

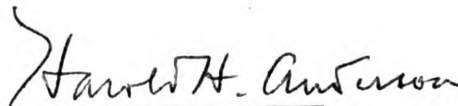


This is to certify that the  
thesis entitled  
**Personality Patterns in Socially Selected and  
Socially Rejected Male College Students.**

presented by  
**Mr. Cyril Ralph Mill**

has been accepted towards fulfillment  
of the requirements for

Ph.D. degree in Psychology



Major professor

Date May 28, 1952

11.

PERSONALITY PATTERNS OF SOCIALLY SELECTED  
AND SOCIALLY REJECTED MALE COLLEGE STUDENTS

By

CYRIL RALPH MILL

A THESIS

Submitted to the School of Graduate Studies of Michigan  
State College of Agriculture and Applied Science  
in partial fulfillment of the requirements  
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The following table shows the results of the experiment. The first column shows the number of trials, the second column shows the number of correct responses, and the third column shows the percentage of correct responses.

Number of trials	Number of correct responses	Percentage of correct responses
10	8	80%
20	15	75%
30	22	73%
40	28	70%
50	35	70%

The results of the experiment show that the percentage of correct responses increases as the number of trials increases. This suggests that the subject is learning the task and improving their performance over time. The percentage of correct responses reaches a plateau of approximately 70% after 40 trials.

PERSONALITY PATTERNS OF SOCIALLY ACCEPTED  
AND SOCIALLY REJECTED MALE COLLEGE STUDENTS

By

Cyril Ralph Mill

AN ABSTRACT

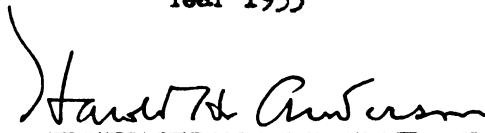
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Abstract of

PERSONALITY PATTERNS OF SOCIALLY ACCEPTED  
AND SOCIALLY REJECTED MALE COLLEGE STUDENTS

By

Cyril Ralph Mill

The problem. This study was designed to permit a comparison of the personality patterns of socially accepted and socially rejected individuals. The hypotheses to be tested were: 1) that social rejects would be more poorly adjusted; 2) that more seriously neurotic or psychotic manifestations would appear more frequently in the reject group; 3) that rejects would exhibit more anxiety and their mechanisms of defense would be less socially acceptable; 4) that the rejects would be less able to establish favorable interpersonal relationships and would exhibit greater hostility toward their environment; 5) that the rejects would be more inconsistent in their concept of self; 6) that the rejects would display more rigidity and concreteness of thinking.

Methodology. The population was drawn from the residents of a college men's dormitory and consisted of the 21 men shown by a sociometric study to be the most unpopular in the group. They were compared with the 21 men who were found to be the most popular. The groups did not differ in academic potentiality as determined by the ACE test, but the rejects were making lower grades, were younger, and less advanced in school.

The techniques used in the investigation consisted of the Minnesota Multiphasic Personality Inventory, the Rorschach, the Thematic Appercep-



Cyril Ralph Mill

tion Test, a Self Rating Scale to determine consistency in the self concept, and the Hokeach Map Technique to measure rigidity and concreteness of thinking.

Results. Both groups were found to contain members showing signs of maladjustment, but the rejects as a group were more disturbed. The rejects tended toward distorted interpretations of their environment and exhibited a test pattern similar to psychopathic deviation. Anxiety was greater among the rejects, and their mechanisms of defense tended to be offensive in the eyes of their peers. They tended toward feelings of inferiority and inadequacy, dissatisfaction with their present situation, and generalized hostility toward their environment. Aggression in the rejects tended frequently to be displaced from the actual source of their frustrations.

The selects tended to be more guarded and evasive in their test responses. They indicated that they could assume greater responsibility and take the ascendent role in face-to-face situations. They showed an ability to "sublimate" their sexual needs and interests. Their methods of handling their anxiety either did not interfere with their interpersonal relationships, or were actually conducive to improving their relations with others. They were more direct in the expression of their aggression, and their behavior was more predictable to others with the result that they tended to make others feel more secure in their presence.

The rejects tended to be more inconsistent in their self concept, but there was no difference between groups in rigidity or concreteness of thinking as measured by the map technique.

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## CHAPTER I

### THE PROBLEM AND RELATED STUDIES

Statement of the problem. The aim of this investigation was to study the personalities of popular and unpopular individuals, or the characteristics of persons who were able to make friends and those who were largely rejected by others. In the setting of the large college or university, the problem presented by the student who is largely rejected by his peers is particularly important since the social adjustment of the individual is often regarded as one of the educational goals. Counseling and guidance programs which function either as independent units or as part of the individual housing units will be assisted in meeting this goal as more is learned regarding factors which are associated with social acceptance and rejection.

Most attempts to study the personality characteristics of popular and unpopular individuals have been conducted with questionnaire or rating scale methods. There is a need for research in this area employing more intensive techniques, if other than superficial aspects of personality are to be detected. The present study is an attempt to meet this need, in part, by the inclusion of projective methods, along with other techniques of personality evaluation.

The specific problem of this investigation was to make a personality study of a group of male college students who had been shown, on the basis of a sociometric survey, to be the most popular individuals in a college men's dormitory, and to compare them with the group

of men who had been found to be the most unpopular. The popular group will hereafter be termed the "selects," and the unpopular group will be termed the "rejects," since they were chosen for the study in accordance with the degree to which they had been selected or rejected as friends by the residents of the dormitory. The study was limited to an evaluation of the personality patterns present at the time of the investigation, without making an extensive inquiry into the origins or causes of selection and rejection.

The hypotheses investigated were that the rejects, as compared with the selects, would:

1. Demonstrate a poorer level of adjustment.
2. Exhibit more neurotic or psychotic manifestations.
3. Exhibit more anxiety and their methods of defense would be less acceptable to others.
4. Indicate poorer interpersonal relationships, and show greater hostility toward their environment.
5. Be less consistent in their self concept.
6. Demonstrate more rigidity and concreteness in their thinking.

In addition to these major areas, further comparisons were made of the personality variables measured by the following techniques used in the investigation: 1) the scales of the Minnesota Multiphasic Personality Inventory; 2) the individual scoring categories of the Rorschach; and 3) a thematic analysis of responses to the Thematic Apperception Test. A discussion of these techniques and the rationale behind their use will be found in Chapter II.



Review of the literature. Since the appearance of Moreno's Who Shall Survive? (36)<sup>1</sup> in 1934, the sociometric approach to the study of interpersonal relations has been applied to a wide variety of problems. Investigations of social adjustment have usually been concerned with identifying those individuals in a group who are most popular or most unpopular and then applying other techniques to discover how they achieved this status, or what factors were associated with the holding of this status.

The study by Thomas (50) in 1936 was one of the earliest attempts to learn the qualities which men admired the most in their friends, and those which caused men to dislike others. Thomas asked his subjects to list those qualities with a particular person in mind. He found that the first 30 qualities liked in males by other males, in order of frequency, were: intelligent, cheerful, friendly, common interests, congenial, helpful, loyal, sense of humor, generous, good sport, honesty, kind, considerate, sincere, idealistic, industrious, understanding, appearance, reliable, ambitious, interesting, athletic, modest, entertaining, trustworthy, mannerly, carefree, reserved, fair, witty.

The first 30 qualities disliked by males in other males, in order of frequency, were: conceit, self-centered, unintelligent, deceitful, overbearing, dishonest, selfish, loud, snobbish, unmannerly, boastful, personal injury, untruthful, ill-tempered, officious, ostentatious, sarcastic, unfair, inconsiderate, effeminate, affected, childish, immoral, meddlesome, bullying, talkative, unfriendly, unkempt, vulgar, narrow-minded.

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<sup>1</sup> Numbers in parentheses refer to items in the bibliography.

Some of these same traits appeared in response to a questionnaire administered by Winslow and Frankel (56), who were interested in learning what characteristics were considered important by adults in the formation of friendship with members of their own sex. The ten traits most preferred by men in their male friends were: loyalty, ability to be confided in, frankness, ability to take criticism from you, good sportsmanship, conventional good social manners, ability to be critical of you, neatness, intelligence equal to your own, poise or self-possession. The ten traits most disliked by men, beginning with those named most often were: thinskin, garrulity, braggart about conquests with opposite sex, cursing or swearing, intelligence inferior to your own, strong religious attitude, flashiness in clothes, promiscuity with opposite sex, flirtatious, submission to your decisions. They concluded that the most important characteristics in the formation of friendships between adults of the same sex were "those which produce congeniality in face to face personal contacts."

Jennings, (24), who made a long-term study of a community of adolescent girls in a correction school, was most interested in the isolates, or those girls who were neither rejected nor selected by the other members of the group. Some of her conclusions, however, were pertinent also for rejects. She emphasized that isolation or rejection is probably due to complex factors. She stated, "No one personality-pattern accompanies isolation or near-isolation in the population of the test community" (24, p. 185). She mentioned elsewhere, "No simple variable, such as length of time the individual had been in the community or his chronological age relative to other mem-

bers or his intelligence or even his greater opportunity for contacting others, appears to account for the particular choice-status accorded him," (24, p.211).

Other conclusions drawn by Jennings were that the underchosen appeared to lack security and were emotionally immature. She stated "The personalities of the isolates and near-isolates show, with but one exception . . . , the common characteristics of a marked incapacity for establishing rapport with other persons, they appear actively to repel choice and invite rejection to such an extent as they cause psychological discomfort to others," (24, p. 184). She noted also that these personality traits were apt to result in further rejection, even when the individual moved from one group to another.

In Bonney's (7) study with fourth grade children a somewhat similar conclusion was reached. Her approach to determining personality traits of socially successful and socially unsuccessful children was to have teachers and pupils rate the selects and rejects on a scale of 20 traits. She discovered that "Strong positive personality traits are more important than negative virtues . . . Popularity is not the superficial thing it is often assumed to be, but is rather tied up with the most basic traits of personality and character."

In an investigation directed toward the discovery of sex and age differences in attitudes of elementary children toward each other, toward themselves, and toward the relationships between certain personal attributes, Tuddenham (51) used the Reputation Test. This test consisted of paired questions dealing with favorable and unfavorable attributes and contained a friendship item on the basis of which the

sociometric status of each child could be determined. Upon inspection of the results for the "isolates," or those children who were never chosen as best friend, he found that "Isolated children tend to have an unfavorable balance of votes on other items of the Reputation Test, while the opposite is true of the reciprocal mention category" (51, p. 153). Many of these children were members of a longitudinal study which was then in progress, and the records indicated that ". . . many 'isolated' children are judged by clinic workers to be quiet, colorless, withdrawn children who tend to be overlooked both by their teachers and classmates" (51, p. 140).

The study of children from the sixth to twelfth grades by Kahlen and Lee (28) extended the investigation of personality characteristics and social acceptability up into the adolescent years. In this study a "Guess Who" test was used. The children were asked to name "Who is restless -," "Who is quiet -," "Who is cheerful and happy -," "Who is sad -," etc. By comparing the children named on this test with the results of a sociometric study it was found that the same traits were disliked in both the sixth and the twelfth grades. They were: seeks attention, restless, bosses others, enjoys fights, acts older. While both this study and that by Benney cited above contribute data of value, they were handicapped by the fact that the techniques which were used limited the personality variables under study to those which were in the rating scale or test.

In an attempt to learn something about the personal problems which were associated with sociometric status in an adolescent group, Kahlen and Bretsch (27) found that unaccepted ninth-grade children

marked more problems on the Mooney Problem Check List than did the others. They also checked their problems as being more serious and persistent in nature.

A more thorough study of personality patterns of sociometrically selected groups was conducted by Northway and Wigdor (38). Forty-five children in the eighth grade, aged 12-6 to 14-6, were separated into "highs" (selects) and "lows" (rejects) by means of a sociometric study. Personality structure was determined with the Rorschach technique. Since only a comparison of mean scores of the Rorschach variables was attempted, with no effort being made to equate the protocols for differences in number of responses, the analysis of the scoring categories in this study leaves much to be desired. A conclusion of value was derived, however, from an examination of the Rorschach interpretations made in the usual clinical manner. It was found that low sociometric status was usually associated with poor personality characteristics. Recessive, schizoid, psychoneurotic patterns, and inefficiently aggressive patterns were constantly seen among their rejects. Their select group appeared to be energetic, constructive, and to possess a greater sensitivity to their environment - ". . . an active conscious striving in using the 'feeling tone' of a situation to further their own ends." They found them to be conventional, and there was a tendency toward a strong need for affection among their selects. They also concluded that both the selects and rejects contained more disturbed individuals than did the middle group.

Austin and Thompson (2) studied another aspect of the general problem of factors associated with the selection of friends among children by inquiring into the reasons given for changing a preference from one person to another. They administered two sociometric



1. The first step in the process of identifying a problem is to recognize that a problem exists. This is often done by comparing current performance with a desired state or goal. For example, a manager might notice that sales are declining or that customer satisfaction is low. Once a problem is identified, the next step is to define it more precisely. This involves determining the scope of the problem, its causes, and its effects. For instance, a manager might define a problem as "a 10% decrease in sales over the last quarter, primarily due to a loss of market share in the competitive market." This definition helps to narrow down the focus of the problem and provides a clear starting point for further investigation.

2. The second step in the process is to gather information about the problem. This involves collecting data and facts that are relevant to the problem. For example, a manager might gather data on sales trends, market conditions, and customer feedback. This information is then analyzed to identify patterns and trends that can help to explain the problem. For instance, a manager might discover that sales are declining because of a new competitor entering the market or because of a change in customer preferences. This information is then used to develop a hypothesis about the cause of the problem.

3. The third step in the process is to develop a hypothesis about the cause of the problem. A hypothesis is a statement that predicts the cause of the problem. For example, a manager might hypothesize that "the decline in sales is due to a loss of market share to a new competitor." This hypothesis is then tested by gathering more information and by analyzing the data. For instance, a manager might compare sales data for the company with sales data for the new competitor. If the data shows that the new competitor is indeed gaining market share, then the hypothesis is supported. If not, then the hypothesis is rejected and a new hypothesis must be developed.

4. The fourth step in the process is to test the hypothesis. This involves gathering more information and analyzing it to see if it supports the hypothesis. For example, a manager might gather data on the new competitor's marketing strategy and compare it to the company's marketing strategy. This data is then analyzed to see if it supports the hypothesis that the decline in sales is due to a loss of market share to the new competitor. If the data supports the hypothesis, then the manager can develop a plan to address the problem. If not, then the manager must develop a new hypothesis and test it.

5. The fifth step in the process is to develop a plan to address the problem. This involves identifying the actions that need to be taken to solve the problem. For example, a manager might develop a plan to increase sales by targeting new markets or by improving customer service. This plan is then implemented and its effectiveness is monitored. For instance, a manager might track sales data and customer feedback to see if the plan is working. If the plan is not working, then the manager must develop a new plan and test it.

6. The sixth step in the process is to implement the plan. This involves putting the plan into action. For example, a manager might assign tasks to employees and allocate resources to the plan. This step is often the most challenging because it requires the manager to overcome resistance and to ensure that the plan is followed. For instance, a manager might face resistance from employees who are used to the current way of doing things. The manager must communicate the benefits of the plan and provide support to employees who are struggling to implement it.

7. The seventh step in the process is to monitor the progress of the plan. This involves tracking the results of the plan and comparing them to the desired state or goal. For example, a manager might track sales data and customer feedback to see if the plan is working. This monitoring is important because it allows the manager to identify any problems that arise and to make adjustments to the plan as needed. For instance, a manager might discover that sales are still declining despite the plan. In this case, the manager would need to develop a new plan and test it.

8. The eighth step in the process is to evaluate the results of the plan. This involves assessing the overall effectiveness of the plan and determining whether the problem has been solved. For example, a manager might compare sales data and customer feedback before and after the plan was implemented. This evaluation is important because it allows the manager to learn from the experience and to improve future problem-solving efforts. For instance, a manager might discover that the plan was successful in increasing sales but that customer service still needs to be improved. In this case, the manager would need to develop a new plan to address customer service.

questionnaires three weeks apart using sixth grade children as subjects. After the second administration, the children were asked to tell why they changed their choices, if they did. The conclusion reached was that ". . . propinquity, which permits frequent social interactions, is an important variable in the formation of children's friendships." This is opposed to the conclusion reached by Jennings, cited previously (24), and may reflect only the greater concreteness of thought of the earlier years. Austin and Thompson also noted that "Similarity of tastes and interests seem to be a significant variable. . . Personality characteristics appear to be important determining factors in the selection and rejection of friends," (2, p. 114).

A study to determine whether sociometric selection and rejection were associated with adjustment as determined by actual behavioral data was conducted by French (15), using naval recruits as subjects. After obtaining unrestricted choices and rejections within 16 companies of 60 men each, with reference to three hypothetical activities, he determined the relationships between individual sociometric status and measures of adjustment such as hospitalization for various causes, disciplinary offenses, and neuropsychiatric screening examinations. He concluded that sociometric measures are sufficiently sensitive to be used as an aid in neuropsychiatric screening, and for general problems of social adjustment and morale measurement.

Powell (14) analyzed the relationships between health, home, and social, and emotional adjustment by means of multiple correlation procedure. Her data were obtained by means of the Bell Adjustment Inventory with a population of college freshman women. While she did not employ the sociometric technique, her findings are significant in that

the high intercorrelations indicated that "social adjustment . . . may be employed as a criterion of normal expectations in emotional adjustment and vice versa. . ." Health adjustment was found to be independent of home, social, and emotional adjustments and could not be used to predict adjustment in any of these three areas. However, "Home adjustment, social adjustment or emotional adjustment can be predicted with some accuracy, if any one of these three categories is determined."

Kidd (26) was interested in defining the nature of social rejection, and in particular in determining what factors were associated with the rejection of a group of male college students in a residence hall for men. The present study followed by one year that undertaken by Kidd. Because both studies were done in the same location and utilized, in part, the same subjects, the aim, method, and results of Kidd's investigation will be reviewed in detail.

Kidd administered a Moreno type of sociometric questionnaire to the 639 residents of a dormitory asking for the following information:

- 1) the names of one's best friends with desirability as a roommate being the criterion;
- 2) the names of those one would be most reluctant to accept as friends;
- 3) the names of those one would most prefer as Resident Assistant (a student administrative functionary in charge of from 50-75 students in a section of the residence hall);
- 4) the names of those one would least prefer in that capacity;
- 5) reasons for rejecting those under 2) above;
- 6) race;
- 7) state or country if other than U. S. in which one was reared;
- 8) college classification;
- 9) father's occupation;
- 10) approximate income of family during previous year;
- 11) size of community in which reared;
- 12) religious preference;
- 13) parents, step-parents, etc. lived with before entering college and how long;
- 14) age;
- 15) grade-point average;
- 16) expectation of being selected and rejected by others;
- 17) degree of security in feeling about the future. (26, p. 228)

Kidd obtained other information from Annual Men's Residence Reports and from college records.

From the questionnaire he obtained a "friendship scale" based on scores equalling the number of times chosen minus the number of times rejected. Using chi square, he compared the selects with the rejects, each group being made up of approximately 100 subjects from each end of the scale.

By testing a series of hypotheses regarding specific factors to determine which were associated with rejection, as opposed to selection, it was found that rejection was significantly associated with being from an atypical regional background, particularly foreign nationality, being from a city of more than 100,000 population, and being a lower classman. Rejection was also significantly associated with restricted interaction as evidenced by 1) low leadership-prestige status; 2) restricted rejection and selection of others; 3) restricted spectator and extra-curricular activities; 4) restricted part-time employment which brings one into contact with group members; 5) low rating on group participation by selves and others; 6) low rating on over-all social participation by others.

The self-image of the rejects was found to be accurate in that their self-ratings corresponded to outside criteria in respect to scholastic effort, over-all social participation, participation in the affairs of the group, social and personality adjustment, and citizenship. The rejects were inaccurate, however, in estimating the extent of their rejection.

The hypothesis that rejection would be associated with frustration as evidenced by aggressive and/or withdrawing behavior was supported to the extent that a significant relationship was found between rejec-

tion and 1) low academic achievement in relation to ability; 2) more frequent moves and drop-outs; 3) being ignorant of the family income. It can be seen that Kidd's study contained detailed information on many different aspects of background, behavior in a college environment, and interpersonal relationships.

Not obtained by Kidd, however, was information regarding the state of mental health of the subjects under study, their drives, needs, fantasy life, their manner of thinking and habitual reactions to persons and stresses in their environment. In short, there remained the question as to what a study of the personality of individuals sociometrically selected might add to the knowledge already accumulated about the popular or unpopular person.

Summary. The aim of this investigation was to study the personalities of socially selected and socially rejected male college students in an effort to acquire more information regarding the psychological characteristics of persons who are able to make friends and those who are largely rejected by others.

From the review of the literature it was noted that very few attempts have been made to evaluate the dynamic aspects of personality patterns of sociometrically selected populations. The data that are available indicate that reject status is frequently associated with emotional disturbance of more or less severity and that this disturbance may have been one of long standing. The trait lists of characteristics disliked in others obtained from questionnaire studies provide further evidence that emotionally disturbed individuals meet rejection in others. There is general agreement that personality plays an important

part in the sociometric status of an individual. There is need for further studies undertaking more intensive appraisal of personality such as is obtainable through the use of projective techniques. The present study may be regarded as a continuation of that conducted by Kidd.

## CHAPTER II

### METHODS AND PROCEDURE

Methods. In order to obtain a picture of the personality structure of each subject and to determine the presence of neurotic or psychotic manifestations, the Rorschach technique was selected. It was thought desirable to buttress this test with another which would give results more capable of statistical manipulation. The Minnesota Multiphasic Personality Inventory (MMPI) was selected to serve this purpose. It would also be possible to make a comparison of the level of adjustment in each group by having the Rorschach protocols and the MMPI profiles rated by judges. A quantitative measure of anxiety would be provided with the anxiety index of the MMPI, and, on the Rorschach, by an analysis of the responses to the shaded areas of the blots. Other comparisons could be made of the individual scoring categories of the Rorschach, and of the various scales provided in the MMPI.

Since the area of interpersonal relations and the needs which affect these relations were deemed to be an important feature of social selection and social rejection, the Thematic Apperception Test (TAT) was included in the battery. Since the time required for the administration of the entire TAT series was prohibitive, a shortened form of ten pictures and the blank card was used. This kept the time for administration to an average of one hour per subject. It has been found that shortening the test does not appreciably alter its validity or productivity (4, p. 239ff.).

One of the important areas of investigation in Kidd's study was directed toward determining whether the rejects were less secure than were the selects. He defined insecurity operationally by presuming it to be present if he could find evidence in regard to the presence of the following: 1) low grade-point average in relation to ability; 2) not knowing the family income; 3) more frequent moves and drop-outs; 4) statement by the subject that he felt insecure in regard to the future; 5) rating self low in scholastic effort and in social and personality adjustment; and 6) rating self low in citizenship. On points 1, 2, 3, and 5, Kidd found evidence confirming his hypothesis that these would be significantly associated with rejection. This evidence, however, he regarded as inconclusive (25, p. 157).<sup>1</sup>

It was therefore planned in the present study to take another approach toward discovering whether there might be a relationship between insecurity and rejection. There have been several proposals in the literature (6, 29, 43) postulating a relationship between security and consistency in the self concept. If it could be shown that the rejects were more inconsistent than the selects in rating themselves on a series of personality traits, further evidence would be provided to support the hypothesis that they were more insecure. A short self-rating scale was therefore devised for this purpose. A study by Elias presents a similar use of an objective technique as a projective measure. (12)

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<sup>1</sup> The page numbers cited in reference to this work refer to those in Kidd's personal copy and may not correspond to the numbers of the bound edition.



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support effective decision-making.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and reporting, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that data is used responsibly and ethically.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of ongoing monitoring and evaluation to ensure that data management practices remain effective and aligned with the organization's goals.

6. The sixth part of the document provides a detailed overview of the data collection process, including the identification of data sources, the design of data collection instruments, and the implementation of data collection procedures.

7. The seventh part of the document discusses the various methods used for data analysis, such as descriptive statistics, inferential statistics, and regression analysis. It explains how these methods can be used to interpret data and draw meaningful conclusions.

8. The eighth part of the document focuses on the importance of data visualization in communicating complex information. It discusses various visualization techniques, such as bar charts, line graphs, and pie charts, and their applications in data analysis.

9. The ninth part of the document addresses the ethical considerations surrounding data management and analysis. It discusses the need for transparency, informed consent, and data protection to ensure that data is used in a fair and ethical manner.

10. The tenth part of the document provides a final summary and concludes the report. It reiterates the key findings and emphasizes the importance of data management and analysis in achieving organizational success.

Finally, it was desired to compare the two groups in rigidity and concreteness of thinking. It was expected, on the basis of the previous study by Kidd, that evidence would be found to support the assumption that the rejects would be more frustrated and more maladjusted than the selects. If either of these assumptions proved to be valid, the theoretical assumption would follow that the rejects would evidence more rigidity and concreteness in their thinking than would the selects. The technique to test this hypothesis was the Map Technique devised by Rokeach (45).

In summary, the techniques used in this study were the Rorschach, the Minnesota Multiphasic Inventory, the Thematic Apperception Test, a Self-Rating Scale, and the Rokeach Map Technique. With these, the pattern of personality structure, pathological symptomatology, level of adjustment, the dynamic interpersonal relationships, measures of consistency and security, and measures of rigidity and concreteness of thinking would be obtained.

The sociometric study. As part of his investigation, Kidd (26) carried out a sociometric study in a men's dormitory. As a follow-up, and also to locate new leaders who could be encouraged to become Resident Assistants to replace those who were to be graduated, he conducted another sociometric study during the winter term of the following year. The selects and rejects revealed in the second sociometric study provided the population for the investigation reported here.

The sociometric questionnaire<sup>2</sup> which Kidd used asked first "Who

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<sup>2</sup> See Appendix A.

are your best friends in (the dormitory), the persons you would most prefer as roommates? Name the ten or less who are really your best friends." By including the phrase "as roommates" a common frame of reference was provided to the residents. This follows the precept laid down by Moreno, "If, therefore, the inhabitants of a community are asked whom they like or dislike in their community irrespective of any criterion this should not be called sociometric. These likes and dislikes being unrelated to any criterion are not analytically differentiated." (36, p. 16).

This question was followed by two questions related to leadership. The results of these questions were not pertinent to the present study. The last question sought a measure of rejection. It read, "Which . . . men, if any, would you be most reluctant to accept as friends, as roommates, and why?" There followed an assurance that the confidential nature of the response would be maintained.

The questionnaire was distributed in a manner calculated to acquire and retain the confidence and cooperation of the residents. It was distributed through the Resident Assistants. The name of the numbered resident was on a slip of paper attached to his questionnaire which he was directed to remove and destroy before completing and returning the questionnaire.<sup>3</sup>

An additional device which Kidd used to gain confidence and responsiveness was the enclosure of an envelope addressed to him, the Resident Advisor, in which the questionnaire was to be sealed and returned.

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<sup>3</sup> See Appendix B.

Each day the Resident Assistants were advised as to the names of those in their precincts who had not returned the questionnaire so that they could be given a reminder by the Resident Assistant. However, it was understood at all times that the response was not compulsory. In this manner, 89 per cent of the questionnaires were returned.

The results of the questionnaire were quantified by assigning a score of "plus one" to a subject each time he was chosen as "best friend," and a "minus one" each time he was chosen as a person whom another would be most reluctant to have as a friend or roommate. By adding the scores algebraically, a single score was obtained for each subject on the friendship scale. The results for the entire dormitory population are summarized in Table I.

There were 29 subjects whose negative scores exceeded their positive scores. This group constituted the reject group used in the present study. They were matched against an equal number at the other extreme, the selects, or those receiving the highest number of friendship choices. At the beginning of the spring term when the writer began his psychological testing for the present study, only 22 of the 29 rejects were still living in the dormitory. Of the other seven, one had moved to a rooming house, one to another dormitory, one had been graduated, and four had dropped out of school. This was not unanticipated since it was known that social rejects are apt to be a highly mobile lot. Kidd found that they tended to ask to change rooms within the dormitory, or they moved out or dropped out of school altogether, more frequently than did the selects (26, p. 230).

TABLE I

DISTRIBUTION OF SELECTION-REJECTION SCORES BASED ON  
 PLUS ONE POINT FOR EACH TIME CITED AS BEST FRIEND  
 AND MINUS ONE POINT FOR EACH TIME CITED AS  
 ONE MOST RELUCTANTLY ACCEPTED AS FRIEND

<u>Selects</u>		<u>Middle Group</u>		<u>Rejects</u>	
Score	Frequency	Score	Frequency	Score	Frequency
36	1	14	10	-1	7
33	1	13	11	-2	5
31	1	12	11	-3	6
30	1	11	17	-4	2
25	1	10	10	-5	1
21	1	9	27	-7	3
20	1	8	31	-8	1
19	1	7	33	-9	1
18	3	6	57	-14	1
17	3	5	49	-15	1
16	7	4	48	-18	1
15	8	3	64		
		2	74		
		1	48		
		0	23		
Sub-Totals	29		513		29
		Grand Total:	571		

(Read: One person had a friendship score of 36; one had a friendship score of 33, etc.)

Reliability and validity of the questionnaire. The traditional concepts of test reliability and validity are not fully applicable to a test of the sociometric type. As Pepinsky (40, p. 48) has pointed out, the concept of validity in terms of an outside criterion does not apply, since the test itself is a direct sample or measure of the choice behavior being studied. The only application of validity in this instance is with reference to the honesty with which the choices are made. This can be maximized when the subjects feel that the criteria of choice are meaningful and that the choices themselves will have a practical effect on the group structure. An examination of the questionnaire, itself, as it was devised by Kidd, and of the procedure which he used in administering it indicates the extent to which the results may be accepted as valid measures of selection or rejection.

In regard to the question of whether there was any misrepresentation of response on the questionnaire, it must be emphasized that it was returned on a voluntary basis. As Kidd pointed out in reference to his study of the previous year on which he obtained a return of 94 per cent of the residents:

. . . where the subject is given the choice of not replying at all, with no penalty attached, as he was in the questionnaire used in this study, and where pressure for and against certain types of replies are reduced, if they exist, by a straightforward assurance of anonymity, . . . then there seems to be no logical justification for expecting misrepresentation in the response (25, p. 57-58).

He gave as further evidence of the validity of the results of the first questionnaire the fact that among the rejects thus revealed,

there occurred "every case of rejection which had come to the attention of the Resident Advisor prior to the administration of the questionnaire." (25, p. 53).

Since the second sociometric study was performed with the same questionnaire, and the same procedures and precautions were taken as in the first, it is probable that the arguments for validity above would again apply.

The writer obtained an additional outside criterion, however, as another measure of validity of the second survey, based on the hypothesis that the rejects would have shown more anti-social behavior of the sort which would have involved them in disciplinary action. French (15) used this as one of his criteria in a study of morale among naval recruits. Jennings (24, p. 145-146) presented evidence which would lead to this hypothesis when she reported the following types of behavior to be more frequent among the underchosen: quarrelsome, complaining, nervous, aggressive and dominant, rebellious, resentment at being criticized, attention getting. Although her investigation was done with a population of girls in a training school, a certain amount of generalization should be possible to populations of a different sort. If the present group of rejects also possessed these or similar traits, it could be expected that they would have come to the attention of persons in authority. That such a generalization was possible here was indicated by a check of the records in the Registrar's office. It was learned that nine of the 22 rejects had been on probation, or were on probation at the time of the study. Some were having to report to the Dean of Students weekly. Of the 22 selects, one had been

on probation during the fall term, only. Thus the hypothesis was supported and more assurance could be placed in the validity of the questionnaire, inasmuch as the results confirmed evidence from other studies.

In regard to reliability, the traditional techniques of test-retest, split halves, or equivalent forms cannot usually be carried over automatically to sociometric tests. Pepinsky (40, p. 46) stated that variation of choice behavior from one test to another is not a function of test reliability but of the relative stability of the behavior itself. Since this questionnaire had been administered twice, a year apart, a form of test-retest reliability could be obtained by the writer by comparing as many as possible of the results of the two tests.

One of these comparisons consisted of checking to see if those subjects who had been very high or low on the friendship scale during the previous year's study had retained their relative positions. This was possible in the case of 13 selects and 2 rejects who had been in the dormitory during both investigations. It was found that all of these selects, who were in the top five per cent had placed within the first quartile on the friendship scale of the first study. One of the rejects who was in the lowest five per cent on the friendship scale had been among those extremely rejected the year before, falling tenth from the bottom in the previous study. The other reject turned out to be the subject who had moved the most in the entire group, sociometrically speaking, going in the interval of one year from a position 36th from the top on the friendship scale the previous year



to 13th from the bottom in the present study. This change in friendship status may be associated with frustrations he had encountered in his athletic career. Entering college the year before with much publicity as one of the most promising candidates for one of the athletic teams, he had lost out the first year because of an injury, and during the next year his initial promise had not been fulfilled in actual competition. His associates and the Resident Assistant in the dormitory had all noted an increase in aggressive behavior as his hopes for a college athletic career became dimmer.

None of the other rejects had been in the dormitory during the previous study. This is probably a reflection of the fact that so many of them were freshmen, and also of their tendency to move from year to year. However the available data for the thirteen selects and for one of the rejects indicate that unless exceptional circumstances intervene, sociometric status was relatively constant, and that the two studies compared here gave fairly reliable results.

Another comparison was made in academic potential for college work. In Kidd's investigation the population selected for study was the top 102 subjects on the friendship scale (selects) as opposed to the low 96 subjects (rejects). He compared the groups to see if their ability scores on the ACE total scores showed a significant difference. The chi square test indicated that there was none (25, p. 114). Table II shows a similar comparison for the population under consideration here. Fisher's t test for the significance of difference between means (20, p. 228) was used because of the smallness of the sample. No significant difference between the select and reject groups was found for either the mean quantitative, literary, or total scores on the ACE

TABLE II  
 COMPARISON OF THE MEAN DECILE RANKS OF THE GROUPS  
 ON THE AMERICAN COUNCIL OF EDUCATION TEST

Subtest	Mean decile rank		t
	Selects	Rejects	
Quantitative	5.91	5.70	.208
Literary	5.63	5.45	.111
Total	5.86	5.60	.326

## Table 1

### Summary of the results of the regression analysis

Variable	Mean	Standard deviation	Minimum	Maximum
Age	35.2	12.5	18	65
Gender	0.45	0.50	0	1
Education	12.8	2.1	9	16
Income	25000	15000	10000	50000
Health	0.75	0.25	0	1
Marital status	0.60	0.49	0	1
Employment	0.85	0.36	0	1
Unemployment	0.15	0.36	0	1

Test, indicating that on the average the groups were similar in academic ability.

The studies were also compared on the actual scholastic achievement as indicated by the grade point average for each group. At the end of each term, the Registrar's office assigns to each student a cumulative grade point average on the basis of four points per credit hour for a grade of A, three points for a grade of B, two points for a grade of C, one point for a D, and no points for an F or incomplete. In testing the hypothesis that the grade point average of the selects would exceed that of the rejects, Kidd found a difference significant at the one per cent level (25, p. 116-117).

The comparison made with the present population is shown in Table III. Again, the t test showed a difference significant beyond the one per cent level, indicating that, from the academic standpoint, the selects were actually achieving more in spite of the fact that the potentiality for achievement in the two groups was the same.

On other comparisons, Kidd found that his group of rejects was younger on the average than the selects, and that they tended to a significant degree to be underclassmen, while the selects tended to be upperclassmen (25, pp. 79-81). As seen in Table III, the same tendencies were found in the group under study here. The differences between mean chronological age in months, and mean college classification were both significant at the one per cent level, indicating that the selects tended to be older and more advanced in school.

The fact that so many of the rejects were freshmen could not be construed as a cause, in itself, of rejection on the grounds that they

TABLE III  
 COMPARISON OF GROUPS IN TERMS OF  
 AGE, CLASS STANDING, AND GRADE POINT AVERAGE

	Means		t
	Selects	Rejects	
C. A. in months	264.9	240.5	2.847*
Class standing**	3.09	1.71	4.416*
Grade point average	2.56	1.90	4.107*

\* Significant beyond the one per cent level.

\*\* Based on assigning numbers 1 to 5 to classes freshman to graduate student, respectively.

were not well acquainted. Being a freshman and new to the group might result in isolation, or being neither selected or rejected as a roommate. But a reject, as defined in this study, was an individual who had actually interacted with the group sufficiently to be known and disliked - enough so that when others were asked whom they would reject, out of 660 men, this man was one of those they chose to name.

Thus, Kidd presented evidence for the validity of the first sociometric study which applied also to the second sociometric study from which the population for the present research was selected. His evidence included the precautions which were taken to make the questions meaningful, the facts that the questionnaire was returned on a voluntary basis, and that it actually revealed all cases of rejection which had previously been observed. The writer added additional evidence by obtaining outside criteria indicating support for the hypothesis that the rejects would have shown more anti-social behavior.

As evidence for the reliability of the sociometric study, it has been shown that differences between the selects and rejects on age, college classification, ability, and achievement were equally significant and in the same direction on the second study as they were in the first. The evidence on the validity and reliability of the questionnaire therefore seems to permit the treatment of the results with a high degree of confidence.

The subjects used and the collection of the data. As has been mentioned, the population of rejects finally available for study was 22 men. These were all of the men living in the dormitory who had attained a negative score when the points for selection and rejection had been algebraically summed.

There were differences within the reject group in the amount of interaction between individuals and the group at large. That is, some rejects may have obtained a score of -1 as the result of being rejected by two men and selected by one; others may have obtained a score of -1 as the result of being rejected by nine men and selected by eight. The interaction score of the former would be three; of the latter, 17. It is possible that there were personality differences associated with the amount of interaction. This aspect of rejection was not investigated in the present study for two reasons. First, the main emphasis throughout was in making group comparisons, and it was not possible to match rejects with selects on an interaction score since few of the selects received rejection votes in the sociometric study. Secondly, an attempt to break up the reject group into smaller groups on the basis of interaction scores resulted in groups too small for statistical manipulation of test scores. It did not seem feasible to generalize from any results obtained from groups so small. It was therefore decided to treat the rejects as a single group and compare them with an equal number of subjects from the other end of the friendship scale - the 22 men who had received the most choices as best friend.

The immediate problem then confronting the investigator was how to persuade the subjects to submit to a battery of psychological tests when there could be no promise held out to them of a reward of any sort. A secondary problem was in determining how much about the study could be told the subjects, since obviously they could not be informed that social rejection and selection played a part in their having been chosen as subjects.

The investigator was in a favorable position for obtaining the cooperation of the residents, since he was Assistant Resident Advisor in the dormitory at the time of the study. His duties required his presence in the dormitory several nights a week and he took all of his meals there. The residents therefore knew him at least by sight, and he had built up close, friendly relations with many of them.

It was on the basis of this friendly relationship that the approach was made, individually, to each subject. It was frankly explained that the investigator was obtaining data for a dissertation in psychology which necessitated having a group of subjects take some tests. Their curiosity and interest was aroused in many cases by mention of the "ink-blot" test of which some had already heard. The purpose of the research was explained by saying that an area needing investigation involved having a group living in a similar environment take a group of tests often used in the clinic so that comparisons could be made of the contribution of each test. This served the purpose of moving the focus of the investigation away from the individual subjects, and, seemingly, onto the tests, thus making the procedure more impersonal. It was mentioned that the dormitory was an ideal place to obtain a group of men living in a similar environment. This explanation was usually sufficient. It seemed that the combination of the investigator's being in an official but non-threatening position, the "honor" of being selected for the study, curiosity about the tests, and a desire to help a friend were all factors which led to their accepting the proposition.

Occasionally a subject asked why he, in particular, had been



chosen. It was explained that "the group had been matched" by consulting the records in the Registrar's office to obtain subjects of similar ages, from home towns of similar sizes, and with similar grade point averages. This explanation was sufficiently complex to satisfy their curiosity, and account for the variety of subjects with whom they might have seen the investigator entering the testing room.

An additional reason for these precautions concerning the manner of selection of the subjects was to protect the interests of the Resident Advisor. He had assured the residents of the dormitory that their responses to the sociometric study would be strictly confidential. It was not deemed to be a breach of confidence for him to give the writer access to the results for purposes of research if the subjects would be in no way identified in the written report of that research. It was important, from the point of view of maintaining his integrity as the residents might evaluate it, that no connection be discernible between his study and the present one.

Only one subject refused to cooperate when asked. This was one of the rejects. It was unfortunate that data from his tests could not have been included, but he turned his back on the investigator and walked away before the request had been fully expressed, saying, "I don't want to have anything to do with it." He was known in the dormitory because of his odd, seclusive behavior. Repeated attempts to enlist his sympathy in the project were rebuffed.

Table IV shows the final tally of subjects in each group to whom each test was administered. Complete coverage, except for the one subject who refused, was obtained on the MMPI, the Self-Rating

TABLE IV

THE NUMBER OF SELECTS AND REJECTS TO WHOM EACH  
OF THE TESTS WAS ADMINISTERED

Test	Selects	Rejects
M M P I	21	21
Rorschach	18	20
Thematic Apperception Test	18	19
Self Rating Scale	21	21
Map Technique	21	21

Scale, and the Map Technique. By the end of the spring term, after which, of course, the students dispersed and no further testing was possible, Rorschachs were administered to all but four of the subjects and TAT's to all but five. Because of scheduling difficulties and the pressure of time, another examiner was obtained for assistance with the administration of some of the Rorschachs.<sup>4</sup> Since the data were obtained from the subjects starting with those having the highest reject and select scores, the missing data for both of the projective techniques did not include any of the subjects at the very extreme of rejection or selection.

The room used for the examinations was the office of the Resident Advisor where there was little or no interruption.

Summary. The personality evaluation included examination with the MMPI, Rorschach, TAT, a Self-Rating Scale, and the Rokeach Map Technique. The sociometric study revealed 29 men out of the entire dormitory population who received more negative than positive votes. Evidence on the validity and reliability of the questionnaire seems to permit the treatment of the results with a high degree of confidence. At the time of the study, 22 were still living in the dormitory, but one of these refused to undergo the tests. The reject group therefore consisted of 21 subjects. The select group consisted of the 21 most popular men as indicated by the sociometric study.

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<sup>4</sup> The writer wishes to express his appreciation to Mr. Irving M. Munn for his assistance in administering and checking the scoring of the Rorschachs.

### CHAPTER III

#### RESULTS OBTAINED WITH THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

Procedure. The booklet form of the Minnesota Multiphasic Personality Inventory was used in this study (48). This form contains all of the items which are on cards in the "Individual Set" and also makes possible scoring the answer sheets by I B M test scoring machines. The test booklet, answer sheet, and a special pencil were given to each subject after his first testing session during which the Rorschach had usually been administered. The instructions were explained carefully and the subject was cautioned about the proper use of the answer sheet. Many of the subjects had taken inventories of one sort or another before, and all of them had used machine-scored answer sheets, so the procedure was not entirely new to them.

The subjects were asked to fill out the test during a time when they would not be interrupted and return it to the examiner when it was finished. Several of them seemed to be filled with enthusiasm after their testing session and proceeded to work out the MMPI immediately, returning it the same day. All of the tests were returned, but it was later found that one of the rejects had filled out only the front of the answer sheet, leaving the last half of the test undone. This left a total of 21 tests for the select group, and 20 for the reject group for analysis.

Before the tests were scored, each answer sheet was examined for the "?" score, which is the number of items omitted. This constitutes

the first of the validation scales. If more than one item in ten is omitted, the other scales are invalidated. No ? score approached this magnitude, so the scoring proceeded, using all of the answer sheets.

The tests were scored on I B M scoring machines. The raw scores were transferred to a work sheet for convenience in making the statistical calculations for comparisons between groups. They were also transferred to profile sheets which were to be given to the judges for rating. T scores were also necessary for some of the group comparisons and to assure accuracy, these were obtained from the table provided in the supplementary manual, rather than from the profile sheets.

Comparison of the groups on the individual scales. It was possible to make comparisons between groups on the four validation scales, of which the ? scale has already been considered; the nine clinical scales which appear on the profile sheet; and an additional four experimental scales for which norms have appeared in the literature. In clinical use, attention is paid to the configurational aspects of the profile as a whole. An elevation on any one of the scales obtains importance only when it is considered in relation to the rest of the scales. For purposes of research, however, in making group comparisons a necessary first step in obtaining a picture of the trends within each group is to compare the group means of the individual scales.

Fisher's t test for the significance of the difference between means was used, since the total number of scores in each comparison was less than fifty. A small-sample statistical procedure would thus provide the most rigorous test.

Comparing the means of the raw scores rather than the means of T scores follows the recommendation of Aaronson and Welsh (1). The T scores are of use in revealing the relationship between the subtests of a single profile, and between the scores of one individual or group and the normative group used in the standardization of the test. The conversion formula changes the raw scores into standard score equivalents, which not only makes the subtest scores comparable to one another but also puts them in terms of the mean and standard deviation of the normative population so that some conception is obtained of the level of the score in comparison to that population. It was not desired here, however, to compare the selects and rejects in terms of their deviation from the normative group, but to compare them with each other. Therefore the comparison was made between means of raw scores when only single subtests were being considered.

The situation is different in making any kind of comparison of profile configurations where two or more subtests are considered at the same time. The raw scores of subtests are not directly comparable since each subtest has a different number of items and therefore a different mean and standard deviation. Converting them to T scores gives them equal means and standard deviations so that they are comparable. Therefore, in making comparisons such as between profile elevations of the groups, of profile slope, of anxiety index and internalization ratio, the T scores were used as the basis of comparison.

Table V presents the mean raw scores for each group on sixteen of the scales and Fisher's t for the significance of the difference between the means. Two of these differences were significant at the

TABLE V  
COMPARISON OF THE GROUPS ON MEANS OF RAW SCORES  
FOR SIXTEEN MINNESOTA MULTIPHASIC SCALES

Scale	Selects Mean	SD	Rejects Mean	SD	t
L	2.7	1.6	2.95	1.9	.455
F	3.2	1.8	5.5	3.8	2.449*
K	16.9	4.9	12.7	4.0	2.907**
Hs	3.4	2.6	4.3	2.5	1.102
D	15.2	2.3	16.8	4.0	1.547
Hy	19.4	3.6	18.5	3.4	.797
Pd	14.4	2.2	18.6	5.1	3.384**
Mf	24.4	3.5	25.3	4.7	.681
Pa	8.7	2.4	8.6	2.0	.140
Pt	8.1	5.7	12.7	6.5	2.392*
Sc	9.1	5.0	14.1	8.0	2.345*
Ma	16.7	3.1	19.8	4.5	2.528*
Responsibility	21.9	2.9	18.8	4.3	2.661*
Dominance	16.9	2.5	15.9	3.4	1.055
Status	23.0	3.5	22.7	3.9	.338
Social-Introversion	20.5	7.3	21.1	6.8	.831

\* Significant at the five per cent level.

\*\* Significant at the one per cent level.

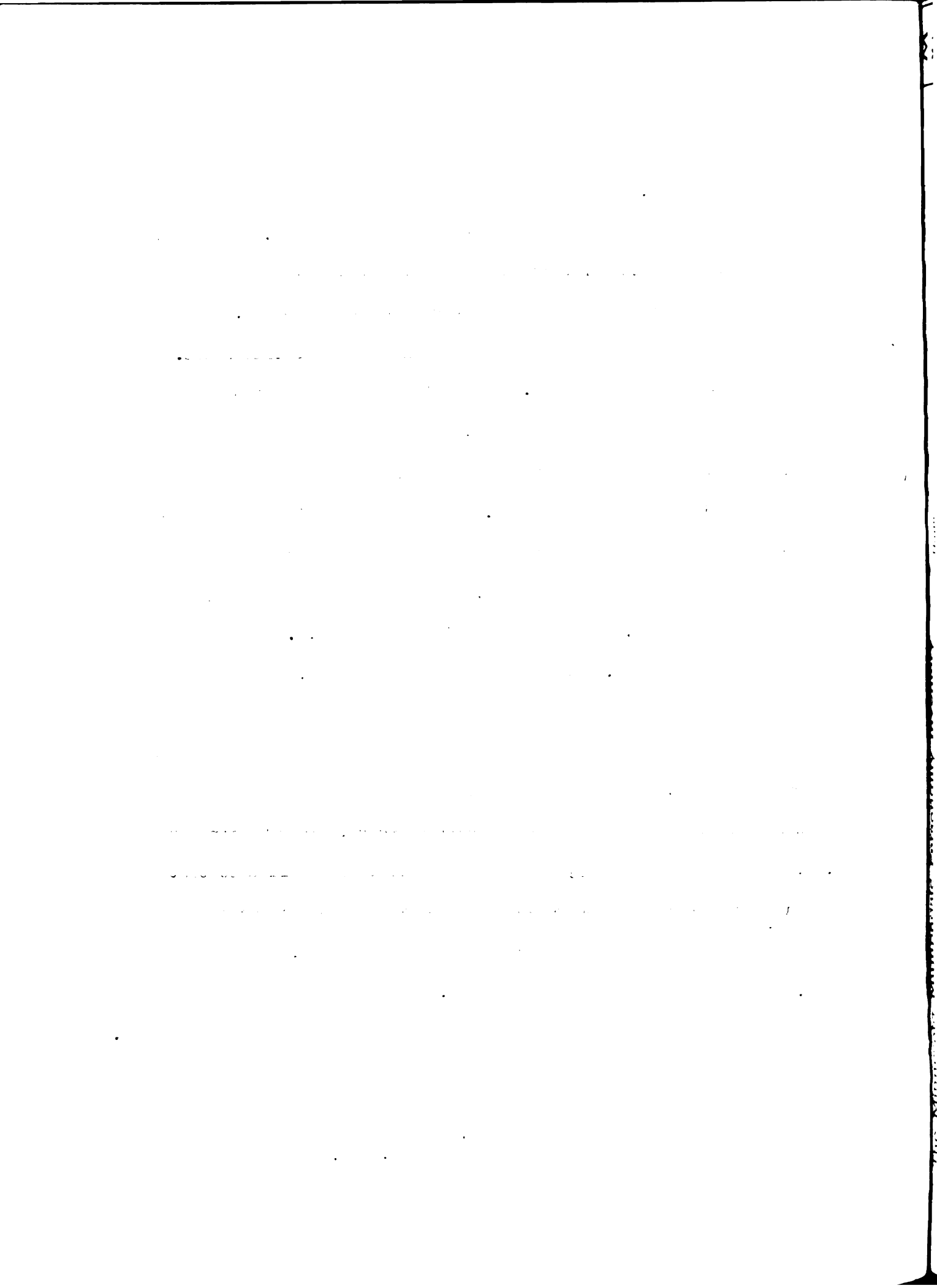
one per cent level and five were significant at the five per cent level of confidence. It was recognized that in making a number of t tests a significant difference might occur by chance (55).<sup>1</sup> However, a sufficient number occurred in this analysis to have very high confidence that the differences obtained were not due to chance. Figure 1 on page 37 shows the raw scores plotted on an MMPI profile sheet. In the discussion which follows, the results of the comparison of each scale in turn will be considered.

The L scale consists of fifteen items seldom answered in the scored direction by normal subjects. It is said to act as a validating score by giving a measure of the subject's effort to place himself in the most favorable light socially. The mean score on this scale for the selects was 2.7, and for the rejects it was 2.9. Fisher's t for the difference was .455, which was not significant. The t test was not the most appropriate test in this case, however, since three of the selects received a zero score, with the result that the distribution was skewed. Therefore the median of all forty-one subjects was computed and used as the basis for a cutting score. This median was 2.52. Rounding it off to 3, the chi square test was applied to test the null hypothesis that there would be no significant difference in the number in each group that exceeded a score of three. Chi square was .045, supporting the null hypothesis. It can be safely concluded that there was no significant difference between the groups on this scale.

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<sup>1</sup> The probability that two significant differences at the one per cent level would occur in 16 tries is .0109; that five significant differences occur at the five per cent level, .0009.

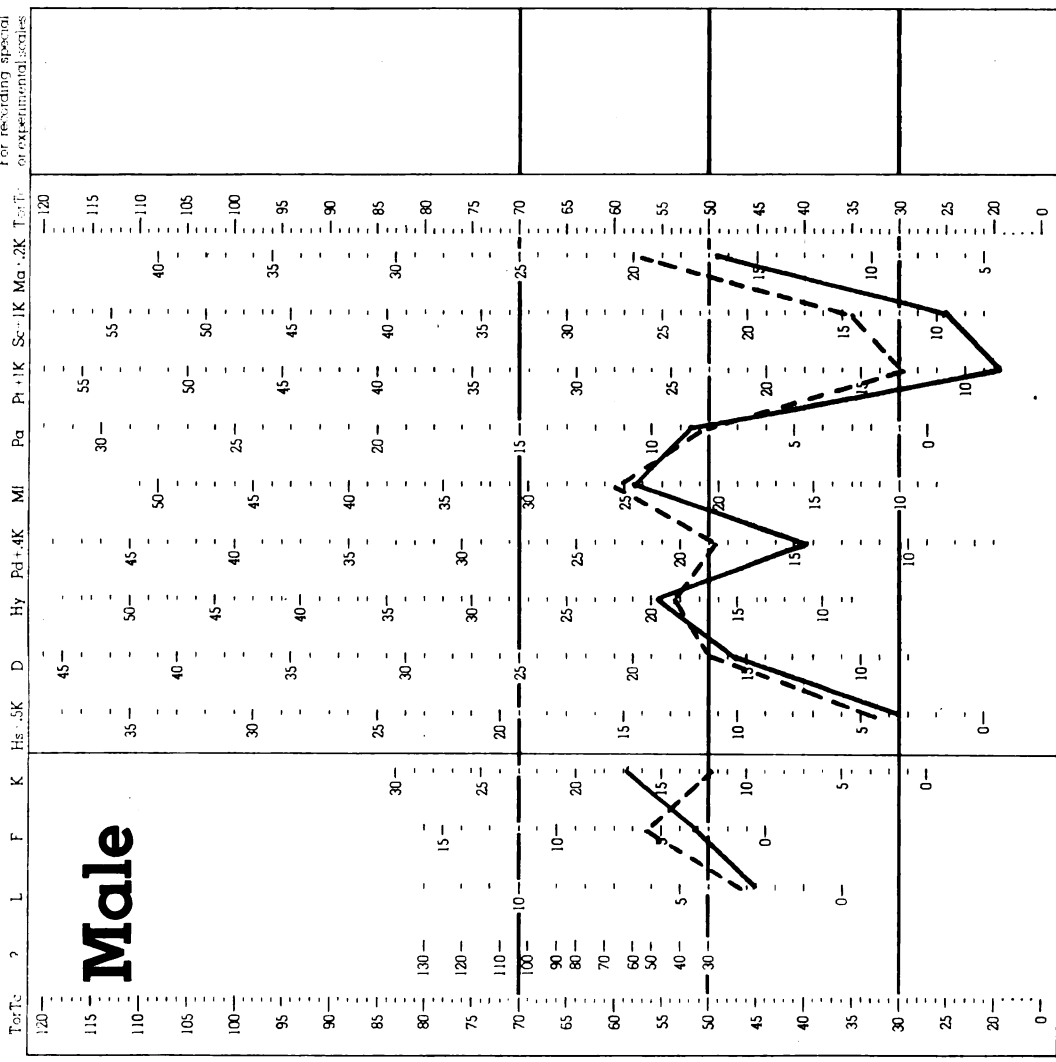




Name \_\_\_\_\_ Address \_\_\_\_\_ Occupation \_\_\_\_\_ Date Tested \_\_\_\_\_ Age \_\_\_\_\_  
 Male

Scorer's Initials \_\_\_\_\_

For recording special or experimental scales



For recording special or experimental scales

Raw Score \_\_\_\_\_  
 K to be added \_\_\_\_\_  
 Raw Score with K \_\_\_\_\_

Fig. 1. Mean raw scores of the two groups plotted on an MMPI profile sheet.

Legend: — Selects  
 - - - Rejects

Scale	1	2	3	4	5
Pa	30	15	12	6	6
Hy	28	14	11	6	6
D	27	14	11	5	5
K	26	13	10	5	5
F	25	13	10	5	5
L	24	12	10	5	5
F	23	12	9	4	4
K	22	11	9	4	4
Hy	21	11	8	4	4
D	20	10	8	4	4
Pa	19	10	8	4	4
Sc	18	9	7	4	4
Ma	17	9	7	3	3
2K	16	8	6	3	3
TorTc	15	8	6	3	3
Pa	14	7	6	3	3
Hy	13	7	5	3	3
D	12	6	5	2	2
K	11	6	4	2	2
F	10	5	4	2	2
L	9	5	4	2	2
F	8	4	3	2	2
K	7	4	3	1	1
Hy	6	3	2	1	1
D	5	3	2	1	1
Pa	4	2	2	1	1
Sc	3	2	2	1	1
Ma	2	1	1	0	0
2K	2	1	1	0	0
TorTc	0	0	0	0	0

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Occupation \_\_\_\_\_ Date Tested \_\_\_\_\_  
 Education \_\_\_\_\_ Age \_\_\_\_\_  
 Referred by \_\_\_\_\_  
 Marital Status \_\_\_\_\_

**F**  
 Female

For recording speed of experimental series

120	115	110	105	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0
120	115	110	105	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0
<b>Female</b>																								
120	115	110	105	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0
120	115	110	105	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0

For recording speed of experimental series

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

NOTES

Raw Score \_\_\_\_\_  
 K to be added \_\_\_\_\_  
 Raw Score with K \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

The F scale was originally a validating scale containing items indicative of carelessness, simulation or gross eccentricity. A high score was thought to invalidate the entire test.<sup>2</sup> Further use of the scale has indicated that it has psychopathological connotations of its own. An elevation of score on the F scale may indicate the presence of a significant personality disturbance. Brozek and Schiele (9), giving the MMPI at regular intervals to subjects in the Minnesota starvation experiment found the F scale to be a sensitive indicator of stress during crisis periods. Gough (17) has noted a tendency in psychopaths to attain higher F scores than other clinical groups. In the present study, the rejects were higher than the selects on the F scale with the difference between means significant at the five per cent level. The particular personality disturbance accompanying a high F score of course depends on the configuration of the rest of the profile in each case. The most that can be said for the group comparison is that among the rejects there appeared more frequent "manifestations of unusual mentation" as it has been aptly phrased by Meehl and Hathaway (34, p. 536).

The K scale is essentially a correction factor which, when added to certain of the other scales, sharpens their discriminatory power. It has the effect of making normals appear more normal, and making abnormals stand out more clearly. This scale also measures "test-taking attitudes." A high K score may be indicative of a defensive attitude and a low K score suggests unusual frankness or self-criticality.

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<sup>2</sup> In the discussion which follows, the definition of each scale, unless otherwise indicated, is that given in the manual for the MMPI (22).

McKinley, Hathaway, and Meehl found that college people tend toward high scores, perhaps as a function of socio-economic status (30, p. 31). The mean K score of the selects exceeded that of the rejects, the scores being 16.9 and 12.7 respectively. Fisher's t for the difference was 2.907 which is significant at the one per cent level. It may be concluded with considerable confidence that the selects were more guarded and evasive, while the rejects were more frank, sometimes to the point of being self-derogatory.

The Hs (Hypochondriasis) scale purports to measure abnormal concern over bodily functions. Undue worry about health, an immaturity in approach to adult problems, and a history of exaggeration of physical complaints and of seeking for sympathy characterize the person with a high Hs score. According to Meehl (33) the high scorer on Hs is characterized by others as "high-strung, soft-hearted, generous, and lacking self control."<sup>3</sup> While there was a tendency for the rejects to obtain a higher score on Hs than the selects, the difference between means was not enough to be sure that it did not arise by chance.

The D (Depression) scale is said to be primarily a "symptom" scale and tends to reveal the present level of adjustment and functioning irrespective of personality type or structure. It is the middle scale of the "neurotic triad" made up of Hs, D, and Hy. In evaluating the extent or severity of neuroticism, Gough found the D score to be more discriminating alone than the mean of Hs, D, and Hy (17, p.29).

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<sup>3</sup> Paul E. Meehl. Using the Minnesota Multiphasic Personality Inventory in counseling. A summary of selected new research results. Mimeographed copy of a lecture given to Minnesota VA Psychologists on March 10, 1950. The writer is indebted to Mr. William E. Thomas for making his copy of this paper available.

A high D score therefore may indicate a poor morale, lack of optimism concerning the future, lack of self-confidence, tendency to worry, and introversion. Depression may be a disability of the high scorer but, on this scale as with all of the others, an equating of the scale name with the psychiatric syndrome usually associated with that name is a misleading and undesirable practice. Continued work with the test has added to and altered the meanings of the various scales until, as Meehl has commented, "It's worst to talk about the schizophrenia key; it's better to talk about the Sc Key; it's best to talk about code 8." (33, p. 9). The mean D score for the selects was 15.2, for the rejects, 16.8. Fisher's  $t$  for the difference was 1.547, which indicates a tendency for the rejects to score higher, but fails to reach an adequate level of confidence.

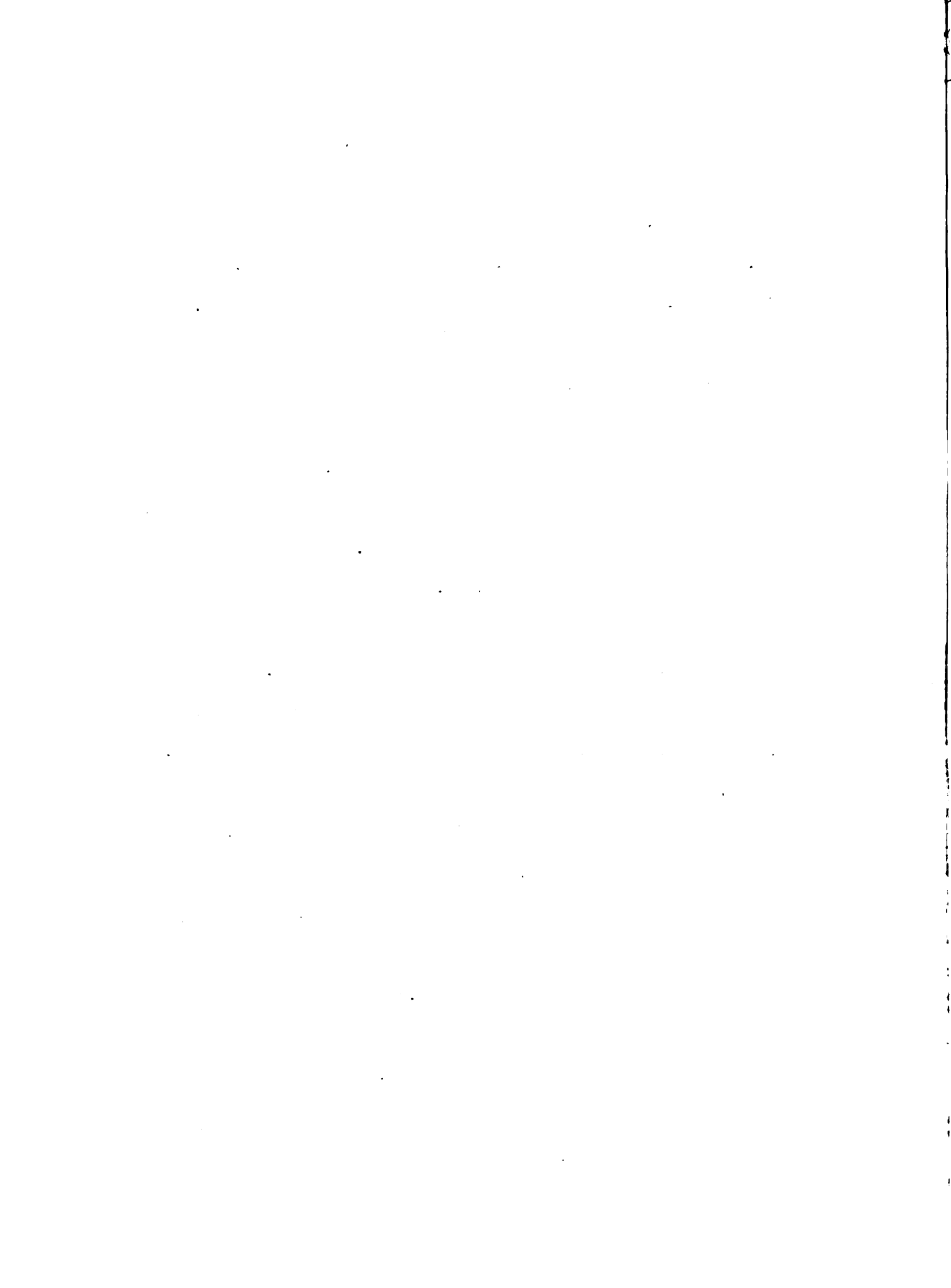
The Hy (Hysteria) scale was designed to measure the degree to which the subject is like patients who have developed conversion-type hysteria symptoms. Hysterical cases are more immature psychologically than any other group. Persons scoring high on this scale impress others as being worrying, high-strung, individualistic, affectionate. High Hy men are described as "not balanced." There was no significant difference between the groups on this scale. The select mean was 19.4, reject mean, 18.5, and  $t$ , .797.

The Pd (Psychopathic Deviate) scale is reported to measure the similarity of the subject to a group of persons whose main difficulty lies in their absence of deep emotional response, their inability to profit from experience, and their disregard of social mores. Their most frequent digressions from social mores are lying, stealing,

alcohol or drug addiction, and sexual immorality. They tend to follow their whims with little thought of possible gain to themselves or of avoiding discovery. It was on this scale that the greatest difference occurred. The select mean was 14.4, the reject mean was 18.6, and Fisher's  $t$  was 3.384, significant beyond the one per cent level. When this difference is combined with other MMPI psychopathic indicators, such as Sc greater than Pt, and an F score higher than other clinical groups, there appears a definite tendency for rejects to respond to the test in a manner characteristic of psychopaths. An examination of the profile made up of the mean T scores of the two groups, Figure 2, will bring out these relationships more clearly.

In Meehl's adjective study (33, pp. 9-13) a number of persons were asked to check on a list of traits, those attributes characterizing their friends, for whom MMPI profiles were available. Those normal individuals with high Pd scores were checked as being versatile, high-strung, impulsive, verbal, amorous, likes drinking, and rebellious. Furthermore, Meehl pointed out that the most striking single thing about the Pd in the normal range was "a lack of social fear". "He is forward in his social relations." It is probable that these descriptions fit the present group of rejects to some extent, since many of these adjectives occurred in the reasons given for rejection on the sociometric questionnaire (see Appendix F).

The Mf (Interest) scale is supposed to measure the tendency toward masculinity or femininity of interest pattern. A high score was meant to indicate a deviation of the pattern of interests toward similarity to that of the opposite sex. "Homosexual abnormality must not be





Name \_\_\_\_\_  
 Address \_\_\_\_\_

Occupation \_\_\_\_\_ Date Tested \_\_\_\_\_  
 Education \_\_\_\_\_ Age \_\_\_\_\_

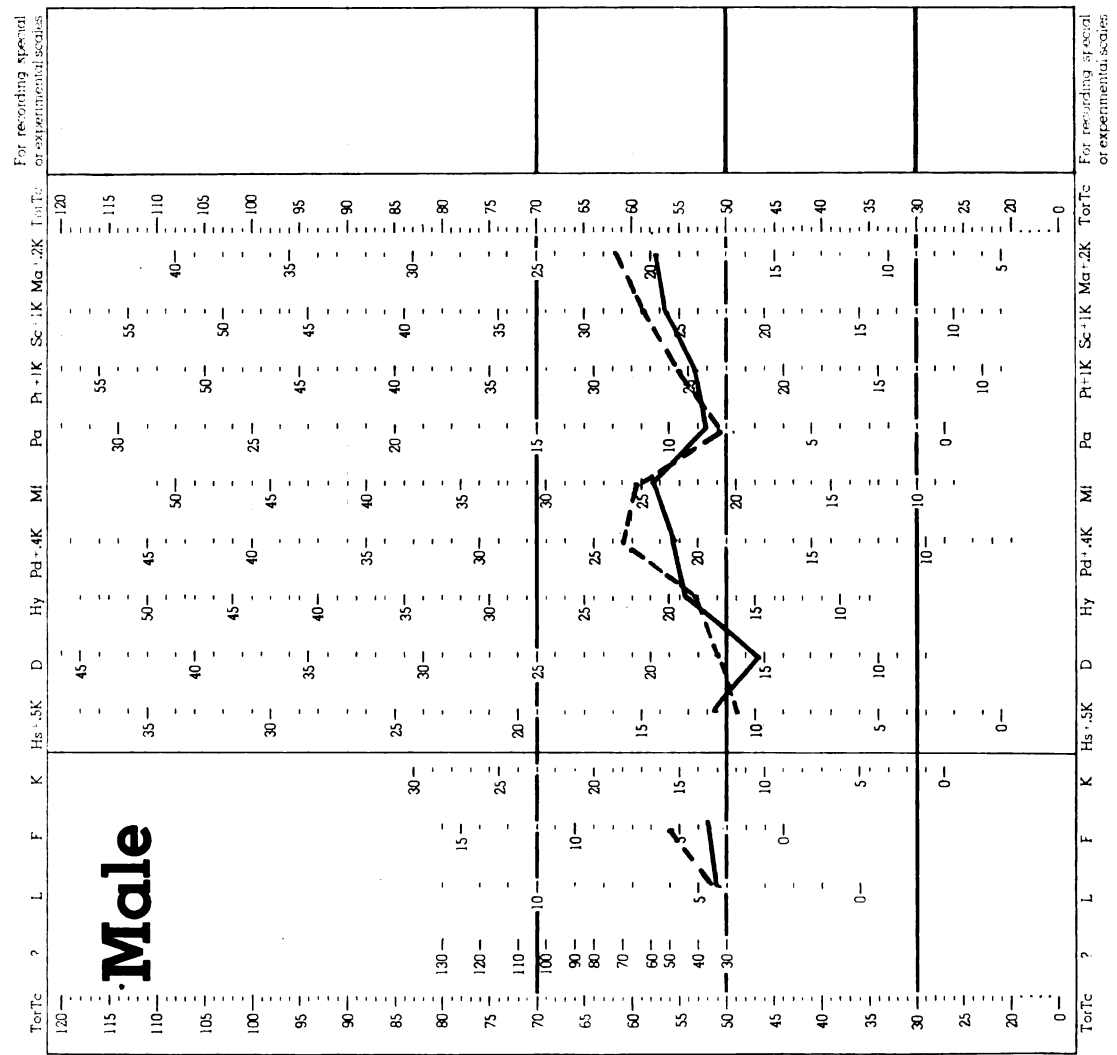
Marital Status \_\_\_\_\_ Referred by \_\_\_\_\_  
 NOTES

Fig. 2. Mean T scores of the two groups plotted on an MMPI profile sheet.

Legend: ——— Selects  
 - - - Rejects

Starke R. Hathaway and J. Chamley McKinley

Scorer's Initials \_\_\_\_\_



Raw Score \_\_\_\_\_  
**K to be added** \_\_\_\_\_  
 Raw Score with **K** \_\_\_\_\_

**F**  
Female

Name \_\_\_\_\_

Address \_\_\_\_\_

Occupation \_\_\_\_\_ Date Tested \_\_\_\_\_

Education \_\_\_\_\_ Age \_\_\_\_\_

Marital Status \_\_\_\_\_ Referred by \_\_\_\_\_

NOTES

TorTe	9	L	F	K	Hs+.SK	D	Hy	Pd+.4K	MI	Pa	P+.1K	Sc+.1K	Ma+.2K	TorTe	For recording special or experimental scales
120-														120-	
115														115	
110														110	
105														105	
100														100	
95														95	
90														90	
85														85	
80														80	
75														75	
70														70	
65														65	
60														60	
55														55	
50														50	
45														45	
40														40	
35														35	
30														30	
25														25	
20														20	
0-														0-	

Percent of K	
K	Percent of K
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30

Raw Score \_\_\_\_\_

K to be added \_\_\_\_\_

Raw Score with K \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

assumed on the basis of a high score without confirmatory evidence" (18, p. 5). The Mf scale has been found by Gough to be the most easily falsified (17, p. 32); known homosexuals rarely obtain a significantly high Mf score. As a measure of interest, however, it may give some indication of the degree to which a subject's pattern of preferences conforms to that of his own sex. The groups did not differ significantly on this scale. Fisher's  $t$  was .681. A certain lack of masculine identification in both groups was evidenced by a considerable elevation of mean T scores on this scale.

The Pa (Paranoia) scale is believed to measure the similarity of a subject to patients characterized by suspiciousness, oversensitivity, and delusions of persecution. The two groups differed least on this scale,  $t$  being only .140. The groups also scored most closely to the mean of the normal population on this scale.

The Pt (Psychasthenia) scale purports to measure the similarity of the subject to patients troubled by phobias or compulsive behavior. Primary characteristics noted in them by others, according to Meehl's adjective study (33) is dissatisfaction, and lack of cheerfulness. The Pa, Pt, and Sc scales comprise the psychotic phase of the curve in contrast to the neurotic triad mentioned above, and should ordinarily be evaluated as a configuration. However, on the Pt scale alone a difference between the groups occurred, significant at the five per cent level. The select mean was 8.1, reject mean, 12.7, and  $t$ , 2.392.

The Sc (Schizophrenia) scale distinguishes about 60 per cent of observed cases diagnosed as schizophrenia. Subjects answering the items of this scale in the scored direction give indication of unusual

or bizarre thoughts or behavior. Those persons not diagnosed as schizophrenic who score high on the Sc scale are nearly always characterized by a complicated symptomatic pattern. In spite of the name given to the scale, Gough found that diagnosed schizophrenics usually attain lower scores on this scale than do severe neurotics (17, p. 36). Among normals, high scorers are described as self-dissatisfied, sensitive, high-strung, sentimental. The comparison of the selects and rejects showed respective means of 9.1 and 14.1, with a  $t$  of 2.345, significant at the five per cent level. Thus, in two out of the three scales making the psychotic phase of the profile there were significant differences with the rejects scoring higher. This is not to say that the rejects tended to be psychotic, but only to indicate that disturbances of a more serious nature occurred more frequently among them than they did among the selects. Further support for this statement was found in the fact that an examination of the individual Pa, Pt, and Sc T scores revealed five in the reject group with an elevation over 70, the usual cutting score, and none exceeding 70 among the selects.

It is thought that the Ma (Hypomania) scale should perhaps be regarded more strictly than the others in light of the scale name: Hypomania; a condition just slightly off normal in that the person exhibits an overproductivity of thought and action. An elevation on this scale must be interpreted very cautiously since the most common peak score among normals is on Ma. It seems very often to reflect the normal ambition of a person full of plans. Its greatest usefulness is found in configurational analysis when an Ma peak is accompanied by a Pd peak, or when Ma is high along with Pa, Pt, and Sc. In the former

case a diagnosis of psychopathic personality would be given greater assurance; in the latter, serious disturbance approaching psychosis would be indicated. The Ma scale, like K, Hy, and Pd, is regarded as a "character" scale. An elevation on any of these, according to Gough (18), colors the entire interpretation made on the basis of the rest of the profile. In the present study the difference between the groups on this scale was significant beyond the five per cent level, the means for the selects and rejects being 16.7 and 19.8, respectively. Fisher's  $t$  was 2.528.

In addition to the validating and "clinical" scales which have been discussed, the MMPI tests were scored for four non-clinical scales. These were for responsibility, dominance, status, and social-introversion. Responsibility, as defined in the development of the scale by Gough, et al, (19, p. 74), is "willingness to accept the consequences of his own behavior," dependable, trustworthy, showing a sense of obligation to the group. These traits are the impression a person high on this scale would give to other people. A difference was obtained on the responsibility scale just short of the one per cent level of confidence,  $t = 2.661$ , with the selects indicating more responsibility.

The definition of dominance was "a tendency to appear strong and to maintain the ascendent role in face-to-face situations. It does not mean domineering but is rather found in persons who convey a feeling of personal strength. Again, this trait is one of behavior, as other persons would view it, and not the self-concept. The score of the selects exceeded that of the rejects on this scale, but the difference was not significant;  $t = 1.055$ .

The groups did not differ significantly on either of the final two scales, St (status), and S-I (social-introversion). A high score

on the St scale, according to Gough (16), indicates a striving for position in the social community, an awareness of social class and group differences. A high score on S-I, according to Drake (11), indicated introversion or withdrawal behavior. Fisher's  $t$  for St and S-I respectively was .338 and .831, indicating that the selects and rejects were essentially the same on these scales.

In summary, the comparison of mean raw scores of the groups on individual scales revealed first that on K the select group exceeded the reject group to a significant degree. This might be interpreted as meaning that the selects, as a group, were more aware of a feeling of self-esteem and tended to strive consciously or unconsciously to protect and enhance this feeling. Being "citizens in good standing," as it were, they would have more to lose were they to reveal socially disapproved strivings by their test responses. On the other hand there was among the rejects a lack of this self-esteem, a dissatisfaction which resulted in a frank, self-critical attitude. This was in accordance with the finding reported by Rainy (42) that patients at the beginning of a series of non-directive counseling interviews made significantly more negative self-references than they did when improved adjustment had accompanied the conclusion of treatment. The selects also indicated a greater willingness to accept responsibility as indicated by their scores on the responsibility scale.

Among the remaining scales, the rejects were significantly higher on F, Pd, Pt, Sc, and Ma. Since F, Pd, and Ma are "character" scales, they emphasize the importance of the symptomatology expressed in the elevated Pt and Sc scales. Perhaps the most definite trend to be noted was that toward psychopathic deviation in the reject group.

Comparisons of the groups in profile configurations. It was possible to make additional comparisons by combining the T scores in various ways. A T score of 50 is the expected score for a normal record. As the T score of an individual case rises, the deviation from the norm becomes more serious, but not until it exceeds 70 does an interpretation of real deviation or maladjustment become warranted.

It was therefore of interest to examine the relative mean heights of the profiles of the groups. This was done by obtaining the mean T score for all nine clinical scales of each subject, then calculating the mean of these means for each group. Table II presents the comparison of profile elevations of the groups. With 39 degrees of freedom, a t of 2.708 is significant at the one per cent level. The t obtained here, being well beyond the one per cent level, provided further evidence of a greater degree of disturbance among the rejects. It might also be noted that both groups exceeded the normative level of 50 in profile elevation. According to the MMPI, neither the selects nor rejects were a normally adjusted group. This finding is similar to the conclusion of Northway and Wigdor (38) cited on page 7.

The next comparison was of profile slope. A negative slope is one with the clustering of T scores higher on the neurotic triad than on the Pa, Pt, and Sc scales. Thus, Gough described the typical neurotic profile as one with twin peaks, one at each end of the profile, with the first peak (the neurotic triad) being higher (17, pp. 27-28). The psychotic curve is also diphasic but the peaks are approximately equal.

TABLE VI  
 COMPARISON OF THE PROFILE ELEVATION IN T SCORE UNITS  
 ON THE MINNESOTA MULTIPHASIC INVENTORY PROFILE

Group	Mean height in T score
Rejects	55.46
Selects	53.61
Difference	1.85      t = 4.158*

\* Significant beyond the one per cent level.



A crude but satisfactory comparison of slope can be made by finding the mean of the Hs, D, and Hy scores for each group, and the mean of the Pa, Pt, and Sc scores for each group. This gives two points for each group from which a curve may be plotted which would reveal any existing difference in elevation of the T scores at either end of the profile.

The mean of the neurotic triad for the selects was 50.8, and for the rejects, 51.0, indicating no difference between groups in elevation at that point. The means of Pa, Pt, and Sc were 54.1 for the selects and 54.6 for the rejects, again showing surprising correspondence.<sup>4</sup> These results indicated that the average of the profiles of both groups was positively accelerated, and that there was no significant difference in elevation at either end of the profile.

Summarizing the findings of comparison on profile configurations, it was found that the rejects on the average had a definite tendency toward higher profiles than the selects but that there was no difference in the profile slope, both groups presenting a curve with positive slope of equal elevation. The difference in height of profile was further confirmation of the conclusion that there was a greater degree of maladjustment in the reject group. Since no particular significance is assigned to positive slopes, the meaning of this finding remains indeterminate.

---

<sup>4</sup> The T score on Ma was not used in this calculation because an elevation on this scale conveys a significance quite independent of a consideration of the phasicality of the profile. See above, p. 44.

The anxiety index and internalization ratio. An objective measure of anxiety which can be reported in a single score has been proposed by Welsh (52). Previous attempts to derive an objective score of neuroticism and anxiety based on combinations of the neurotic triad have been reported by Gough and Modlin (17, 35) to have lacked discriminatory power or obscured important relationships among the scales. Furthermore, Hovey (23) found that the profile of an anxiety neurotic typically has a secondary elevation on Pt as well as a peak on D. The index of anxiety (AI) proposed by Welsh includes the scores on these four scales and utilizes the three basic features of the anxiety profile: a general rise on the neurotic triad, D being higher than Hs and Hy, and a secondary rise on Pt. It is defined so as to yield an expected value of 50 for a normal record. Anxiety is presumed on the basis of test items where the subject complains of subjective feelings of tension, nervousness, apprehension, fear, accompanied by somatic concomitants such as vertigo, dyspnea, pre-cordial pain, gastric distress, headache, and the like. Welsh offers several equivalent formulae: the one used here was:

$$AI = \left[ \frac{Hs + D + Hy}{3} \right] + \left[ (D + Pt) - (Hs + Hy) \right]$$

Table VII presents the mean AI obtained for the selects and rejects, with their standard deviations. Since the internalization ratio (IR) is a closely related concept, a brief explanation of it will be given before the significance of these results are discussed.

The IR differentiates between those who tend to have many somatic symptoms and subjective feelings of stress - who "internalize" their

TABLE VII

THE ANXIETY INDEX AND INTERNALIZATION RATIO  
COMPUTED FROM T SCORES OF THE SELECTS AND REJECTS

Group	AI Mean	SD	IR Mean	SD
Rejects	53.67	20.0	.882	.111
Selects	45.54	13.8	.912	.029
	$t = 14.890$		$t = .291$	

difficulties -- and those who tend to act out and "externalize" their conflicts. Welsh (52) suggested that it be obtained by summing the three complaint, mood, or feeling scales: Hs, D, and Pt; and dividing by the sum of the three behavior or character disorder scales: Hy, Pd, and Ma. Since T scores are used, the normal case will obviously yield a theoretical value of 1.00. A ratio above 1.00 would indicate some degree of internalization; a ratio below 1.00 would indicate a tendency toward acting out or externalization.

Table VII shows that there was little doubt of a greater amount of anxiety, as determined in this manner, in the reject group. Fisher's  $t$  was 14.890, which was highly significant. Both groups tended to externalize their conflicts, but the low  $t$  ratio indicated that there was no significant difference between the groups in the extent to which this tendency was present.

Welsh (52), in re-computing some of the data extant in the literature found that a low IR with low or only slightly elevated AI would fit the "acting out" behavior pattern of manics, psychopaths, prisoners, and delinquents. He also computed these statistics for data of male college students and found them to be low on both AI and IR, as were the selects here. Male veteran and non-veteran students from additional data, however, yielded AI's above 50 with IR's below 1.00, although not so low as in the reject group here. Without further normative data, therefore, a clear-cut conclusion concerning the significance of these findings cannot go beyond the statement that, while both groups tended about equally toward acting out or externalization, the reject group showed a definite tendency toward more anxiety.

Examination of the standard deviations of these statistics also revealed more homogeneity in the select group on both AI and IR.

The subtle and obvious keys. Wiener (54) reported another set of scales which may be an approach to the measurement of "test-taking attitudes." He believes them to have considerable clinical significance, particularly when dealing with "normal," non-hospitalized populations. He divided all items of the MMPI into two groups: those easy to detect as indicating emotional disturbance (obvious), and those relatively difficult to detect (subtle). The tentative hypothesis which he derived was stated as follows:

Successful adjustment in society requires knowledge of socially acceptable ways of behavior and the desire and ability to act in these ways. The socially acceptable way to behave on the personality test, as well as more overtly, seems to include avoiding deviate behavior. On the MMPI, the most deviate items are the 0 items, "deviate" because they are seldom answered in a significant direction by a normal population. The socially successful person may have the ability to recognize and to avoid making scores on personality test items which obviously indicate maladjustment, while the socially unsuccessful person may be unable to recognize or to heed signs of deviate behavior on a personality test (54, p.3).

He postulated further that the responses given to the subtle (S) and obvious (O) items may be related to a control factor in social adjustment. That is, the term "he is in control of himself" is often used to designate the person able to direct his own activities, to adapt to present social demand, to plan for the future. "Out of control" on the other hand, would describe the individual who seems at the mercy of immediate environmental stimuli.

S and O keys were not made for all the scales. Hs, Pt, and Sc were found to consist almost entirely of obvious items and Mf probably

has too low a validity as a scale to yield positive results. As has already been seen, the rejects indicated a significant tendency toward high scores on the obvious items making up the Pt and Sc scales. There was a trend in the same direction on the Hs scale, and no difference between groups on the Kf scale. Table VIII presents the results of comparing the groups on the other five scales for responses to the S and O items.

The hypothesis was that the rejects, similar to the population of "unsuccessful" persons of Wiener's study (54), would receive higher scores on the obvious scales than the selects. This occurred, with the difference on the Pd-O scale being significant at the five per cent level. To the extent indicated, therefore, the rejects were unable to avoid the obviously deviate items, in accordance with Wiener's thesis.

Wiener also noted (54, p. 6) a tendency for socially successful groups to obtain higher S scores than unsuccessful groups. Table VIII shows that in the present study the selects were higher on all S scales except Pd-S.

The proposal by Wiener of a "control" factor which aids certain individuals in keeping from marking the obvious items may be related to the unconscious, and therefore uncontrollable, drives which determine so much of neurotic behavior. That is, if neurotic behavior is defined along the lines suggested by Kubie (14) as dependent solely on the balance between conscious and unconscious psychological processes, then the checking of obviously deviate items seems almost to be a measure of the degree of control an individual has over his conduct. As the balance turns in favor of relatively more unconscious influence,

TABLE VIII

COMPARISON OF THE GROUPS ON MEAN T SCORES  
OF THE SUBTLE AND OBVIOUS SCALES OF  
THE MINNESOTA MULTIPHASIC INVENTORY

	Mean T Scores		
	Selects	Rejects	t
<b>Obvious Scales</b>			
D-O	46.1	51.7	1.879
Ma-O	50.7	56.2	1.815
Hy-O	47.6	50.9	1.336
Pd-O	49.3	57.0	2.238*
Pa-O	46.9	49.5	.977
<b>Subtle Scales</b>			
D-S	51.5	47.4	1.353
Ma-S	57.2	57.0	.005
Hy-S	60.3	54.1	2.324*
Pd-S	53.1	59.1	2.085*
Pa-S	59.3	54.1	1.948

\* Significant at the five per cent level.

the accompanying behavior is less under control and may be described as being more neurotic. Since there has been considerable evidence of more neuroticism in the reject group, the checking of a greater number of obvious items would be expected.

**Summary:** The selects tended to mark fewer obviously deviate test items than did the rejects, on all five of the O scales, as well as on the Pt and Sc scales. This provided further evidence that recognition and avoidance of behavior which is socially deviate, marking of test items which subtly indicate maladjustment, and being "adjusted" or "successful" tended to go together. The S - O relationship may also be an indication of the extent to which unconscious processes are influencing an individual's behavior.

The ratings for level of adjustment. The individual profiles of the entire group, numbered and mixed at random, were submitted to three judges for rating as to level of adjustment. The judges were asked to rank the profiles in order, from the one representing the best adjustment to that representing the poorest adjustment. A definition of adjustment, taken from Shaffer (46, pp. 4 and 138) was given to them as a guide.<sup>5</sup> It emphasized particularly that adjustment is the satisfaction of interrelated motives, without the slighting of any, and with the consideration for the adjustments of other persons being taken into account.

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<sup>5</sup> See Appendix E for a copy of the instructions to the judges. The writer wishes to thank Mrs. Esta Berg Thomas, Dr. Joseph Adelson, and Mr. William E. Thomas for performing these ratings.



Table IX presents the rank order coefficients of the ratings between judges. The size of these correlations indicates considerable agreement as to the adjustment of the subjects based on the MMPI profiles.

A single rating for level of adjustment was obtained for each subject by averaging the three ratings that had been assigned him. The group was then divided at the twenty-first (middle) rank and the chi square test applied to test the null hypothesis that there would be no difference between groups in the number falling in the upper, or better adjusted half. In the upper half, there were 13 selects and eight rejects. Chi square was 1.892, P between .10 and .20. This indicates that the null hypothesis could not be wholly rejected, but that the difference between level of adjustment according to judges' ratings was not very great.

The results of the ratings were about what one might expect. Northway and Wigdor's (38) Rorschach analysis of sociometrically selected groups of children revealed that both the select and reject groups had more disturbed individuals than the middle group. They found a difference in the type of disturbance present in each group; among their highs were psychoneurotic or general anxiety syndromes, while schizophrenic or schizoid patterning was prevalent among their lows (38, p. 194). Similar differences have been noted here in the analysis of the MMPI, with the addition that psychopathic deviation seemed to be present also among the rejects. The obvious conclusion is that it was not the fact that an individual was well or poorly adjusted which was a factor in his sociometric status, but rather the particular type

TABLE IX  
INTER-JUDGE CORRELATIONS FOR RATINGS OF  
LEVEL OF ADJUSTMENT

Judges	A and B	A and C	B and C
Rho	.899	.767	.677

of conflict which was present in an individual case and the influence which this conflict had in a person's interaction with others.

Summary of the MMPI results: The objective findings resulting from an analysis of the MMPI results were the following:

1. The rejects scored significantly higher than the selects on the F, Pd, Pt, Sc, and Ma scales. They were significantly higher on the anxiety index and in mean profile elevation.

2. The selects scored significantly higher than the rejects on K and Responsibility scales. On all but five of the scales, the standard deviation of the selects was smaller, indicating that they tended to respond in a more homogeneous manner than the rejects.

3. No significant differences appeared on the L scale, nor on the Hs, D, and Hy scales which are the scales frequently associated with neuroticism. No difference appeared on the Mf scale which is known to be lacking in reliability. Of the "psychotic" phase of the scale a significant difference did not appear on Pa. Of the additional scales which were used, no significant difference appeared on Dominance, Status, and Social-Introversion.

Within the limitations of the test, the following conclusions may be warranted, based upon the objective findings listed above:

1. Both groups were less than optimally well adjusted, but there was a greater incidence of maladjustment in the reject group.

2. The selects were more guarded and evasive in their responses. They restrained themselves from making any statements about themselves that they might have thought would be too revealing. The rejects, conversely, had a derogatory opinion of themselves which was revealed

by making self-devaluating or self-critical statements. This was perhaps a highly important factor leading to rejection. Self-derogation may lead to over-compensation (aggression) or it may result in taking a humble, self-effacing role. In either case, the rejection would probably continue.

3. There was significantly more anxiety among the reject group. Both groups tended to "act out" their conflicts to a degree which was essentially equal.

4. There was significantly more psychopathic deviation as a personality pattern among the rejects.

5. The rejects indicated to a significant degree that they exceeded the selects in being subject to disturbances of more serious nature, such as phobias, compulsions, bizarre thoughts and unusual behavior.

6. The rejects, being significantly higher on the Ma scale, indicated a tendency to overreact in a hypomanic fashion. Since the pattern of the other scales indicated the presence of greater psychopathic deviation and more serious (psychotic) symptomatology, this emphasized the trends in these directions.

7. The selects indicated that they would accept responsibility to a greater extent.

8. The selects indicated that they would tend to assume the ascendent role in face to face situations, although their difference from the rejects in this respect did not reach significant levels.

9. Among both groups there was a lack of masculine identification with feminine interest patterns much in evidence.

10. Judges were unable to differentiate the selects from the rejects on level of adjustment, although there was a tendency for them to find the selects better adjusted.

## CHAPTER IV

### RESULTS OBTAINED WITH THE RORSCHACH TECHNIQUE

The Rorschach test was administered to 20 of the rejects and 18 of the selects. After the protocols were scored according to the method proposed by Beck (3), the groups were compared on each of the scoring categories by tests of significance. The protocols were submitted to judges for rating, and then they were interpreted in the usual clinical manner.

#### Comparison of the groups on individual scoring categories.

The groups were first compared for number of responses, or productivity. The data for this comparison are presented in Table X. The mean number of responses for the selects was 42.2; for the rejects, 36.6. Fisher's  $t$  was 1.172, which is not significant. It can be shown that even a  $t$  of this magnitude was possibly greater than was warranted, due to the fact that one select produced 85 responses, thus pulling the select mean upward. In order to avoid the influence of this single, widely deviant case, the median response score was calculated and found to be 36 for both groups. This possibly reflects more truly the similarity in productivity which would exist if another sample of the same type of population were to be tested.

While there was no difference between median number of responses, it can be seen in Table X that the range of responses in both groups was quite large. As Cronbach (10) pointed out, mean scores of the Rorschach scoring categories cannot be directly compared where response

TABLE X  
 COMPARISON OF THE GROUPS  
 FOR PRODUCTIVITY ON THE RORSCHACH

	Selects	Rejects	t
Mean number of responses	42.2	36.6	1.172*
Range of responses	23 - 85	20 - 62	
Standard Deviation	15.7	12.9	

\* With 37 degrees of freedom, t must be 2.026 to be significant at the five per cent level.

totals differ. A method suggested by Cronbach (10, p. 411) was used to equate the records for number of responses. For each variable (sum of C, number of P, percent A, etc.) a scattergram was prepared with the variable along the Y axis, and number of responses along the X axis. The variable was plotted against R for all 38 subjects and medians determined for each column of 10 responses. A line was drawn to fit the medians of the columns using a formula determined by the method of averages. Then the proportion of the 38 cases which fell above the line of medians was determined for each group. These proportions were compared by chi square. The proportions rather than the number in each group falling above the medians were used for the basis of comparison because in some instances the numbers were quite small, and the use of proportions avoided the necessity of correcting for attenuation. Table XI presents the results obtained when the groups were compared in this manner.

Except for the comparison of F+%, none of the chi squares or P values reached the five or one per cent levels usually demanded before a conclusion is reached that a real difference exists between groups. However, it must be remembered that the number of cases in each group was rather small. Cronbach (10, p. 408) cautioned against accepting the null hypothesis when findings of moderately low significance are obtained, especially in Rorschach studies where sample size is often restricted. With very small samples, an extremely discriminating score is required to yield a significant difference. It is questionable whether Rorschach variables are sufficiently sensitive, particularly when the groups being studied were, as in the present instance, both composed of comparatively "normal" (non-hospitalized) individuals.



TABLE XI

RORSCHACH ANALYSIS: COMPARISON OF SCORING CATEGORIES  
AFTER EQUATING THE PROTOCOLS FOR NUMBER OF RESPONSES

Variable	Number above the median		Proportions	$\chi^2$	P
F4%	S	0 <sup>a</sup>	.000	8.727	.01
	R	6	.158		
C, sum of	S	9	.237	.143	.70
	R	16	.421		
Pure C	S	9	.237	.060	.80
	R	9	.237		
FC	S	11	.290	.124	.80
	R	11	.290		
M	S	8	.210	.032	.85
	R	9	.237		
M > C	S	8 <sup>b</sup>	.210	.655	.45
	R	6	.158		
M < C	S	9	.237	.934	.35
	R	13	.344		
Y, sum of	S	6	.158	2.758	.10
	R	12	.316		
V, sum of	S	6	.158	2.758	.10
	R	12	.316		
W	S	8	.210	.429	.50
	R	11	.290		
D	S	9	.237	2.620	.10
	R	15	.395		
Dd	S	8	.210	.122	.70
	R	10	.263		
P	S	9 <sup>c</sup>	.237	.934	.35
	R	13	.344		
S	S	13	.344	1.152	.20
	R	11	.290		

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TABLE XI (continued)

RORSCHACH ANALYSIS: COMPARISON OF SCORING CATEGORIES  
AFTER EQUATING THE PROTOCOLS FOR NUMBER OF RESPONSES

Variable	Number above the median		Proportions	$\chi^2$	P
H and Hd	S	8	.210	.032	.85
	R	9	.237		
A%	S	10 <sup>d</sup>	.263	.612	.45
	R	8	.210		
An	S	8	.210	.122	.70
	R	10	.263		
Sex	S	9 <sup>e</sup>	.237	1.583	.20
	R	6	.158		

(a) For F4% the comparison was between the proportion of each group falling below a cutting score of 60%.

(b) The comparison of M/C ratios was between number of subjects having the designated pattern in each group, regardless of number of responses.

(c) Chi square for number of subjects in each group obtaining a P outside the range 2 to 9 was .534.

(d) Chi square for number of subjects in each group obtaining an A% outside the range 30 to 65 was .826.

(e) Sex responses were compared by dichotomizing the subjects into those giving no sex responses and those giving one or more sex responses.

Even so, if the sample size had been 25 in each group, and the differences between groups remained the same, three or four more of the significance tests would have been significant at the five per cent level.

Therefore, rather than reject the findings obtained here as indicating "no significant difference" they may be regarded as pointing to trends which might have been significant if more subjects had been available. This avoids making the mistake pointed out by Cronbach of submitting the Rorschach to an "extremely, perhaps unfairly, rigorous test." Certain of the results, including those where it was obvious that no difference obtained, were of interest and importance. Further research is necessary to determine the reliability of these trends.

It is also to be noted that some of the trends indicated here were present in the MMPI results, at satisfactory levels of significance. In thus having two sources of evidence, these results may be regarded as having more credibility than the low levels of significance in the Rorschach alone would warrant.

The most highly significant result was the comparison of form level ( $F+\%$ ). In this instance, a cutting score of 60 per cent was used rather than the proportions falling above the line of medians, as described previously. This was done because  $F+$  is relatively independent of the number of responses, and also because the norms provided by Beck (3, Vol. II, p. 20) designated 60 per cent  $F+$  as the lower limit for normals. There were six rejects and no selects with an  $F+\%$  below 60. This, of course, resulted in a highly significant chi square.

P less than .01, indicating that there were, among the rejects more individuals whose percepts were widely deviant. Inaccurate perceptions which result in such low  $F+\%$  scores are frequently found in schizophrenics. However, a diagnosis of schizophrenia cannot be made on the basis of  $F+\%$  alone. The more cautious and probably safer conclusion is that these individuals, responding to their environment in a manner which digressed so far from the norm, were certainly sick persons whose emotional disturbance would be reflected in impaired interpersonal relationships.

A very high  $F+\%$  is also an unfavorable sign. The highest  $F+\%$  score among the selects was 85, well within normal limits. The reject group contained one individual who obtained an  $F+\%$  of 100. The latter score is an indication of extreme rigidity, self-guarding, or evasiveness, which would make him a difficult person with whom to be associated.

The extent to which color (C) influenced the responses was tested in three ways. First, the sum of C, CF, and FC, was tested for which a chi square was obtained of .143, which was not significant. On the possibility that a difference might be found in uncontrolled affectivity, as indicated by pure C responses, this also was tested. The chi square was even lower, being .060, with a P value of .80. The presence of mature affect, or controlled emotional response, as seen in FC responses was found to be almost equal in the two groups. Chi square on this test was .124, P, .80. It was therefore concluded that the groups did not differ in their response to color on the Rorschach.

In the area of fantasy activity as reflected by M, or human movement responses, the groups were very similar, chi square being

.032, P, .85. The comparisons of introversive ( $M > C$ ) and extroversive ( $M < C$ ) experience balance likewise failed to reach levels of significance which might justify any conclusion as to the possibility of there being a real difference between groups. A check was made to see whether any great difference occurred between groups in the number of M-, indicating autistic fantasy. In the records of the selects there occurred 12 M- responses, while the rejects produced only 7. While these numbers were too small to warrant testing, they indicate a greater prevalence among the selects of a highly original fantasy life. In some, these autistic productions were definitely associated with their private conflicts, while in others they represented merely unusual thought patterns which may have made them stimulating and interesting persons to know. The difference in frequency was too small, however, to be assured of the reliability of this finding and its relationship to sociometric status.

There was a trend for the rejects to give more responses to the shaded areas of the blots (Y). Chi square was 2.758 which is significant at the ten per cent level. The figure for the vista responses (V) was the same. This indicated a tendency toward anxiety and inferiority feelings among the rejects which perhaps had great significance in their interpersonal relationships. The conclusion that the Y responses reflected the presence of anxiety in the reject group was given greater assurance since, on the MMPI anxiety index, a highly significant difference was obtained which was in the same direction. The trend observable in the vista response might account for some of the behavior resulting in rejection. To the degree that the rejects were conscious

of feelings of inadequacy and inferiority and attempted to make up for these feelings by overcompensating behavior, rejection would very likely be the result. At the least, such feelings would tend to result in insecurity in group participation, a hypothesis proposed by Kidd (26) and explored further in this study (see Chapter VI).

It was found that the rejects tended to respond to the large details (D) more than did the selects (chi square 2.620, P, .10) but that there was little difference between groups in responses to the whole blot (W) or small details (Dd). In thus attending more to the obvious, the rejects reflected their passivity and an anergic state already implied in the low ego strength (F+%) and high frequency of shading responses.

A similar trend was found in number of popular responses (P), although it was not so definite, P being .35. The rejects, responding more frequently to the large details also more often gave the popular responses. The two results are possibly related, since many P responses were made to D areas. It was because of the generally normal occurrence of popular responses in the reject group that no definite statement could be made in regard to schizophrenia in the reject group. While one reject gave only two popular responses, the frequency of P responses among the rest of the rejects contraindicated labelling them as schizophrenic. It was found that one of the selects gave 14 P responses. Such excessive conformity was significant in his case as an attempt to cover up homosexual tendencies portrayed in the rest of his record. The difference between groups on number of popular responses was also

tested by using the cutting scores of 2 and 9 P given as the limits of the normal range by Beck (3, Vol. II, pp. 16-17). Chi square was not significant.

A trend was found for the selects to give more responses utilizing the white space (S). Chi square for difference on S was 1.152; P, .20. The meaning of this finding is indeterminate since response to white space can signify different things in different records. In an effort to delimit the possible interpretations that might be applied, a simple count was made of the number of reversals that occurred in each group. These are true S responses, where the response is primarily to the white space rather than to the chromatic areas of the blots. Examples are "a lighted chandelier," (Ds 5, card II), or "a Christmas tree," (Ds 7, card VII). In such responses it could be presumed that the attitude or need producing the percept would be at its fullest strength. It was found that the select group gave nearly twice as many reversals as the rejects, the numbers being 22 and 12, respectively. According to Beck (3, Vol. II, p. 47), white space selection may be associated with contrariness or, in the healthy individual, resolution and perseverance. It may represent determination and will power. That these attributes might be expected in persons of great popularity seems reasonable.

The comparisons for the four most frequent content categories appears in the second part of Table XI, p. 65. Human and human details (H and Hd) and anatomy responses (An) occurred equally in both groups. The groups were also similar in percentage of animal responses (A). Chi square calculated for A% outside of the range for normals, 30 to



65 per cent, revealed no difference between groups. However, there was a slight trend for the selects to give more sex responses: chi square was 1.583; P, .20. Although this is too low a chi square to make an interpretation with assurance, it might indicate a lesser degree of repression or inhibition in regard to sexual material among the selects. The select group contained a number of veterinary medicine students who, upon responding to sexual areas of the blots frequently construed them as the sexual organs of animals. Other selects who were studying forestry structured these same areas of the blots as "reproductive system of a flower," or a similar botanical response. Such a handling of sexual percepts seemed to allow these subjects not only to see, but to verbalize sexual material in a socially acceptable manner. Only one of the rejects gave a "sublimated" sexual response of this sort.

The oligophrenic (Hdx or Adx) response occurred in the records of two subjects in each group. The position response (Po) was given by one subject in each group. While these responses were rare, their equal distribution between groups was remarkable. That these indicators of more serious pathology were found in both groups recalls the previously noted fact that maladjustment may be present to a certain degree in both the selects and rejects, and that the assumption cannot be made that popularity is equivalent to, or the resultant of, an absence of pathology.

Summary of comparison of individual Rorschach categories. It was found that the groups showed a highly significant difference only on F+%, where the rejects more frequently fell below the lower limit for

a normal population. Although the median number of responses for both groups was the same, the range of responses in each group was quite large. Chi square test for the difference between proportions in each group falling above the medians, after equating the records for number of responses, showed no differences below the ten per cent level. However, a trend was noted for the rejects to respond more to shading and vista, to large details, and to popular areas of the blots. The selects tended to give more responses to the white space, and to give more sex responses. The groups were equal in number of oligophrenic and position responses. In the remainder of the scoring categories, the differences were minimal, and probably arose by chance.

Translating these findings into clinical terms, the conclusions are: 1) the rejects, in their perception of their environment, often distorted reality to the point where it bore little resemblance to the world as seen by normal individuals; 2) the rejects indicated more anxiety, more inferiority feelings, and possibly felt more insecure; 3) they tended toward a mundane approach toward their everyday affairs, occasionally striving for a "normality" which, being exaggerated, could only result in an artificial veneer.

The selects were more purposeful, tending to be more obstinate or independent. They showed less inhibition toward sexual matters and frequently indicated that they had found an adjustment in this area which appeared to be socially acceptable.

Both groups contained members showing evidence of severe psychopathy.

The judgments for level of adjustment. The Rorschach protocols and the scoring summaries were submitted to three judges who were asked to rank the protocols in order, from that representing the best adjustment to that representing the poorest adjustment.<sup>1</sup> Table XII presents the rank order coefficients of correlation between ratings made by the three judges.

A moderate level of agreement was reached between judges A and B, and judges B and C. However, the correlation between judges A and C was so low that it fell between the five and one per cent levels. While a higher level of confidence was desirable, this was well within acceptable limits. In discussing this result with the judges after their work with the Rorschachs had been completed, it was found that one of them had kept in mind the "possibility of improving with psychotherapy" as part of his criterion for adjustment. The two other judges did not include this aspect, but rather considered the adjustment level as they saw it in the protocols.

A composite rank was assigned to each subject by averaging the three ranks given him by the judges. When the subjects were placed in order according to their composite ranks, it was found that nine selects and ten rejects were in the upper half of the distribution. This was exactly half of each group falling in the upper half, indicating that in the opinion of the judges there was no difference between the groups in level of adjustment. This did not agree with the judgments of the MMPI profiles where a difference between groups was found which,

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<sup>1</sup> See Appendix E for a copy of the instructions to the judges. The writer is indebted to Miss Margaret Clark, Mrs. Esta Berg Thomas, and Mr. William E. Thomas for rating the Rorschachs.

TABLE XII

INTER-JUDGE CORRELATIONS FOR RATINGS OF THE  
RORSCHACH PROTOCOLS FOR LEVEL OF ADJUSTMENT

Judges	A and B	A and C	B and C
Rho	.697	.389*	.500

\* With 36 degrees of freedom, a rho of .334 is significant at the five per cent level; it must be .429 to reach the one per cent level.

although not significant, fell between the 10 and 20 per cent levels. The judgments of MMPI profiles, however, were based on fewer variables than when dealing with the Rorschach summaries so that perhaps a finer discrimination was possible.

Another factor for the differences in the results of judgments might lie in the nature of the tests. The Rorschach, much more than the MMPI, gives a picture of personality structure based on an interplay of unconscious forces. The subject taking the Rorschach is much less aware of what he is revealing. As a result, the test goes deeper into the psychic components of personality of which even the subject, himself, is unaware. It is possible that the results obtained in these judgments reflect the fact that when the clinical approach strikes behind the social facade which individuals erect about themselves, few persons are found who are lacking in areas of conflict.

The composite ratings of each subject on the Rorschach and the MMPI were finally averaged for the 36 subjects who took both tests, to obtain an overall rating of level of adjustment. In the resulting distribution, 11 selects and 7 rejects fell in the upper half. Chi square was 2.452; P between .10 and .20. It is therefore not possible to say that, on the basis of judges' evaluation of the tests, there was any significant difference between groups in their level of adjustment, but only that there was a tendency for judges to rate the selects as slightly better adjusted.

The Rorschach interpretations. The discussion thus far has been primarily a statistical approach, dealing with the Rorschach scoring categories one at a time. Such a procedure is a necessary step in

in the analysis of the data. Except for a few crude comparisons, pattern analysis was neglected in the statistical treatment. To consider the variables one-by-one seems to imply a trait concept of personality and to reduce the Rorschach to a trait-measuring device. If this were all that was desired, there are other more readily administered and easily manipulated instruments that could have been used. Comparisons of the groups, and looking only for group differences in separate categories implies a unity or similarity within each group which does not exist. It cannot be expected that possessing a certain trait to a certain degree will necessarily lead to rejection, or that all rejects will be alike in any certain respect.

Therefore, in order to utilize the Rorschach data to their full extent, each record was interpreted in the usual manner. These were not "blind" interpretations, but were done with knowledge of the select-reject status of each subject. The investigator also had some knowledge of the home life, dormitory and school activities, and other information on most of the subjects. The interpretations were made in an attempt to use the Rorschach as an aid to learning additional reasons for the sociometric status in each case. Following are brief statements, summarizing the interpretation of the record of each reject. The underlined words are characteristics which possibly contributed to the reject status:

1. Neurotic, over-striving for normality, sex conflict, (probably masturbation), inferiority feelings, over-reacts emotionally.
2. Tediously pedantic, very insecure, introverted, with much anxiety in his fantasy. Intellectualization a primary defense.

3. Schizophrenic, with infantile emotional reactions, and free-floating anxiety. Overt behavior is odd, thinking is bizarre. Negativistic. No capacity for empathy.
4. Immature character, affected mannerisms, probably homosexual tendencies. No anxiety and good ego strength but apt to be dominated by emotional reactions; lacking in ego-control.
5. Suspicious, fearful, guarded. Lacking in fantasy, with childish, uncontrolled affectivity.
6. Unimaginative, rather restricted fantasy life. Very stereotyped in his thinking. Inhibited emotionality; very controlled throughout. Humorless, and self-critical.
7. Inferiority feelings, masturbation fears, but basically good material. Would profit from therapy. Anxious, but vivid fantasy and capable of strong feeling.
8. Low ego strength and extremely lacking in emotional control. Impulsive, cynical, egocentric. Adolescent psychopath.
9. Very inhibited in emotional life, strives to maintain intellectual control, but thinking is somewhat bizarre, stereotyped. Strong inferiority feelings.
10. Impractical dreamer, childish emotionality and quite stubborn. Considerable anxiety but has great desire to cooperate.
11. Limited intellectual potential, inferiority feelings, and negativistic. Derogatory attitude toward women; stereotyped thinking, insecure.
12. Extreme tendency toward introversion with great amount of fantasy, some tinged with anxiety. Odd mannerisms, low ego control. Erratic, unchanneled succession of ideas, among which some are morbid, some bizarre.
13. Very sick neurotic maintaining a brittle form of adjustment. Some autistic fantasy, phobic thinking, and bizarre combinations of ideas. Dominated by feelings. Overstriving.
14. Fairly well adjusted except for an over-intellectualization, an excessive control maintained over affect. Gives an impression of a likeable psychopath whose self-interest is always considered first.
15. Immature affect control with great anxiety, probably subject to mood swings. Poor treatment prospect; tends to "act out," thus staving off anxiety.

16. The record indicates good adjustment, strong, healthy fantasy, controlled emotionality, good parental relationships and adequate sexual adjustment. Reject status probably due to factors other than personality traits. Reasons for rejection included "borrower, inconsiderate, doesn't study."

17. Extremely rigid (F+% 100) and restricted (20 responses). Suspicious and guarded; a brittle adjustment lacking in emotional warmth. No insight; little concern over himself.

18. Schizophrenic with disorderly but brilliant associations. Polymorphous sexuality, very little control over emotional life. Prognosis very poor without extensive treatment. Sufficient contact with reality at present to expect psychopathic-like behavior.

19. Schizophrenic, paranoid type. Indications of sexual conflict, withdrawal, suspiciousness, extreme egocentrism. The "sickest" record in the group. Lack of control over emotional reactions makes him potentially dangerous.

20. Explosive affect with some anxiety. Maintains a facade of suavity, sophistication, which really covers an insecure, sick form of adjustment. Hysterical trend.

In the following summarized interpretations of the select records, no characteristics are underlined. It is, in fact, more difficult to account for select status than reject status from the Rorschachs, partly because popularity seems to be the result of an absence of disagreeable traits as well as the possession of positive methods of dealing with other persons. Many of these subjects had developed methods of handling interpersonal relationships which consisted of techniques and behavioral traits not reflected in their Rorschach protocols. Some possessed special prestige-giving talents.

1. Good ego strength with considerable intellectualization. Hysteroid trend; probably some concern over sexuality (castration fears) but anxieties are well controlled.

2. Anxiety neurosis, conflict in sexual identification and guilt associated with homosexual tendencies. Dominated by fantasy life. Good treatment risk.



3. Very bright but somewhat impractical and immature. Vigorous fantasy life, and highly emotional. Unsettled sexuality; aggressive but not hostile.
4. Interesting ability to dissociate himself from emotional aspects of a situation and remain objective, perhaps as a defense against over-involvement. Highly original, abstract thinker. Uninhibited, but anxious in relation to authority figures.
5. Somewhat compulsive, "one track mind." Inferiority feelings and considerable anxiety. Indulges in autistic fantasy, as if to make the world conform to his wish.
6. "Normal" record; controlled affectivity, maintains good form level except on card VII. Stereotypy of thought, but adequate, healthy fantasy.
7. Well balanced except for some uncontrolled emotionality. Matter-of-fact person who would probably let others know just where he stood at all times.
8. Extremely anxious, "brittle" form of adjustment. Very constricted mental activity, but still maintaining close human relationships. Record has some characteristics of reactive depression.
9. Aggressive and egocentric. Except for some anxiety, he presents a fair picture of the ambitious psychopath, able to adopt whatever role will suit the purpose of the moment.
10. Fairly well balanced at present, extroverted, minimal anxiety. There is a sadistic streak, however, seemingly related to a need for violent emotional expression combined with inability to empathize. Constant self-referents point to a choice of paranoid symptomatology should a neurosis develop.
11. This record is so lacking in pathology as to be uninteresting! The verbalizations indicate an immaturity, and thought content is stereotyped, but otherwise no maladjustment is indicated.
12. Evidence of much inner conflict, associated with upward social mobility and deteriorated parental relationships. High ego-strength and controlled aggression.
13. Placid, good natured, somewhat stereotyped in thinking. Healthy fantasy, concerned with persons doing pleasant things. Secure in himself, and somewhat passive. Excellent all-round adjustment.

14. This is a well-balanced record; a person capable of a wide range of feeling, of emotional reactions. Vigorous fantasy, adequate sexual adjustment; he strives for originality as if he were consciously trying to make himself interesting.
15. Capable of effecting close interpersonal relationships, but has little need, within himself, to seek companionship. Somewhat passive, apt to under-estimate his own potentialities. Probably subject to mood swings; very sensitive and vulnerable since he is lacking in fantasy life.
16. Probably an overt homosexual maintaining a rigid form of adjustment by an over-conformity in public behavior. Great anxiety, and some mannerisms seen in schizophrenic records.
17. Extroverted, impulsive, and striving for achievement beyond his capacity. Not well adjusted, preoccupied with sex with weak attempts to "sublimate" his interest.
18. An adolescent, full of ideas, interested in people, capable of a variety of emotional outlets. Occasionally his fantasy becomes phobic, or autistic, but he has good powers of recovery. Seems to be very unselfconscious.

It can be seen that the Rorschach revealed areas of conflict in most individuals of both groups. What was less distinctly revealed was the degree to which the conflict had pervaded the entire personality, and the methods adopted by each subject in handling his conflicts. It is believed that these two factors are crucial in determining the ease with which one establishes favorable relationships with his fellows.

The degree to which the conflict had pervaded the entire personality was reflected to some extent in the F+%. When the conflict had reached such serious proportions as to alter one's perception significantly from the norm, it could be expected that his interpersonal relationships would suffer. In such an instance the individual would be reacting less to objective reality than to his distorted interpretations stemming from inner needs. However, even in those rejects whose hold on reality was still within the normal limits, the conflict might assume such exaggerated importance in their inner lives as to

interfere with their ability to attend adequately to the needs of others, with the result that they could not really give anything of themselves to others in a social relationship.

While several of the selects indicated the presence of conflicts, they seemed to be handling them in such a way that the presence of their conflict was not evident in their overt behavior. In fact, it may have been that in some instances their conflict served as a motivating factor in leading them to adopt modes of behavior which would keep them on good terms with other people.

Of equal importance were the "mechanisms" or method which each person must develop for dealing with their conflicts. The methods used by the rejects seemed to be unfortunate choices in most cases, because they were found to be objectionable in the eyes of others. The selects, on the other hand, seemed to have found techniques which were not offensive to others. In Freudian terms, the rejects tended to employ over-compensation, denial, regression, and repression, while the selects tended toward sublimation, rationalization and withdrawal. It was also noted that many of the rejects had developed peculiar mannerisms of speech, gait, and gesture which could often be related to the problem with which they were struggling. The selects, in their behavior, often gave the impression that they had nothing to hide. Their frank verbalizations, open expression, and confident bearing was in general such that persons around them gained a sense of security. Since a greater part of their behavior was under conscious control, it was more predictable, and others could be comfortable in their presence. It is possible that these different mannerisms of the rejects and selects contributed

to some extent to the sociometric standing of each individual since they would make up part of the behavior on which he would be judged.

Summary of the Rorschach findings. The statistical analysis of the Rorschach results revealed only one variable on which there was a significant difference between the groups: form level, or F+%. This indicated that among the rejects there was a greater need to impose their private world onto the objective world of reality. Other trends that were noted were:

1. The rejects tended to be more anxious.
2. The rejects showed a trend toward self-criticism or inferiority feelings.
3. There was a trend among the rejects to respond more frequently to large details and popular areas, possibly reflecting a striving for "normality".
4. The selects tended toward a greater degree of obstinacy and independence.
5. The selects were less inhibited in sexual matters, and seemed to have found socially acceptable ways of expressing their needs in this area.
6. The judges did not find the selects better adjusted on the basis of the Rorschach alone. There was a trend for the selects to be rated as better adjusted than the rejects when the ratings on the Rorschach and MMPI were combined.
7. It is suggested on the basis of the interpreted records that the conflicts revealed in the rejects tended to be more encompassing of the total personality while the conflicts present in the selects tended to have remained isolated.

8. The rejects seemed to have selected methods of handling their conflicts which were objectionable to others, such as over-compensation, denial, regression, and repression. They also had developed peculiar mannerisms which caused them to be received unfavorably by the group.

9. The selects tended to handle their conflicts by inoffensive methods such as sublimation, rationalization, and withdrawal. They were more frank and open in their behavior, which tended to give a sense of security to persons around them.

## CHAPTER V

### RESULTS OBTAINED WITH THE TAT

The purpose in using the Thematic Apperception Test (TAT) in this investigation was to obtain information regarding the dynamics of interpersonal relationships. While the Rorschach technique presents to the clinician the formal structure and emotional organization of the personality, it does not provide the richness in content which is given in the TAT, from which one can gain clues regarding the subject's relationship with important types of environmental figures. A disadvantage of employing the TAT for purposes of research is the limited use that can be made of statistical techniques for making group comparisons. Furthermore, Eron and others (13, 5,) have shown its limitations as a diagnostic tool for separating individuals or groups into nosological categories. Therefore, the TAT was analyzed in the present study primarily by the use of rating scales, and the analysis was directed mainly toward the nature of the relations of the subjects to people and toward society.

A shortened form of the TAT consisting of the first ten pictures recommended for adult males, and the blank card (Harvard University Press, 3rd Edition) was used,<sup>1</sup> so that the time required for the test would be kept to about one hour per subject. The test was administered

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<sup>1</sup> The numbers of the cards which were used are: 1, 2, 3BM, 4, 5, 6BM, 7BM, 8BM, 9BM, 10, and 16 (the blank card).

to 18 selects and 19 rejects. The stories were taken in shorthand so that the protocols were practically verbatim.

The groups were compared for emotional tone and outcome of the stories. The productions of each subject were rated for relationship toward mother and father figures, and toward peers, opposite sex. It was found that the cards used did not elicit enough evidence on which a rating could be made for relationship to peer, same sex. The stories dealing with crime were analyzed in detail, and conspicuous differences which were revealed in thematic analysis were noted. Each of these analyses will be discussed in the following sections.

Emotional tone and outcome. Using the original protocols which had been transcribed from the shorthand, each story was rated for emotional tone according to the rating scales provided by Eron (13, Appendix A). Besides offering a general rating scale for emotional tone, there is provided a rating scale for each individual card. They are based on a 5-point scale from -2, very sad, to +2, very happy. The individualized nature of these scales is evident in the following sample, which is the scale for card 10, a picture of the head and shoulders of a couple in close embrace:

- 2 Death, extreme sorrow, tragedy.
- 1 Departure, leaving loved ones, personal failure, being comforted for minor misfortune.
- 0 Lack of affect, balance of conflict.
- +1 Reunion, happiness, acceptance, feelings of pleasure.
- +2 Marital bliss, extreme contentment, satisfaction and good adjustment. (13, p. 33)

The reliability of the ratings done by the examiner was estimated by having another psychologist, who had no knowledge of the group membership of the subjects, rate a sample of the stories consisting of two stories for each subject - a total of 74 stories.<sup>2</sup> The ratings differed on only six stories, which gave a  $t$  of 7.094 when the test for departure of two frequencies from equality was applied, indicating a high reliability between the raters. The individualized rating scales undoubtedly contributed to the high reliability shown in this sample, and it was not considered necessary for another person to rate the entire group of protocols.

The mean emotional tone for the selects was  $-.52$  on the rating scale; for the rejects it was  $-.62$ . This indicates a general tendency in both groups to give stories which were somewhat sad. Fisher's  $t$  for the difference between means was  $.825$ , which is not significant so that it could not be concluded that the rejects really told stories that were more unhappy in emotional tone than those of the selects. Of the entire group of subjects, only two had a positive mean rating, indicating a preponderance of happy stories, and both of these were selects.

The outcomes of the stories were also rated, again using a 5-point scale provided by Eron (13, p. 32). This scale is similar to the one used for emotional tone in ranging from very sad to very happy. However, since he found that a tentative individualized set of outcome scales was very similar to the emotional tone scale, he proposed that

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<sup>2</sup> The writer wishes to express his appreciation to Dr. Jack Boger for his help in rating the stories.



only one general rating scale be used for all outcomes. This procedure was followed in the present study. The mean rating for outcome in the select group was  $+1.10$ ; for the rejects it was  $-.05$ . Fisher's  $t$  for the difference between these means was  $1.071$ , which falls short of being significant.

In summary, the comparison of groups on emotional tone and outcome of stories did not reveal significant group differences. In general, the stories were somewhat sad in both groups. There was a trend for the selects to be more optimistic in the outcome of the stories, but the difference between groups was not sufficient to establish this finding definitely.

Relationship toward society. As a general indication of the relationship between the subjects and society, each protocol was examined for stories dealing with crime. For this purpose, only those stories were included where the crime was carried to completion; that is, the murder, suicide, robbery, etc. was actually committed. There were many more stories where a crime theme occurred in the thoughts of the characters, but was not fulfilled in their action. Themes of this type will be discussed in the thematic analysis. It was found that nine selects and ten rejects told stories where a crime was committed, which is about half of each group (50 and 52 per cent, respectively). Table XIII shows the number and types of crimes which occurred in each group.

The table shows that even though an almost equal number of subjects in each group told stories dealing with crime, the number of such stories occurring in the reject group was considerably greater

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by appropriate documentation and receipts.

3. Regular audits should be conducted to verify the accuracy of the records and identify any discrepancies.

4. The second part of the document outlines the procedures for handling cash and credit transactions.

5. All cash receipts should be recorded immediately and deposited in a secure bank account.

6. Credit sales should be recorded at the time of sale, and the amount should be tracked until payment is received.

7. The third part of the document describes the methods for calculating and recording expenses.

8. Expenses should be categorized according to their nature and recorded in the appropriate ledger accounts.

9. The fourth part of the document provides a summary of the accounting cycle and the final steps for preparing financial statements.

10. The final part of the document concludes with a statement of the author's hope that this manual will be helpful to all who use it.

TABLE XIII

THE NUMBER AND TYPE OF CRIMES FOUND IN  
THE STORIES OF EACH GROUP

Crime	Selects	Rejects
Espionage	2	
Assault	3	
Accidental homicide	3	4
Murder	1	4
Suicide	2	2
Robbery	1	6
Unnamed crime	1	3
Confidence game		1
Total number of crimes	13	20

than was found in the selects. If frequency of a certain theme may be regarded as an index of the strength of the drive giving rise to that theme, then this finding may indicate that in these rejects there was a greater tendency toward anti-social behavior, or at least that there was more hostility present in them as a group.

An examination of the different crimes and their frequencies adds to the picture of anti-social behavior as it was reflected in the fantasy of the two groups. Espionage was included because it is definitely a crime, but it lacks the personalized aggression which characterizes the other types of crimes which occurred. Stories of spies occurred only among the selects. Assault, also found only among the selects, was largely in response to card 3BM where a man "beats up" another for making advances to his wife or partner. It was included in the tabulation only when the thought of assault was actually carried out. Many individuals in both groups included the idea of assault in their stories to this picture, but the man was dissuaded by the woman from carrying out the plan. Accidental homicide was practically equal in both groups in frequency, and included accidental shootings, or automobile accidents. The next category, murder, was more important; for even to fantasy about planning the death of another seems to embody a recklessness, sometimes a hostility, which is not condoned by the mores of our society. The murders of the rejects included stories where a "boy shot a man friend," "boy shot a man," "woman shot her drunken husband," and a "boy shot 'someone.'" The murder given by a select was of a man shooting his wife's lover. Except for the woman shooting her husband, there seemed to be no overt reason for the murders to have happened in the stories of the rejects.

The largest difference between groups was found in the crime of robbery. Here, it seemed that the rejects revealed most clearly a tendency to think in terms of one person forcing his will upon another - a "working against" instead of a "working with." In this and in the unnamed crimes of the next category, the rejects showed less hesitancy to deal in their fantasy with acts against other persons, than did the selects. The final "con game" was the product of one of the rejects and was a story elicited by the blank card. It dealt with a man who bilked women out of their money by pretending to fall in love with them.

The stories dealing with crimes have been analyzed in detail because they seem to reflect a type of thinking which was quite different in the two groups, and may have significance for their sociometric standing. In the selects, hostility found a direct outlet in assault against the offender - a solution which never occurred among the rejects. This is behavior which is understandable, overt, and combines a conventional mixture of emotion and action. On the other hand, among the rejects was found more toying with the idea of extreme aggression (murder) for which no logical reason was given, more robbery or just "crime" in a generalized sense, and in one instance the most devious form of aggression, the con-game. It is not proposed that the rejects would always carry out, in overt behavior, the acts about which they fantasied in these stories. But that their thinking followed these lines probably reflects a hostility toward others which in some instances would have been noticeable in little ways by persons who had to associate with them. It is also important that in many instances

the hostility seemed to be there, but without instigation. It may therefore be presumed that the hostility arose from repressed conflicts and if it found expression at all, it might be displaced onto whomever was nearby. Such hostility arising from a neurotic source is quite different from the aggression evidenced in the stories of assault given by three of the selects.

Interpersonal relationships. In order to obtain an estimate of the relationship of each subject toward the mother or mother-figure, father or father-figure, and to peer, opposite sex (hereafter referred to as "heterosexual relationship") the summarized protocols were rated by the writer and two other judges.<sup>3</sup> By summarizing each story into a sentence or two which contained the essence of the action and feelings, the task requested of the judges was kept within reasonable limits of difficulty and time. Each subject was rated on a five point scale, from -2, very poor relationship, to +2, very favorable relationship. No rating was possible for relationship to peer, same sex, because it was found that indications of such relationship occurred very rarely.

Table XIV presents the coefficients of correlations ( $\phi$ ) between judges. The  $\phi$  coefficient was chosen because it would best reflect the fact if the judges differed in assigning positive or negative ratings. The ratings were dichotomized by omitting the zero category in making scattergrams and throwing alternate zero ratings first into the plus one category and next into the minus one category. When these coefficients were corrected to correspond to the Pearson  $r$ ,

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<sup>3</sup> The writer is indebted to Dr. William E. Harris and Dr. Jack Boger for assisting with these ratings.

TABLE XIV

INTER-JUDGE CORRELATIONS FOR RATING OF  
INTERPERSONAL RELATIONSHIPS IN THE TAT STORIES

Relationship	Judges A and B	Judges A and C	Judges B and C
Toward Mother	.52*	.10	.73
Toward Father	.41	.47	.76
Heterosexual	.51	.02	.61

\* These correlations are phi coefficients, and are not directly comparable to the Pearson  $r$ . For interpretation of their significance, see the text, pp. 91 - 93.

they ranged from .64 to 1.0 except for the two lowest, between judges A and C. "Judge A" in this case was the writer, and it may be that his knowledge of the subjects influenced his ratings in such a way as to lower these correlations.

A composite rating was obtained for each subject by averaging the ratings of the three judges. Table XV presents the comparison of the groups obtained by computing the mean rating for each group and calculating Fisher's *t* to test the significance of the difference between groups.

It was found that there was no significant difference between groups in any of the three areas. The groups differed the most in relationship to the mother-figure, and were identical in heterosexual relationships. Both groups showed the most unfavorable relationships toward the mother-figure. The only positive mean which occurred was in the relationship of the selects toward the father figure.

Thematic analysis. The check list of 125 themes provided by Eron (13) was used for the thematic analysis of the TAT protocols. This check list is divided into the two general headings of equilibrium and disequilibrium, indicating the state of tension or adjustment displayed in the story. These two general groups are subdivided into interpersonal, intrapersonal and impersonal classifications, related to the sphere to which the situation referred. Of primary pertinence for the present study, the interpersonal classification is further broken down into sections dealing with parent, partner, peer, or sibling. Each theme is defined in the check list.



TABLE XV

COMPARISON OF THE GROUPS ON INTERPERSONAL RELATIONSHIPS  
 BASED ON MEANS OF COMBINED RATINGS OF TAT STORIES BY THREE JUDGES

	Mean Ratings for Relationship		
	Mother	Father	Heterosexual
Selects	-.3	+.1	-.2
Rejects	-.6	-.1	-.2
Fisher's t	1.067	.809	- - -

As the stories were examined, each theme was tallied as it appeared. It was found that most stories contained more than one theme, and rarely were there stories which could not be classified under one of the headings. The procedure adopted by Eron was followed, in that only the manifest content was considered: "the actual behavior of the characters in the stories as narrated by the subject, regardless of its covert significance" (13, p. 4). Since the tallying of themes was merely a counting procedure, it was done by the examiner only.

Since Eron found no significant differences between the hospitalized and non-hospitalized subjects of his study in the production of certain themes or thematic patterns, it was not anticipated that any would appear in the present study where the groups might be presumed to be even more alike than were his. It was, in fact, found that there were very few of the total number of themes on which the groups of the present study differed to any great extent. Therefore, no attempt was made at a statistical analysis of theme occurrence. However, an examination of the predominant themes, and the frequencies of their occurrence, provides much of interest. Table XVI presents the 22 themes which were found to be most frequent, or on which the groups differed most widely. The complete list of themes with the frequency of their occurrence may be found in Appendix G.

The most frequent theme in the stories of both groups was "Parental pressure." This was defined as the parent being prohibitive, compelling, censuring, punishing, disapproving, interfering, checking up, disagreeing or quarrelling with, restraining or unduly influencing the child. The rejects exceeded the selects in the frequency of this theme, but both groups used it to a great extent. That the parents

TABLE XVI

TAT THEMES WHICH WERE MOST FREQUENT AND ON WHICH  
THE GROUPS DIFFERED MOST WIDELY IN FREQUENCY

Theme	Frequency	
	Selects	Rejects
Parental pressure	31	37
Parental succorance	13	15
Nurturance to parent	5	0
Departure from parent	6	8
Concern for child	3	7
Death or illness of parent	12	9
Disappointment to parent	1	6
Departure from partner	3	8
Illicit sex	13	9
Aggression to peer	7	4
Death or illness of peer	0	5
Aspiration	16	13
Suicide	4	1
Moral struggle	9	5
Occupational concern	10	20
Physical illness or death of hero	3	7
Compensation	0	6
"Hurt feelings"	0	7
Aggression to environment	6	12
Contentment with partner	8	4
Congeniality with peer	6	3
Self-tranquillity	6	1

were regarded as exerting unwanted pressure agrees with the previously noted finding by the raters of a predominantly unfavorable relationship toward the parents.

"Occupational concern" was next most frequent, defined as "deciding between jobs, considering vocations, dissatisfied with present employment, fails at present employment." The rejects exceeded the selects in the use of this theme, largely because of card 2 where the ratio was 11 to 2, with the rejects most often telling of the girl's dissatisfaction with her present life. "Aspiration," which was dreaming of, or hoping for the future, and "succorance," which referred to "child seeks or receives aid, help, advice, consolation from parent" were the next most frequent themes. The differences on these were very small. Only the selects offered themes of "nurturance," however, where the child bestowed or offered aid, advice, consolation to the parent. Actually, it was usually consolation which was given to one parent at the death of the other. Departure from parent was a frequent theme with both groups, but the rejects more often told of departure from a partner (with the partner being the wife, sweetheart, or opposite-sexed peer).

The rejects more frequently pictured the parent as being concerned over the physical or mental well-being of the child, and being disappointed in the child. One wonders what the relation might be between these themes and the early experiences of the rejects while they were still a part of the family group.

As mentioned above, the fact that the selects more frequently mentioned the death or illness of the parent was related to the "nurturance" theme. Several stories dwelt upon the hero's taking care of

the mother until her death. However, both groups occasionally introduced the theme of parental death abruptly into their stories for no apparent reason, so that a hostility became evident.

The selects indicated less inhibition in dealing with stories of illicit sex, just as they more frequently gave sex responses to the Rorschach cards. "Illicit sex" includes extra- or pre-marital intercourse and "petting." That they seemed to anticipate greater satisfaction in heterosexual relationships was also indicated in their more frequently using a theme of "contentment with partner," the partner in this case being of the opposite sex.

In the more frequent use of the theme "aggression to peer," the selects showed a tendency to give direct expression to hostility, while the rejects were more passive in this respect. The figures for aggression given here do not correspond with those in Table XIII, the stories of crime, because the theme was counted even though the action was not carried out, provided it figured importantly in the fantasy of the character.

While none of the selects told stories where the friend (peer) suffered death or illness, this theme occurred five times in the reject group. The rejects also more frequently had themes dealing with the illness or death of the hero. Perhaps this reflects a hostility toward others and a dissatisfaction with self. Again, it was found that the selects tended toward a more drastic solution by having the hero solve problems of personal dissatisfaction through committing suicide.

The excess, in the selects, of moral struggle, where the hero

was concerned over right and wrong, or hesitating in indulging in some act because of ethical proscriptions, pointed up their consciousness of the impact of their behavior on both other people and upon themselves. Among the rejects such introspection was less often found. They more frequently would solve the problem by "compensation" where a good characteristic or a stroke of fortune made up for another bad characteristic or misfortune. This agrees with the Rorschach finding that compensation, as a mechanism, seemed to occur more frequently in the rejects. Their need for such a mechanism is seen in the use, in the rejects only, of the theme "hurt feelings" where the central character was very sensitive over some happening, slight, or insult.

In contrast to the aggression to the peer in which the selects were high, the rejects very frequently showed an aggression to the environment. Themes under this heading included robbery, accident, murder of unspecified individual. It might be postulated that even in their fantasy the displacement of hostility from the real source of frustration was necessary. Perhaps part of the reason that this theme was found less in the selects can be found in the last two themes which they used frequently, "congeniality with peer" and "self-tranquillity." Subjects who could express such feelings would have less need for expression of aggression through hostile acts.

In summary, the thematic analysis gave support to the conclusions already derived from the examination of the crime stories and gave a pattern of reactions at the fantasy level which, although lacking in statistical verification, may point to characteristic group differences.

An examination of the themes on which the greatest differences in frequency appeared revealed patterns which logically fit together.

The selects more often presented themes using the more tender emotions of congeniality, tranquillity, offering aid to the parent, and showing contentment with a partner of the opposite sex. When hostility was aroused, they tended to give it direct expression by becoming aggressive toward the object of their dislike. They were concerned over the moral aspects of their behavior. They indicated less inhibition in heterosexual relationships.

The rejects tended more frequently toward passive solutions of their difficulties, such as leaving their parents or their partner, and finding compensatory rewards. They were more easily hurt, and they displaced their hostilities by becoming aggressive toward innocent objects in their environment. They indicated dissatisfaction with their present lot, and seemed to feel that they were a disappointment to their parents.

Both groups expressed the attitude that their parents were dominating and disapproving.

Summary of TAT results. The TAT was administered to 18 selects and 19 rejects. When the original protocols were rated for emotional tone it was found that both groups told stories which were predominantly sad and that the difference between groups was not significant. The selects tended to give outcomes somewhat happier than those of the rejects, but again the difference failed to reach a statistically significant level. The relationship toward society was estimated by counting the number of stories in which a crime was actually committed.

The selects tended to be more direct in the expression of their aggression while the rejects indicated a greater tendency to resort to serious crimes, such as murder, or generalized aggression such as robbery. The need to express anti-social behavior seemed to be stronger among the rejects.

When the protocols were rated for interpersonal relationships, it was found that the groups showed no significant difference in mean ratings, and that both groups showed the most unfavorable relationship toward the mother or mother-figure, a somewhat better relationship toward the opposite sex, and the most favorable relationship toward the father or father-figure.

The thematic analysis showed a greater tendency among the selects to express the tender emotions, an ability to express direct hostility, a concern over "right" and "wrong" in making behavior choices, and less inhibition in heterosexual relationships than among the rejects.

The rejects tended more frequently toward passive solutions of their difficulties, compensatory behavior, over-sensitivity to slights, and displacement of hostility into aggressive acts such as robbery. They seemed to be more dissatisfied with their present life situation, and their stories indicated a tendency for children to be a disappointment to their parents.

Both groups expressed the attitude that their parents were exerting pressure upon them, were disapproving, or dominating.



## CHAPTER VI

### CONSISTENCY IN THE SELF CONCEPT

In his investigation of factors associated with rejection, Kidd (26) included in his questionnaire several items related to the hypothesis that the rejects would be more insecure than the selects. He found that, while the rejects did not rate themselves as being more insecure than the selects on a security-insecurity rating scale, they were more frequently ignorant of family income, they were getting lower grades, they moved more frequently, and they rated themselves low in scholastic effort and in citizenship (25, pp. 116-125). Logically, these results may be regarded as supporting his hypothesis, but, as he pointed out, further evidence was desirable.

In the present study it was decided to explore further the question of insecurity as a factor in rejection. The measurement of security-insecurity is a largely undeveloped area in personality testing. Swift (49) was unable to demonstrate any relationship between Rorschach variables and behavioral measures of insecurity. Maslow (32) has developed a paper-and-pencil test of security-insecurity made up of 75 items which are to be answered "yes" or "no". Among the sub-aspects of insecurity which were considered in the development of this test were: a feeling of rejection, of isolation; perception of the world as dark, threatening, or hostile; feelings of threat, danger; anxiety; feeling of tension, strain, or conflict; uncertainty; psychotic and neurotic tendencies; and inferiority feelings (32, pp. 21-22). Since many of these attributes

have been shown to be present in rejects, either in the present study or in others reviewed in Chapter I, further evidence along the same line would be redundant. If, however, in making another test of security-insecurity on a population of selects and rejects, there is added some contribution to personality theory, such a study becomes a worthwhile undertaking.

An approach to the measurement of security-insecurity is provided in connection with the self concept which has heretofore been unexplored. It is related to the consistency of the concept of self, and a testable hypothesis could be formulated thus: an insecure person would tend to be more inconsistent in the descriptive terms which he would apply to himself than would a secure person.

This hypothesis springs from many hints already present in the literature. Lecky (29) regarded personality as an organized system of ideas about the self and interpreted behavior as a manifestation of a single motive, that of maintaining self-consistency in an unstable environment. Personality, he said, is a system of ideas which are consistent with each other and with their nucleus, the idea of the self. In this frame of reference, therapy consists of the definition of inconsistent elements which are causing complaint and resistance (creating insecurity or anxiety), and in relating them directly to the dominant structure of values.

Rogers (43) proposed a tentative theory of behavior in a series of propositions, two of which have pertinence to this discussion. They are:

XII Most of the ways of behaving which are adopted by the organism are those which are consistent with the concept of self. (43, p. 507).

XIV Psychological maladjustment exists when the organism denies to awareness significant sensory and visceral experiences, which consequently are not symbolized and organized into the gestalt of the self-structure. When this situation exists, there is a basic or potential psychological tension. . . . if the individual becomes to any degree aware of this tension or discrepancy, he feels anxious, feels that he is not united or integrated, that he is unsure of his direction. (43, pp. 510-511).

In these propositions it is proposed that self-consistency is a primary goal, and that an awareness of inconsistencies causes "psychological tension." This psychological tension, it is here proposed, may be detected by a device designed to reveal the presence of discrepant elements in the concept of the self. It is also proposed that this tension may be akin to insecurity.

Benjamins (6) makes more apparent the connection between security and consistency. In his theory, the conceptual system which is built up by an individual gives meaning to his experiences as he tries to fit himself into the world in which he lives. An individual's identity is built out of his life experiences and without this identity he has no frame of reference with which to understand anything related to himself. Thus, personal conflict is the subjective experience resulting from recognizing incongruities or inconsistencies within his conceptual system.

Security refers to the feeling of certainty which the individual has in relation to his understanding, especially regarding himself . . . Complete certainty, or complete security, then, means that there is complete freedom from inconsistencies among all the various conceptualizations of the individual - everything already experienced and all anticipated experiences have perfect closure, i.e., are all understood, all "make sense," are all integrated. . . . Just as one needs to know how others will behave in a given situation, so one must know how he, himself, will behave. One must, then, be consistent in order to be secure, in order to maintain his method of conceptualizing himself." (6, p. 475).

In this theoretical framework, therefore, a test of the relationship between self-consistency and security can be made by determining the "certainty" with which an individual applies adjectival labels in describing himself. On the basis of the results obtained by Kidd, the rejects of his study were thought to be more insecure than the selects. The Rorschach and MMPI results of the present study indicated that there was more anxiety in the reject group. We might already assume, then, that in the rejects of this study there was a population in which pronounced insecurity existed. The hypothesis of the present study was that the selects, being more secure, would be able to remain consistent in their self-descriptions. The rejects, being more insecure, would be less sure in their estimates of what sorts of persons they were and this uncertainty would appear in contradictory or inconsistent elements in their descriptions of themselves.

Development of the Self Rating Scale. It was desired that a rating scale composed of trait names be devised that would be not only meaningful to the population of the study, male college students, but also that would be composed of traits which had significance related to select-reject status. A source of such significant traits was provided in the sociometric questionnaire, where the dormitory residents were asked to give reasons for rejection.<sup>1</sup> Many of these reasons were traits, or were reducible to traits suitable for the scale. However, since the scale was too short even after using all suitable trait-names

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<sup>1</sup> See Appendix F for the reasons which were given for rejection of each of the rejects used in this study.

suggested in the questionnaire, a few more were added, chiefly pertaining to physical attributes, such as weight, and strength.

Each trait was placed on a continuum, with antonyms at each end, thus:

smart . . . . . dumb

In this way a single frame of reference was provided and there was some surety that the words of the scale would mean relatively the same thing to all subjects.

In order to provide a basis for accurate analysis of the self-ratings, a five point scale was placed between each pair of antonyms. The subjects were asked to rate themselves at the point on which they believed they fell.

Since the scale was to measure the consistency in self-ratings, each trait had to occur twice. Therefore, after the continuum had been set up for each trait on which a measurement was desired, a matching continuum was devised in synonymous terms. For example, the two continua on which the subject would tell how he regarded himself in respect to the trait "intelligence," were:

smart . . . . . dumb

bright . . . . . stupid

The synonyms were chosen with the aid of Roget's Thesaurus. In the final scale there were 27 traits, which, with their alternate forms made the complete scale of 54 continua.<sup>2</sup>

In the scale itself these continua were placed in mixed order,

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<sup>2</sup> See Appendix C for a copy of the Self Rating Scale.

and many of them were reversed end-for-end. They were mixed so that the subjects would not realize that they were rating themselves twice on each trait. Some of the continua were reversed so that the "favorable" trait would not always occur in the left-hand column. In this way the subject was forced to consider each continuum separately and could not go quickly down the column rating himself the same on every trait. The following list presents the continua in paired form and the traits which they purport to measure:

adult - infantile mature - childish	maturity
aggressive - yielding quarrelsome - passive	aggressiveness
blundering - diplomatic tactless - thoughtful	tactfulness
broad-minded - intolerant liberal - narrow-minded	tolerance
bull-headed - flexible stubborn - democratic	flexibility
confident - uncertain secure - insecure	security
contrary - uncooperative uncooperative - helpful	cooperation
courteous - rude polite - ill-mannered	courtesy
dependable - irresponsible reliable - unstable	dependability
dirty - clean messy - neat	cleanliness
dishonest - trustworthy liar - truthful	honesty
effeminate - masculine prissy - manly	masculinity

feeble - muscular weak - strong	strength
follower - leader imitative - persuasive	leadership
friendly - hostile sociable - unfriendly	friendliness
gay - sorrowful happy - unhappy	feeling-tone
genuine - insincere sincere - hypocritical	sincerity
keep-to-myself - prying mind-my-own-business - nosy	discretion
likeable - unpleasant pleasant - offensive	likeability
modest - vain humble - proud	pride
moody - even-tempered changeable - steady-disposition	changeableness
moral - corrupt virtuous - immoral	morality
quiet - noisy reserved - loud	boisterousness
selfish- generous stingy - openhanded	generosity
smart - dumb bright - stupid	intelligence
thin - fat underweight - overweight	weight
unselfconscious - self-centered mixer - withdrawn	sociability

In addition to the directions which appear on the first page of the scale, it was believed advisable to add a warning to the effect that the "average" column (number 3, as they were numbered) should be

used sparingly. The subjects were told that a truly average individual was rare, that they could use column 3, but that it should be used after thoughtful consideration and not only as a compromise when they found it difficult to decide. This was done in an effort to have the subjects use the extremes of the scale where true inconsistencies, if they occurred, would be apparent. No continuum which had been marked in column 3 was considered in the scoring.

The Self Rating Scale was administered to 21 subjects in each group. One of the rejects, however, rated himself as "average" on every continuum, so that his scale could not be included in analyzing the results. To score the scale, each continuum was compared with its synonymous alternate. One point was given for each reversal which was found. A reversal was a true inconsistency, where the subject rated himself 1 or 2 on one of the continua, and 4 or 5 on the alternate, or vice versa.

Results. The scores obtained by the two groups are given in Table XVII. Not only did more of the rejects make reversals in describing themselves, but the number of reversals occurring in the reject group was greater. The mean number of reversals for the selects was .8, while the reject mean was 1.5. Chi-square for the difference between the number in each group making one or more reversals was 3.228; P, .07. A chi square of this size provides considerable support for the hypothesis that the rejects would be more inconsistent in their self-ratings, but falls short of the five per cent level usually required.



TABLE XVII

SCORES ON THE SELF RATING SCALE:  
 NUMBER OF REVERSALS OCCURRING  
 IN EACH GROUP

Number of Reversals	Selects	Rejects
0	11	5
1	7	7
2		4
3	3	3
5		1
Total who made reversals	10	15

Table XVIII shows the traits on which the subjects were inconsistent in their self-ratings. This tabulation reveals that the groups differed to some extent in the traits on which they were inconsistent. Whether these differences were due to the test items themselves (the problem of strictly delimiting the meaning of the trait names was probably only partially solved by placing each trait on a continuum) or whether they pointed to differences in the thinking process of selects and rejects is not known.

The reliability of the scale. The purpose in calculating the reliability of the scale was to determine whether an individual would be relatively constant in the way he would rate himself on each continuum from one time to another. That is, were his judgments regarding himself related to some relatively stable standard which might be regarded as the self concept, or were his ratings so changeable from time to time that one had to assume that whatever he marked on the test was probably due to chance? The scale was therefore administered twice to two classes of introductory psychology, a total of 75 college students. The two administrations were a week apart.

The scales were scored by matching the ratings given on the second administration with those of the first, for each subject. Each time the rating differed the continuum was marked "wrong." In this way a total score was obtained which represented the extent of agreement between the first and second administrations. Using these scores, the Kuder Richardson formula for estimating reliability (20, p. 495) could be applied. The reliability coefficient of the scale was .69.

TABLE XVIII

## THE TRAITS ON WHICH INCONSISTENCIES OCCURRED

Trait name	Number who were inconsistent	
	Selects	Rejects
flexibility	1	
courtesy	1	
boisterousness	1	
likeability	1	1
aggressiveness	3	2
pride	3	2
friendliness	3	4
changeableness	3	4
sincerity		1
tolerance		1
generosity		1
security		1
discretion		2
honesty		2
dependability		2
cooperation		3
tactfulness		3

The interpretation of this coefficient is difficult because of the nature of the Scale. It was not a "test" in the true sense of the word, where there was a "right" and "wrong" answer. The subjects did not know, during the second administration that their scores depended upon agreement with their former ratings. Also, reliability would be just as fairly judged if "agreement" between ratings were defined only as falling on the same side of the scale, rather than on exactly the same point, as was the criterion used here. Because of these considerations the reliability coefficient of .69 seems adequate proof that the ratings were related to a stable criterion.

While memory may have been a factor in the reliability of the ratings, it could not have been an important one. The students did not know, when they first took the test, that they would be asked to do it again. Even had they been "set" to memorize their responses, the task would have been prodigious, involving 54 items with a five-point scale for each. It must be assumed that their ratings were meaningful within each subject's frame of reference, or concept of self.

The results were different when the question of reliability was phrased another way, i.e., would an individual tend to make as many reversals on a second administration as he did on the first? The tendency was for there to be fewer reversals on the second administration. The mean number of reversals on the first administration for the 75 subjects was 1.8; on the second it was 1.2. The correlation (Pearson  $r$ ) between number of reversals on the first and second administrations was  $.66 \pm .07$ . This indicates that those making more reversals on the first administration tended also to make more on the second. The reduction in the mean number of reversals was possibly due to familiarity with the task, and to a greater wariness which might naturally have

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities related to the business.

2. It then outlines the various methods and tools available for tracking and analyzing financial data, including spreadsheets, accounting software, and manual ledgers.

3. The document also covers the importance of regular audits and reconciliations to ensure the accuracy and integrity of the financial records.

4. Finally, it provides a detailed overview of the reporting requirements and best practices for presenting financial information to stakeholders and regulatory bodies.

5. The document concludes by emphasizing the role of accurate financial reporting in the overall success and sustainability of the business.

6. It also highlights the importance of transparency and accountability in financial reporting, and the potential consequences of non-compliance with regulatory requirements.

7. The document provides a comprehensive guide for businesses of all sizes, offering practical advice and insights into the complexities of financial reporting.

8. It also includes a list of key terms and definitions related to financial reporting, as well as a glossary of common abbreviations and acronyms.

9. The document is designed to be a valuable resource for business owners, accountants, and financial analysts alike, providing a clear and concise overview of the financial reporting process.

10. It is intended to help businesses understand their financial obligations and ensure that they are meeting all applicable regulatory requirements.

11. The document is a comprehensive and up-to-date guide to financial reporting, covering all aspects of the process from record-keeping to final reporting.

12. It is a must-read for anyone involved in the financial management of a business, providing a clear and concise overview of the financial reporting process.

13. The document is a valuable resource for businesses of all sizes, offering practical advice and insights into the complexities of financial reporting.

14. It is intended to help businesses understand their financial obligations and ensure that they are meeting all applicable regulatory requirements.

15. The document is a comprehensive and up-to-date guide to financial reporting, covering all aspects of the process from record-keeping to final reporting.

resulted from being asked to repeat the task. Just as, in a life situation, one might achieve a greater integration regarding some decision if allowed to "think the matter over," so, with greater familiarity or greater caution, inconsistencies in self-ratings might be expected to be reduced on a second administration of the test. The result obtained here might point also to the fact that the same concept was not being measured on the second administration as it was on the first. Whereas in the first instance a measure was obtained of self-inconsistency, possibly the second administration measured a mixture of that, plus test-taking attitudes, insight into the purpose of the test, and other unknown factors. It is doubtful, therefore, that the test-retest method is an adequate method for determining the reliability of a tendency for making reversals.

An effort was made to find another reason which might lead to reversals than the inconsistency in the self concept, which was first postulated. There was a possibility that a positional tendency was having an effect, where a right-left quality inherent in the right and left columns of trait names caused ratings to fall indiscriminately on one or the other ends of the scale. Two methods of checking on this possibility were tried, neither of which indicated such a positional effect to be operating. In the first method, the scale was administered twice to a college class of 43 elementary psychology students. The first administration was with the original scale; the second administration, a week later, was with a form in which the right and left columns of traits were reversed. The number of self-ratings falling in columns 1 and 2 on the first administration was compared with the number

falling in columns 1 and 2 on the second administration. The same was done with columns 4 and 5. The center column, number 3, was not counted.

Table XIX shows the results of this experiment. To determine whether a positional tendency was operating, one must ask whether there was an unanticipated influence exerted by the words in one or the other of the columns causing self-ratings to fall at one or the other ends of the scale. If this were true, then reversing the columns should cause a corresponding reversal in the mean number of ratings falling on the side being influenced. Table XIX shows that on the first administration, more ratings fell on the right side of the scale. When the columns were reversed for the second administration, however, there was not a corresponding increase in mean number of ratings to the left side of the scale. There was an increase of .8 in the mean number of ratings on the left side, and a decrease of 1.2 on the right side, but Fisher's *t* for the difference between means was not significant in either case. The results indicate, then, that a positional tendency, if it was operating, was not sufficiently strong to have caused reversals independent of the meanings of the trait names.

The second method used to determine the possible presence of a positional tendency was designed to discover whether the numbers given to the points on the scale influenced the results. Did the subjects tend, indiscriminately, to mark under 1 or 2 rather than 4 or 5, or vice versa? In testing this possibility, the scale was administered to a new group of 41 students in elementary psychology classes, with the second test having the numbers reversed, reading 5, 4, 3, 2, 1.

TABLE XIX

COMPARISON OF MEAN NUMBER OF RATINGS FALLING ON EACH  
SIDE OF THE SCALE ON TWO ADMINISTRATIONS WITH  
THE COLUMNS OF TRAIT NAMES REVERSED

	Mean number of ratings	
	Left side	Right side
First administration	20.2	22.5
Second administration	21.0	21.3
Difference	.8	1.2
t	1.210*	1.780

\* With 42 degrees of freedom, t must be 2.018 to be significant at the five per cent level.



Table XX presents the results of these administrations, which also were a week apart. The mean number of self-ratings falling at either end of the scale on each administration were not found to differ significantly by Fisher's t test.

Another use of the scale was applied in determining whether the occurrence of reversals, which could be regarded as a defect in perception of oneself, would be accompanied by a similar perceptual defect in regard to others. Stated another way, would an individual who is inconsistent in his self concept also be inconsistent in the way he judges other persons? This was tested by having a group of 62 students rate first themselves and then, on another copy of the scale, rate someone whom they felt they knew very well, and computing a correlation between the number of reversals occurring in the two ratings. Pearson  $r$  in this instance was  $.59 \pm .08$ , indicating that considerable relationship did exist between inconsistencies in perception of self and of others. The subjects tended to make more reversals when judging others. The mean number of reversals on self-ratings for this group was 1.8, while the mean on ratings of "others" was 2.0.

These results are in the expected direction. One would expect that defects of perception would occur, if they are going to be present at all, regardless of the perceptual object. It would also be expected that persons would perceive, and maintain consistency between the interlocking systems and sub-systems of their own self concept better than they could maintain a consistency about any other individual. The self concept must be assumed to be a highly complex organization. It is more than a simple "picture of oneself." It is not proposed that

TABLE XX

COMPARISON OF MEAN NUMBER OF RATINGS FALLING ON EACH  
SIDE OF THE SCALE ON TWO ADMINISTRATIONS WITH  
THE SCALE NUMBERS REVERSED

	Mean number of ratings	
	Left side	Right side
First administration	21.2	23.0
Second administration	21.5	23.4
Difference	.3	.4
t	.478*	.627

\* With 40 degrees of freedom, t must be 2.021 to be significant at the five per cent level.

the rating scale used in this study approached a complete survey of the important traits which play a part in the self concept of most individuals. It was therefore all the more remarkable that differences at the observed levels appeared between the groups when the measuring instrument is admittedly so crude. Furthermore, if some individuals found it difficult to remain consistent when rating themselves on these few items, they would surely find it equally so when rating others. The correlation between self- and other - ratings obtained here supports this assumption.

Validity of the results. Just as validity in terms of an outside criterion cannot correctly be applied to sociometric studies (Pepinsky, 40), so would validity of this sort be erroneously applied to the self-rating scale. The scale measures inconsistencies in the self concept. By making a reversal in judgment in his ratings, the subject gives a behavioral demonstration of an inconsistency. The scale is both a measure (by noting frequency of occurrence) and a sample of the behavior being studied.

Assuming that inconsistency in the self concept is evidence of insecurity, however, moves the point of focus from a behavioral level to the level of an abstract concept. Here, evidence of validity may rightly be demanded. This evidence existed in the fact that the rejects were significantly lower in their grade point average, and that there were several who were on probation because of disciplinary or academic shortcomings. The projective techniques indicated that the rejects were more anxious than the selects, and they gave more evidence of feelings of inferiority. Also, in line with the criteria of

insecurity proposed by Maslow (32), there were more neurotic and psychotic trends in the reject group, as evidenced by the Rorschach interpretations and the MMPI profile elevations. Thus, evidence from sources other than the rating scale, itself, indicated the presence in rejects of attributes believed to be associated with insecurity. Since the rejects were found to be more inconsistent than the selects, the hypothesis that inconsistency in the self concept and insecurity are related seems to be a valid one.

Summary. A self-rating scale was designed to test the hypothesis that the rejects would demonstrate more inconsistency in their self concepts than the selects. Theoretical proposals were reviewed which postulated a relationship between inconsistencies in the ideas an individual has about himself and a feeling of insecurity. The results obtained upon administering the scale to the population of selects and rejects used in this study gave only moderate support to the hypothesis. Inconsistencies among the rejects tended to exceed those of the selects but the difference between the groups was significant only at the seven per cent level. It was found by a combination of test-retest and internal reliability methods that self-ratings were likely to be reliable over a short period of time, but that subjects tended to make fewer reversals on a second administration of the scale. The tendency to make reversals was shown not to be related to any mechanical process such as a "positional" effect. There was a relationship between inconsistencies occurring in ratings of self, and ratings of others, indicating that an impairment of perception of self was likely to be indicative of impairment of perception in general. Since many attributes

known to be present in the rejects are frequently regarded as pointing to insecurity, the hypothesis that inconsistency in the self concept and feelings of insecurity are related seems to be a tenable one.

## CHAPTER VII

### RIGIDITY AND CONCRETENESS OF THINKING

The final technique employed with the population of selects and rejects under study was one designed to reveal differences in the thinking processes between the two groups. The particular processes under consideration were rigidity and concreteness. If an individual persists in solving a problem in a particular way which he has been shown, even though another more economical way is available for his use, he is regarded as demonstrating a rigidity or inflexibility in his problem-solving approach, or in his thinking. If, in his solving of the problem, he uses a basic terminology where one word equals only one thing rather than seeking more abstract forms of expression where a single word may represent an entire concept (the latter being regarded as a more economical form of communication), he is designated as demonstrating concreteness in his thinking. It was hypothesized that the rejects would demonstrate more rigidity and more concreteness in their thinking than would the selects, as revealed by the Rokeach Map Technique (45).

Theoretical considerations. The decision to include a test of rigidity and concreteness of thinking in the battery of tests was based on two assumptions: 1) that the rejects would be more frustrated and, 2) that they would be more maladjusted than the selects. If either proved to be the case it was hypothesized that mental rigidity

and/or concreteness of thinking would be an associated factor.

Frustration was found to be present in the rejects studied by Kidd (25) based upon the following hypotheses:

- C. The most rejected individuals' behavior is often typical of reaction to frustration, that is, it is likely to be aggressive and/or withdrawing, as evidenced by:
  1. relatively low academic achievement in relation to ability;
  2. relatively frequent changes of residence and/or drop-outs;
  3. admitted feelings of insecurity;
  4. low rating by selves and Resident Assistants on scholastic effort;
  5. low rating by selves and Resident Assistants on citizenship;
  6. low rating by selves and Resident Assistants on social and personality adjustment;
  7. being characterized by one's peers as being aggressive and/or withdrawing in his interpersonal relations;
  8. case studies of some of the most rejected individuals. (26, p. 37-38).

Of these, significant differences were found in the direction hypothesized for numbers 1, 2, 4, 6, 7, and 8 (26, pp. 104-149). With the subjects of the present study it was similarly found that the achievement of the rejects was lower in spite of their having an equal potentiality<sup>1</sup> (hypothesis 1, above), and that the reasons given for rejection included many aggressive and/or withdrawing characteristics<sup>2</sup> (hypothesis 7 above). In addition, evidence obtained from the Self-Rating Scale supported hypothesis three that the rejects would have more feelings of insecurity. Evidence from the MMPI and the Rorschach

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<sup>1</sup> See Table III, p. 25.

<sup>2</sup> See Appendix F.

supported hypothesis six that the rejects would rate low in personality adjustment. There seemed little reason to doubt that the rejects encountered more situations leading to frustration in any given period than did the selects.

If, therefore, the rejects were more frustrated, it became a matter of interest and importance to learn whether a rigidity was present in their manner of thinking which would create more difficulty in their adopting new roles, or in changing their behavior to a form which would lead to more social acceptance and a more satisfactory level of adjustment.

There are several lines of evidence that provide a link between frustration and a rigid, stereotyped, or perseverative sort of behavior. Patrick's (39) experiment using human subjects in a multiple choice experiment demonstrated the reversal which may occur from highly variable to highly stereotyped behavior under conditions of frustration. Students who resisted change in attitude were found by Newcomb (37) to have a higher degree of frustration in their background. Maier (31) holds that frustration-instigated behavior is characterized by fixation of response in which compulsion or rigidity in response takes over so that the organism is no longer in a choice situation but must act in a specific, given, manner.

The question immediately arises whether the frustrations which led to stereotypy in laboratory experiments would be similar in degree and effect to those present in the life situations of the group studied here. If one granted that the rejects were encountering numerous frustrations as they obtained low grades, as they tried to mingle with their



fellows but were rebuffed, as they entered countless daily situations where they were blocked in an attempt to reach their goal, could one postulate a generalized frustrated condition so that their responses to an affectively neutral test would reveal the expected rigidity? That this is an unwarranted assumption is perhaps one factor for the inconclusiveness of the results obtained with the test used here. Maier also found evidence that fixations, when they occurred, were more specific than habits (31, p. 80). A fixated response would not occur if there were a slight change in the total situation.

The second assumption, that the rejects would be a more maladjusted group, provided another basis for the inclusion of the test of rigidity. Evidence has already been cited to show that rejects tended to be less well adjusted. The relation between maladaptive behavior and rigidity is sometimes referred to as the "neurotic paradox," or the often-noted fact that neurotic symptoms are clung to in spite of the fact that they seem to bring only suffering or grief to the patient. Such behavior is typically seen in conversion hysterias, compulsions, and phobias. The individuals complain about their symptoms, but seem unable to change their pattern of behavior to one that results in less uncomfortable consequences. It was therefore of importance to determine whether the maladjustments found in the reject group would be accompanied by rigidity in thinking.

The Rokeach Map Technique. The technique selected to test the presence of mental rigidity in the groups under study here was the Rokeach Map Technique (44, pp. 51-75).<sup>3</sup> It consists of presenting a

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<sup>3</sup> The page numbers cited in reference to this work refer to those in Rokeach's personal copy and may not correspond to the numbers in the bound edition.

series of maps to be memorized. The first two maps are examples which establish the desired set and give the subjects practice in solving the problem. These are followed by five critical maps which constitute the test. They are identical except for street names. After allotting 15 seconds for learning the map, the subject writes an answer to a question which is asked about each one. In each case the problem is to tell how to go from the southwest corner to the northeast corner. A sample map is presented as Figure 3.<sup>4</sup>

It will be noted that two solutions are possible: 1) to go one block east and two blocks north (hereafter referred to as the "long method"); 2) to go one block north and take the diagonal (hereafter referred to as the "short method"). A set was established to use the long method by having the diagonal on the first map, which was used as an example, run from the northwest to the southeast corners, so that only the long method could be used. Also in the instructions, only a reference to the long method was made. This is in accordance with the findings of Rokeach that the example and verbal instructions were sufficient to establish the set.

The instructions given to the subjects were as follows:

Listen carefully to the instructions I am about to give you because you will not be allowed to ask any questions.

This experiment is designed to see how well you can study maps in short periods of time.

Turn to Page One on which you will see part of a map of a city. This map is an example of the maps which follow. Your task will be to memorize the map as quickly as you can. Just to

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<sup>4</sup> See Appendix D for the complete map test used in this experiment.

MAP NUMBER 6

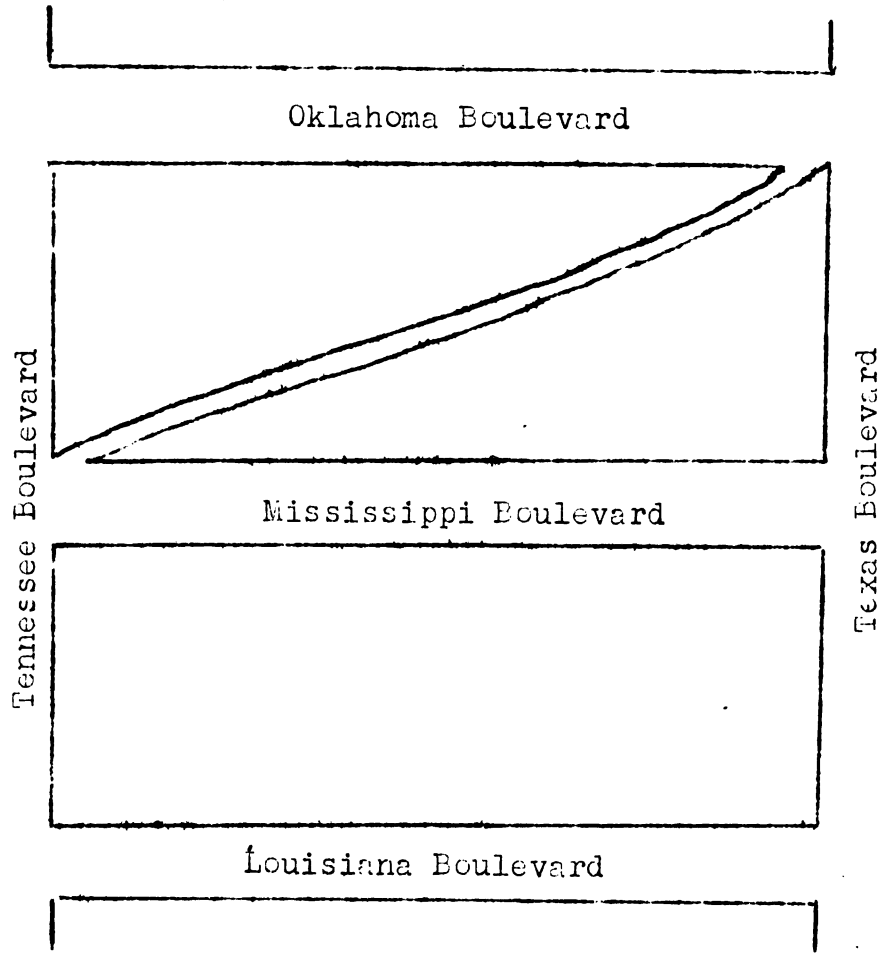


Figure 3. Rokeach Map, Number 6



give you an idea of what you will have to do in this experiment, I will give you about 30 seconds to memorize this map. Are you ready? Go ahead.

Now turn to Page Two. On this page there is a question. Read the question and write down your answer below it in your own words. Note that the question reads, "Describe in your own words how to go from \_\_\_\_\_ and \_\_\_\_\_ to \_\_\_\_\_ and \_\_\_\_\_." This means from the corner of \_\_\_\_\_ and \_\_\_\_\_ to the corner of \_\_\_\_\_ and \_\_\_\_\_. You are not allowed to make any drawings of the map you've just studied. Go ahead.

Now turn back to Map 1 . . . The problem was to go from the corner of \_\_\_\_\_ and \_\_\_\_\_ to the corner of \_\_\_\_\_ and \_\_\_\_\_. One correct answer is to go east for one block and then go north for two blocks. The problem is very simple providing you were able to remember the street names on the map.

Note also the following alphabetical order of the street names on the map: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. The same alphabetical order will be present on all the maps. Remember, the names are alphabetical from the bottom to the top and then from left to right.

Now turn to Map Two. This map is also an example of the maps which follow. Note the same alphabetical order of the streets as in Map 1: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_. Now turn to the next question page. The question you see on this page is also an example of the questions which follow.

Now that you have the idea we will go on to the other maps. From now on I will give you only 15 seconds to study each of the maps which follow. You will be asked one question after studying each map. There are several rules which you must follow. First, never turn to any other page in the booklet until I tell you to. Second you are not allowed to go back to any previous page once you have passed it. Finally, you are not allowed to draw the map you have memorized; you must answer all questions without looking at any map.

O. K. When I give you the signal turn to Map 3, which you are to study as quickly as you can. Pick up the edge of the next two pages in you hand and when I give you the signal, turn to Map 3.

Remember, all you get is 15 seconds. Ready. Go!

(After 15 seconds) Turn to the question. You have approximately two minutes to answer the question for Map 3.

The assumption that such a perceptual technique as this would reveal rigidity of thinking is derived from Rokeach who said:

If one group of subjects more frequently solves the critical map problems by using the diagonal short-cut while the other group more frequently fails to use the diagonal short-cut, then the two groups may be said to differ in their perceptual organization

of the total field. In the former case the perceptual organization is complete, taking into account all aspects even though they are not of immediate significance. In the latter case the field is narrow and only those aspects which are immediately crucial to the solution of the problem are selected out of the total field to the exclusion of other aspects which are not immediately relevant. Rigidity in problem solving, in thinking perhaps may be equivalent to rigidity in perception (44, p. 55).

The method also provides a measure of concreteness of thinking, obtained by counting the number of words each subject used in writing the answer to each question. It is assumed that just as mathematical symbols are a more economical (abstract) form of communication than the use of verbal symbols, so an answer to a question using a fewer number of words would be evidence of a more abstract manner of thought.

Results. The test was administered individually to 21 subjects in each group. One select had to be eliminated because he used the alley on the example, thus showing not only that he had difficulty in memorizing the map, but also casting doubt upon whether the verbal instructions which followed were, alone, sufficient to establish the required set. Among the rejects three subjects were eliminated, two because they could not memorize the street names and the other because he found the test to be such a frustrating experience that he could not continue after the third critical map. He stated that he could do better if he knew what the examiner was measuring with the map technique. He was unable to concentrate on learning the street names and finally even denied that they were "necessarily" in alphabetical order as had been suggested by the instructions. This left a total of 20 selects and 18 rejects for comparison.

There was no significant difference between the number of subjects in each group using the short method of solving the problems. The chi square test for the differences on the critical maps, numbers three to seven, respectively, was .043, .076, .063, .000, and .000. Chi square for all five maps combined was .000. This indicated that there was no difference between the two groups in mental rigidity as measured by the Rokeach Map Technique.

There was likewise found to be no significant difference between the groups in concreteness of thinking. The mean number of words used in the written answers to the map questions of the selects was 78.8; for the rejects it was 73.9. Fisher's t for the significance of the difference between these means was .509, indicating that the difference in number of words used could be due to chance.

Discussion of the results. An explanation for the lack of significant differences can be sought in two places: the formulation of the initial hypothesis and the technique used in testing the hypothesis.

The hypothesis was that the rejects would demonstrate more rigidity and more concreteness in their thinking. This was based on the assumptions that the rejects would on the whole be a more frustrated and more maladjusted group. There is, however, no reason to assume that the individual, separate frustrations daily encountered by the rejects would lead to a generalized, more or less permanently frustrated condition which would be reflected by a rigid performance in the test situation. It remains very probable that the rejects did meet more frustrating situations than the selects. But few of them found the testing situation to be a frustrating one. The one whose behavior was

such that a high degree of frustration could be assumed became so disorganized that he could not continue the test to its completion.

A slight semantic variation makes the fault quite clear. It is probably correct to assume that the rejects "encounter more frustrations." It is probably incorrect to assume that they "would be more frustrated" in the testing situation. Since the testing situation was not, in general, a frustrating one, no results of frustration were detected by the test.

The assumption that the rejects would be more maladjusted, leading to mental rigidity and concreteness of thinking, can also be found to be based upon a semantic non-sequitur. That a greater degree of maladjustment was present in the reject group has been shown by the results of the MMPI and Rorschach, but a great variety of forms of maladjustment were present and it should not be assumed that "maladjustment" per se would be associated with mental rigidity. It is possible that certain personality syndromes such as psychopathic deviation, schizoid trends, and sexual deviation might be marked by a lack of stability, a striving to be different, or a persistent rebelliousness. In such cases if an initial set was established, the breaking away from the set and taking the short route could be only another expression of a typical form of adjustment to a situation.

On the other hand, among the selects there was an occasional impression of a force operating against the hypothesis so that the long route was continually chosen. This force seemed to be related to a drive toward conformity, to do what had been suggested without question. It seemed almost as if, once having been told of a solution,



these subjects fulfilled the role of "good boys" or persons who act in a conventional manner by taking it, and looking no farther. They tended to accept the implication that since the diagonal was not mentioned it should not be used. Three of the subjects, when asked about the diagonal after completing the test said that they had seen it but did not think they should use it. The influence of tacit assumptions in problem solving is a frequently recognized factor. Boring, Langfeld, and Weld, for instance mentioned that

The set or attitude under which a thinker undertakes to solve a problem may involve certain tacit assumptions of which the thinker is wholly unaware. Very often these assumptions prevent him from solving the problem, because they exclude from his consideration the hypothesis which is necessary for his success. (8, p. 208).

Whether such tacit assumptions were present to a greater degree among the selects, and whether it is related to habitual conventionalism in behavior cannot be determined by the evidence here, but it invites further experimental verification.

Much less objection can be found to the technique used to test the hypothesis than to the hypothesis itself. Its original use demonstrated differences in mental rigidity and concreteness of thinking between groups high and low in ethnocentrism (44). There it was used with groups while in the present investigation it was administered individually. This difference in the conditions of the administration may have resulted in a less secure imposition of the desired set with some individuals, although when the groups as a whole were considered the present method was more effective. In Rokeach's experiment 40 per cent of his entire group used the long method on the first critical

problem, while in the present experiment 60 per cent of the entire group (selects and rejects combined) used the long method on the first critical problem.

While an attempt was made to impress upon each subject the experimental nature of the technique which required the following of definite rules of procedure, some of them carried over into this situation the informality of the projective technique sessions and tried to get the examiner to answer questions about the maps, or made comments between problems. This informality and the lack of competitive atmosphere which would be present in a group administration could very possibly be an added factor in determining what results were obtained.

Summary. The hypothesis that the rejects would demonstrate more rigidity and concreteness in thinking was tested with the Rokeach Map Technique. The groups did not differ significantly in their ability to break away from a set which had been initially imposed, nor in the number of words used in answering the problem. It was concluded that the hypothesis was not supported by the experiment.

A re-examination of the assumptions underlying the initial hypothesis provides a partial explanation of the results. It was probably unjustified to assume a generalized, lasting frustrated condition which would be measurable in a non-frustrating testing situation. And it was also probably unjustified to assume that the maladjustments among the rejects were all of a sort to promote rigidity, or that the forms of adjustment among the selects would all be associated with flexibility.

Certain differences in the conditions of administration of the test between its use here and as it was originally applied by Rokeach may also have influenced the results.

## CHAPTER VIII

### SUMMARY

The purpose of this study was to examine and compare the personality patterns of popular and unpopular individuals. The population selected for study consisted of 42 male college students. Twenty-one of these students had been found to be social rejects on a sociometric study of a men's dormitory. The group chosen for comparison were the 21 men who were found to be the most popular in the same sociometric study. While the selects were found to be older, on the average, and to be further advanced in school, no significant difference was found in academic ability, as measured by the American Council for Education tests used for college entrance. In spite of equal intellectual potential, the mean grade point average of the rejects was significantly lower than that of the selects, indicating a lower level of actual achievement.

The techniques employed in studying the personalities of the two groups consisted of the Minnesota Multiphasic Personality Inventory, the Rorschach, the Thematic Apperception Test, a Self Rating Scale to determine the presence of inconsistencies in the self concept, and the Rokeach Map Technique for revealing rigidity and concreteness in thinking.

The important findings to come out of an analysis of the MMPI scores were the following: While both groups contained members who showed signs of maladjustment, the rejects were significantly more

disturbed as a group, as indicated by the mean profile elevation. The rejects tended to complain of more serious symptomatology, exhibiting a more schizophrenic and psychopathic deviate pattern, rather than a neurotic pattern. They displayed a disregard for social mores not only by being significantly higher than the selects on the psychopathic deviate scale, but also by checking significantly more of the obvious items of the psychopathic deviate scale. In doing so, they exhibited more lack of control in their test behavior, and the supposition follows that they would show more lack of control in their everyday behavior, acting more frequently from impulse or emotion than from a logical consideration for the social amenities involved. A comparison of the groups on the anxiety index revealed that the rejects were significantly more anxious than were the selects.

The selects were more guarded and evasive in their responses to the MMPI, while the rejects were quite frank, sometimes to the point of being self-derogatory. The selects were significantly higher on the responsibility scale, and indicated that they tended to assume the ascendent role in face-to-face situations, conveying a feeling of personal strength.

The most significant difference obtained with the Rorschach technique was on form level, with the rejects more frequently interpreting the blots in a manner deviating from the normal. The rejects also, on this technique, indicated the presence of more anxiety, and tended to give more responses associated with feelings of inferiority. The only other finding which approached significance was that the selects tended to be less inhibited in giving sex responses, frequently doing so in

a manner suggestive of "sublimation." That is, they united their interest in sex with botanical or veterinary interests according to their vocational choices so that their sexual responses were given a veneer of social acceptability. Clinical interpretation of the protocols revealed no indications of psychosis among the selects, although there were numerous neurotic manifestations, one psychopathic personality, and one who was possibly an overt homosexual. On the other hand, among the rejects there were several schizoid records, with one who was seriously paranoid, and another psychopathic personality. Odd, affected mannerisms were frequently noted among the rejects in their test behavior. A lack of masculine identification was noted in both groups.

With the Thematic Apperception Test it was found that, while the number of subjects in each group who indicated anti-social attitudes by telling stories dealing with crime was practically equal, the drive in this direction among the rejects was stronger as evidenced by a greater frequency of crime stories in this group. Among the selects a direct expression of aggression was indicated by a striking out at the offending person. Among the rejects there was a greater frequency of murder and robbery. Both groups tended to tell stories which were somewhat sad in emotional tone, and there was no difference in the ratings for outcome of the stories.

When the stories were rated for interpersonal relationships, a tendency was found for the selects to show a more favorable relationship toward the mother-figure, but the difference between the groups was not significant. No difference was found between the groups in

relationship toward the father-figure, nor in heterosexual relationships. In both groups the most unfavorable attitudes were expressed toward the mother-figure.

Thematic analysis indicated trends among the rejects for the central character frequently to disappoint his parents, depart from his partner, to become physically ill or to die, to compensate for a shortcoming with a stroke of luck, to suffer from "hurt feelings," to be aggressive toward his environment by participating in robbery or criminal activities, The select tended frequently to offer help to his parents, to be aggressive toward peers, to commit suicide, to be concerned over whether an act was right or wrong, to show contentment with his partner, congeniality with his friends, and to exhibit tranquillity in his own outlook. The most frequent theme occurring in both groups was that of a parent being prohibiting, censoring, disagreeing, or compelling. This was followed in frequency by the theme of being concerned or dissatisfied with the present occupation, and the third most frequent theme was that of death or illness of a parent.

With the Self Rating Scale the hypothesis was supported at the seven per cent level of confidence that the rejects would be more inconsistent in their self concepts than the selects. This finding is believed to be related not only to the facts that they were more anxious and disturbed as a group, but also to the possibility that they were more insecure. Being unable to form a consistent picture of themselves they found it more difficult to fit themselves smoothly into groups and activities about them.

Differences in rigidity and concreteness in thinking did not appear with the use of the Rokeach Map Technique. A re-evaluation of the basic assumptions leading to the formulation of the hypothesis provided a partial explanation of the results. The relationship of sociometric status to mental rigidity requires further investigation.

The initial hypotheses were supported to the following extent:

1. Judges tended to rate the test protocols of the rejects as indicating a poorer level of adjustment, but the differences between groups in this respect were not significant. Objective tests results did find the rejects with a significantly poorer level of adjustment.
2. More neurotic and psychotic manifestations appeared in the rejects.
3. Anxiety was greater in the reject group and their methods of defense seemed to be more offensive in the eyes of others.
4. No difference was found in the TAT ratings of interpersonal relationships but more generalized hostility was present among the rejects.
5. The rejects tended to show more inconsistencies in their self concepts.
6. The groups did not differ in rigidity or concreteness of thinking.

In the study as a whole, the group comparisons performed by statistical analysis tended to give an impression of group homogeneity which was misleading. One of the outstanding results was the lack of statistically significant differences where an a priori assumption would have expected them to obtain. The most valid statement which could be made about the rejects was that they exhibited more anxiety symptoms than the selects. The rejects tended toward more deviate and bizarre thinking and interpretations of their environment. Their forms of adjustment were more frequently similar to the psychopathic deviate than were those of the selects. The study revealed individual differences between subjects and between groups in methods of dealing with anxiety.



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APPENDIX A

THE SOCIOMETRIC QUESTIONNAIRE

ABBOT HALL COUNSELING QUESTIONNAIRE-1951

A questionnaire like this last year was returned by 94% of Abbot men. It resulted in embarrassment of no one. It accomplished a great deal of good. Please cooperate and make the returns 100% this year. YOU WILL REMAIN ANONYMOUS. YOU MAY ERASE YOUR NAME FROM THE QUESTIONNAIRE, YOU DO NOT SIGN IT, ONLY I KNOW WHICH ONE IS YOURS. So feel free to be absolutely frank in your responses. Thanks!

*John W. Kidd*  
John W. Kidd, Resident Adviser

Who are your best friends in Abbot Hall, the persons you would most prefer as roommates? Name the ten or less who are really your best friends.

-----  
-----  
-----  
-----  
-----

Of all Abbot men, who, in your opinion, would be the best precinct Resident Assistant? Name more than one if you wish.

-----

Which Abbot men would be least desirable as Resident Assistant?

-----

Which Abbot men, if any, would you be most reluctant to accept as friends, as roommates, and why? (Remember, YOU RETURN THIS TO MR. KIDD IN A SEALED ENVELOPE - for him to be in the best position to help fellows be better human beings, this kind of information is essential. No one will be told who named him in any blank.)

name	-----	name	-----
why?	-----	why?	-----
	-----		-----

name	-----	name	-----
why?	-----	why?	-----
	-----		-----

name	-----	name	-----
why?	-----	why?	-----
	-----		-----

SEAL IN ENVELOPE ADDRESSED TO MR. KIDD, LEAVE AT POST OFFICE OR IN RESIDENT ASSISTANT'S ROOM AND HE WILL RETURN IT UNOPENED TO MR. KIDD.



APPENDIX B  
ASSURANCE OF ANONYMITY

\_\_\_\_\_, Room \_\_\_\_

You will be identified only by the number on this questionnaire. I will reveal your name to no one. So please feel free to answer all questions.

(Signed)

John W. Kidd, Res. Adv.

## APPENDIX C

### THE SELF RATING SCALE

1. The original scale.
2. The scale with columns reversed.
3. The scale with numbers reversed.

Name \_\_\_\_\_

### Self-Rating Scale

This scale allows you to compare yourself on a series of personality traits with the other college students. Each trait is set up on a continuum, with a scale in between, thus:

	1	2	3	4	5	
studious	.	.	.	.	.	not studious

Rate yourself on each continuum by placing an X at the point where you think you stand. For example, an X under "1" would indicate that you think of yourself as quite studious, under "2" would indicate that you think of yourself as more studious than the average, under "3" that you are about average in studiousness, under "4" that you are not very studious, and under "5" as being not the studious type at all.

Try to be as fair-minded in judging yourself as possible, without painting either "too good" or "too bad" a picture of yourself, but rather indicating the way you really think of yourself from day to day, in comparison with the other college students.



	5	4	3	2	1	
adult	.	.	.	.	.	infantile
aggressive	.	.	.	.	.	yielding
blundering	.	.	.	.	.	diplomatic
broad-minded	.	.	.	.	.	intolerant
bull-headed	.	.	.	.	.	flexible
confident	.	.	.	.	.	uncertain
contrary	.	.	.	.	.	cooperative
courteous	.	.	.	.	.	rude
dependable	.	.	.	.	.	irresponsible
dirty	.	.	.	.	.	clean
dishonest	.	.	.	.	.	trustworthy
effeminate	.	.	.	.	.	masculine
feeble	.	.	.	.	.	muscular
follower	.	.	.	.	.	leader
friendly	.	.	.	.	.	hostile
gay	.	.	.	.	.	sorrowful
genuine	.	.	.	.	.	insincere
helpful	.	.	.	.	.	uncooperative
hypocritical	.	.	.	.	.	sincere
ill-mannered	.	.	.	.	.	polite
insecure	.	.	.	.	.	secure
keep-to-myself	.	.	.	.	.	prying
liar	.	.	.	.	.	truthful
likeable	.	.	.	.	.	unpleasant
manly	.	.	.	.	.	prissy
mature	.	.	.	.	.	childish
modest	.	.	.	.	.	vain

	1	2	3	4	5	
moody	.	.	.	.	.	even-tempered
moral	.	.	.	.	.	corrupt
narrow-minded	.	.	.	.	.	liberal
neat	.	.	.	.	.	messy
nosey	.	.	.	.	.	mind-my-own-business
offensive	.	.	.	.	.	pleasant
passive	.	.	.	.	.	quarrelsome
persuasive	.	.	.	.	.	imitative
proud	.	.	.	.	.	humble
quiet	.	.	.	.	.	noisy
reserved	.	.	.	.	.	loud
selfish	.	.	.	.	.	generous
smart	.	.	.	.	.	dumb
steady-disposition.	.	.	.	.	.	changeable
stingy	.	.	.	.	.	openhanded
stubborn	.	.	.	.	.	democratic
stupid	.	.	.	.	.	bright
thin	.	.	.	.	.	fat
thoughtful	.	.	.	.	.	tactless
underweight	.	.	.	.	.	overweight
unfriendly	.	.	.	.	.	sociable
unhappy	.	.	.	.	.	happy
unselfconscious	.	.	.	.	.	self-centered
unstable	.	.	.	.	.	reliable
virtuous	.	.	.	.	.	immoral
weak	.	.	.	.	.	strong
withdrawn	.	.	.	.	.	mixer

Name \_\_\_\_\_

### Self-Rating Scale

This scale allows you to compare yourself on a series of personality traits with the other college students. Each trait is set up on a continuum, with a scale in between, thus:

	1	2	3	4	5	
studious	.	.	.	.	.	not studious

Rate yourself on each continuum by placing an X at the point where you think you stand. For example, an X under "1" would indicate that you think of yourself as quite studious, under "2" would indicate that you think of yourself as more studious than the average, under "3" that you are about average in studiousness, under "4" that you are not very studious, and under "5" as being not the studious type at all.

Try to be as fair-minded in judging yourself as possible, without painting either "too good" or "too bad" a picture of yourself, but rather indicating the way you really think of yourself from day to day, in comparison with the other college students.



	1	2	3	4	5	
bright	.1	.	.	.	.	stupid
changeable	.	.	.	.	.	steady-disposition
childish	.	.	.	.	.	mature
clean	.	.	.	.	.	dirty
cooperative	.	.	.	.	.	contrary
corrupt	.	.	.	.	.	moral
democratic	.	.	.	.	.	stubborn
diplomatic	.	.	.	.	.	blundering
dumb	.	.	.	.	.	smart
even-tempered	.	.	.	.	.	moody
fat	.	.	.	.	.	thin
flexible	.	.	.	.	.	bullheaded
generous	.	.	.	.	.	selfish
happy	.	.	.	.	.	unhappy
hostile	.	.	.	.	.	friendly
humble	.	.	.	.	.	proud
imitative	.	.	.	.	.	persuasive
immoral	.	.	.	.	.	virtuous
infantile	.	.	.	.	.	adult
insincere	.	.	.	.	.	genuine
intolerant	.	.	.	.	.	broad-minded
irresponsible	.	.	.	.	.	dependable
leader	.	.	.	.	.	follower
liar	.	.	.	.	.	truthful
liberal	.	.	.	.	.	narrow-minded
loud	.	.	.	.	.	reserved
messy	.	.	.	.	.	neat
masculine	.	.	.	.	.	effeminate

	1	2	3	4	5	
mind-my-own-business	.	.	.	.	.	nosey
mixer	.	.	.	.	.	withdrawn
muscular	.	.	.	.	.	feeblenessy
noisy	.	.	.	.	.	quiet
openhanded	.	.	.	.	.	stingy
overweight	.	.	.	.	.	underweight
pleasant	.	.	.	.	.	offensive
polite	.	.	.	.	.	ill-mannered
prissy	.	.	.	.	.	manly
prying	.	.	.	.	.	keep-to-myself
qua rrelsome	.	.	.	.	.	passive
rude	.	.	.	.	.	courteous
reliable	.	.	.	.	.	unstable
secure	.	.	.	.	.	insecure
self-centered	.	.	.	.	.	unselfconscious
sincere	.	.	.	.	.	hypocritical
socia ble	.	.	.	.	.	unfriendly
sorrowful	.	.	.	.	.	gay
strong	.	.	.	.	.	weak
tactless	.	.	.	.	.	thoughtful
trustworthy	.	.	.	.	.	dishonest
uncertain	.	.	.	.	.	confident
uncooperative	.	.	.	.	.	helpful
unpleasant	.	.	.	.	.	likeable
vain	.	.	.	.	.	modest
yielding	.	.	.	.	.	aggressive

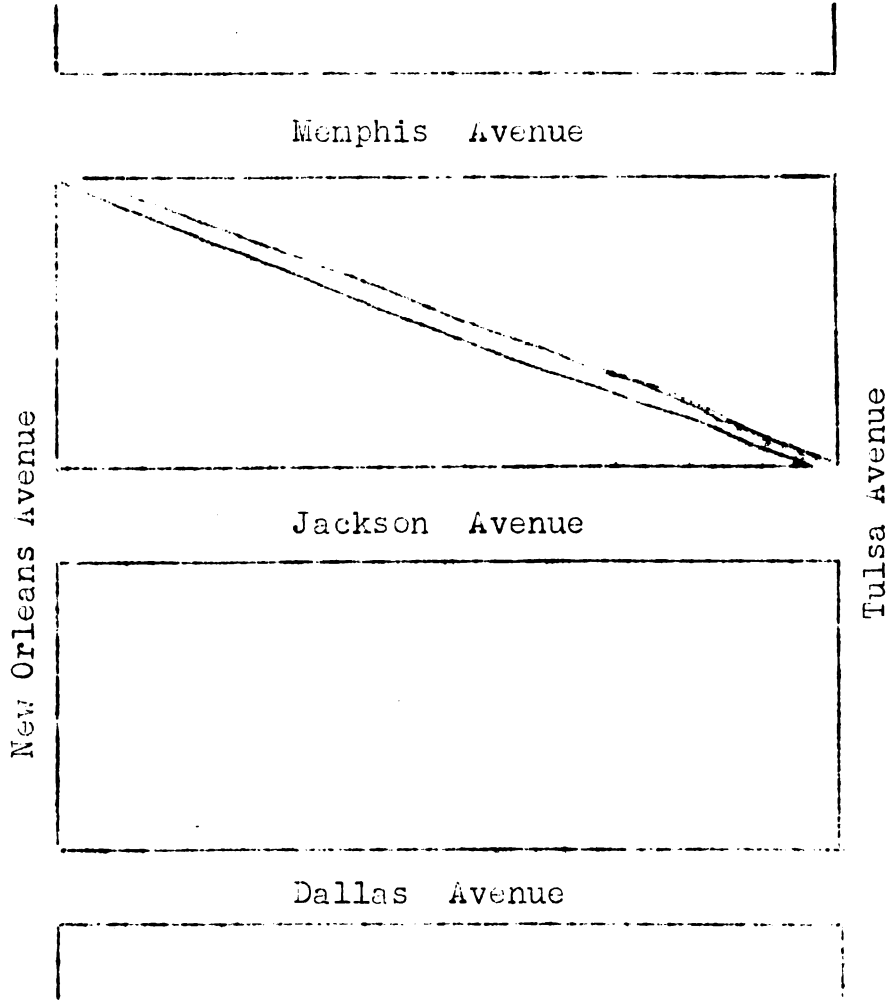
APPENDIX D

THE ROKEACH MAP TECHNIQUE

NAME \_\_\_\_\_

DO NOT OPEN THIS BOOKLET UNTIL  
TOLD TO DO SO

MAP NUMBER 1

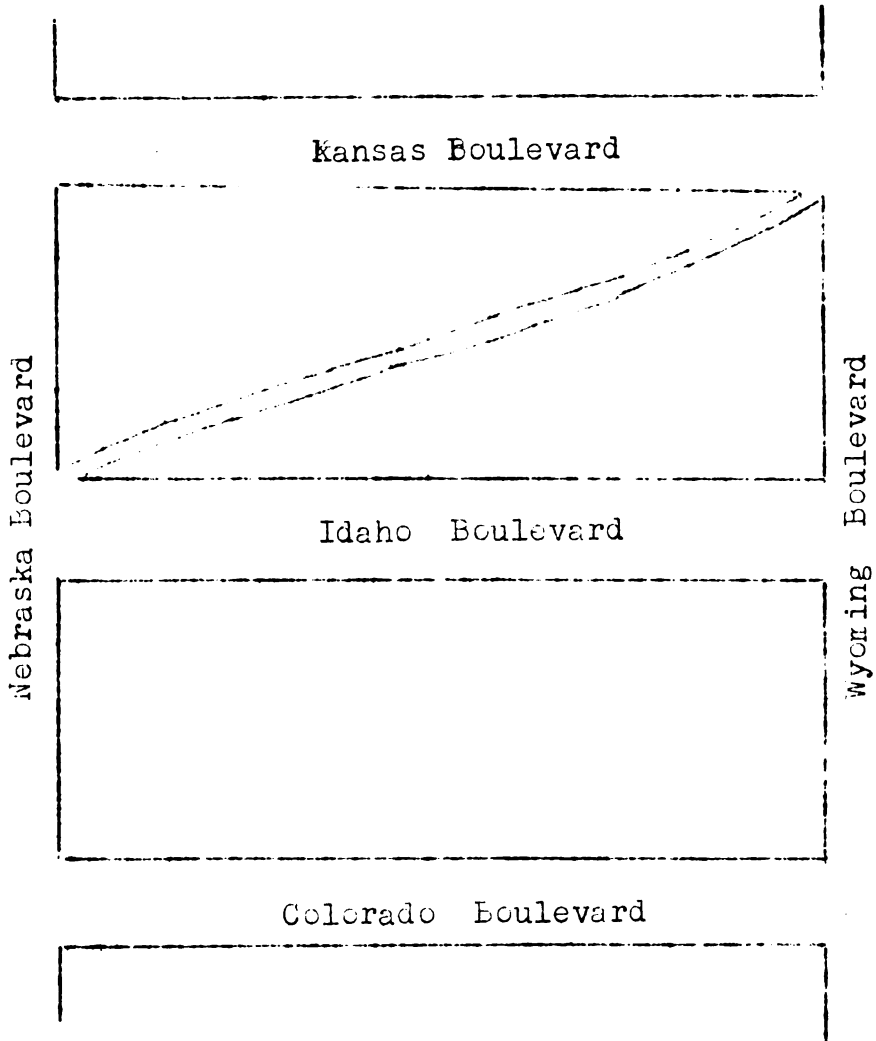


M.F 1

Describe in your own words the shortest way to go from Dallas and New Orleans Avenues to Tulsa and Memphis Avenues.

DO NOT TURN THIS PAGE UNTIL TOLD TO DO SO.

MAP NUMBER 2



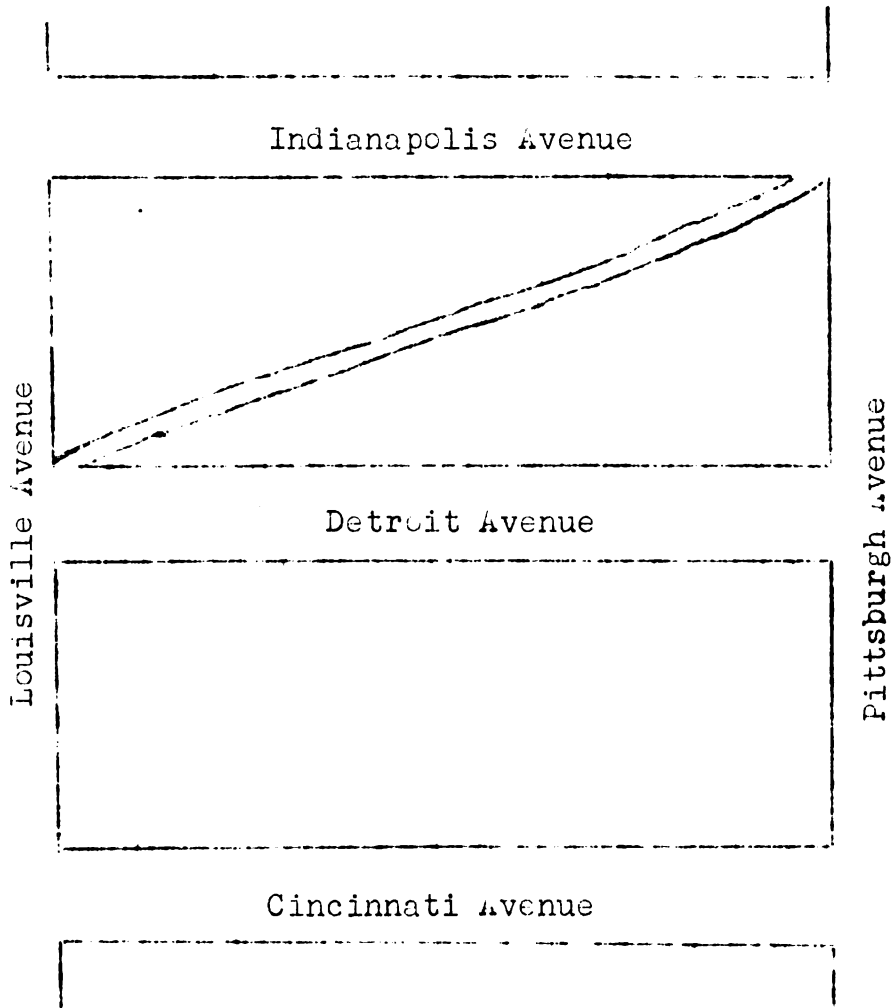
M.P 2

Describe in your own words the shortest way to go from Colorado and Nebraska Boulevards to Wyoming and Kansas Boulevards.

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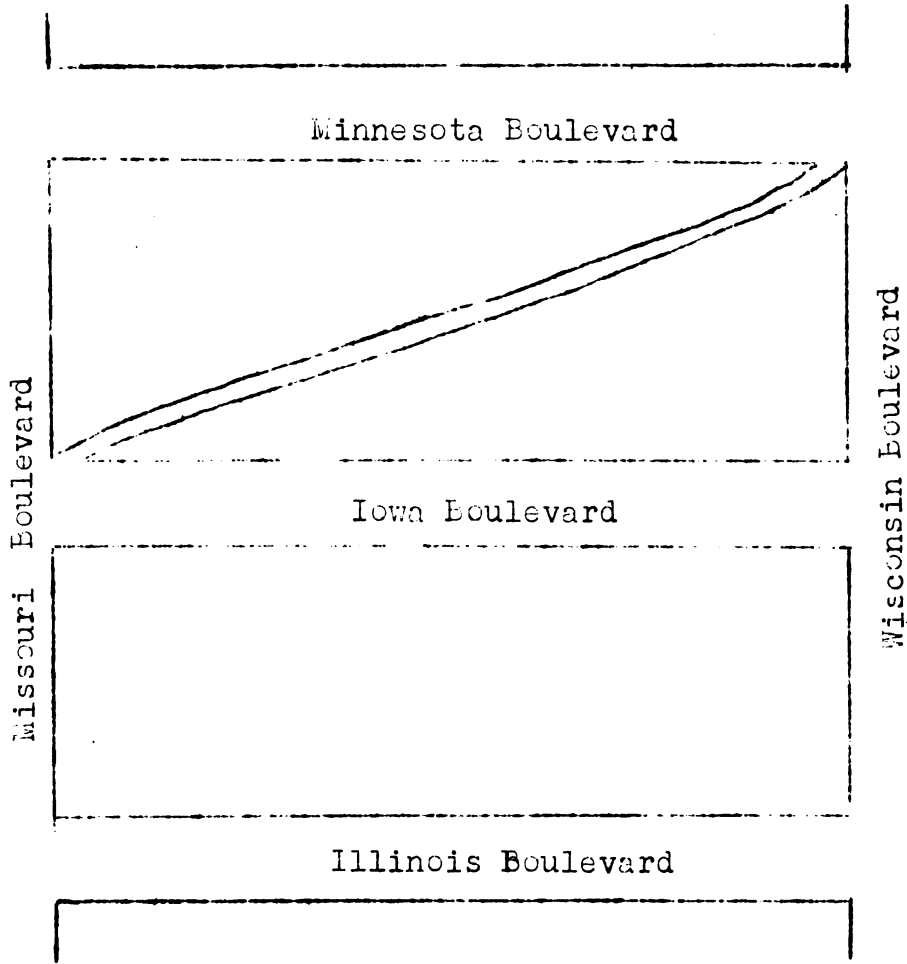
MAP NUMBER 3



M.P 3

Describe in your own words the shortest way to go from Cincinnati and Louisville Avenues to Pittsburgh and Indianapolis Avenues.

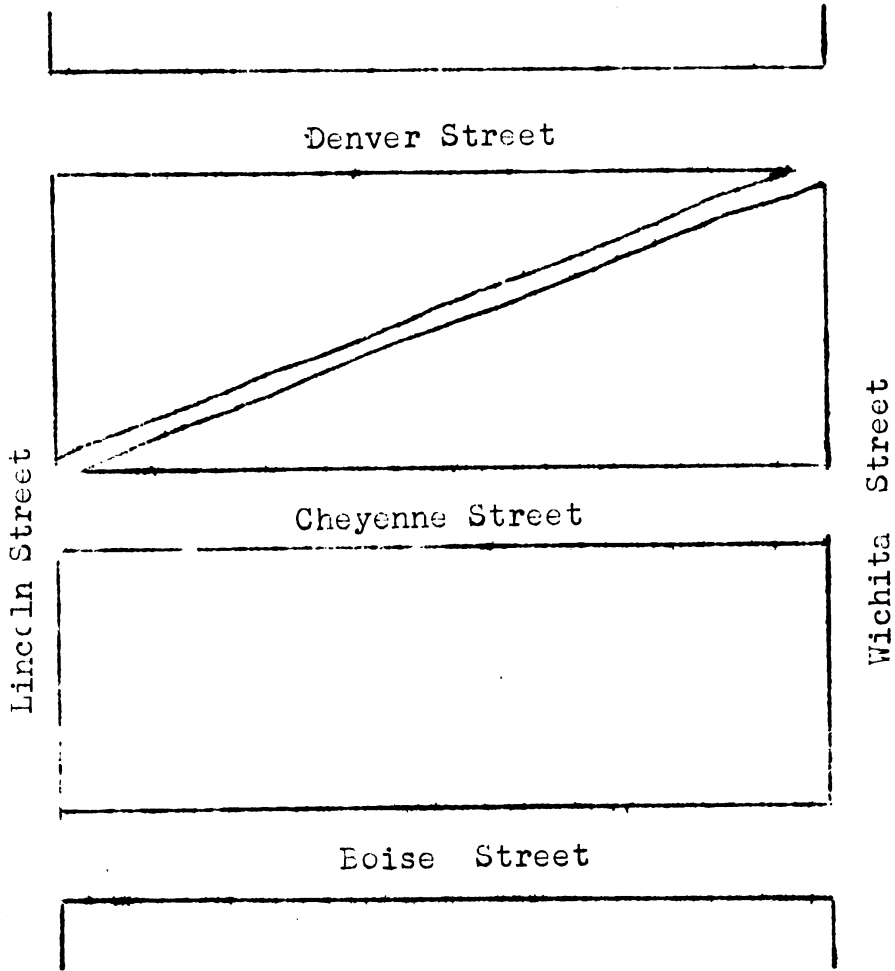
MAP NUMBER 4



MIP 4

Describe in your own words the shortest way to go from Illinois and Missouri Boulevards to Wisconsin and Minnesota Boulevards.

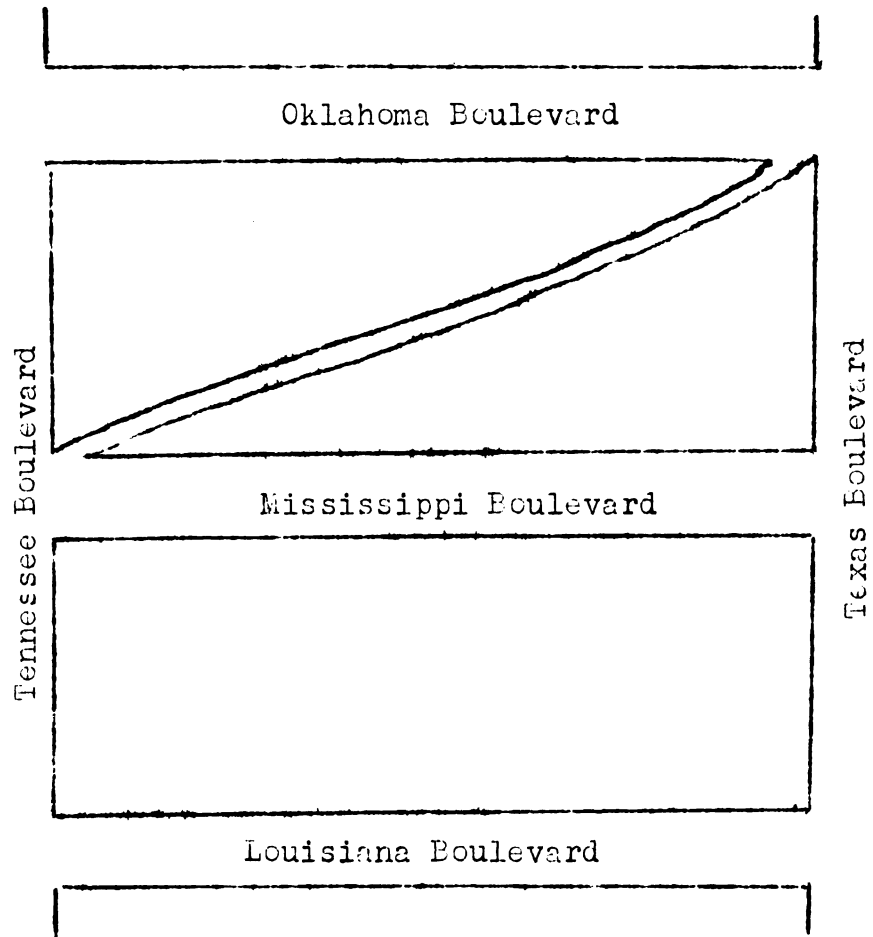
MAP NUMBER 5



MAP 5

Describe in your own words the shortest way to go from Boise and Lincoln Streets to Wichita and Denver Streets.

MAP NUMBER 6

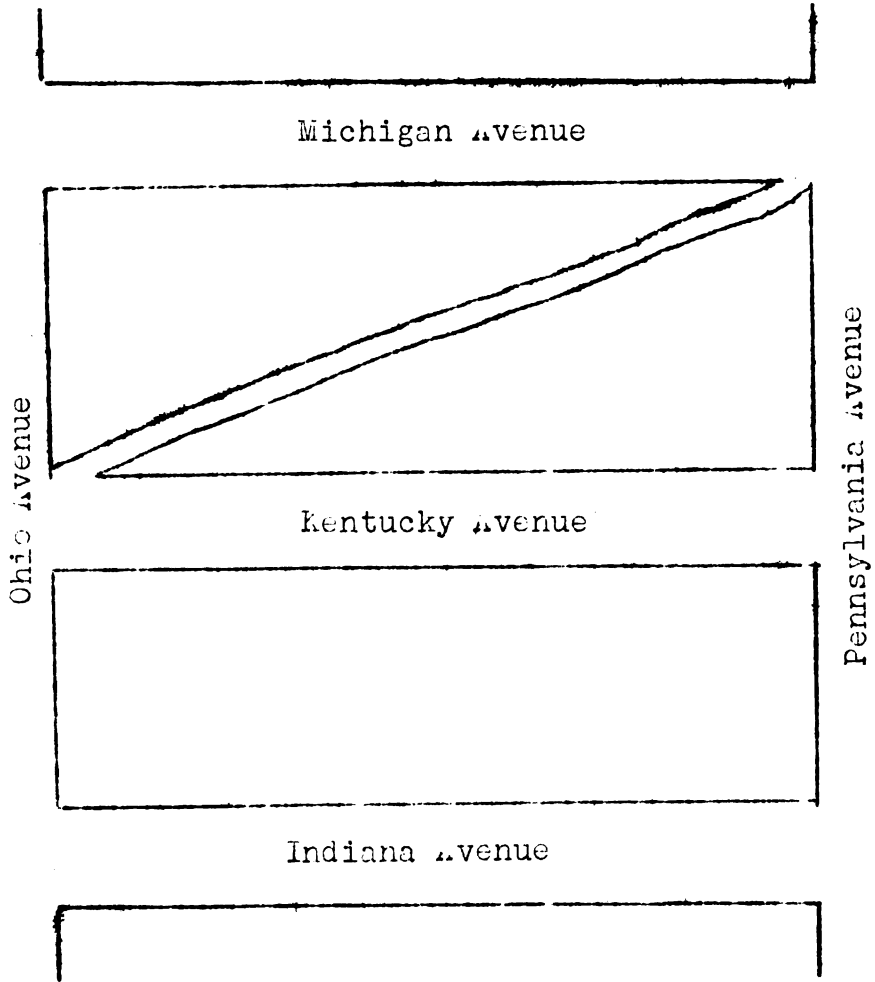


MAP 6

Describe in your own words the shortest way to go from Louisiana and Tennessee Boulevards to Oklahoma and Texas Boulevards.



MAP NUMBER 7



MAP 7

Describe in your own words the shortest way to go from Indiana and Ohio Avenues to Michigan and Pennsylvania Avenues.

APPENDIX E

INSTRUCTIONS TO THE JUDGES

1. For rating of the Rorschachs.
2. For rating of the MMPI's.

## INSTRUCTIONS TO THE RORSCHACH JUDGES

Will you please rank the 38 Rorschach protocols according to the following procedure:

Select the 5 most well adjusted.

Rank them from 1 to 5, with rank of 1 being the most well adjusted.

Select the 5 most poorly adjusted.

Rank them from 34 to 38, with rank of 38 being the most poorly adjusted.

Of those protocols that remain:

Select the 5 most well adjusted.

Rank them using numbers 6 to 10, with 6 being the most well adjusted.

Select the 5 most poorly adjusted.

Rank them, using numbers 29 to 33, with 33 being the most poorly adjusted.

Of the 18 that remain:

Rank them in order of adjustment, using numbers 11 to 28 inclusive, with number 11 being the most well adjusted and 28 being the most poorly adjusted.

In order that the judges will have a similar frame of reference for "adjustment" will you read over the following discussion of adjustment, and keep it in mind as you make your ratings. Pay particular attention to the last sentence:

A broader meaning of the adjustment process is illustrated by the individual's relationships with his social environment. Not only must a person modify his behavior in response to his inner needs and the natural events of his surrounding, but he must also adapt to the presence and activities of his fellow men.

For a person to satisfy all his motives with regard for their functioning as an interrelated system, is good adjustment. To achieve this requires unified and integrated behavior, the presence or absence of which provides what is perhaps the clearest distinction between good and poor adjustment.

When the interrelated motives of a person are satisfied without undue emphasis or slighting of any one motive, and when this is achieved with consideration for the adjustments of other persons, then a state of good adjustment may be said to exist. (from Shaffer, L. F. The Psychology of Adjustment, pp. 4 and 138).

APPENDIX F  
REASONS FOR REJECTION

## REASONS FOR REJECTION

1. withdrawn, homosexual inclinations, dishonest, juvenile, sex fiend, unreliable, dirty, queer, insincere, low morals, oad.
2. overbearing, insulting, prejudiced, profane, hypocrite, egotistical, inconsiderate, unfriendly, talkative, irresponsible, uncooperative, loud, immature.
3. lies, a cheat, self-centered, loud mouthed, hypocrite, inconsiderate, persecution complex, nosy, unreasonable, odd, know-it-all, superiority attitude.
4. self-centered, superiority attitude, cynical, childish, lies, not dependable.
5. boisterous, childish, inconsiderate, a drunk, smart Alec.
6. rowdy, loud, not studious, juvenile, superiority complex.
7. inferiority complex, introverted, too quiet, nosy.
8. sloppy housekeeper, untidy, dirty, loud, nosy, lazy, uncooperative, childish, conceited.
9. noisy, inconsiderate, childish, loud, stupid.
10. sloppy, inconsiderate, poor housekeeper, unsanitary.
11. uncooperative, conceited, must have his way, arrogant, inconsiderate, borrower.
12. loud, noisy, extrovert, exhibitionist, self-centered, sloppy.
13. self-centered, sloppy.
14. too quick, unsociable, uncooperative, tactless.
15. childish, trouble maker, unfriendly.
16. inconsiderate, uncooperative.
17. childish, prissy, affected.
18. selfish, inconsiderate, noisy, egotistical.
19. dirty
20. inferiority complex, nosy, different, narrow.
21. foul language, childish, unstable, unfriendly.

APPENDIX G  
COMPLETE RESULTS OF THE THEMATIC ANALYSIS  
OF THE TAT

COMPLETE RESULTS OF THE THEMATIC ANALYSIS OF THE TAT

The complete check list of themes and interpretation levels for analysis of the Thematic Apperception Test may be found in "A Normative Study of the Thematic Apperception Test" by Leonard D. Eron, published in the Psychological Monographs, Vol. 64, number 9, 1950. In the following list, only those themes which occurred in the stories of the groups being studied are included.

	Selects	Rejects
I. Disequilibrium		
A. Interpersonal		
1. Parent		
a. Pressure	31	37
b. Succorance	13	15
c. Nurturance	5	
d. Aggression from	1	
e. Aggression to	1	
f. Departure	6	8
g. Concern	3	7
i. Death or illness	12	9
j. Death of child	4	4
k. Disappointment to	1	6
l. Disappointment in	2	
m. Filial obligation	2	4
n. Confession	2	
o. Bad news	7	7
p. Marriage	5	5
q. Collusion	2	
2. Partner		
a. Pressure	2	4
b. Succorance	4	2
c. Nurturance	2	3
e. Aggression to		1
f. Departure from	3	8
g. Concern		1
h. Illicit sex	13	9
i. Illicit sex (rape)		1
l. Disappointment by	1	1
m. Jealousy	4	2
n. Competition	1	
o. Cuckold	1	
p. Decision	4	2
q. Pursuit	1	3
s. Unrequited	1	
u. Childbirth		2
3. Peer		
b. Succorance	1	1
c. Nurturance		1
e. Aggression to	7	4
g. Concern		1
i. Death or illness		5



	Selects	Rejects
j. Belongingness	9	8
q. Bad influence	1	1
r. Disappointed in	1	
4. Sibling		
f. Rivalry	1	
g. Concern	1	
i. Death or illness	1	
B. Intrapersonal		
1. Aspiration	16	13
2. Inadequacy	6	7
3. Curiosity	1	2
4. Behavior disorder	5	4
5. Suicide	4	1
6. Moral struggle	9	5
7. Guilt	5	5
9. Fear	3	3
10. Rumination	1	3
11. Occupational concern	10	20
12. Physical illness or death	3	7
13. Retribution	1	2
14. Reminiscence, sad	2	2
15. Intra-aggression	3	1
16. Religion		1
17. Loneliness	3	2
18. Compensation		6
19. Vacillation	3	2
21. Exhaustion	3	1
23. Sad	1	2
24. "Hurt feelings"		7
29. Grief	2	2
C. Impersonal		
1. Economic pressure	2	4
2. Legal restriction		2
3. Generalized restriction	5	4
4. Aggression to environment	6	12
5. Aggression from environment		2
6. War	9	9
7. Escape		1
II. Equilibrium (adjustment)		
A. Interpersonal		
1. Parent		
a. Cooperation	5	3
b. Resignation	1	
c. Idealization	3	1
d. Reunion	1	3
e. Fulfillment	2	3
f. Contentment	2	3

	Selects	Rejects
g. Ordinary familial activity	1	1
2. Partner		
a. Admiration	1	1
b. Cooperation	2	2
c. Contentment	8	4
e. Ordinary activity	2	
3. Peer		
a. Cooperation	1	
b. Congeniality	6	3
c. Reunion		2
e. Exhibition		1
f. Ordinary activity	1	3
B. Intrapersonal		
1. Self esteem	1	
2. Tranquillity	6	1
3. Reminiscence, happy	1	
4. Retirement		2
5. Occupational satisfaction	4	1
6. Resignation to lot	2	1
7. Ordinary activity		2
C. Impersonal		
1. Favorable environment	1	
III. Level of interpretation		
A. Abstract	2	
C. Descriptive	1	
D. Unreal	6	4
I. Alternate themes	5	5
K. Denial of a theme		2
N. Confused		2
Q. Humorous		1
H. Continuation		1

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