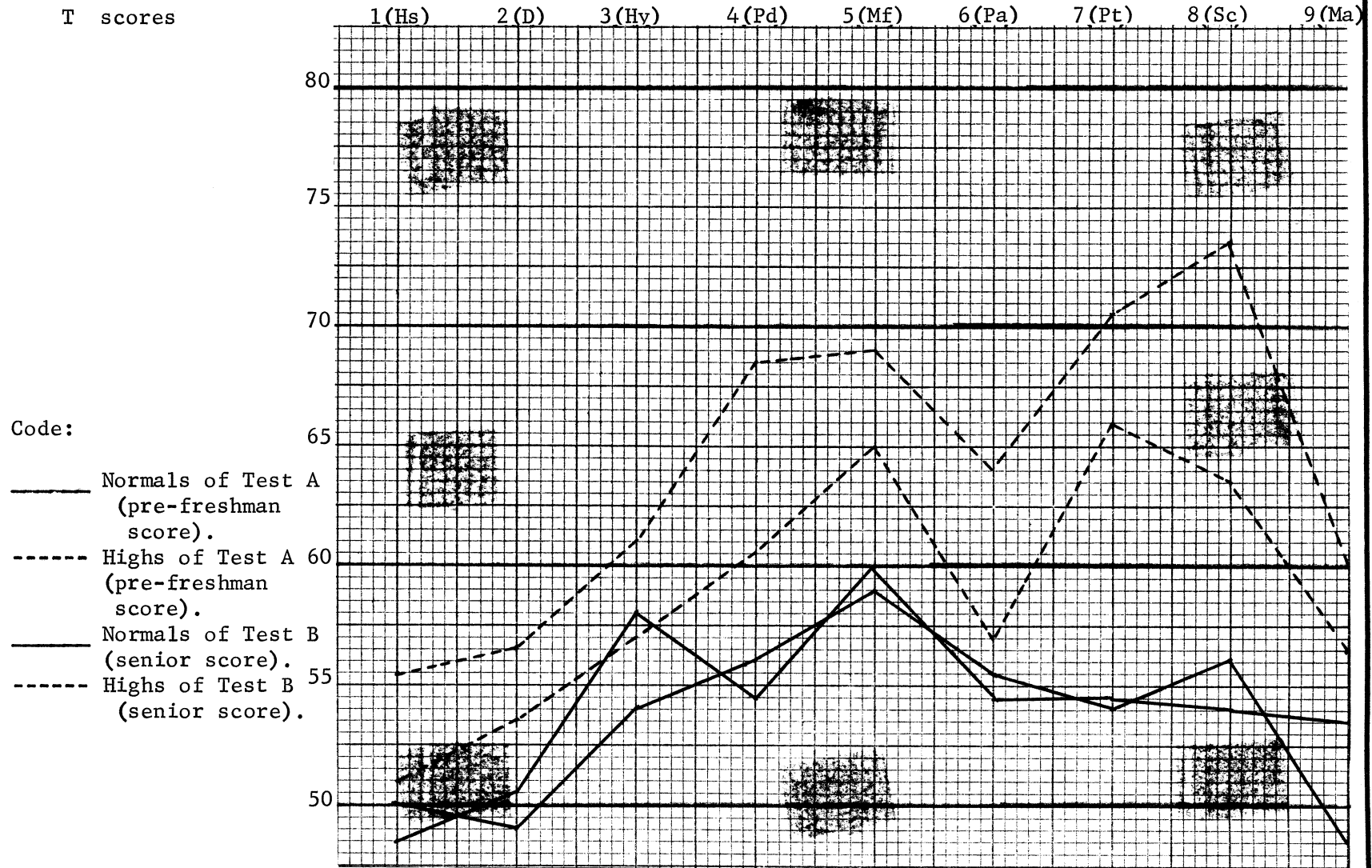


Figure 8.

Group II (No. 23):

Profiles of the "normals" and "highs" on Test A and Test B

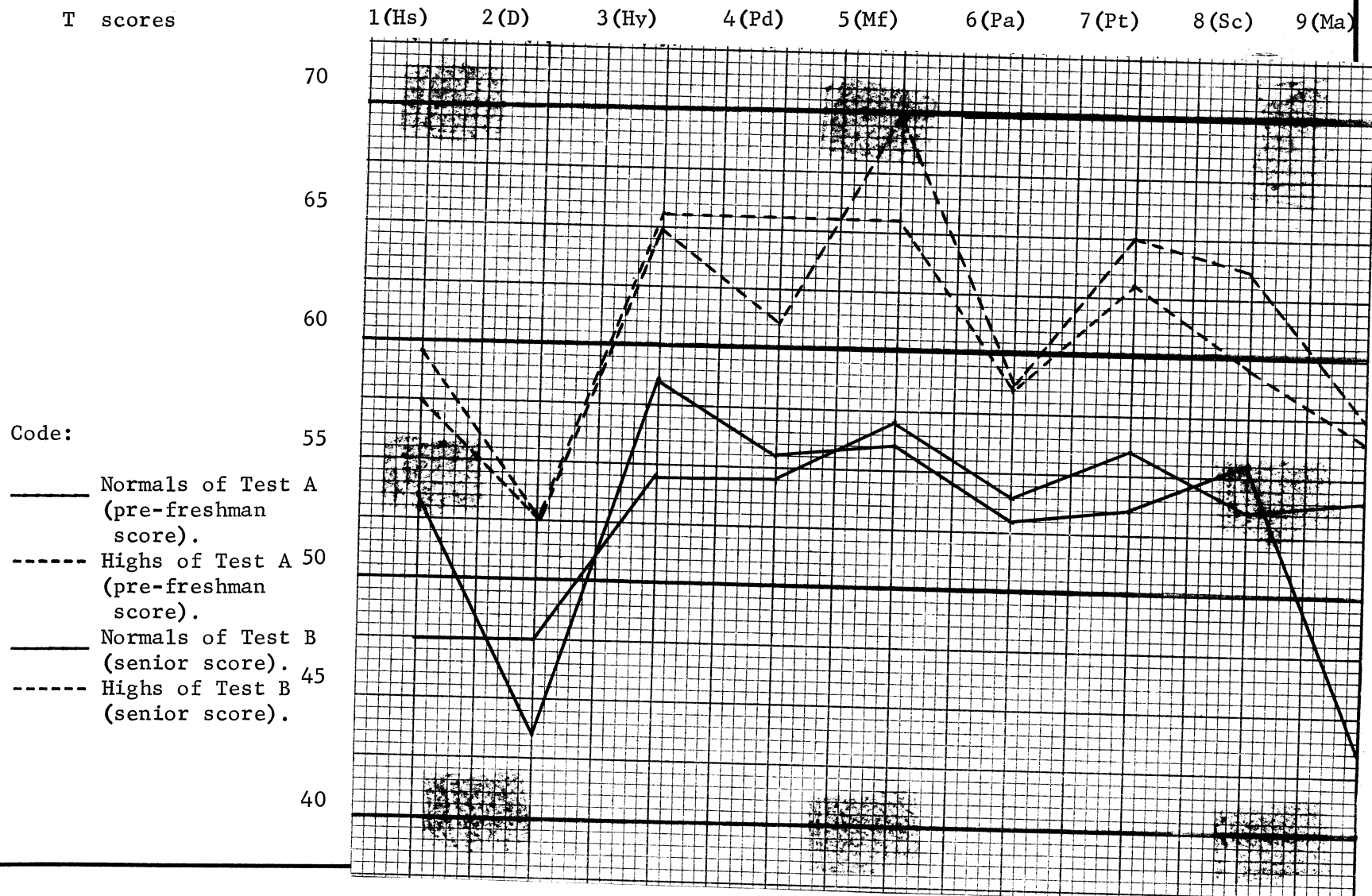


Table IXa

MMPI SCALES FOR THE "HIGH" GROUP IN RANK ORDER

<u>Group I</u> <u>Results on Test A (pre-freshman)</u>			<u>Group I</u> <u>Results on Test B (senior)</u>		
<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>	<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>
7 (Pt)	66	10.81	8 (Sc)	73.8	13.58
5 (Mf)	65.3	10.88	7 (Pt)	70.6	6.58
8 (Sc)	63.7	14.69	4 (Pd)	68.7	5.45
4 (Pd)	60.5	7.65	5 (Mf)	68.5	9.90
3 (Hy)	57.1	5.94	6 (Pa)	64.0	8.60
6 (Pa)	57.0	8.97	3 (Hy)	61.2	5.43
9 (Ma)	56.8	10.88	9 (Ma)	60.2	7.24
2 (D)	53.8	11.86	2 (D)	56.6	9.68
1 (Hs)	<u>51.1</u>	<u>8.80</u>	1 (Hs)	<u>55.6</u>	<u>6.93</u>
averages:	59.069	10.05		64.388	8.15

<u>Group II</u> <u>Results on Test A (pre-freshman)</u>			<u>Group II</u> <u>Results on Test B (senior)</u>		
<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>	<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>
5 (Mf)	70.3	6.46	5 (Mf)	65.5	9.72
3 (Hy)	65.0	4.92	3 (Hy)	65.5	5.77
7 (Pt)	64.9	8.49	4 (Pd)	65.3	6.18
8 (Sc)	63.6	7.13	7 (Pt)	63.2	6.47
4 (Pd)	61.4	6.99	8 (Sc)	59.9	6.47
1 (Hs)	59.6	7.89	6 (Pa)	58.4	8.06
6 (Pa)	58.4	5.25	1 (Hs)	57.4	6.64
9 (Ma)	57.7	6.66	9 (Ma)	56.7	11.84
2 (D)	<u>52.7</u>	<u>6.34</u>	2 (D)	<u>52.6</u>	<u>7.73</u>
averages:	61.545	6.68		61.636	6.87

This table shows Group I's highs with scale 7 (Pt) as highest and scale 5 (Mf) second. But after test B, scale 8 (Sc) becomes highest with scale 7 (Pt) next. These scores have been biased by the results of two subjects whose scores on scale 8 (Sc) were unusually high, 86 and 101 respectively. Group I's mean on scale 8 (Sc) became elevated by 5.3 units because of this. The highs in Group II remained fairly stable according to rank order.

Table IXb

MMPI SCALES FOR THE "NORMALS" ACCORDING TO RANK ORDER

<u>Group I</u>			<u>Group I</u>		
<u>Results on Test A (pre-freshman)</u>			<u>Results on Test B (senior)</u>		
<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>	<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>
5 (Mf)	59.2	6.16	5 (Mf)	60.2	5.23
8 (Sc)	56.0	6.19	3 (Hy)	57.8	4.98
4 (Pd)	55.8	5.14	6 (Pa)	54.8	6.03
6 (Pa)	55.4	3.95	7 (Pt)	54.6	7.90
3 (Hy)	54.2	6.77	8 (Sc)	54.4	4.34
7 (Pt)	54.0	5.8	9 (Ma)	53.1	7.05
1 (Hs)	50.0	6.26	4 (Pd)	53.1	7.05
2 (D)	49.3	7.58	2 (D)	50.5	8.15
9 (Ma)	<u>48.8</u>	<u>8.37</u>	1 (Hs)	<u>48.7</u>	<u>4.56</u>
averages:	53.6	6.246		54.1	6.144

<u>Group II</u>			<u>Group II</u>		
<u>Results on Test A (pre-freshman)</u>			<u>Results on Test B (senior)</u>		
<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>	<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>
5 (Mf)	57.3	7.73	3 (Hy)	58.7	6.68
7 (Pt)	56.0	4.54	5 (Mf)	56.3	7.16
3 (Hy)	54.9	8.34	9 (Ma)	55.8	2.66
4 (Pd)	54.9	8.34	4 (Pd)	55.6	7.48
6 (Pa)	54.2	6.93	8 (Sc)	55.1	4.09
9 (Ma)	54.0	7.86	1 (Hs)	53.6	5.62
8 (Sc)	53.4	6.8	6 (Pa)	52.8	5.19
1 (Hs)	47.8	5.45	7 (Pt)	52.8	5.19
2 (D)	<u>47.7</u>	<u>6.61</u>	2 (D)	<u>43.4</u>	<u>6.78</u>
averages:	53.4	6.955		53.8	5.69

Table IXc

GROUP I "HIGHS": A COMPARISON OF THEIR RESULTS ON TESTS A AND B AND AN APPLICATION OF THE "t" TEST TO DETERMINE SIGNIFICANT DIFFERENCES.

<u>Subjects:</u>	<u>A Test</u>		<u>B Test</u>		<u>"t" ratio</u>	<u>p. (probability)</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
1.	51.5	11.67	68.5	10.9	-3.215	.01
2.	53.1	5.92	63.4	6.05	-1.22	.2
3.	57.6	9.88	53.3	9.96	1.095	.2
4.	58.3	11.1	61.5	5.85	-2.90	.02
5.	59.0	7.6	58.6	4.94	.188	.8
6.	61.8	6.86	58.1	8.06	1.22	.2
7.	63.0	11.3	52.7	7.39	2.50	.05
8.	68.0	13.3	60.0	7.77	1.65	.1

Of the above eight subjects, at least one of whose scores was 70 T units or over on A test, two had results on the B test that were increased beyond the .05 level of significance, while one decreased beyond the .05 level of significance.

In the B test, subjects No. 3,5, and 7 did not get any scores above 70 T units. But three new subjects, Numbers 9, 10, and 11 were above 70 T units in at least one score

<u>Subjects:</u>	<u>A Test</u>		<u>B Test</u>		<u>"t" ratio</u>	<u>p. (probability)</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
9.	50.6	6.25	72.6	15.2	-5.03	.01
10.	52.3	6.46	67.7	10.8	-2.368	.05
11.	59.0	6.7	63.0	6.34	-1.61	.2

Table IXc (continued)

Of these three, Numbers 9 and 10 had increased scores that were well beyond the .05 level of significance.

Explanation of the meaning of "probability":

Levels of significance: .01 means that there is one chance in 100 of this value occurring by chance; .02 means that there are two chances in 100; and .05 means that there are five chances in 100 that this value could occur.

Putting it in another way: looking at Fisher's Table for t values in the line for eight degrees of freedom, (because there are 9 items and the formula used is from Smith's Simplified Statistics) the probability at .05 is five in one hundred that a t value as high as 2.306 could occur by chance; or two in one hundred that a t value as high as 2.896 could be obtained by chance; any t value beyond 3.355 would be beyond the possibility of happening by chance.

Table IXc continued on following page.

Table IXc (continued)

GROUP II "HIGHS": A COMPARISON OF THEIR RESULTS ON TESTS A AND B AND AN APPLICATION OF THE "t" TEST TO DETERMINE SIGNIFICANT DIFFERENCES.

<u>Subjects:</u>	<u>A Test</u>		<u>B Test</u>		<u>"t" ratio</u>	<u>p. (Probability)</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
1.	54.8	9.18	61.7	9.02	-5.06	.01
2.	57.0	7.48	50.6	6.41	.436	.6
3.	58.6	8.75	55.2	6.48	2.82	.02
4.	59.0	7.83	65.0	8.0	-2.91	.02
5.	61.3	7.32	56.0	5.43	3.24	.01
6.	62.3	10.0	61.4	9.19	.436	.6
7.	61.9	5.52	57.3	7.66	1.66	.1
8.	63.0	6.08	48.7	7.0	5.06	.01
9.	64.2	5.63	62.2	7.46	.91	.4
10.	65.7	6.20	62.1	8.93	.68	.6
11.	68.4	12.73	58.8	9.35	3.81	.01

In test B Numbers 2, 3, 5, 7, and 8 had no score of 70 T units or over. However, the following, who had no score of 70 T units or over in the A test, were in this category of the Highs in the B test:

<u>Subjects:</u>	<u>A Test</u>		<u>B Test</u>		<u>"t" ratio</u>	<u>p. (probability)</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
12.	49.0	5.80	58.6	8.30	-5.75	.01
13.	50.7	8.26	63.4	8.11	-3.99	.01
14.	53.6	8.22	52.5	10.2	.47	.6
15.	55.7	4.87	62.0	6.99	-2.92	.02
16.	57.6	7.62	56.7	8.14	.354	.7

The minus sign (-) before a t ratio indicates those scores that became more deviant in the re-test; the plus sign (+) or no sign are those that have less

Table IXc (continued)

elevated scores on the re-test and are therefore less deviant.

To summarize:

Numbers 1, 4, 12, 13, and 15 show elevations beyond .05 level of significance. In number 12 there is an alarming elevation compared with the A test, but he is still within the normal range according to the Mean (58.6). Number 1 became increasingly deviant. The remaining Highs all show a decrease in score, especially numbers 3, 5, 8, and 11 which are significant beyond the .05 level.

Coding the Profiles.

The method outlined in the MMPI Manual was followed. The clinical scales were assigned numbers, 1 to 9: Hs becomes 1; D, 2; Hy, 3; Pd, 4; Mf, 5; Pa, 6; Pt, 7; Sc, 8; and Ma, 9.

The first number is the scale with the highest T score value and then, in descending order, the numbers of any other scales having T scores higher than 54. Following Hathaway and Monachesi (1963), a triple prime ('') is placed after a number having a score of 90 T units or over, a double prime ('') is placed after a number with a score of 80 T units or over and one prime (') after those having a score of 70 T units or over. (All adjacent scale numbers were underlined if they were equal or within one point of each other: if one is one point higher than the other, then that number is placed first; if they are equal, they are written in their usual ordinal sequence). These symbols, written in this way, are called the high point code of the profile. The numbers show approximately the magnitude and the order of all those scales having T scores larger than 54. Those numbers to the left of the prime (') indicate scales that reached a T score of 70 or over; those to the right of the prime (') indicate the scales between 70 and 54.

The Manual explains also how to construct the low point code: a dash (-) is placed after the last number of the high point code and the lowest number with a T score value less than 46 is written. Following this number any other numbers having T scores less than 46 are written in ascending order. Following Hathaway and Monachesi (1963), a scale number with a T score value less than 40 is marked by a prime ('). The code, as written to the right of

the dash (-), is called the low point code. Underlining the numbers that were equal or separated by a digit was carried out as in the High Point code.

To the right of the code the Manual requires the raw scores of L, F, and K, in that order, to be recorded. They are to be separated by colons. If the raw score of L is equal to or greater than 10 or if the raw score of F is equal to or greater than 16 a capital X is placed immediately after the code for the clinical scales. This would indicate that there was a possibility that the profile might be invalid. However, in this experiment there was no X. In the coding, L is omitted, but F and K are given.

The coding system used in the Atlas is the same except that scale 5 (Mf) is not coded, but placed in parenthesis next to the coded scales.

Table Xa

CODES

Group I (No. 18): The first code is that of the pre-freshman test results, marked A. The second code is that of the senior test results, marked B. The codes are put in order, starting with the lowest of A.

		<u>F:K</u>
1)	A. <u>2 7'</u> <u>5 6 8 3</u>	2:19
	B. <u>3 7 2 4 1 5 9 8</u>	3:21
2)	A. <u>3 4 5 8 7 1 6 2</u> - 9	3:22
	B. <u>5 4 3 7 8 6 2</u> - 9	2:21
3)	A. 4 5 6 - 2	2:15
	B. 5 2 3 4 -	3:14
4)	A. 5 3 <u>7 8</u> 6 4 <u>2 9</u>	2:19
	B. <u>3 5</u> - 2	0:20
5)	A. 5 - 1	1:10
	B. 8''''6'' <u>7 5 4</u> 9 2' 3 - 1	13:11
6)	A. 6 <u>4 5</u> 3 - 9	1:16
	B. 5''''6 8 4' 9 7 2 3 -	5:16
7)	A. 6 7 5' 8 <u>2 4</u> - 1 9	4:10
	B. 5 <u>2 6 8 9</u> - 1 4	8:7

Table Xa (continued)

	<u>F:K</u>
8) A. 7 - 6	2:16
B. 9 <u>3 7 5</u> - 2	1:19
9) A. 8 5 <u>7 4 6</u> - 9	3:20
B. 6 5 8 <u>7 4</u> 3 - 9	4:20
10) A. 8''' 7'' 4 1' <u>3 5</u> 9	11:20
B. 4' <u>5 3 6 7 1 8</u> 9 - 2	4:21
11) A. 8 <u>4 2 3 7</u> 5 6 - 9	3:22
B. 4' 7 3 <u>1 8 5 6</u> 2 -	1:27
12) A. <u>4 5</u> ' 2 - <u>1' 8 6 7</u>	7:9
B. 8 7''' 5 2' 4 3 <u>1 6 9</u>	7:7
13) A. 5' 7 8 9 4 <u>3 2</u> 6 -	6:11
B. 7' 4 <u>6 5 8 3</u> - 2	2:22
14) A. 5' <u>3 8</u> 7 2 - 9	3:17
B. <u>3 6</u> 5 9 8 - 2' 4	2:14
15) A. 9 1 8 - 2 7	2:18
B. 9 2 <u>7 8</u> -	2:15
16) A. 9 5 6 - 1 2 3	4:10
B. 3 <u>5 6 4</u> - 7	2:16
17) A. 9' 7 4 - 5 2	2:12
B. 8 3' <u>7 1 4 5 6 2 9</u>	5:24
18) A. 9' 8 7 6 4 5 3 - 2'	5:12
B. 7 8 9' 5 4 3 -	6:13

Table Xb

CODES

Group II (No. 23): The first code is that of the pre-freshman test results, marked A. The second code is that of the senior test results, marked B. The codes are in ordinal sequence starting with the lowest points on A.

1)	A. 1' <u>3 4 8 7</u> 5 6 2 9 -	7:21
	B. 4 5 3' 6 7 9 -	2:19
2)	A. 2 7 4 - <u>6 1</u> 3	3:10
	B. 7 5' 2 6 <u>4 8 3</u> 1	5:13
3)	A. 3' 5 <u>8 4</u> 1 9 - 2	3:18
	B. 4 9 - 1 6	3:16
4)	A. 4' <u>3 8 7 9 6</u> 1 5	4:27
	B. 8' 6 <u>3 9 7 4</u> <u>1 5</u> - 2	2:23
5)	A. 4' <u>5 8 3 7 6 9 1</u> 2	4:23
	B. 4 9' 5 3 7 8 2 -	2:15
6)	A. 5 1' 3 9 <u>7 8 4</u> 2 -	2:17
	B. 9 3 - 2 5	0:19
7)	A. 5' <u>3 7</u> 8 -	3:22
	B. 3 5 8' 4 <u>7 1 6</u> 2 - 9	6:25

Table Xb (continued)

8)	A. 5' 3 8 - 2	5:17
	B. 3 5' <u>1 6</u> 7 8	3:20
9)	A. 5 <u>4 8 9</u> 3 6 - 1	2:17
	B. 3 1 5 8 - 2	0:23
10)	A. 5 4 9 <u>7 3 1 6</u>	3:18
	B. 4' 3 1 8 9 - 2	1:23
11)	A. 5 <u>6 3 4 9</u> - 2 8	1:14
	B. 1 5 8 7 9 - 2	1:23
12)	A. 5 7 - 9 4	7:9
	B. 5' 7 4 <u>3 2</u> 1 - 9	7:15
13)	A. 5' 9 <u>3 6 7</u> 8 - 2	2:16
	B. 5 7 6 <u>3 8 9</u> - 2	2:15
14)	A. 6 5 4 8 - 1	3:16
	B. <u>9 4</u> 3 - 2	1:19
15)	A. 6 3 - 4 1 2 9	1:15
	B. 3 - 7 5 9	0:17
16)	A. 7 - 2 <u>4 3 9</u>	3:14
	B. 9 <u>3 5 4 8</u> -	3:13

Table Xb (continued)

17)	A. 7 5' 6 8 <u>2 9</u> 4 -	2:16
	B. 3 5 <u>6 7 1</u> 4 -	3:21
18)	A. 7 5' 9 3 4 6 1	7:16
	B. 3 4 <u>5 8</u> 1 7 9 - 2	4:19
19)	A. 8 <u>5 6 3</u> 9 -	3:21
	B. 6 3 <u>8 5</u> - 2	3:20
20)	A. 8 5 7'' 3' 1 4 2 6	5:12
	B. 5' <u>8 3</u> 7 4 -	2:18
21)	A. 7 4 <u>5 6 8</u> -	7:9
	B. 4 7' <u>1 8 9</u> 3 5	3:22
22)	A. 4 <u>8 3 7</u> 9 2 -	1:18
	B. 4 <u>3 7</u> 5 <u>8 2 1 6 9</u> -	3:21
23)	A. 9 3 4 - 2 1	6:11
	B. 9' 4 3 - 1 6	4:14

Table Xc

FREQUENCY OF ONE-POINT CODES

Group I

Code	A		B	
	> 70	≤ 70	> 70	≤ 70
1.	0	0	0	0
2.	1	0	0	0
3.	0	1	0	4
4.	0	2	2	1
5.	2	2	1	3
6.	1	1	1	3
7.	0	1	0	0
8.	1	2	2	1
9.	2	2	0	2

Group II

Code	A		B	
	> 70	≤ 70	> 70	≤ 70
1.	1	0	0	1
2.	0	1	0	0
3.	1	0	2	4
4.	2	1	4	2
5.	4	4	2	1
6.	0	2	0	1
7.	2	2	1	0
8.	1	1	1	0
9.	0	1	1	3

FREQUENCY OF THE TWO-POINT CODES

Group I

Code	A		B	
	> 70	≤ 70	> 70	≤ 70
27.	1	0	0	0
34.	0	1	0	0
35.	0	0	0	2
36.	0	0	0	1
37.	0	0	0	1
45.	0	1	2	0
47.	0	0	1	0
5.	0	1	0	0
52.	0	0	0	2
53.	1	1	0	0
54.	0	0	0	1
56.	0	0	0	1
57.	1	0	0	0
63.	0	1	0	1
65.	0	1	0	0
7.	0	1	0	0
74.	0	1	0	0
75.	2	0	1	0
85.	0	2	0	0
86.	0	0	1	0
93.	0	1	0	2
94.	0	0	1	1

Group II

Code	A		B	
	> 70	≤ 70	> 70	≤ 70
13.	1	0	0	1
27.	0	1	0	0
3.	0	0	0	1
31.	0	0	0	1
34.	0	0	0	1
35.	1	0	2	1
43.	1	0	1	1
45.	1	0	0	1
47.	0	0	1	0
48.	0	1	0	0
49.	0	0	1	1
51.	1	0	0	0
53.	2	0	0	0
54.	0	2	0	0
56.	0	1	0	0
57.	0	1	2	0
58.	0	1	0	0
59.	1	0	0	0
63.	0	1	0	1
65.	0	1	0	0
7.	0	1	0	0
74.	0	1	0	0
75.	2	0	1	0
8.	0	0	1	0
85.	1	1	0	0
93.	0	1	0	2
94.	0	0	1	1

Table XI

SCORES OF THE NINE SUBJECTS WHO WERE IN THE CRITICAL CATEGORY IN THEIR B TEST RESULTS. THE SCORES OF BOTH TESTS ARE GIVEN FOR PURPOSES OF COMPARISON.

<u>Subject</u>	<u>1(Hs)</u>	<u>2(D)</u>	<u>3(Hy)</u>	<u>4(Pd)</u>	<u>5(Mf)</u>	<u>6(Pa)</u>	<u>7(Pt)</u>	<u>8(Sc)</u>	<u>9(Ma)</u>	<u>Average</u>
1. A:	52	32	56	60	57	62	66	67	73	58.3
B:	52	53	55	60	63	53	75	73	70	62.6
2. A:	39	58	49	71	71	44	44	40	48	51.5
B:	59	72	62	67	73	59	81	86	58	68.5
3. A:	49	44	51	57	43	53	60	51	70	53.0
B:	65	56	71	64	61	59	66	74	55	63.4
4. A:	44	51	47	48	67	53	48	50	48	51.0
B:	44	70	55	76	76	82	77	101	73	72.6
5. A:	54	41	56	57	57	62	50	51	43	52.3
B:	54	58	58	71	90	76	62	76	65	67.7
6. A:	52	53	67	60	73	53	66	59	48	59.0
B:	65	60	73	69	71	65	66	71	45	65.0
7. A:	59	56	65	74	69	62	64	69	60	64.0
B:	54	56	67	71	69	50	64	59	70	62.2
8. A:	77	63	67	67	65	65	66	67	55	65.7
B:	54	51	71	76	73	65	58	53	58	62.1
9. A:	52	51	51	60	57	56	66	56	53	55.8
B:	65	51	62	71	55	53	71	65	65	62.0

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APPROVAL SHEET

The thesis submitted by Reverend Thomas John Malone, M.M. has been read and approved by the director of the thesis. Furthermore, 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.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

December 23, 1966
Date

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