THE VALUE OF THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY IN ASSESSING THE DESIRABILITY OF DORMITORY RESIDENTS

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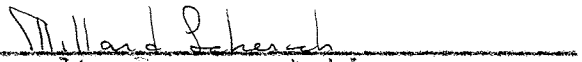

Faculty Representative

Dean of the Graduate School

PREFACE

During the school year of 1951-52, the writer was employed as a Resident Counselor in a men's dormitory at the University of Oklahoma. He observed that many dormitory residents were well liked by their associates and cooperated with all persons concerned in the dormitory, but that others appeared equally as disliked by their fellows and failed to respond wholesomely to most of the group activity within the dormitory. As a result of this experience he developed a very real interest in the differences in the personalities of the individuals and in the group extremes of likability. This was the motivation of the present study.

The writer wishes to express his appreciation to the members of his advisory committee for their time and advice, especially to Dr. S. L. Reed, chairman of the committee, for his valuable guidance and encouragement, also to Dr. Harry Brobst, who gave invaluable constructive criticisms and aid in the investigational work, to Dr. M. P. Chauncey, who offered many helpful suggestions, and to Dr. Millard Scherich who offered many helpful suggestions and gave excellent advice during the writing of the drafts of the thesis. And lastly, I wish to thank my wife for her aid in proof-reading and for her thoughtfulness during the process of this study.

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CHAPTER I

THE PROBLEM

Introduction

Educators are interested in the all-round development of individuals and recognize the importance of social development, particularly the ability to get along with and cooperate with one's peers. Getting along with and being accepted by one's associates is usally extremely important to an individual's happiness and frequently influences success in his work.[1] There seems to be little question as to the importance of mutual acceptance of fellow workers in most occupations. The way a person is accepted by his classmates and fellow dormitory residents tends to influence his attitudes toward himself, his college, and the society of which he is a part.

If it were possible to develop an objective device which would measure some of the personality characteristics of those considered desirable or undesirable in specific social situations, it would prove of great value to persons in administrative positions in education, industry, employment, and in counseling, even though it is probable that norms and

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[1] R. G. Kuhlen and B. J. Lee, "Personality Characteristics and Social Acceptability in Adolescence," Journal of Educational Psychology, XXXIV (1943), 321-340.

characteristics would vary in the different specific situations. If, through the use of such a device, characteristic personality patterns were found to distinguish the one group from the other, a great contribution would be made to the understanding of human behavior.

Statement of Problem

Little research has been done to determine the value of objective personality examinations as a basis for discovering differences in acceptance between late adolescent or adult members of a group. The results of objective personality examinations in this area have not been significant. A survey of literature in the field disclosed that the Minnesota Multiphasic Personality Inventory was used for this purpose only in the case of the Social-Introversion scale and its relationship to leadership.[2] Yet, the Minnesota Multiphasic Personality Inventory, which will hereafter be referred to as the MMPI, has many categories of personality characteristics which may give indications of personality patterns and, in addition, appears to be the most qualified objective instrument to detect deceit, incoherence, and positive or negative malingering. If the MMPI fails to discriminate degrees of desirability it may be made to do so by the development of a special scale to measure

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[2] L. E. Drake and W. B. Thiede, "Further Validation of the Social I. E. Scale for the MMPI," Journal of Educational Research, XLI (1948), 551-556.

differences of desirability by associates in a specific situation.

The problem is to discover the effectiveness of the MMPI in differentiating between socially desirable and socially undesirable members of a group as determined through ratings by associates. Closely related to the central problem, and contributory to its solution, is the discovery of the value of pattern analysis on the basis of data obtained on the MMPI, and the discovery of items in the MMPI which differentiate for at least two groups, the assumption being that if the items differentiate for two groups they will probably differentiate for still other groups.

The primary purpose of this study is to discover possible values of the MMPI to administrators and counselors in differentiating the socially desirable from the socially undesirable members of a group in a specific situation.

CHAPTER II

SURVEY OF THE LITERATURE

Social Acceptance Studies Not Involving Personality Tests

Most studies and articles pertaining to social acceptance do not involve the use of personality tests.

Over a decade ago, Loeb[1] worked out the correlations between social acceptance and various factors such as chronological age, mental age, intelligence quotients, school achievement, and subject achievement. He found a zero or low relationship existed for all of the factors.

Similar results have been found from other studies. Northway[2], in a survey of the literature, discovered no single correlate to sociometric status on the basis of any single measure.

Bonney[3] studied socially successful and unsuccessful children in the fourth grade of three different schools.

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[1] Mary L. Northway, "Personality and Sociometric Status, A Review of the Toronto Studies," Sociometry, IX, No. 2-3 (1946), 236.

[2] Ibid., p. 234.

[3] M. E. Bonney, "Personality Traits of Socially Successful and Socially Unsuccessful Children," Journal of Educational Psychology, XXXIV (1943), 449-472.

Social success was determined through trait ratings by teachers, pupils, and also by pupil choices of friends. Twenty-one traits were rated. In every case the averages for the socially high group were higher in the following traits: talkative, attention getting, bossy, fights, daring, active in games, and grown up. Four of these traits--talkative, bossy, daring, and grown up--differentiated between the upper and lower group with a critical ratio of 2. Bonney concluded that in such a school situation any individual is more popular for what he does, rather than for what he refrains from doing. The socially strong tend to be attracted to other children who are socially strong.

Kuhlen and Lee[4] investigated 700 sixth, ninth, and twelfth graders by sociometric measurement to obtain measures of social acceptability at different ages through the adolescent period, and to get judgments as to the personal characteristics from associates. The data was gathered by a "Guess Who" test and by Moreno's technique of listing first and second choices of companions for various situations.

> ...The evidence suggested that in early adolescence, (ninth grade) the girls tend to be more active of sexes socially (are more often judged to be 'sociable' and 'to initiate activities') but by later adolescence (twelfth grade) boys tend to dominate the social scene. They were judged more frequently than the girls to be popular and to initiate games and activities.

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[4] R. G. Kuhlen and B. J. Lee, "Personality Characteristics and Social Acceptability in Adolescence," Journal of Educational Psychology, XXXIV (1943), 321-340.

> (6) Most personality characteristics studied showed substantial relationships with social acceptability. Those most acceptable were judged more frequently to be popular, cheerful and happy, enthusiastic, friendly, to enjoy jokes, to initiate games and activities.
>
> (7) With development into adolescence changes in relationships of certain traits to social acceptability were apparent. The socially acceptable at the twelfth grade tended to be the active, socially aggressive extrovert more than was true of the sixth. For boys, 'liking opposite sex' and, for girls, 'being sociable' and 'enjoying a joke' were more closely related to acceptability at the twelfth grade...[5]

The authors concluded that the lack of social status frequently makes for misery and unhappiness; whereas the acquirement of status that was once lacking may produce great changes in feelings and in the personality of the individual.

Reilly and Robinson[6] attempted to predict popularity of college freshmen girls. One-hundred and sixty girls filled out a sociometric test. A popularity score was determined by the frequency with which a girl was named and in what sequence. Data was gathered from entrance records. They found that the intelligence quotient, number of siblings in the family, high school activities, offices held in high school, high school honors, attendance at college by parent, profession of father, religious affiliation, and size of home town, all failed to be

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[5] Ibid, p. 339.

[6] Jean Waid Reilly and Francis P. Robinson, "Studies of Popularity in College. I. Can Popularity of Freshmen Be Predicted?" Educational and Psychological Measurement, VII (1947), 671-672.

significantly related to popularity in college. However, chronological age and loss of one or both parents were significantly related to popularity. The older the girl, the less likely she was to be popular. Loss of parents had a negative relationship to popularity.

An investigation, using 676 college students, to determine what makes persons like certain persons and dislike others was performed by Thomas and Young.[7] Each subject was given a form on which he listed the initials and sex of the persons he liked and disliked. On another form he listed the reasons why he disliked or liked these persons. It was found that the one person most liked is apt to be a member of the opposite sex--the likelihood is greater for men than for women. However, the person most disliked is generally a member of the same sex. The greatest number of liked and disliked were members of the same sex. The college students indicated that they liked 2.7 times as many persons as they disliked. The trait most frequently mentioned as the reason for liking a person was intelligence. Next to intelligence, such traits as cheerfulness, consideration, kindness, and friendliness were recorded as reasons for liking males. General intelligence ranks first, however, men rate beauty first and intelligence second as reasons for liking women. Males rank sex appeal fifth as a

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[7] W. F. Thomas and P. T. Young, "Liking and Disliking Persons," Journal of Social Psychology, IX (1938), 169-187.

reason for liking females, but the females ranked the trait twenty-seventh as the reason for liking males. Conceit was by far the most disliked trait by both sexes. The other more frequent reasons for disliking others are selfishness, deceit, snobbishness, and being self-centered.

Of the 639 residents studied in a college residence hall Kidd[8] received a ninety-four percent return of the questionnaires given them. The questionnaires requested sixteen answers to questions pertaining to whom they would like to have and whom they would least like to have in certain relationships. In addition to answering the above questions, the subjects checked the reasons why they listed certain persons in the least liked category. A tabulation indicated that the reasons given for rejection most frequently placed emphasis on egocentricity, inconsiderateness, and aggressive behavior. Withdrawing, odd, and juvenile behavior was usually second most important.

Many more similar studies of comparing verbalized or rated traits and sociometric status have been performed, but very little appears to have been done involving a comparison of sociometric status and personality traits as measured by psychological tests. A survey of the Psychological Abstracts,

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[8] John W. Kidd, "An Analysis of Social Rejection in a College Men's Residence Hall," Sociometry, XIV, No. 2-3 (May - August, 1951).

Readers' Guide, and a mimeographed list[9] of the studies which used the MMPI, failed to disclose studies comparing sociometric status or social acceptability with performance on objective personality tests. However, some related studies were found. Because of the lack of studies comparing the MMPI results with social acceptance the writer has included in the survey of the literature studies on leadership and the objective personality tests.

Social Acceptance Studies Using Personality Tests

Northway and Wigdor[10] studied the relationship of Rorschach patterns to the sociometric status of 144 eighth grade boys and girls. Forty-five of the subjects were divided into three equal groups varying in sociometric status. Sociometric status was determined by the Canadian National Committee for Mental Hygiene's form of sociometric test. The high, low, and intermediate groups were matched as to chronological age, intelligence quotient, religion, race, and socio-economic background. Personality factors, as measured by the Rorschach Ink Blot Test, were compared for the three groups.

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[9] This list is believed to contain all papers which make more than very passing reference to the MMPI through November, 1950. It covers the psychological, medical, and sociological literature. This list was prepared by Paul Meehl, University of Minnesota.

[10] Mary L. Northway and Blossom T. Wigdor, "Rorschach Patterns Related to Sociometric Status of School Children," Sociometry, X, No. 2 (1947), 186-199.

It was found that groups differing in social acceptance show some basic personality differences, which are in general:

(1) Greater participation in the high group, greater sensitivity in sensing the feelings of others, and a conscious striving for the approval of others.
(2) Greater deviation from the 'normal' in both the high and low groups than in the intermediate group.
(3) The disturbances in the 'unaccepted' group seem more serious and in the case of 'recessives', a significant number show schizophrenic patternings. The accepted group shows less disturbance and mostly in terms of 'psychoneurotic' symptoms.
(4) The intermediate group seems to be a more shallow, less introspective group than either of the other two. However, they are able to see situations as others do to a sufficient extent to be accepted to a degree that satisfies their needs in terms of social interaction.

Remmlein[11], on the basis of Yeager's point scale according to extracurricular office holding, graded 750 high school seniors into three classes--high, low, and mediocre leaders. She found a reliable difference between high leaders and non-office-holders for the Dominance sub-test on the Bernreuter Personality Inventory. There were no significant differences even for the high group among boy leaders and the non-office-holders in respect to Neurotic Tendency and Self-Sufficiency. Differences for boys was greater than that of girls although the direction of the trends was similar.

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[11] M. K. Remmlein, "Analysis of Leaders Among High School Seniors," Journal of Experimental Education, VI (1938), 413-422.

Hunter and Jordan[12] isolated 82 college leaders on the basis of ratings by students, faculty, and leadership records. Comparison of the Bernreuter Personality Inventory percentile scores of 103 non-leaders with the scores of the leaders indicated that the leaders were reliably more self-sufficient and dominant than the non-leaders.

Dunkerly[13] used the Bernreuter Personality Inventory in a comparison of intellectual social and religious leaders in a women's college. Leaders were selected by a "Guess Who" technique and an imaginary election technique. Eight leaders of each type were selected. Religious leaders were significantly less self-sufficient and dominant than intellectual leaders, and less neurotic, introverted and dominant than were the social leaders. The comparisons were made in terms of percentage overlapping.

In a study on the relationship of leadership to the results on the Bernreuter Personality Inventory, Richardson and Hanawalt[14] compared 40 leaders in extra-curricular activities from a men's college and 36 women leaders from a women's college with certain Bernreuter Inventory norms for college men

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[12] E. C. Hunter and A. M. Jordan, "An Analysis of Qualities Associated with Leadership Among College Students," Journal of Educational Psychology, XXX (1939), 497-509.

[13] H. M. Richardson and N. G. Hanawalt, "Leadership As Related to Personality Measures: I. College Leadership in Extra-Curricular Activities," Journal of Social Psychology, XVII (1943), 239.

[14] Ibid., pp. 237-249.

and women. The women leaders, in addition, were compared to 32 non-leaders attending the same college. Leadership was determined by the number and level of offices held.

All comparisons indicated the leaders to be reliably superior from the control groups in Dominance, but not in Sociability or Self-Sufficiency. Both men and women leaders were reliably lower on Introversion. The women, but not the men, were reliably higher than the control groups in Self-Confidence.

A study of the relationship of the Social Introversion scale (Si) and extra-curricular activities by students in high school was performed by Gough.[15] A sample of 147 boys and 127 girls was used. The MMPI group form was administered and the number of activities was obtained from a personal data sheet completed by each student. Students with the lower Si scores (extroverted end) participated in more activities than did the students who had averaged higher Si scores. A correlation ratio of .369 existed between the Si scores and the number of activities listed.

General Information About the MMPI

> The Minnesota Multiphasic Personality Inventory is a psychometric instrument designed ultimately to provide, in a single test, scores on all the more important phases of personality....The instrument itself comprises 550 statements covering a wide range

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[15] H. G. Gough, "A Research Note on the MMPI I.E. Scale," Journal of Educational Research, XLIII (1949), 138-141.

> of subject matter--from physical condition to the morale and the social attitudes of the individual being tested.[16]

In the administration of the MMPI, the subject is asked to sort all of the statements into three categories: true, false, and cannot say. There is an individual form and group form of the MMPI. The cannot say category is handled in the group form by recording no answer on the answer sheet.

Personality characteristics are evaluated on the basis of scores on nine clinical scales originally developed for use with the MMPI. These scales are hypochondriasis (Hs), depression (D), hysteria (Hy), psychopathic personality (Pd), masculinity-femininity (Mf), paranoia (Pa), psychasthenia (Pt), schizophrenia (Sc), and hypomania (Ma). A more recent scale, but listed on the MMPI profile sheet, is social introversion (Si). There are four validity scores: the question score (?), the lie score (L), the F score (F), and the K score (K). Several more new scales have been devised for specific purposes, but are not listed on the MMPI profile sheet and are not among the usually published scales.[17]

The nine original personality scales were named according to the abnormal manifestation of the symptomatic complex, but they have all been shown to have meaning within the normal

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[16] S. R. Hathaway and J. C. McKinley, The Minnesota Multiphasic Personality Inventory Manual, (New York: The Psychological Corporation, 1951).

[17] Ibid., pp. 1-25.

range. The raw score of the measured trait is translated into a standard score (T-score) and is plotted on a profile chart in order to present the results.[18]

> ....The original normative data were derived from a sample of about 700 individuals representing a cross section of the Minnesota populations as obtained from visitors to the University Hospitals. The sampling was fairly adequate for the ages of 16 to 55 and for both sexes. In addition to these data on normal individuals, data were available on 250 precollege and college students who as a group represented a reasonably good cross section of college entrance applicants....
> ....The scales were developed by contrasting the normal groups with carefully studied clinical cases of which over 800 were available from the neuro-psychiatric division of the University Hospitals.... The chief criterion of excellence was the valid prediction of clinical cases against the neuro-psychiatric staff diagnosis, rather than statistical measure of reliability and validity....As for validity, a high score on a scale has been found to predict positively the corresponding final clinical diagnosis or estimate in more than 60 percent of new psychiatric admissions. This percentage is derived from differentiation among various kinds of clinical cases, which is considerably more difficult than mere differentiation of abnormal from normal groups. Even in cases in which a high score is not followed by a corresponding diagnosis, the presence of the trait to an abnormal degree in the symptomatic picture will nearly always be noted.[19]

The test-retest reliability coefficients reported for the various specific, original scales of the MMPI range from .46 to .93.[20]

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[18] Ibid., pp. 1-25.

[19] Ibid., p. 6.

[20] Ibid., p. 7.

Validity of Performance on the MMPI

Many studies have been made in the attempt to identify unreliable and malingered MMPI profiles. The ?, L, F, and K scores are indicators to aid in the determination of the validity of the profile. Singly, the scores will identify unreliable or malingered profiles with some accuracy, but when used in combination they become more efficient. It is easier to determine negative malingering, or the attempt to make an unduly bad profile, than to detect positive malingering.

The chief difficulty in interpreting the L, F, and K scores is that they have two meanings. They are related to the test-taking attitude and the test-taking competency of the subject, and can be thought of as indicators of the validity of the clinical scales. However, these attitudes or willingness to distort his answers, over-candidness or defensiveness are also aspects of the subject's personality.

In general, high L and high K scores tend to indicate one or more forms of defensiveness. High F and low K scores are indicators of an attitude of self-criticism or wishing to appear unfavorably.

A raw score of seven or more on L or one of 17 or more on F are probably significant deviations that require interpretation. However, they do not necessarily mean that the findings are invalid. Raw scores are preferred for L and F scores

because there is evidence that the T-scores have not been properly chosen for these scales.[21]

The F-K raw score has been used profitably as indicated in several studies. It was able to identify 10 out of 11 clinical workers who were feigning anxiety when their profiles were mixed with 68 genuine anxiety patients. An F-K raw score of plus four or higher was used as the cutting score. A cutting score of 16 or higher is used for psychotic profiles.[22]

Hunt[23] found that an F-K cutting raw score of plus 11 would identify a substantial proportion of records of those subjects attempting to simulate a mental disorder, but would mistakenly identify about 12 percent of the patients. An F-K cutting score of minus 11 and lower was fairly effective in identifying records of men who were asked to conceal any abnormality, but this also picked out 93 percent of supposedly honest profiles of over 100 A.S.T.P. students.

Cofer[24] and others found that a minus 11 and lower on the F-K raw scores would detect 25 out of 27 fake good cases, but at the same time would pick out 19 out of the 27 honest records.

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[21] Ibid., pp. 23-24.

[22] Ibid., pp. 1-25.

[23] H. G. Gough, "The F-K Dissimulation Index for the MMPI," Journal of Consulting Psychology, Vol. XIV (1950), pp. 407-413.

[24] C. N. Cofer, June Chance, and A. J. Judson, "A Study of Malingering on the MMPI," Journal of Psychology, XXVII (1949), 491-499.

Cofer[25] and others made a new "lie" scale from the items on the L and K score. The new key was made up of 34 items. Cofer graded the group of 27 malingerers' and 27 honest subjects' records, which had been the criterion for the item analysis, with the new 34 item lie scale. A cutting score of 20 and over was used to identify the persons attempting to make an overly favorable impression. Ninety-six percent of the honest records were identified.

Gough concluded, on the basis of several studies, that college students are generally known to give somewhat compulsively favorable self-portraits.[26]

Profile Analysis

> When looking at the average drawn or coded profile, it is best to attend to the several highest (and lowest) points rather than the absolute standing of any one scale. This is because of the complex mixture of abnormalities that is found in most hospitalized patients, and which the Inventory reflects.[27]

Aaronson and Walsh[28] concluded that "personality on the MMPI must be read in terms of the particular pattern and not by the height of any score taken by itself."

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[25] Ibid., pp. 496-497.

[26] Gough, op. cit., p. 407.

[27] Hathaway and McKinley, op. cit., p. 25.

[28] B. S. Aaronson and G. S. Welsh, "The MMPI as a Diagnostic Differentiator: A Reply to Rubin," Journal of Consulting Psychology, XIV (1950), 324-325.

Further information about the MMPI may readily be acquired by referring to the Manual for the Minnesota Multiphasic Personality Inventory and to the references listed therein.

Although none of the previous research was highly pertinent to this study, it was thought that it might be valuable to the reader to be acquainted with some of the related material.

CHAPTER III

PROCEDURE

Introduction

The survey of the literature has shown that there are differences in personality characteristics between persons of low and high social acceptance.

> Popularity is not the superficial thing often assumed to be, but rather tied up with the most basic traits of personality and character.....Although it is no doubt true that liking and disliking people is not due to individual traits, but is due to the impression which one total personality makes upon another total personality, it is still necessary to discover which kinds are most important for certain purposes.[1]

As was indicated in Chapter One, this investigation attempts to discover the value of the MMPI as an instrument for discriminating between socially desirable and socially undesirable persons. In order to attack this general problem a particular type of instance was investigated. Specifically the following questions were asked: Will the MMPI significantly differentiate personality differences between those rated by their fellow dormitory residents as desirable or as undesirable dormitory residents? Are there configurations of personality

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[1] M. E. Bonney, "Personality Traits of Socially Successful and Socially Unsuccessful Children," Journal of Educational Psychology, XXXIV, (1943), 471.

which differentiate between the two groups? Are there items in the MMPI which will differentiate between those rated as desirable and those rated as undesirable in one dormitory group and will also discriminate between those rated as desirable or undesirable in another dormitory group?

Subjects

The subjects used for the greater part of the study were from what shall be referred to as "X House" at the University of Oklahoma. There were ninety-six white male subjects, which included all residents of X House with the exception of foreign students. The subjects were almost equally distributed throughout the four wings which comprise the dormitory. Each wing had approximately the same ratio of freshmen, sophomores, juniors, seniors, and graduate students. Freshmen comprised about 32 percent of the group; sophomores, 32 percent; juniors, 17 percent; seniors, 16 percent; and graduate students about three percent. Each wing had nearly the same distribution of course majors. All of the students were independents or non-fraternity members. Each subject had lived in the dormitory at least three months.

The cross-validation was done in "Y House." The placement of residents in Y House was somewhat less satisfactory for purposes of research than were those in X House. There were fifty-six white male subjects, which included all of the residents except foreign students, a full blooded American Indian, and the members of one wing who later refused to cooperate.

The writer was counselor of X House, and, therefore, was able to obtain better cooperation in X House than in Y House. The number of residents in each wing was not approximately the same, though in other respects the distribution was similar to that of X House. Though in physical structure the two houses were much the same, it is probable that various factors entered into the selection of a dormitory by the student. X House was reputed to attract students interested in social and campus wide activities. Y House frequently had one of the highest grade averages on the campus and was reputed to be inactive in social and campus activities. In addition, there was some evidence of cliquishness in Y House. Nevertheless, it is likely that Y House resembled X House more than any other dormitory on the campus.

Rating Scales

Choice of Rating Scales

The partial rank order rating scales were used because of ease of administration, the greater probability of cooperation on the part of the subjects, and because such scales tend to differentiate rather clearly the extremes of the characteristics rated.

Description of Rating Scales

Two different partial rank order scales were utilized in the study. The only difference, other than in the instructions, was in the defining of the characteristics being rated.

The characteristics being rated were not defined in one scale, and in the other scale the characteristics being rated were defined. Hereafter, these scales will be referred to as the Defined Rating scale and the Undefined Rating scale.

The Undefined Rating Scale and Instructions

Your counselor is doing some research involving this dormitory. The aims of this study are to improve dormitory life and aid in the counseling of students.

Under no circumstances will any information regarding an identified individual be made available to anyone other than myself.

Please, do not talk to anyone about this until the project has been completed by all persons in the dormitory.

Your cooperation is very much appreciated and it is my hope that I may later show my appreciation.

First Project: Please list in order of preference the five "most desirable dormitory citizens" living in your wing.

1st choice_____
2nd choice_____
3rd choice_____
4th choice_____
5th choice_____

Now, please list in rank order the five "least desirable dormitory citizens" living in your wing.

1st choice_____
2nd choice_____
3rd choice_____
4th choice_____
5th choice_____

(Least desirable does not necessarily mean undesirable.)

The second rating scale, the Defined Rating scale, was administered approximately three weeks after the Undefined Rating scale.

The Defined Rating Scale and Instructions

I am doing some research which involves the residents of this dormitory. It is hoped that this research will be of aid in counseling college students and men in industry.

Only two projects are to be done. All residents will be asked to rate each other and to take a test. Your cooperation is appreciated and to show my appreciation, I am depositing $25.00 in the house fund.

Remember, under no circumstances will any information regarding an identified individual be made available to anyone other than myself.

Dick Schmidt

On the basis of their contribution to pleasantness of daily living; general pleasantness of association; cooperation with others; and consideration for others, please list in rank order, the five "most desirable dormitory residents" living in your wing.

1. _____
2. _____
3. _____
4. _____
5. _____

On the basis of their contribution to pleasantness of daily living; general pleasantness of association; cooperation with others; and consideration for others, please list in rank order, the five "least desirable dormitory residents" living in your wing. (Least desirable does not necessarily mean undesirable.)

1. _____
2. _____
3. _____
4. _____
5. _____

Be sure to list five people in each category.
When finished, please slide paper under counselor's door.

Administration of Rating Scales

Both rating scales were given to each subject in X House. Hereafter, all references will be to X House unless Y House is specifically indicated. The writer took the scales to the subjects in their rooms and asked the subjects to slide the completed rating scales under his door the same day. Those who failed to return the scales were revisited. A complete return was effected within two days.

Evaluation of Ratings

The ratings of all the subjects living in each wing were tabulated. When the tabulations were finished each subject was credited with the frequency of ratings given him by his wing members in each of the possible ten rankings. Weights were given to the rankings. Plus five points were given for the first choice as most desirable, plus four points were given for the second most desirable ranking, plus three points for the third most desirable ranking, plus two points for the fourth most desirable ranking, and plus one point for the fifth most desirable rankings. Minus values were given in the same manner for the least desirable rankings, minus five points being given the most undesirable rating. These weighted values were multiplied by the frequency of occurrence of such rankings for each subject. The negative values were subtracted from the positive values, and each subject was assigned a composite rating score.

Significance and the Reliability of the Ratings

The analysis of the significance of the ratings was approached in three ways.

The degree and the direction of the relationship between the number of desirable and the number of undesirable ratings received by each of the ninety-six subjects was determined by correlation. An Eta or curvilinear correlation was run for the number of desirable and undesirable ratings received by each subject on the Defined Rating scale.

The difference between means and the critical ratio was determined for the results on the Defined Rating scale. The ratings were weighted from one to ten. Ten points were given to the most desirable rating. One point less was given to each next lower ranking until the least desirable ranking was reached, one point being given to it. The subjects in the highest 25 percent and the lowest 25 percent of the composite ratings were grouped together, and the mean, the standard error of the means, the standard error of the difference between the means, and the critical ratio were calculated. The standard deviation, the standard error of the standard deviations, and the critical ratio of the standard deviations were also calculated.

The last approach was the correlation of the composite scores on the Defined Rating scale with the composite scores on the Undefined Rating scale.

Reasons for Order of Sequence for the Administration of Rating Scales and the MMPI

The rating scales were given prior to the MMPI as a matter of convenience. It was not at all certain that all of the members of a group of independent students would cooperate sufficiently to conduct such a study, and the first rating scale constituted a trial. Without significant and reliable ratings there would have been no purpose in continuing the study. Furthermore, the writer, at the beginning of the study, was planning only to measure the personality of those having extreme ratings, but upon seeing the cooperation offered, decided to administer the MMPI to all of the subjects in order to more readily treat the data statistically.

Minnesota Multiphasic Personality Inventory

The Choice of the Minnesota Multiphasic Personality Inventory[2]

The MMPI was selected as the instrument to measure personality because it is objective, has nine scales which were validated by their relationship to those actually mentally ill, contains a great many items, and appears to be the best instrument to detect deceit, incoherence, and positive or negative malingering. By the testing of these many personality trends it was hoped that personality configurations might differentiate

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[2] Information pertaining to the MMPI was made in some detail in Chapter II, pages 12 to 16.

the desirable from the undesirable dormitory resident. The fact that the MMPI has not been used in any highly related published study indicated the possible worthwhileness of the investigation.

Administration of the MMPI

The MMPI was administered to all residents of X House, except foreign students. Each subject was administered the MMPI in the privacy of his room and was requested not to discuss the MMPI or any of its questions with anyone. The subjects were again assured of complete confidence. Upon completion of the MMPI the subjects brought the answer sheets and other materials to the office of the author.

Checking the Validity of the MMPI Records

Since the study of personality differences between desirable and undesirable dormitory residents can be much more meaningful if there is some conception of the validity of the performance on the measuring instrument, an attempt was made, by various checks, to arrive at conclusions pertaining to the sincerity of the subjects' performance on the MMPI. After the MMPIs were graded a check was made to determine the number and which subjects had an F raw score of 17 and above, as a means of detecting those who were attempting to give an unfavorable profile on the MMPI. F-K scores were calculated as an aid to determine which subjects had attempted to falsify their responses in either a favorable or unfavorable manner. A plus

11 cutting score for F-K was used to isolate those who were attempting to give an unfavorable impression or trying to simulate a psychiatric disorder, and a minus 11 cutting score was used in an attempt to isolate those trying to indicate an unduly healthful adjustment. Lie (L) scores of seven and above were identified to detect subjects that might be striving to make an unduly favorable impression.[3]

A scale, devised by Cofer and others, to identify the favorably dissimulated records, consisting of 34 items, was used on all records indicating high K and L scores in an effort to identify those that attempted to make an overly favorable impression.[4] A cutting score of 20 and higher was used.

Analysis of the Data

The means of the various scales of the MMPI were calculated on the data derived from all of the subjects. The means, standard deviation, standard error of the difference, and the critical ratio were calculated for each scale of the MMPI to find differences that existed for those that rated in the upper 25 percent and lower 25 percent of the group on the Defined Rating scale.

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[3] Harrison G. Gough, "The F Minus K Dissimulation Index for the MMPI," Journal of Consulting Psychology, XIV (1950), 408-413.

[4] C. N. Cofer, June Chance, and A. J. Judson, "A Study of Malingering on MMPI," Journal of Psychology, XXVII (1949), 491-499.

Profile Analysis

Profile analysis was attempted by comparing the T-score means of the scales of the MMPI for the upper 25 and lower 25 percent of the subjects on the Defined Rating scale. The same approach was taken for the upper five and lower five percent of the subjects on the Defined Rating scale, the upper and lower five percent of the subjects on the Undefined Rating scale, and the upper 12.5 and the lower 12.5 percent of the subjects on the Undefined Rating scale. The various percentages were used in an attempt to find the greatest difference in personality patterns. The mean T-scores for each scale of the MMPI were plotted on a profile chart for each extreme being studied. The three highest MMPI scales, on the basis of mean T-scores, were ranked high to low. These three and the lowest of the MMPI scales were recorded for each extreme studied in order to make a comparison of the sequences of the rankings of the two groups. This was done in an attempt to get a configuration of the personality trends differentiating the two groups being studied.[5]

Unskilled, but instructed, judges attempted to differentiate the extremes in desirability by comparing the individual profiles to the personality trends or diagnostic patterns. Five judges were given 15 MMPI profiles of subjects, which

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[5] George M. Guthrie, "Six MMPI Diagnostic Patterns," Journal of Psychology, XXX (1950), 317-323.

included the upper five percent, the middle five percent, and the lower five percent of the subjects rated on the Defined Rating scale. By comparing the individual profile with the diagnostic patterns the judges placed the records into three groups--upper, lower, and middle.

This procedure was followed for the upper and lower five percent of the subjects on the Defined Rating scale, the Undefined Rating scale, and the upper and lower 12.5 percent of the subjects on the Undefined Rating scale. This procedure was not followed for the upper and lower 25 percent of the subjects on the Defined Rating scale because the diagnostic patterns were so similar.

Empirical Determination of Levels of Confidence for the Profile Analysis Judgments.--Levels of confidence were determined empirically. Five playing cards of three different suits were shuffled and then sorted into three piles. Each pile of cards had a designated suit attributed to it. The number of cards in the corresponding suit were counted and the total of the correct number in the three piles was recorded. This procedure was followed two hundred times. The same procedure was followed using twelve cards of three different suits. A similar procedure was followed to determine the chance occurrence of the various frequencies with which profiles in the extreme groups were placed in the incorrect extreme group.

Profile Analysis Attempts by Using Frequency of Specific Sequences

Another means of profile analysis was devised by the writer with the anticipation that it might indicate one or more different personality configurations differentiating the desirable from the undesirable dormitory residents. This was done by listing in rank order the scales of the MMPI in which the subject had the highest T-score, the second highest T-score, and so on in descending order to the lowest. Each subject's performance was recorded in order to determine the frequency with which a specific scale occurred in the particular position of the sequence. For example, it was determined how many times the K scale was found to be the peak scale, the frequency with which it was second from the peak, and so on. A table (V) was made consisting of 24 vertical columns and 12 horizontal columns. The 12 horizontal columns represented the 10 personality scales of the MMPI and the K and F scales. The ? and L scales were not used because of the very slight deviation from the mean. Half of the vertical columns were for tabulating results for the upper group and the other 12 vertical columns were for the lower group. The 12 vertical columns for each group represent the frequency with which its corresponding MMPI scale occurred in the rank order sequence from high to low.

A subjective analysis was made in an attempt to determine the practical value of a mathematical probability analysis.

Tetrachoric Correlation Coefficients

Seventy-eight tetrachoric correlations were attempted in order to determine the relationships between various extreme positions, based on the rating scale, and the performance on the various scales of the MMPI. Thirteen tetrachoric correlations were performed, using the mean T-score for each scale to make a two-fold distribution, and the upper half and the lower half of the rated scores to complete the four-fold distribution. Further correlations were run, using a T-score of 70, for the various scales and the upper half and lower half of the rated scores. Thirteen of the correlations were calculated by using a T-score of 70 for the various scales of the MMPI and the upper 75 percent and lower 25 percent of the rated scores, and 13 more correlations were made with a reversal of the percentages of the rated scores. The same procedure was followed for the upper 89.6 percent and the lower 10.4 percent of the rated scores, and for the upper 10.4 percent and the lower 89.6 percent of the rated scores. These various percentages and cutting scores were selected after inspection of the data because they appeared most likely to indicate higher relationships.

Chesire and others devised a simplified method to calculate tetrachoric correlation coefficients, and it was used in this study.[6] Computing diagrams were used which enabled the

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[6] Leone Chesire, Milton Saffer, and L. L. Thurston, Computing Diagrams for the Tetrachoric Correlation Coefficient, (University of Chicago, 1933).

writer to determine the tetrachoric correlations for a four-fold table by inspection.[7] In some cases the correlations were not made at all or were of questionable reliability because either, or both, of the two distributions were near the extremes of the diagram being inspected. The questionable correlations were so indicated in the findings.

Item Analysis of the MMPI

An item analysis of the MMPI was run to determine which questions discriminated between the extremes of desirability.

By using the answers on the MMPI answer sheets of the subjects in the upper 25 percent and lower 25 percent of the scale on the Defined Rating scales an item analysis was made. Of the 566 questions in the MMPI only those questions having a discrimination value between the groups, or t-value, of 2.2 were retained for use in the new crude scale. The new crude scale will be referred to as the Defined Crude scale. The discrimination values, or t-values, were determined by use of the nomograph devised by Lawshe and Baker.[8]

The same process was performed with the answer sheets of those subjects with the upper 15.7 percent and the lower 15.7

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[7] Ibid.

[8] C. H. Lawshe and P. C. Baker, "Three Aids in the Evaluation of the Significance of the Difference Between Percentage," Educational and Psychological Measurement, X, No. 2 (Summer, 1950), 263-270.

percent of the scores on the Undefined Rating scales. Only those questions which had a discrimination value, or t-value, of 2.06 were retained for the new crude scale. The answers to the questions were arranged in such a way that a negative relationship would exist between the scale and the ratings. Hereafter this new scale will be referred to as the Undefined Crude scale. The different percentages for the studies and the different t-values used as critical scores were selected because of the differences in the distributions of the ratings.

Correlations Between Ratings and the New Crude Scales

The answer sheets of the total population of subjects were then graded by the new Defined Crude scale and the results were correlated, by the product-moment method, with the scores on the Defined Rating scale.

The answer sheets of the total population of subjects were graded by the new Undefined Crude scale, and the results were correlated, by the product-moment method, with the scores of the Undefined Rating scale.

Cross-validation

The cross-validation proceedings were conducted to determine how well the items selected for the new crude scales would differentiate between desirable and undesirable dormitory residents of another house. Tests used in industry indicate that what may be a valid test at one plant is not necessarily valid at a similar plant, and therefore, the writer desired to

determine if the new crude scales, or if certain questions of the new crude scales, would be valid for another population.

Preparation for the Administration of the Cross-validation

It was necessary to confer with two of the house officers of Y House to get permission to conduct the study in that house. Furthermore, their cooperation and recommendations for cooperation were essential to success in the administration of the MMPI and the rating scales. It was necessary to discuss the type of study in order to get the cooperation of the two house officers, however, they promised to withhold this information from the other residents. Unfortunately, however, the writer was informed, after the completion of the study, that this confidence was not entirely warranted. At the recommendation of the house officers and without the nature of the study being stated, the members of Y House voted in a general house meeting that the writer be given permission to conduct research in their house.

Administration of the Rating Scales in Y House

The rating scales were given in a similar manner to that done in X House. However, due to the lack of time and the greater difficulty of finding the subjects in their rooms, both rating scales were administered at the same time.

Instructions and Rating Scales Given to Y House

At your last house meeting, it was approved that I conduct some research in your dormitory. Previous evidence indicates the worthwhileness of this further research. It is anticipated that the results of this research will be of aid in counseling college students.

Remember, under no circumstances will any information regarding an identified individual be made available to anyone other than my wife and myself.

Please do not talk to anyone about what you have done in this research until the project has been completed by this dormitory.

Only two projects are to be done. All residents, other than foreign students, will be asked to rate each person in their wing and will be asked to take a test. Your cooperation is appreciated and to show my appreciation, I am depositing $20.00 in your house fund.

Dick Schmidt

First project:

Please list in order of preference (rank order) the five "most desirable dormitory citizens" that are living in your wing.

1st choice_____
2nd choice_____
3rd choice_____
4th choice_____
5th choice_____

Now please list in rank order the five "least desirable dormitory citizens" that are living in your wing. LEAST DESIRABLE DOES NOT NECESSARILY MEAN UNDESIRABLE!

1st choice_____(least desirable)
2nd choice_____
3rd choice_____
4th choice_____
5th choice_____

On the basis of their contribution to pleasantness of daily living; general pleasantness of association; cooperation with others; and consideration for others, please list in rank order the five "most desirable dormitory residents" living in your wing.

1. _____
2. _____
3. _____
4. _____
5. _____

On the basis of their contribution to pleasantness of daily living; general pleasantness of association; cooperation with others; and consideration for others, please list in rank order the five "least desirable dormitory residents" living in your wing. (Least desirable does not necessarily mean undesirable.)

1. _____
2. _____
3. _____
4. _____
5. _____

Be sure to list five people in each category!

When finished, please return to myself, or place in the sealed container available in Jerry Miller's room. (Rm. 253)

Administration of the MMPI in Y House

The MMPI was administered in the same manner as in X House, with the exception that the subjects were to return the completed MMPI records to the writer or place them in a sealed container in Room 253 of Y House.

Analysis of Data of Y House

Composite scores were made for each of the rating scales for each subject, as had been done in X House. The MMPI answer sheets were graded by the Defined Crude scale and the results were correlated, by the product-moment method, with the composite scores on the Defined Rating scale. The MMPI answer sheets were graded by the Undefined Crude scale, and the results were correlated with the composite scores of the Undefined Rating scale. The validity check on the MMPI records was

conducted in the same manner as in X House, with the exception that Cofer's 34 item scale was not used.[9]

Item Analysis of the Crude Scales

An item analysis was performed on both of the new crude scales using the upper 25 percent and lower 25 percent of the appropriate rating scores as the outside criterion. The cutting score or t-score was determined by the distribution as was done with the crude scales. The five percent level of discrimination was chosen for both of the crude scales. The thirteen percent level was also isolated for the Defined Crude scale.

The resulting questions were combined into new scales. The new scales, made up of questions selected from the Defined Crude scale and based on the Defined Rating scales of Y House as outside criterion, will hereafter be referred to as the Five Percent Level Undefined scale. The other scales will be referred to as the Thirteen Percent Level Defined scale, and the Five Percent Level Undefined scale.

Pearsonian Correlations Between Ratings and the Newly Developed Scales

Pearsonian correlations were performed to find the relationship of the new scales resulting from the item analysis done with the MMPI results of the subjects of X House and cross-validated with the subjects of Y House.

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[9] Cofer, Chance, and Judson, op. cit., pp. 491-499.

The Five Percent Level Defined scale was correlated with the defined rating composite scores of Y House. The Thirteen Percent Level Defined scale was correlated with the defined rating composite scores of Y House. The new scales were correlated with the ratings of X House. The Five Percent Level Defined scale was correlated with the composite scores of the Defined Rating scale, as was the Five Percent Level Undefined scale correlated with the composite scores of the Undefined Rating scales used in X House. In addition, the combined scores of the Five Percent Level Defined scale and the Five Percent Level Undefined scale were correlated with the defined ratings of X House.

Questions Comprising the New Scales and Indication of the MMPI Scales to Which They Belong

The questions for the two new five percent level scales were checked by the scales of the MMPI to determine from which scales the questions were derived. This was done in order to determine if a trend or trends of personality were indicated by the proportion of questions belonging to any one scale.

CHAPTER IV

RESULTS

Ratings

Results on the Rating Scales

All of the rating scales, including both the Undefined and the Defined Rating scales, from X House were completed and returned to the writer within two days after the beginning of the administration of each of the scales. The composite rating scores of individuals on the Undefined Rating scale ranged from -75 to +61. The composite rating scores of individuals on the Defined Rating scale ranged from -77 to +54. A somewhat normal distribution existed for both scales, however, both curves had a slightly high center. The very extreme ratings on the Undefined Rating scale were fewer but more extreme than those of the Defined Rating scales. The results of the Defined Rating scale had a more normal and continuous distribution. Because of the greater number of extreme cases, and because the writer more readily understood what was being rated on the Defined Rating scale, the Defined Rating results were used as the outside criterion for most of the data.

Significance and the Reliability of the Ratings[1]

Using all ninety-six subjects the ratio of correlation (Eta) for the number of desirable ratings and the number of undesirable ratings received by individual subjects was -.544 and -.517. A correlation of .26 involving ninety-six subjects would be at the one percent level of significance. This correlation procedure was for the Defined Rating scale only.

Table I lists various statistical data on the ratings on the Defined Rating scale. The ratings were ranked and were weighted from one to ten, or from low to high. Only those subjects in the upper 25 percent and the lower 25 percent of ratings were compared.

The critical ratio of the difference between means was 21.027. A critical ratio of 2.58 would be significant at the one percent level. The critical ratio of the difference between standard deviations is 2.554, which is significant at the two percent level.

The Pearsonian Correlation of the composite scores on the Defined Rating scale with the composite scores on the Undefined Rating scale was +.864. A correlation of less than .267 would be significant at the one percent level.

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[1] Hereafter reference to ratings will pertain to the Defined Rating scale unless otherwise specified.

TABLE I

SOME STATISTICAL MEASUREMENTS OF THE UPPER TWENTY-FIVE AND LOWER TWENTY-FIVE PERCENT OF DESIRABILITY RATINGS

Statistical measurement	Upper 25%	Lower 25%	Difference
Mean rating	7.581	3.691	3.890
Standard deviation	2.104	2.436	.332
Standard error of the mean	.132	.132	.000
Standard error of the difference			.184
Critical ratio			21.027
Standard error of the standard deviation	.093	.095	.002
Standard error of the difference of the standard deviations			.130
Critical ratio of the standard deviations			2.554

Minnesota Multiphasic Personality Inventory

Checking the Validity of the MMPI Records

None of the raw scores on the F scale were as high as the cutting score of 17, and only five were above nine. Only one of the F-K raw scores was as high as plus four. The F-K cutting scores were plus 11 and minus 11. Thirty of the F-K raw scores were as extreme as minus 11 or lower. Only five of the Lie (L) raw scores were as high as seven or above, and none were beyond nine. On the 34 item lie scale, devised by Cofer,

none scored above 14, and the cutting score is normally 20.[2]

There was insufficient evidence that any one subject malingered in a positive or negative way. As a group they responded in a less questionable manner than other subjects in the validation studies using college students. Consequently, and since the number of subjects were limited, none of the records were discarded for analysis of the data.

Analysis of the Data

Listed in Table II are the T-score means, standard deviations, standard error of the difference, and the critical ratio for the various scales of the MMPI for the two compared groups--those with the upper 25 percent and those with the lower 25 percent of the composite scores on the Defined Rating scales.

The difference between the means, as measured by the critical ratio, indicates that there are no significant differences between the compared groups on any of the MMPI scales except two. The T-score mean on the F scale for the lower 25 percent of those rated on the Defined Rating scale was about five T-scores higher than the mean of the upper 25 percent. This difference is significant at the one percent level. The T-score mean on the K scale for the lower 25 percent of those rated on the Defined Rating scale was about 4.5 T-scores lower

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[2] Cofer, Chance, and Judson, op. cit., pp. 491-499.

that the mean of the upper 25 percent. This difference is significant at the five percent level of confidence.

TABLE II

DATA ON THE VARIOUS MMPI SCALES FOR THE TWO COMPARED GROUPS

MMPI scale	Upper 25% (24) Mean T-score	S.D.	Lower 25% (24) Mean T-score	S.D.	S.E. Diff.	Critical ratio
L	47.25	5.112	46.58	5.276	1.829	.911
F	50.46	4.882	55.21	7.466	1.806	2.630
K	57.10	7.916	52.60	7.461	2.266	1.9859
Hs	53.00	8.546	50.50	7.676	2.300	1.090
D	53.70	9.963	57.80	9.799	2.925	1.402
Hy	57.20	5.737	54.20	6.904	1.871	1.603
Pd	59.46	9.179	62.13	10.004	2.831	.943
Mf	59.50	9.087	62.00	9.432	3.070	.814
Pa	50.91	6.376	51.00	8.255	2.174	.038
Pt	58.92	9.274	60.50	9.832	2.818	.562
Sc	56.67	7.324	56.58	10.254	2.627	.0331
Ma	57.08	5.228	57.75	10.096	2.370	.281
Si	49.83	9.230	52.75	8.966	2.683	1.087

The difference between the means on the various MMPI scales was also calculated for the upper five and lower five percent rated on the Defined Rating scale, the upper and lower five percent rated on the Undefined Rating scale, and the upper and

lower 12.5 percent rated on the Undefined Rating scale. Even though the difference between means was as high as 16 T-scores the number of subjects involved were so few as to make the findings not statistically significant. The difference between the T-score means was less for the extremes with the larger percentage of subjects.

Profile Analysis

Table III lists the rank order of the means of the three highest scales, from high to low, and the lowest of all the MMPI scales, for the upper and lower extremes studied. These T-score means placed in rank order will hereafter be referred to as diagnostic profiles.

TABLE III

THE THREE HIGHEST MEANS OF MMPI SCALES IN RANK ORDER AND THE LOWEST SCALE FOR VARIOUS PERCENTAGES AND EXTREMES

Rating scale	Extreme	Percentage	Highest scale	2nd highest scale	3rd highest scale	Lowest scale
Defined	Lower	25	Pd	Mf	Pt	L
Defined	Higher	25	Pd	Pt	Mf	L
Defined	Lower	5	Pd	Mf	Pt	L
Defined	Higher	5	Mf	Ma	Hy	Si
Undefined	Lower	5	Pd	D	Mf	L
Undefined	Higher	5	Mf	Ma	Sc & Hy	D
Undefined	Lower	12.5	Pd	Mf	Ma	L
Undefined	Higher	12.5	Mf	Sc	K	D

Table IV indicates the results of the attempts of judges to classify individual profiles in the upper extreme, middle group, or the lower extreme of the distribution on the basis of the diagnostic profiles of extremes listed in Table III.

Only the three highest and the one lowest scales were used in the diagnostic profile, because it was thought by the writer that this would be less confusing to the unskilled judges than if fourteen scales were used.

Because of the similarity of the diagnostic profiles the five judges were not requested to differentiate between the upper and lower 25 percent of those rated on the Defined Rating scale.

By inspection of Table IV one may see that three of the five unskilled judges differentiated 10 or 11 of the 15 profiles correctly, when comparing the subjects in the upper, middle, and lower five percent on the Defined Rating scale. In other words, they correctly placed 10 or 11 of the 15 individuals' profiles in the proper category--the upper, the middle, or the lower group. A correct placement of ten is at the one percent level of confidence as determined empirically. The mean expectancy of correct placements was 4.88, as determined empirically. It should be that two judges did not confuse any of the profiles of the lower group with those of the upper group. As determined empirically this discrimination, for each of the two judges, is at the four percent level of confidence.

TABLE IV

RESULTS OF ATTEMPTED PROFILE ANALYSIS BY FIVE UNSKILLED JUDGES

Judge	Rating scale	Percentage of rating extremes	Number of profiles judged	Total correctly identified	Percent level of confidence	Confused upper & lower	Percent level of confidence
1	Defined	5	15	11	1	0	4
2	Defined	5	15	8	.....	1	.....
3	Defined	5	15	11	1	0	4
4	Defined	5	15	2	.....	5	.....
5	Defined	5	15	10	1	1	.....
1	Undefined	5	15	10	1	1	.....
2	Undefined	5	15	6	.....	3	.....
3	Undefined	5	15	9	5	0	4
4	Undefined	5	15	2	.....	6	.....
5	Undefined	5	15	6	.....	1	.....
1	Undefined	12.5	36	18	.....	4	.....
2	Undefined	12.5	36	16	.....	3	.....
3	Undefined	12.5	36	12	.....	3	.....
4	Undefined	12.5	36	14	.....	7	.....
5	Undefined	12.5	36	17	.....	4	.....

In the judging of profiles of the subjects in the upper, middle, and lower five percent on the Undefined Rating scale there was less success. One judge correctly placed ten, which is at the one percent level of confidence. Another judge correctly placed nine, which is at the five percent level of confidence. One of these judges did not confuse any profiles of the extreme groups. This discrimination is at the four percent level of confidence.

In the judging of the profiles of the subjects in the upper, middle, and lower 12.5 percent on the Defined Rating scale only one of the five judges correctly judged 18 profiles, the accuracy of which is at the five percent level of confidence.

Judge number four did far less well in his judgments than the others. This judge seemed, to the author, to become quite disturbed when presented with this problem. He became excited and perspired profusely while doing the work.

Because the difference between the T-score means of the extremes studied were not significant, the author did not deem further study of profile analysis warranted, for there was no assurance that the differences between the groups were reliable.

An analysis was made, however, to determine if the percentage of upper and lower records could be identified by comparing F and K T-scores, the difference between the means of which were significant when the upper and lower 25 percent were compared. Thirty-three percent of the subjects in the lower rated 25

percent had high F than K scores, and 25 percent of the subjects in the upper 25 percent rated had higher F than K raw scores. Fifty percent of the subjects rated in the lower 25 percent had higher K than F scores, and 67 percent of those rated in the upper 25 percent had higher K than F scores.

Profile Analysis Using the Frequency of Specific Sequences

Table V lists the frequency of occurrence that specific MMPI scales fell into a specific rank order position for the upper 12.5 percent and lower 12.5 percent of the subjects on the Undefined Rating scale. The differences between the frequencies for any one of the 12 scales for the compared groups appears to be insufficient for any individual prediction. Because the differences were not greater the mathematical probability calculations seemed unwarranted. Furthermore, because of the small discrimination between the groups, an attempt to isolate various personality patterns also seemed unwarranted.

TABLE V

FREQUENCY OF PEAK TO LOW SCORES ON THE VARIOUS MMPI SCALES

MMPI scales	1H[a]	1L[b]	2H	2L	3H	3L	4H	4L	5H	5L	6H
K	3.5[c]	1.0	1.5	0.0	1.0	0.0	1.0	2.0	1.5	0.0	0.5
Hs	0.0	0.0	1.0	0.5	2.5	0.5	0.5	0.0	0.0	1.0	1.0
D	0.5	1.0	1.5	0.0	0.3	2.3	0.8	2.3	0.8	0.8	1.5
Hy	1.5	0.0	4.0	0.8	0.5	2.0	1.0	2.6	2.0	0.3	1.0
Pd	2.0	4.0	1.5	3.3	0.0	0.3	0.0	1.3	1.5	0.0	2.0
Mf	3.0	3.5	1.0	2.5	2.0	1.0	2.0	0.0	2.0	2.0	1.0
Pa	0.0	0.0	0.0	0.0	0.3	0.0	0.8	0.0	2.3	0.5	1.5
Pt	1.0	0.0	0.0	1.3	0.8	3.3	0.8	1.3	0.3	1.0	0.5
Sc	0.0	1.0	1.0	1.0	0.0	0.0	3.0	1.0	0.0	4.0	0.5
Ma	1.0	2.0	0.5	2.0	1.5	0.0	1.0	1.0	1.5	1.0	2.5
Si	0.0	0.0	0.0	0.0	1.3	1.0	0.3	0.0	0.3	0.0	0.0
F	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.0

[a] H indicates high on the rating scale.
[b] L indicates low, or poor, on the rating scale.
[c] Fractions are indicated when one or more scales were equally high.

TABLE V--Continued

6L	7H	7L	8H	8L	9H	9L	10H	10L	11H	11L	12H	12L
1.5	0.0	1.5	0.0	1.0	0.0	0.0	0.0	1.0	3.5	2.0	0.5	1.0
1.0	0.0	1.0	2.0	2.5	1.0	1.8	1.0	0.3	0.0	3.3	3.0	0.0
0.5	1.0	1.0	0.5	0.0	2.0	0.3	0.0	0.3	4.0	2.3	0.0	1.0
1.5	0.0	0.5	1.0	1.0	0.0	0.5	1.0	1.5	0.0	0.0	0.0	0.0
0.0	0.5	1.0	3.0	0.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0	1.0
0.0	1.0	0.3	0.0	1.8	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
4.0	2.5	0.5	0.5	0.0	0.0	1.0	1.0	2.0	1.5	0.0	1.5	4.0
1.0	1.5	1.0	1.0	0.5	2.0	1.5	0.0	1.0	0.0	0.0	0.0	0.0
0.0	0.5	0.8	2.5	2.8	2.5	1.3	2.0	1.0	0.0	0.0	0.0	0.0
0.0	1.0	1.3	0.0	0.3	0.0	1.3	2.0	1.0	0.0	0.0	1.0	2.0
0.0	0.0	0.0	0.5	0.0	1.5	2.8	2.0	1.8	0.0	0.3	6.0	3.0
2.5	4.0	3.0	1.5	1.5	1.5	0.0	3.0	2.0	3.0	1.3	0.0	0.0

Tetrachoric Correlation Coefficients

Table VI lists the estimated tetrachoric correlations for the composite defined ratings and the various scales of the MMPI. None of the correlations are significant. The highest correlation is .35, and to be significant at the five percent level would have to be .404.

Table VII also lists the tetrachoric correlation coefficients, but different cutting scores and percentages are used. Although several of the correlations are above 50, and one as high as 63, each of the higher correlations can not be counted on as highly reliable, for these estimates were made near the extremes, or tail, of the computing diagrams.

TABLE VI

ESTIMATED TETRACHORIC CORRELATION COEFFICIENTS FOR THE COMPOSITE SCORES ON DEFINED RATINGS AND THE T-SCORES ON THE VARIOUS SCALES OF THE MMPI

MMPI scale	Mean T-score cutting point	Upper half of ratings vs. lower half of ratings	T-score cutting point	Upper half of ratings vs. lower half of ratings
L	46.49	≠.13	70	.00
F	52.72	-.20	70	.00
K	55.76	≠.12	70	?*
Hs	52.47	≠.27	70	?*
D	54.25	-.08	70	-.20
Hy	55.18	≠.35	70	?*
Pd	59.41	-.16	70	≠.06
Mf	59.66	≠.10	70	-.04
Pa	51.90	≠.10	70	?*
Pt	58.80	≠.10	70	≠.09
Sc	57.90	≠.15	70	≠.25
Ma	57.84	≠.19	70	-.04
Si	51.39	≠.06	70	?*

* Indicates numbers so extreme on the diagram as to warrant inadvisability of making an estimate by the inspection method.

TABLE VII

TETRACHORIC CORRELATION COEFFICIENTS FOR THE COMPOSITE SCORES ON THE DEFINED RATING SCALE AND THE T-SCORES ON THE VARIOUS SCALES OF THE MMPI

MMPI vector	T-score cutting point	Upper 75% vs. lower 25%	Lower 75% vs. upper 25%	Upper 89.6% vs. lower 10.4%	Lower 89.6% vs. upper 10.4%
L[a]	70	≠.50[b]	.00	.00	.00
F[a]	70	≠.02[b]	-.50[b]	-.35[b]	-.50[b]
K	70	-.17[b]	≠.10	....[c]	....[c]
Hs	70	≠.50[b]	≠.10	....[c]	....[c]
D	70	≠.37	.00	≠.29	≠.04
Hy	70	....[c]	≠.60[b]	....[c]	....[c]
Pd	70	≠.21	-.08	≠.14	....[c]
Mf	70	≠.08	-.22	≠.32	-.10
Pa	70	....[c]	-.50[b]	....[c]	....[c]
Pt	70	≠.03	-.25	-.15	≠.08
Sc	70	≠.16	-.39	-.10	-.30
Ma	70	.00	-.63[b]	-.10	-.30
Si	70	≠.27	.00	....[c]	....[c]

[a] A T-score of 70 is not two S.D. above the mean for L and F. Recent findings indicate a higher score should be used.

[b] These correlations were near the point of inability to estimate r because the estimate was made near the extremes of the computing diagrams.

[c] These numbers were so extreme on the diagram as to warrant the inadvisability of making an estimate by the inspection method.

Item Analysis of the MMPI

By taking an item analysis of the MMPI records of those subjects in the upper and lower 25 percent on the Defined Rating scale, 62 of the 566 questions of the MMPI were found to have a discrimination value, or t-value, of 2.2 or higher. Less than 16 questions would have such a discrimination value by pure chance.

Another item analysis was run by using the MMPI records of those subjects in the upper and the lower 15.7 percent on the Undefined Rating scale. Fifty-nine questions were found to have a discrimination, or t-value, of 2.06. Only 22.3 questions would have such a discrimination value by pure chance.

Items on the Defined Crude scale.--The following 62 items were isolated by the item analysis and constitute the Defined Crude scale. The answers indicated are those given by the undesirable group.

Ans.	Question
No	I like mechanics magazines.
Yes	I think I would like the work of a librarian.
Yes	At times I have fits of laughing and crying that I cannot control.
No	I am bothered by acid stomach several times a week.
Yes	I find it hard to keep my mind on a task or job.
Yes	I have had very peculiar and strange experiences.
No	My soul sometimes leaves my body.
Yes	A minister can cure disease by praying and putting his hand on your head.
No	I am liked by most people who know me.
No	I have had no difficulty in starting or holding my bowel movement.
Yes	I am very strongly attracted by members of my own sex.
Yes	Any man who is able and willing to work hard has a good chance of succeeding.

Yes It takes a lot of argument to convince most people of the truth.
No I go to church almost every week.
Yes I have little or no trouble with my muscles twitching or jumping.
Yes Someone has it in for me.
Yes I believe I am being plotted against.
Yes I like dramatics.
Yes Sometimes I feel as if I must injure either myself or someone else.
Yes I have the wanderlust and am never happy unless I am roaming or traveling about.
Yes The top of my head sometimes feels tender.
No I do not tire quickly.
Yes What others think of me does not bother me.
No I do not have a great fear of snakes.
Yes I feel weak all over much of the time.
Yes I do not like everyone I know.
Yes If I were a reporter I would very much like to report news of the theater.
No I enjoy many different kinds of play and recreation.
Yes It does not bother me particularly to see animals suffer.
Yes My parents have often objected to the kind of people I went around with.
Yes I have been told that I walk during sleep.
Yes No one cares much what happens to you.
Yes Sometimes at elections I vote for men about whom I know very little.
Yes I was a slow learner in school.
No I am entirely self-confident.
No I enjoy children.
Yes Most people make friends because friends are likely to be useful to them.
Yes Once in a while I feel hate toward members of my family whom I usually love.
Yes During one period when I was a youngster I engaged in petty theivery.
Yes I think nearly anyone would tell a lie to keep out of trouble.
Yes Most people inwardly dislike putting themselves out to help other people.
Yes I have had very peculiar and strange experiences.
Yes At times I have fits of laughing and crying that I cannot control.
Yes I often feel as if things were not real.
No I hear strange things when I am alone.
Yes People say insulting and vulgar things about me.
Yes I feel uneasy indoors.
Yes When I am feeling very happy and active, someone who is blue or low will spoil it all.

Yes At parties I am more likely to sit by myself or with just one other person than to join in with the crowd.
Yes I played hooky from school quite often as a youngster.
No I am embarrassed by dirty stories.
No I do not mind meeting strangers.
No I must admit that I have at times been worried beyond reason over something that really did not matter.
Yes I have a daydream life about which I do not tell other people.
Yes I cannot do anything well.
No I can stand as much pain as others can.
Yes My mouth feels dry almost all of the time.
Yes My skin seems to be unusually sensitive to touch.
Yes The one to whom I was most attached and whom I most admired was a woman. (Mother, sister, aunt, or other woman.
Yes I like movie love scenes.

Correlations of Ratings With the New Crude Scales

The Pearsonian correlation coefficient of the composite scores on the Defined Rating scale with the new Defined Crude scale was -.52. A correlation coefficient of .26 would be significant at the one percent level.

Cross-validation

Ratings for the Cross-validation

The composite rating scores of Y House did not reach the extremes that occurred in the ratings of X House. The range in Y House for the Defined Rating scale was a -54 to a +57. The range for the Undefined ratings was -49 to a +52. Possibly this was partly due to the fewer number of raters involved, but it is also possible that the probable greater number of social cliques in Y House had such an effect.

Checks on the Validity of the MMPI Records of Y House

Of the 56 MMPI records of Y House none of the raw scores on the F scale were as high as 17 and only four of the F scores were above nine. The cutting scores for F-K was a raw score of plus 11 and minus 11. Only one of the F-K scores was positive and that was a plus four. Thirty-seven of the F-K scores were minus 11 or more extreme. Only five of the L raw scores were seven or higher.

The evidence indicates that Y House members endeavored to make a more unduly favorable impression than did the members of X House. Sixty-six percent of Y House members had an F-K raw score of minus 11 or greater, and only 31 percent of X House had such extreme scores. Although Y House had only 58 percent as many subjects as X House both houses had five subjects that scored an L raw score of seven or higher.

None of the records were discarded for item analysis, however, because of the questionable validity of F-K in selecting positive malingerers, and because of the limited number of subjects.

Correlations Between the Crude Scales and the Y House Ratings

The product-moment correlation coefficient of the composite scores on the Defined Rating scale in Y House with the new Defined Crude scale was -.208. To be significant at the one percent level the correlation coefficient would need to be about -.35. The product-moment correlation coefficient of the

composite scores on the Undefined Rating scale with the new Undefined Crude scale was -.17. The finding is clearly insignificant, for a correlation of about .26 would be necessary to be significant at the five percent level.

Item Analysis of the New Crude Scales

The item analysis of the new crude scales, by using the upper and lower 25 percent of the appropriate ratings of Y House as the outside criterion, had the following results: Of the 62 questions on the Defined Crude scale six were found that discriminated at the five percent level. By pure chance only three questions would discriminate at the five percent level. Four of the six questions discriminated at the one percent level of confidence. There were 11 questions on the Defined Crude scale that discriminated between the two groups of Y House at the 13 percent level. Eight questions would discriminate at the 13 percent level by pure chance.

Of the 59 questions in the Undefined Crude scale six questions discriminated at the five percent level. Only three of the 59 questions would discriminate at the five percent level by pure chance.

The combined six questions resulting from the Defined Crude scale, from data from Y House, will hereafter be referred to as the Five Percent Level Defined scale. The 11 question scale will be referred to as the Thirteen Percent Level Defined scale. The combined six questions, resulting from item

analysis of the Undefined Crude scale, will hereafter be referred to as the Five Percent Level Undefined scale.

Pearsonian Correlations Between Ratings and the Newly Developed Scales

The MMPI records of the subjects in Y House were graded by the new scales and the results were correlated with the appropriate rating scores. Table VIII lists the correlation coefficients for both X House and Y House.

TABLE VIII

PEARSONIAN CORRELATION COEFFICIENTS FOR BOTH HOUSES

Five percent level scales	Thirteen percent level scale	Rating scale	House	Pearsonian correlation	Level of confidence
Defined		Defined	Y	-.412	1
	Defined	Defined	Y	-.400	1
Undefined		Undefined	Y	-.464	1
Undefined		Undefined	X	-.493	1
Defined		Defined	X	-.461	1
Defined plus Undefined		Defined	X	-.477	1

The composite scores of the Defined Rating scale of Y House were correlated with the Five Percent Level Defined scale resulting in a correlation of -.412. The correlation was more

than four times the probable error of .075, and is clearly significant at the one percent level.

The composite scores of the Defined Rating scale were correlated with the Thirteen Percent Level Defined scale resulting in a correlation of -.400. The probable error was .09, and the correlation is significant at the one percent level of confidence.

The composite scores of the Undefined Rating scale were correlated with the Five Percent Undefined scale resulting in a correlation of -.464. The probable error was .071, and the correlation is significant at the one percent level of confidence.

Correlations were calculated for the newly devised scales and the scores on the rating scales of X House. The composite scores of the Undefined Rating scale and the Five Percent Level Undefined scale had a Pearsonian correlation of -.493, which is significant at the one percent level of confidence. The composite scores of the Defined Rating scale and the sum of both scales, the Five Percent Level Undefined scale and the Five Percent Level Defined scale, had a Pearsonian correlation of -.477, which is significant at the one percent level of confidence. The composite scores of the Defined Rating scale and the results of the Five Percent Level Defined scale had a Pearsonian correlation of -.461, which is significant at the one percent level.

Questions Comprising the New Scales and Indication of the MMPI Scales to Which They Belong

TABLE IX

ITEMS ON THE FIVE PERCENT LEVEL SCALES AND THE MMPI SCALE TO WHICH THEY BELONG

5% level scale	Answer	MMPI scale	Item
Defined	True	L	I do not like everyone I know.
Defined	True	Mf	If I were a reporter I would like very much to report news of the theater.
Defined	True	Hs	The top of my head sometimes feels tender.
Defined	True	Si	I think nearly anyone would tell a lie to keep out of trouble.
Defined	False	...	I must admit that I have at times been worried beyond reason over something that really did not matter.
Defined	False	...	I can stand as much pain as others can.
Undefined	True	Pd	My parents have often objected to the kind of people I went around with.
Undefined	True*	Mf	Most people make friends because friends are likely to be useful to them.
Undefined	True	Si	I feel like giving up quickly when things go wrong.
Undefined	True	...	I strongly defend my own opinions as a rule.
Undefined	True	...	I played hooky from school quite often as a youngster.
Undefined	False	...	I dislike to take a bath.

* False is the proper answer for the Mf scale.

Table IX lists the items on each of the Five Percent Level scales and the MMPI scale which includes them. None of the

items in the Five Percent Level Defined scale occurred in the Five Percent Level Undefined scale. Of the six items on the Five Percent Level Undefined scale only two of the items belong to scales of the MMPI. One additional item had the opposite answer of that which is used for the Mf scale. The other three items belonged in the category of items which were included in the MMPI by its authors with the anticipation that they would be of value with further validation.

Four of the items on the Five Percent Defined scale belonged to specific scales of the MMPI.

Two of the seven items belonging to specific MMPI scales, belonged to the Mf scale, two to the Si scale, one to the Pd scale, one to the L scale, and one to the Hs scale. With this distribution no strong trend has been indicated by the frequency with which items occurred in any of the MMPI scales.

The Means and Standard Deviations of the Results on the New Scales

Table X indicates the means and standard deviations of the results on the new Five Percent Level tests. This table was set up to allow one to estimate the relative position of any one score in relation to the other scores.

TABLE X

MEANS AND STANDARD DEVIATIONS FOR
THE FIVE PERCENT LEVEL SCALES

Scale	House	Mean	Standard deviation
Five Percent Level Defined scale	Y	2.089	1.022
Five Percent Level Defined scale	X	1.857	1.517
Five Percent Level Undefined scale	Y	2.089	.912
Five Percent Level Undefined scale	X	2.232	.914

CHAPTER V

SUMMARY AND CONCLUSIONS

General Summary of the Investigation

The primary purpose of this investigation was to discover possible values of the MMPI to administrators or counselors in differentiating the socially desirable from the socially undesirable members of a group in a specific situation.

Social desirability was determined by rank order ratings performed by fellow dormitory residents. The MMPI was administered to each of the ninety-six subjects. The difference between the means on the various MMPI scales, profile analysis, correlations, and item analysis were used in the attempt to differentiate the socially desirable from the socially undesirable by use of the MMPI. The same two forms of rating scales and the MMPI were administered to subjects of another group, Y House, for purposes of cross-validating the item analysis results.

Summary of Results

1. The relationship between the number of desirable ratings and the number of undesirable ratings received by individual subjects was substantial and was significant at the one percent level of confidence.

2. The difference between the mean ratings of the upper and lower 25 percent of the scores on the Defined Rating scale was clearly highly significant.
3. The relationship between the composite scores on the Defined Rating scale with the composite scores on the Undefined Rating scale was fairly high and significant.
4. Several of the MMPI profiles from X House were of questionable validity, but the percentage was not unexpectedly high for a college group.
5. The differences between the MMPI T-score means of the upper and lower fourth of the subjects on the Defined Rating scale were significantly different for the F and K scale of the MMPI, but were not significantly different for any of the other scales of the MMPI, or for any of the other extreme percentages studied.
6. Three out of five unskilled judges placed the MMPI profiles into the upper, middle, or lower five percent groups based on the Defined Rating scale with accuracy at the one percent level of confidence. In the placement of 15 profiles into three groups based on the Undefined Rating scale, only one of five judges performed at the one percent level of confidence, and one judge performed at the five percent level of confidence. In the placement of 36 MMPI profiles into three groups based on the Undefined Rating scale one

judge performed at the five percent level of confidence. All other judges' performances were not significant.

7. All of the tetrachoric correlation coefficients between various extremes of ratings and the results on specific MMPI scales failed to be significant or reliable.

8. The item analysis performed on the MMPI records selected on the basis of the Defined Rating scale results isolated about four times as many discriminating questions as would be expected by pure chance.

9. The item analysis performed on the MMPI records selected on the basis of the Undefined Rating scale results isolated about three times as many discriminating questions as would be expected by pure chance.

10. The correlation coefficient of the composite scores on the Defined Rating scale with the new Defined Crude scale was substantial and significant.

11. The correlation coefficient of the composite scores on the Undefined Rating scale with the new Undefined Crude scale was substantial and significant.

12. The correlation coefficients of the scores on the corresponding rating scales and the newly devised crude scales were negligible.

13. Over twice the percentage of subjects in Y House, as compared to X House, had MMPI profiles of questionable validity.

14. The item analysis on the Undefined Crude scale, based on records derived from Y House, isolated about twice as many items as would occur by chance.
15. The item analysis of the Defined Crude scale, based on records derived from Y House, isolated about twice as many items as would occur by chance.
16. The correlation coefficients for each of the new six item scales with the corresponding rating scale results of the appropriate house were all substantial and were significant at the one percent level of confidence.
17. The twelve items on the two new six item scales did not cluster in any one or any few of the MMPI scales.

General Conclusions and Interpretations

The partial rank order ratings proved to be highly reliable and discriminatory in identifying the extremes of desirability as dormitory residents or dormitory citizens, and therefore, it is probable that this method may be used advantageously in similar studies. The Undefined Rating scale had a slightly, but consistently higher relationship with the MMPI results than did the Defined Rating scale. These differences might have been due to the different percentages used for the contrasting extremes in the item analysis procedure, or, it is also possible that by defining the characteristic to be rated less reliability and validity resulted.

Profile analysis of the MMPI records may be utilized profitably in differentiating the extremes of social desirability as determined by ratings of associates. However, in this study, the differences between the T-score means of the extreme groups were not sufficiently statistically significant to indicate high probability that these differences in characteristics would exist for other populations.

The results of the crude scales derived from item analyses had a substantial relationship with social desirability as measured through ratings by associates but had only negligible relationship when applied to the cross-validating group. It seems probable that item analysis might be used advantageously in similar studies, particularly if the population studied were larger and more homogeneous. Only about one-tenth of the items of the crude scales discriminated significantly when used on the cross-validating group. This lack of reliability indicates the probable lack of value of the crude scales in discriminating between extremes of desirability in college dormitory populations. Further questionableness is indicated as to the value of the six item scales if used on another group. Various possibilities as to the cause of this lack of consistency in the discriminatory value of items exist. It is probable that some of the questions discriminated only by chance. It is possible that the greater attempt by the Y House subjects to make an overly favorable impression lessened the discriminatory value of the items. Differences in personality of the members of the two groups may

exist because of the selective factors involved in their choice of a place of residence while at college, or to chance distribution. Information as to the purpose of the study may have been acquired by many of the subjects of Y House and thus influenced the results. Because of the probable greater number of social cliques and less sincere cooperation in Y-House, it is also possible that the performance on the MMPI, as well as the ratings on which desirability was based, was less valid. Slight changes in the administration of the rating scales may have affected their validity. Or it may be that no single test can reflect, with any substantial or high degree of validity and reliability, the great many different solutions with which persons with varied capacities face different problems in their attempt for a satisfactory social adjustment.

The other methods of analysis proved to be unproductive in discriminating between the extremes of desirability as dormitory residents or dormitory citizens and, therefore, are not recommended for use in similar studies unless much larger populations are used.

Although the MMPI did differentiate between the socially desirable and the socially undesirable to a marked degree it is evident that its value for the prediction of the degree of social desirability in a specific situation for any one individual is small. The differentiation was sufficient, however, to indicate predictive value on a statistical basis. But, because of the failure of the item analysis results to be highly

valid for the cross-validating group, further study and validation on other groups must occur before the MMPI results may be used satisfactorily for statistical prediction of social desirability.

Implications for Administrators and Counselors

As indicated in the immediately preceeding section, the MMPI did differentiate between the socially desirable and undesirable of X House to a marked degree. But because of the failure of most of the items of the crude scales to discriminate in a similar manner the degree of desirability of another population, the practical value of the scales to counselors and administrators is negligible. It is quite evident that the crude scales and the diagnostic scales for profile analysis, if used for statistical prediction of desirability for subjects other than those of X House, would probably be misleading. The six item scales had a marked relationship with the corresponding ratings for both populations studied, yet because of the great decline in items, they would be of questionable value for statistical prediction for other populations than those studied unless validated further.

Suggestions for Future Studies

Because of the great importance to administrators to be able to differentiate between the extremes of social desirability, and because the MMPI did discriminate markedly between the socially desirable and undesirable, further research appears warranted.

Because of the questionable validity of the performance of the subjects in Y House on both the rating scales and the MMPI, it is recommended that another cross-validation study using a greater number of subjects be made. The cross-validation would be most valuable if profile analysis, the new crude scales, and item analysis were utilized.

The marked relationship between the MMPI results and the ratings indicate possible value to personnel men in the selection and placement of employees for positions. Even if the relationship is not sufficiently high for individual prediction it may be high enough to have practical value in statistical prediction. Such statistical prediction would most likely be of value in plants that employ great numbers of men for similar jobs. If research similar to the study herein reported were performed using such employees and validated on incoming employees, the value of the MMPI in selection of socially desirable employees for a specific job could be determined.

Several firms use the MMPI in employee selection. It seems possible that practical value would be derived from finding the statistical value of the MMPI in predicting the various characteristics rated by foremen and supervisors. On the basis of this study it is recommended that new scales be made up by item analysis. If any marked relationships occur, further studies by profile analysis might prove profitable. By combining the predictive value of the newly devised scale or scales with the predictive values of profile analysis, the statistical

predictive value might prove to be rather high. A validation study on the incoming employees is also suggested.

A study comparing the extremes of accident-proneness with the performance on the MMPI might result in practical benefits. Because of the success of item analysis and profile analysis procedures in this study these approaches are recommended.

It seems probable that such studies should be limited to specific situations in which the subjects are, so far as possible, of similar employment, age, skills, capacities, socio-economic background, and of the same sex.

Finally, it is recommended that in future studies the MMPI be administered prior to the rating scales in order to minimize influences on the subject taking the MMPI.

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