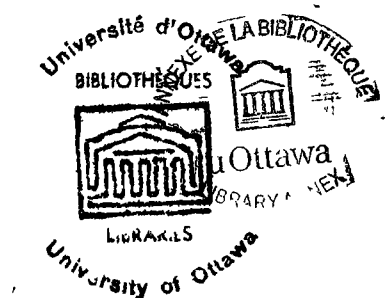


ANXIETY AND ITS RELATIONSHIP
TO CONSISTENCY OF RESPONSE ON THREE
MEASURES OF NEEDS

by Sergio J. Piccinin

Thesis presented to the Faculty of
Psychology and Education of the
University of Ottawa as partial
fulfillment of the requirements
for the degree of Doctor of
Philosophy



Ottawa, Canada, 1966

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ACKNOWLEDGEMENTS

This thesis was prepared under the supervision of Professor Maurice Chagnon, Ph.D., formerly Vice-Dean of the Faculty of Psychology and Education, and presently Academic Vice-President of the University of Ottawa. The writer wishes to express his gratitude to Dr. Chagnon for his encouragement and valuable suggestions. The writer is also indebted to Professor Gilles Chagnon of the Faculty for his interest and counsel.

Gratitude is also expressed to the administration, staff and students of Laurentian University of Sudbury, Ontario, where the research was actually carried out, and to Professor Polly (Johnson) Koezur of the Faculty of Psychology and Education of the University of Ottawa for her assistance in obtaining subjects for pilot studies at various points in the planning of the research.

CURRICULUM STUDIORUM

Sergio Joseph Piccinin was born February 22, 1937, in Sudbury, Ontario. He received the Honors Bachelor of Arts degree in Philosophy from St. Peter's College of the University of Western Ontario, London, Ontario, in 1957. He received the Master of Arts degree in Psychology from the University of Ottawa, Ontario, in 1960. The title of his thesis was The Assessment of Body Attitudes of Normal Subjects by Direct and Projective Measures.

TABLE OF CONTENTS

Chapter	page
INTRODUCTION.	vi
I.- REVIEW OF THE LITERATURE.	1
1. Delineation of the Problem	1
2. Early Empirical Studies of Consistency	12
3. Allport's Position and Related Studies	20
4. The Views of Rogers and Nuttin	52
5. Summary and Hypotheses	59
II.- EXPERIMENTAL DESIGN	63
1. Selection of the Subjects	63
2. Selection of the Instruments Used	71
3. Testing Procedure	86
4. Scoring of the Tests	92
5. Techniques for Evaluating the Data	93
III.- PRESENTATION OF RESULTS AND DISCUSSION.	101
1. Reliability of the Instruments	101
2. Composite Ranking of Needs in the Two Groups	104
3. within Group Consistency	109
4. Between Group Consistency	125
5. Social Desirability and the <u>Need Ranking Form</u>	132
6. Discussion and Suggestions for Further Research	140
SUMMARY AND CONCLUSIONS	149
BIBLIOGRAPHY	152
Appendix	
1. THE <u>IPAT ANXIETY SCALE</u>	154
2. DESCRIPTION OF <u>THEMATIC APPERCEPTION CARDS</u>	155
3. INSTRUCTIONS FOR SUBJECTS AND FORM FOR PROTOCOLS OF THE <u>THEMATIC APPERCEPTION TEST</u>	156
4. THE <u>EDWARDS PERSONAL PREFERENCE SCHEDULE</u>	157
5. THE <u>NEED RANKING FORM</u>	158
6. THE <u>NEED RANKING FORM (FORM SD)</u>	160
7. PROCEDURE FOR SCORING THE <u>THEMATIC APPERCEPTION TEST PROTOCOLS</u>	162
8. ABSTRACT OF <u>Anxiety and Its Relationship to Con- sistency of Response on Three Measures of Needs</u> .	167

LIST OF TABLES

Table	page
I.- Comparison of the Ages of the Low and High Anxiety Subjects by Means of the "t" Test. . . .	72
II.- Sum of Ranks and Composite Rank Order of Needs for the Low and High Anxiety Groups on the Three Assessment Methods	106
III.- Wilcoxon Z Test Between the Rank Orders of Seven Needs on Three Methods of Assessment Within the Low Anxiety Group.	111
IV.- Wilcoxon Z Test Between the Rank Orders of Seven Needs on Three Methods of Assessment Within the High Anxiety Group	116
V.- Mann-Whitney U and Significance of Derived Z Between the Distributions of Discrepancy Scores for the Low and High Anxiety Subjects.	127
VI.- Comparison of the Discrepancy Scores of the Low and High Anxiety Groups for Each Need by Means of the Median Test.	130
VII.- Composite Ranking of Needs for the Two Groups on the <u>Need Ranking Form</u> and the <u>Need Ranking Form (Form 3D)</u>	134

INTRODUCTION

The question of whether or not man is aware of the motives for his behavior is probably as old as man himself. Certainly philosophers have been debating this question for centuries. More recently psychologists have also been concerned with this question, and this particularly since the time of Sigmund Freud.

The importance of an adequate answer to this question hardly requires discussion. It is fundamental to the understanding of all voluntary human behavior. As such, the answer to the question is of importance not only to the philosophers and theoretical psychologists, but to anyone who wishes to understand, predict or control human behavior.

Apart from theorizing about the problem, psychologists have, in recent years, attempted to study this question empirically. The writings of Gordon Allport in particular, have given impetus to empirical research in this realm. It was Allport who indicated that one approach to this critical problem might be through the use of tests which measure, or purport to measure, different levels in personality. If an individual is truly aware of his motives, then he will presumably give consistent responses regarding his motives (or other significant personality features) to tests which assess these same motives at different levels of personality.

Recent empirical findings, though not unequivocal, seem to indicate that consistency or inconsistency of response to measures which purport to assess different levels of awareness may be related to particular conditions. The question arises as to what these correlates of consistency or inconsistency of response to different measures of personality actually are.

This thesis represents a further empirical attempt to shed some light in this area. The study to be reported is designed to investigate anxiety as a possible correlate of consistency or inconsistency of response to three measures of needs.

In the first chapter the nature of the general problem is delineated in detail. The evolution of the specific problem of the study from theoretical formulations about personality, as well as from the existing body of empirical research, is presented. The specific hypotheses to be tested are also set forth in the first chapter.

A second chapter is devoted to the presentation of the experimental design for the study. The results of the study are presented and discussed in a final chapter. Limitations of the study, together with possible suggestions for further research, are interwoven with the discussion of the results.

CHAPTER I

REVIEW OF THE LITERATURE

This survey of the literature is an attempt to trace the development of the hypotheses of the present research. For clarity and convenience, this chapter is divided into five sections. In the first section, the historical and theoretical context of the problem is delineated. A second section is devoted to a review of early empirical studies of the problem, studies which are only indirectly relevant to the present research. The position of Gordon Allport with respect to the problem is presented in a third section, together with a critical review of studies more directly pertinent to the topic of the present thesis. In the fourth section the theorizing of Carl Rogers and Joseph Nuttin and the implications of their thinking for the present investigation are examined. The final section is devoted to a summary of the chapter and a statement of the research hypotheses of the present research.

1. Delineation of the Problem.

The traditional view about man is that he is essentially a rational being. He has conscious desires and uses his capacities to fulfill them. This was the basic idea of ancient philosophers such as Plato and Aristotle, of

medieval philosophers like St. Thomas Aquinas, and of more recent thinkers including Descartes, Hobbes and Spinoza. Although this view does not seem to be the most widely accepted in contemporary psychological writing, it is to be found in the writings of such men as Gordon Allport, Carl Rogers, and Joseph Nuttin. According to this view, man knows why he behaves the way he does. He is capable of knowing the motives for his behavior. He is considered capable of accurate self-comprehension. The individual is considered abnormal or maladjusted if he loses this self-comprehension and behaves on the basis of motives unknown to himself or inconsistent with his stated motives. Normal and abnormal behavior are seen as separate psychological phenomena, with awareness of motivation essential to this distinction.

In spite of the predominance of this view about human motivation, it had long been observed that people frequently seem to behave for reasons completely different from their stated motives; that people often seem unaware of the "real" motives for their behavior. The stated reasons for behavior frequently seem inconsistent with the 'real' motives for behavior, which seem to be hidden from awareness or consciousness.

This observation led to a view (of motivation) which questioned the possibility of any rational and conscious

motivation in the individual. Gordon Allport¹ sees the philosophical roots of this movement in the writings of Schopenhauer, Darwin, MacDougall, Bergson, and more recently in the influence of the psychoanalytic theory of Sigmund Freud.

Among these, Freud, of course, has been a leading figure in modern western psychology. He, like the others, held that the mainsprings of conduct are hidden from the searchlight of consciousness. The psychoanalytic view emphasizes unconscious instinctual motivation and the deterministic influence of early childhood experiences upon adult personality. This view of motivation, the dominant one in twentieth century western psychology, leaves little room for self-comprehension, even for the mature healthy individual. Man is seen as largely irrational and incapable of self-comprehension.

Any inconsistency which may exist between an individual's real and stated motives is not seen as a problem in the psychoanalytic view. Rather it is expected; inconsistency is the rule rather than the exception. What an individual may say about his motives will necessarily bear little resemblance to his real motives since the latter are not available to awareness. Terms such as defense mechanism,

¹ Gordon Allport, "The Trend in Motivational Theory", in the American Journal of Orthopsychiatry, Vol. 23, no. 1, January 1953, p. 107-119.

repression, sublimation, reaction formation, etc. are concepts designed to deal with the observation of inconsistency between the stated and real or unconscious motives of behavior.

Each of these psychodynamic theories was to have an influence on the development of modern psychology. This influence was paralleled in the field of personality assessment by two different approaches to the problem of psychodiagnosis and psychodiagnostic methods.

The approach to psychodiagnosis of adherents to the first view described above emphasized the use of self-report techniques. If the individual is consciously aware of his motives, then the most effective means of learning about these is to ask him directly. The individual's introspective reports about relevant aspects of his personality can be accepted as trustworthy. These introspective reports could be obtained by direct questioning, in interviews, or by means of a questionnaire. Allport² refers to such psychodiagnostic methods as "direct methods".

The approach to psychodiagnosis stimulated by the psychoanalytic school emphasizes that personality assessment cannot be successfully accomplished merely by obtaining the individual's self-report. In order to achieve an accurate assessment of personality, the unconscious motivational system

2 Ibid., p. 109.

which determines all overt behavior must be discovered. The individual's conscious report is rejected as untrustworthy. The result for the field of personality assessment was the introduction and rapid development of diagnostic methods which seemed sensitive to unconscious motives and conflicts. These "projective methods" were designed to elicit information which had been defensively repressed out of awareness by the individual. By presenting a relatively unstructured, ambiguous stimulus to a subject for interpretation, it is hoped responses reflecting the underlying personality make-up will be obtained.

There has been an unprecedented expansion in the development and use of projective methods of personality assessment during the past fifty years. Allport³ attributes this expansion and the corresponding decrease in popularity of techniques of self-report, including the interview and questionnaire, to the psychodynamic theory which emphasizes the unconscious nature of motivation.

Empirical investigation into this difference in psychodynamic viewpoint and consequent divergence in psychodiagnostic approach is needed. With regard to the question of psychodiagnostic methods a first consideration has to do with the precise meaning of the so-called "direct" and "projective" measures. On what basis does one classify

³ Ibid., p. 107.

assessment methods in this way? Are there not other kinds of measures which do not clearly fall into one of these dichotomies?

This question of the nature and classification of the various personality assessment methods is an involved one. Although the general historical approaches to the assessment of personality can be readily seen, the myriad assessment methods which have been developed up to the present have resulted in confusion and the consequent need for definition and classification. Carberry⁴ has presented a careful summary of the major classification schemes proposed in the literature. Since the present study has evolved from Allport's theoretical formulation concerning response consistency on personality assessment methods, it was decided to adopt his classification of assessment methods.

In his first writing on the subject, Allport⁵ distinguishes quite simply between direct and projective methods. Direct method refers to any procedure in which the subject is asked "consciously to report" about some relevant feature, (motive, feeling, need, etc.) of his personality. He includes in this grouping such diversified pencil-and-paper tests as

⁴ Hugh H. Carberry, A Comparison of Three Methods of Need Assessment with Normal and Neurotic Subjects, unpublished doctoral dissertation presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1964, p. 4-18.

⁵ Allport, Op. Cit., p. 112.

the Minnesota Multiphasic Personality Inventory, the Strong Interest Inventory, and the Allport-Vernon-Lindzey Study of Values. Allport does not explicitly define what he means by a projective method, though he clearly refers to the Rorschach and the Thematic Apperception Test as falling into this category.⁶

In 1955, Davids⁷ questioned the adequacy of Allport's gross classification of personality assessment methods. Specifically, Davids felt that in the classification of tests on the basis of the degree of the subject's awareness of what is being assessed, Allport's "direct" methods category was too broad and needed refinement. Davids' view was that there is a difference between a personality measure based on an individual's rating of himself on neuroticism, for example, and his rating of himself on a measure which asks him to indicate whether he has experienced feelings like, "trouble knowing what to do next," "get discouraged easily" etc. In the former case there is no camouflage. The subject knows the dimension being investigated. But when an individual responds to separate items of a questionnaire he is frequently unaware of the fact that his responses may result in his being categorized as high or low on the neurotic, schizophrenic,

⁶ Ibid., p. 108.

⁷ A. Davids, "A Comparison of Three Methods of Personality Assessment: Direct, Indirect and Projective", in the Journal of Personality, Vol. 23, No. 4, June 1955, p. 423-440.

psychopathic or other personality dimension. Davids feels there is a difference in the degree of subject awareness of what is being assessed by these two apparently direct methods. For this reason he advocates the additional category "indirect"⁸ methods to add clarity and precision to the classification. Indirect methods then, refer to those techniques where the individual responds to a number of separate items but is unaware of the particular dimension of personality being assessed. Examples of indirect methods would include the Edwards Personal Preference Schedule, the Minnesota Multiphasic Personality Inventory, the Sixteen Personality Factor Questionnaire, etc.

In a personal correspondence with Carberry,⁹ Allport revealed his own doubts about his classification and recommended the inclusion of the third category, the indirect methods, as advocated by Davids. But even before this Allport gave tacit recognition to Davids' recommendation. In his latest book, Allport¹⁰ quotes the work of Davids and Pildner¹¹ as supporting

⁸ Ibid., p. 425.

⁹ Carberry, Op. Cit., p. 16.

¹⁰ Gordon Allport, Pattern and Growth in Personality, New York, Holt, Rinehart, and Winston, 1961, p. 444.

¹¹ A. Davids and H. Pildner, "Comparison of Direct and Projective Methods of Personality Assessment under Different Conditions of Motivation", in Psychological Monographs, Vol. 72, No. 11, Whole No. 464, 1958, p. 1-30.

REVIEW OF THE LITERATURE

his views regarding the consistency of response to direct and projective measures of personality. In this study, Davids and Pilcner used the tripartite classification of tests, direct, indirect and projective, advocated by Davids in 1955.

In summary, the principle of classification of personality assessment methods for purposes of this study is the degree of subject awareness of what is being assessed. This principle is identical to Allport's and Davids' and therefore best serves the purpose of the present research. On this basis the following literary definitions of the three varieties of personality assessment methods are put forth by Davids:

Direct Methods - Those techniques which openly ask the individual about some relevant aspect of his personality make-up and accept his responses at face-value.

Indirect Methods - Those techniques which present the subject with objective standard materials but use his responses to provide a measure that he may not be aware of.

Projective Methods - Those techniques which employ perceptions, interpretations and associations in response to ambiguous stimuli as an avenue leading to an assessment of the personality dynamics of the perceiver.¹²

All three of these methods are used in assessing personality. According to the psychodynamic theory which views man as capable of self-comprehension, projective methods, which assess a level of motivation unknown to the individual,

¹² Davids, Op. Cit., p. 425.

would not really be necessary with the normal individual. This would be so because, in this view, there is no such unconscious aspect of personality. If projective or indirect methods were used, the picture of personality provided would be the same as that obtained on the direct measure. In other words, consistent information would be obtained on the three types of measures.

Adherents to the other psychodynamic point of view would predict otherwise. Because they view motivation as unconscious, and self-comprehension as largely impossible, then any method which involves self-report will necessarily yield a different picture of personality than a method which assesses the unconscious but "real" aspects of personality. They would expect a different picture of personality on direct, indirect, and projective measures, i.e. inconsistent information would be obtained from the three measures.

The question of the consistency or inconsistency of information revealed by an individual to direct and projective measures of the same variable requires empirical investigation if a satisfactory solution is to be found. Would direct and projective measures of the same variable administered at the same time, in fact yield inconsistent information about the individual? Is inconsistency within the individual, when his direct and projective test performance is compared, to be expected as a rule? Or should inconsistency be expected only

under certain conditions? If the latter is the case, then what are the correlates of consistency or inconsistency between direct and projective measures of personality?

Although the concept of inconsistency within the individual has received attention in most theories of personality, this problem has only occasionally been the main focus of empirical study. This is especially true before the appearance of an article written in 1953 by Gordon Allport.¹³ Prior to the appearance of this article a number of studies can be found which provide only indirect evidence on this question. These studies will be critically evaluated in the next section.

The present study was designed to investigate a possible correlate of consistency or inconsistency of response to direct and projective measures of the same variable obtained at the same time. The evolution of the present study from the theoretical formulations of Allport and other personality theorists, and from the existing body of empirical study will be developed and presented in the subsequent sections of this chapter.

¹³ Allport, "The Trend in Motivational Theory", Op. Cit., p. 107-110.

2. Early Empirical Studies of Consistency.

Some interesting indirect evidence on the consistency of response to direct, indirect, and projective measures of a personality variable is found as early as 1934. Laslett and Bennett¹⁴ administered the Kent-Rosanoff Word Association Test and the Barnreuter Inventory to a group of 164 normal college students at the University of Oregon. The Barnreuter Inventory was scored only on the B1-N scale, the scale for neurotic tendencies. Although good subject-experimenter rapport was established, there was a marked lack of consistency on neurotic tendencies between the projective and direct measures. A product moment correlation of $-.000$ is reported while the rank order index between the two was $-.027$. The subjects were suspected of conscious protection of sensitive personality areas on the direct instrument, as well as over-statement resulting from too great an awareness of minor weaknesses. Many of the students reported that one or more of these factors had decreased the accuracy of their reports.

In 1947, Ellis¹⁵ studied the effect of direct versus indirect phrasing (i.e. questions stated in the first person

¹⁴ H. Laslett and T. Bennett, "A Comparison of Scores in Two Measures of Personality", in the Journal of Abnormal and Social Psychology, Vol. 26, No. 41, March 1934, p. 459-461.

¹⁵ Albert Ellis, "A Comparison of the Use of Direct and Indirect Phrasing in Personality questionnaires", in Psychological Monographs, Vol. 61, No. 3, Whole No. 234, 1947, p. 1-41.

versus questions stated in the third person) on a personality test administered to a group of 221 normal children and to a group of forty children with behavior problems. He hypothesized that personality tests administered in a direct and an indirect form would differentiate between groups of behavior problem and non-problem children. One form of the direct test showed a significant difference between the problem children and the normals, but neither form of the indirect test significantly distinguished the two groups. However, both groups gave a more negative or unfavorable picture of themselves on the indirect forms than on the direct. One problem in this study was pointed out by Ellis himself. The group selected as problem children had been picked by principals in the school system as having been in one kind of trouble or another in the classroom. This "trouble" ranged all the way from mild assertiveness to serious infractions in the school room and the resulting group was hardly a homogeneous one. This makes the results difficult to interpret.

In the same year, Combs¹⁶ conducted a study to examine the comparative effectiveness of the Thematic Apperception Test and autobiographies in revealing the fundamental aspects of motivation. Forty-six students in a Mental Hygiene Class

¹⁶ Arthur Combs, "A Comparison Study of Motivations as Revealed in Thematic Apperception Test Stories and Autobiographies", in the Journal of Clinical Psychology, Vol. 3, No. 4, January 1947, p. 65-75.

wrote stories to twenty Thematic Apperception Test cards, and also wrote autobiographies covering specified topics. The 907 Thematic Apperception stories and over 1500 pages of autobiographical material obtained were then analyzed for "desires" expressed in each instrument. A desires list made up of the forty most common desires was used as a means of standardizing the descriptions of the desires. When the forty desires were arranged in order of frequency, a rank order correlation of .737 was found between the desires obtained on the Thematic Apperception Test and in the autobiographies. This expresses a fairly high degree of frequency with which each instrument reveals specific desires. The two instruments have a high degree of overlap with respect to motivational analysis. It was also found that the Thematic Apperception Test tended to elicit desires in the present and future, and more socially unacceptable categories of desire, while the autobiographies emphasized the past, milder and more socially acceptable forms of motivation.

In 1947, Sacks¹⁷ did a study similar in type to that of Ellis¹ mentioned above and he reports similar results. Sacks tested one hundred Veteran's Authority patients with a first person stem form of the sentence completion test and a third

17 J.M. Sacks, "The Relative Effect Upon Projective Responses of Stimuli Referring to the Subject and of Stimuli Referring to Other Persons", in the Journal of Consulting Psychology, Vol. 13, 1949, p. 12-20.

person stem form of the sentence completion test. He found that more negative responses tended to appear on the third person form of the test than on the first person form, but that it was the first person form of the test that correlated most highly with psychiatric ratings.

Erickson, Lazarus and Strange,¹⁰ using a sample of twenty-two normal college students investigated the relationship between performance under stress and various Rorschach indicators. They found a marked lack of relationship between the two. On the other hand, the information offered by the subjects in a personal interview proved to be an excellent predictor of stress performance. The authors conclude:

Finally, we may note that our subjects were able to predict the direction of the change in their performance under stress. Assuming that this finding has generality, we are left with the amusing conclusion that, with our present techniques, the best way to predict how a man will perform under stress is to ask him.¹⁹

The authors also found that scores on the Guilford-Martin Inventory of Factors and the Hell Adjustment Inventory likewise failed to differentiate high and low stress groups. In no cases were statistically reliable differences obtained, although they report a tendency for the group who showed

¹⁰ C.W. Erickson, R.S. Lazarus, and J.N. Strange, "Psychological Stress and Its Personality Correlates", in the Journal of Personality, Vol. 20, No. 3, June 1952, p. 277-286.

¹⁹ Ibid., p. 285.

improvement under stress to be more ascendent on both instruments. These subjects also showed more emotional stability on the Bell Adjustment Inventory and greater self-confidence on the Guilford-Martin Inventory of Factors. It may be that these differences would have attained statistical significance with larger samples.

In 1956, a study conducted by Childs, Kitty, and Storm²⁰ explored the relationship between ten forms of social behavior and anxiety about each form through two different measuring devices. The ten forms of social behavior studied included achievement, aggression, autonomy, deference, dominance, isolation, nurturance, responsibility, sociability, and succorance.

The two assessment methods used in this study were a questionnaire in which the subjects, undergraduates in a psychology course, rated themselves on ten items believed relevant for each variable under study, and the group-administered Thematic Apperception Test. Eight Thematic Apperception cards believed relevant to the variables under study were utilized. The cards used and their order of administration were as follows: 1, 18BM, 7BM, 13BM, 6BM, 12M, 14, and 10.

20 I.L. Childs, F. Kitty, and T. Storm, "Self Ratings and the TAT: Their Relation to Each Other and to Childhood Background", in the Journal of Personality, Vol. 25, No. 1, July 1956, p. 96-114.

The authors hypothesized that the mention of a form of behavior in the Thematic Apperception Test story, should be positively related to a self-rating on the same form of behavior. They checked this hypothesis by plotting self-rating scores in relation to frequency of mention of the most relevant forms of behavior in the Thematic Apperception Test stories. Wherever the number of cases was sufficient, self-rating of positive tendency and of anxiety were plotted in relation to these variables, as mentioned in the Thematic Apperception Test. Analysis of the data led the authors to report that the outcome appeared entirely random. For most variables, differences in average self-rating scores according to the number of mentions of the corresponding theme was very small in relation to the amount of variability. Neither in these small differences nor in the slightly larger differences which occurred with some of the variables, was there any consistency in the direction of relationship from one variable to another; moreover, the relationships were not significantly different.

In the same year, 1956, Lindzey and Tejessey²¹ report a study investigating the degree of association between ten traditional signs of aggression on the Thematic Apperception

²¹ G. Lindzey and C. Tejessey, 'The Thematic Apperception Test: Indices of Aggression in Relation to Measures of Overt and Covert Behavior', in the American Journal of Orthopsychiatry, Vol. 26, No. 3, July 1956, p. 567-76.

Test and four other measures of aggression, using twenty Harvard College undergraduates. The four measures of aggression consisted of a diagnostic council rating, observers' ratings, the Rosenzweig Picture-Frustration Study results and finally self-ratings. The highest correlations were found between the Thematic Apperception Test signs of aggression and self-ratings on this variable. All ten Thematic Apperception Test signs correlated with the self-ratings, seven of these being significant at the .05 level. The correlation coefficients ranged from .30 to .75. Lindzey and Lejessey comment:

We had predicted that the correlations between TAT dimensions and subject's self-ratings would be the lowest of the four sets of relationships examined. Quite the contrary, we find that for all ten TAT dimensions there is a positive correlation with the self-ratings and seven of these correlations reach conventional levels of significance (...) These findings suggest rather strongly that the scores we had derived painstakingly from the TAT protocols represent rather accurately the information we could have secured from the subjects themselves by simply asking them to appraise their own behavior.²²

These same authors go on to conclude²³ that several questions need to be asked about the use of various personality assessment methods. They question whether projective tests really measure a deeper level of behavior. Secondly, if so, they wonder whether Allport's hypothesis regarding

22 Ibid., p. 573.

23 Ibid., p. 574-576.

consistency of response of normal subjects to direct and projective measures of personality has any validity. Allport's view and related studies will be presented in the next section.

A number of studies have been reviewed in this section. These studies were not specifically concerned with the problem of consistency of response obtained, so that the evidence provided on this question is only indirect. This makes it difficult to assess the overall impact of these studies. Also, the studies were designed to measure a widely different number of variables, including adjustment, neuroticism and aggression. The groups studied were not always similar and included college students, children, and veterans so that it is difficult to know to what extent the findings are comparable. Moreover there is no agreement on the definitions of the terms direct, indirect, and projective in describing assessment methods used in the studies. According to the definitions selected for the present study, the studies of Laslett and Bennet, Combs, and of Childs et al., employed indirect and projective methods. Ellis and Sacks used direct and projective techniques. Only the studies by Erickson et al. and Lindsey and Tejessey used direct, indirect, and projective measures.

The findings in the studies are ambiguous. Laslett and Bennet found a lack of consistency between indications

of neuroticism on the indirect and projective methods, but attribute this unexpected result to the motivational conditions of the subjects he used. Both Allis and Sacks found the direct and projective methods yielded inconsistent results. However, Allis used children, while Sacks used veterans as subjects. Combs, on the other hand, found a high and significant correlation indicating consistency of response on the indirect and projective measures of desires which he used with college students. Erickson et al. found no relation between direct, indirect, and projective measures, but concluded that the best way to find something out about an individual is to ask him. Childs, Kitty and Storm found no resemblance of projective and indirect test results in their study. Lindsey and Tejessey, on the other hand, found the highest consistency of response in their study was between a direct method and a projective measure of the same variable. It was this which led them to suggest that Allport's hypothesis had applicability.

3. Allport's Position and Related Studies.

The present study has evolved more directly from Gordon Allport's theoretical position on the question of consistency of response to tests which purport to measure different levels of response. Allport's theoretical formulation is presented in an article written in 1953.²⁴ This

²⁴ Allport, Op. Cit., p. 107-110.

article discusses how the method one employs to assess an individual's motives is dependent upon the theory of motivation which one has previously adopted.

Allport rejects what he calls²⁵ the "irrationalist" view that all motivation is unconscious and that an individual is incapable of knowing the motives for his behavior. He argues that this view has resulted in an unjustified attitude of contempt for the "psychic surface" of life. Modern emphasis on the unconscious has led to a preference for projective techniques which purport to search out hidden dynamics and unconscious motives, and a tendency to avoid the more direct approaches.

Allport insists on a more "rationalist"²⁶ view. His position is that, in the normal individual at least, motivation is not unconscious. He holds for the discontinuity of normal and abnormal psychodynamics. Although motivation is unconscious for the abnormal or neurotic individual, the normal individual is conscious of his motives. Accordingly, the simplest way to study or discover the motives of a normal individual is to ask him, i.e. to employ a direct assessment method. It is his conviction that the normal adult, at least when contrasted with the neurotic, will give essentially the

25 Ibid., p. 109.

26 Ibid.

same (consistent) information concerning his motives on direct methods as he will on projective methods of assessment. The neurotic, on the other hand, who is typically more defensive, and whose true motives are repressed, displaced, or sublimated, will at best have only a restricted awareness of his motives. Consequently, there will be a discrepancy between his responses to the direct and projective methods of assessment. He writes:

(...) the direct responses of the psychoneurotic cannot be taken at their face value. The defenses are high, the true motives are hidden and are betrayed only by a projective technique. The normal subjects, on the other hand, tell you by the direct method precisely what they tell you by the projective method. They are all of a piece. You may therefore take their motivational statements at their face value, for even if you probe you will not find anything substantially different.²⁷

Allport does not advocate the abandonment of projective tests. Nor does he deny the existence of "infantile systems, troublesome repressions or neurotic formations".²⁸ Rather his view is that projective tests are primarily useful with the neurotic individual who, he suggests, has less awareness of his needs or the motives for his behavior. But, even in the case of neurotics, he recommends that projective methods are most effectively used in conjunction with direct methods. Only the complementary usage of the direct and

²⁷ Ibid., p. 110.

²⁸ Ibid., p. 114.

projective methods can indicate the dynamic influence of unconscious needs or motives and make possible accurate diagnosis.

To sum up, Allport's position is essentially that the normal adult is capable of accurate self-comprehension and can, if asked, describe his dominant motivational characteristics. The neurotic, on the other hand, functions more in terms of past, infantile motives which have been repressed or distorted in some way, and of which he is largely unaware. The normal adult will reveal nothing more about himself on a projective test than on a direct measure. The neurotic, on the other hand, unconsciously distorts any direct report so that the information obtained in this way is not consistent with what is revealed by means of the projective method.

There have been relatively few empirical investigations of Allport's theoretical formulation concerning the comparative consistency of normal and neurotic subjects on direct and projective methods of personality assessment. These studies will now be presented and critically evaluated.

The first study to be reported is that of J.W. Getzels.²⁹ Although this study was conducted in 1951, before the appearance of Allport's article in 1953, it is included

29 J.W. Getzels, The Assessment of Personality and Prejudice by the Method of Paired Direct and Projective questionnaires, unpublished thesis, Harvard University, 1951, as quoted by Allport, "The Trend in Motivational Theory", Op. Cit., p. 107-111.

In this section rather than the previous one. This is done because Allport³⁰ assigns great weight to Getzels' study as supportive of his point of view regarding the relative consistency of response of normal and neurotic subjects on direct and projective measures of significant personality variables.

Getzels utilized two forms of a sentence completion test, one couched in the first person and one in the third person. The latter was assumed to be the projective method. In the experiment the two forms of the test were combined, but the items were randomized and scored separately. The projective sentence completion test was made up of forty third-person stems. The direct measure consisted of twenty first-person items which matched twenty of the projective items. The subjects were sixty-five veterans, 25 diagnosed as "well-adjusted"; 40 were psychoneurotic cases discharged from service with disability involving personality disorder. All the veterans were applying for financial assistance at a Veterans' Administration Guidance Centre at the time of the study.

The findings indicate clearly that the well-adjusted veterans gave identical responses to the matched first- and third person completions. The psychoneurotics, on the other hand, to a highly significant degree, varied their responses on the matched first- and third-person items. Thus while

30 Allport, Op. Cit., p. 110-111.

the psychoneurotic veterans gave no more maladjusted responses to the direct items than did the well-adjusted veterans, on the projective measure, the psychoneurotic veterans showed considerably more maladjustment than the healthy group. The psychoneurotics were also significantly more inconsistent in their responses to matched direct and projective items.

Although Getzels' findings appear to support Allport's position, it must be recalled that, since these veterans were applying for loans the variable of motivation becomes an important one. The inconsistency noted in the study may reflect a conscious desire to make themselves look good on the more transparent, direct items rather than reflecting inability to give an accurate self-report because of repressed experience or feeling. This uncontrolled motivational variable tends to confound any conclusion which may be drawn in this regard and weakens the support for Allport's position that this study seems to provide.

The second study reported by Getzels in the same report is also relevant. He administered a first- and third-person completion test to study prejudice to three psychology classes at a women's college. In the first, members were told that they were to put their name on the tests so the information could be used "for the record office". The second class took the same tests but were told that the testing was for scientific research and that they were not

to sign their names. The third class was given the same instructions as the first class received. Analysis of the results revealed that in all three classes more responses indicating prejudice on the part of the subjects occurred on the projective version than on the direct version of the completion test. The least discrepancy between direct and projective prejudice scores occurred in the class where the students were responding anonymously. Although it is difficult to say which method might most accurately reflect the feelings of the class members in such a study, it is clear that the discrepancy between the direct and projective methods diminished as one of the motivational variables was controlled. In this case the manipulated motivational condition was whether the subjects remained anonymous. What this study does suggest then, is that with normal subjects, there is a tendency for their direct and projective test performance to become more consistent as the conditions which might affect the veracity of their responses are controlled.

Although Allport mentions Getzels' first experiment to support his theoretical position, Getzels' study is not a direct attempt to test Allport's thinking. It can be seen that the evidence in Getzels' work is only partially supportive of Allport's point of view. Getzels' first study is restricted to normal subjects and is confounded by the uncontrolled motivational variable; his second experiment is also

restricted to normal subjects but it does suggest that as the motivational conditions are controlled in such a way as to foster honesty of response, the responses of normal subjects to direct and projective measures become more consistent. The studies to be reported below are all more direct attempts to investigate empirically Allport's contention.

In 1955, Davids³¹ conducted two experiments to test hypotheses derived from Allport's theoretical position. It was also in this study that Davids proposed and utilized the tripartite classification of tests: direct, indirect, and projective.

In the first experiment, Davids gave a battery of five tests to two groups of Harvard undergraduates. The battery consisted of the Psycho-Somatic Inventory, a happiness self-rating scale, a word association test, a sentence completion test, and a clinical evaluation on ego-strength. The two projective tests were structured to measure eight personality dispositions: optimism, pessimism, trust, distrust, sociocentricity, egocentricity, anxiety, and resentment. In previous work with these dispositions, Davids had found the five negative dispositions (pessimism, distrust, egocentricity, anxiety, and resentment) formed a highly intercorrelated group which he named the "alienation syndrome". The variable ego-strength also correlated with this syndrome. The

31 Davids, Op. Cit., p. 423-440.

alienation syndrome correlated rather highly with other measures of neuroticism. Specifically, Davids hypothesized that (1) neuroticism as measured by the Psycho-Somatic Inventory (an indirect method) would be highly correlated with poor adjustment as measured by each of the other methods (direct and projective) of assessment, and (2) that there would be a significant degree of concordance among rank orders on the five measures of poor adjustment.

In the first experiment the subjects were told that they were participating in a psychological experiment in which it was most important that they cooperate and be honest in their responses. It was emphasized that the data would be used solely for scientific research purposes and the subjects were guaranteed anonymity. In the second experiment, a matched group was led to believe that the results of the tests they were taking would be used to select from among them "mature, healthy, well-adjusted persons" to serve as highly paid research assistants for another psychological experiment. Davids found a consistent decrease in variability on the test scores in the job interview group compared to the control group. Also, although both groups gave a significant Kendall W score of concordance, the group believing they were being interviewed for a job gave a considerably lower one. In the first group the Kendall W was .72; in the job applicant group it was .45. David says:

(...) even though the overall agreement among the different assessment methods is statistically significant in both groups of subjects there is much less consistency and less predictability from measure to measure in the group of subjects who believe they are being assessed for a desirable job.³²

David's findings suggest that although, as Allport contends, there is congruence among different personality measures for normal subjects, the congruence is also dependent upon factors other than the normality of the individuals being assessed. One very important factor is a motivational condition such as applying for a job, which could lead subjects to distort their responses in such a way as to enhance their chances of obtaining the position.

In discussing and evaluating his own study, David made several suggestions. The subjects should be more carefully selected. He felt that the number of tests used should be increased, and that greater effort be made to insure a uniformly structured test battery specifically designed to measure the alienation syndrome. Neither of the two direct instruments he used were measures of alienation, though they were positively correlated with it. Also, the clinical evaluation was on "ego-strength". For consistency, this evaluation should also have been on the alienation syndrome. David recommended that the method of chained associations be eliminated because after a few associations the subjects'

³² Ibid., p. 435.

defenses operate to reduce the number of alienation associations. He also considered it advisable to incorporate the Rorschach or Thematic Apperception Test in future experiments because these may be less susceptible to distortion and deception, and also because of their popularity in research and applied settings.

In 1956, Davids and Pildner³³ carried out another investigation to test Allport's hypothesis concerning the consistency of the normal adult's response to direct and projective methods of personality assessment under different motivational conditions. Their methodology was made more rigorous by incorporating virtually every suggestion made by Davids in his previous study in 1955. Ten assessment techniques were used rather than the five used previously by Davids and all were focused on measuring the alienation syndrome. The assessment methods included four projective techniques: a word association test, a sentence completion test, the Azrageddi Test, and the Thematic Apperception Test. Ten Thematic Apperception Test cards were selected for use: 1, 3BM, 4, 5, 6BM, 7BM, 11, 14, 15, and 18BM. Five direct measures were included: a self rating scale, the Happiness Scale, the Affect Questionnaire, McFarland and Swety's Psycho-Somatic Inventory, and the Taylor Manifest Anxiety Scale. A clinical

33 Davids and Pildner, Op. Cit., p. 1-30.

evaluation of each subject, undertaken prior to the testing program was the tenth measure. The clinical evaluation was made on alienation rather than "ego-strength" and the chained association test was modified. As for the subjects, the control group was made up of paid volunteers who were guaranteed anonymity and encouraged to be spontaneous and sincere in the cause of science. The job interview group was contacted through the college employment office to make it look more like a legitimate job situation. Moreover, social science majors were excluded as job applicants as a precaution against these subjects being too sophisticated.

The authors hypothesized that in the control group where the subjects were motivated to respond honestly to the personality assessment measures, test performance would be consistent on the measures; there would be a high correlation between rank orders on all measures: direct, indirect, and projective, and there would also be a significant degree of concordance among rank orders based on the results of the various measures. On the other hand, the experimental group, motivated to distort personality assessment measures in order to appear well-adjusted, would be inconsistent on the measures. It was likewise predicted that the experimental subjects would show significantly less alienation than the control group on the direct measures since these are more transparent and quite susceptible to distortion. However,

it was predicted that there would be no significant differences between the alienation scores of the two groups on the projective measures since it would be far less likely that the experimental subjects could alter their performance in such a way as to appear better adjusted on these tests.

The results were as predicted and were much more pronounced than in Davids' earlier study. This was undoubtedly because of the more rigorous and more sophisticated design of the second study. Like Davids' earlier study, the work of Davids and Pildner supports Allport's position that the normal individual will give consistent results on direct, indirect, and projective methods of assessment. However, the study also indicates that a qualifier needs to be added to Allport's contention to the effect that performance on personality measures is also a function of other variables, a most important one being the motivational conditions at the time of assessment. However, it is the direct method which is most susceptible to distortion. The projective method will provide the more accurate picture. The authors write:

(...) personality assessment measures are likely to be distorted by individuals acting in situations such as personnel screening where there exists a strong motivation to create a favorable impression (...) but (...) even wise and wary subjects cannot successfully disguise projective measures.³⁴

³⁴ *Ibid.*, p. 28.

It must be noted again that neither of the studies reported has investigated the relative consistency of normal and neurotic subjects on the three types of assessment methods. Both studies were concerned only with normals. Davids and Pildner do comment on the performance of neurotics to the assessment techniques. However, only three subjects in their samples showed signs of neuroticism so that their generalizations are tenuous at best. In passing, one other observation seems noteworthy. Davids and Pildner introduced with success two innovations in the group administration of the Thematic Apperception Test. They exposed a projected image of each card for twenty seconds, allowing five minutes for the subjects to write the stories; and secondly, they had the story writers give a proper name for the chief character in the stories to facilitate the task of the scorer in identifying this personage.

In 1960, Keating³⁵ conducted an experiment to compare the self-referent sentence completion test with the other-referent type, and to assess objectively whether the other-referent type of item could be classed as "projective". His study is relevant because he takes as his rationale Allport's postulate that direct and projective measures will

³⁵ Arthur Keating, Self-Referent versus Other-Referent Incomplete Sentences in Projection, unpublished master's thesis, presented to the School of Psychology and Education at the University of Ottawa, Ontario, 1960, ix-130 p.

reveal the same information about the motives and attitudes of well-adjusted subjects, but with the maladjusted individual a projective technique would elicit repressed material which would be inconsistent with that expressed on direct measures of personality.

He used an experimental form of the Sack's Sentence Completion Test, made up of sixty self-referent items and sixty matched other-referent items, mixed in random order. Two groups were selected from a population of air-force recruits who, on the basis of a psychiatric interview, were placed into an "adjusted" or "maladjusted" group. The sentence completion test had been administered earlier as a part of the admission procedure. Each set of sixty items was scored separately, and each response was scored as "positive" or "negative" with respect to adjustment indicated. The final score consisted of the total number of responses classed as "negative".

Keating hypothesized that there would be no significant difference between the two forms for either group and secondly that there would be no significant differences between the two groups on either form of the test.

He found that each group obtained a significantly higher mean score on the other-referent form of the test but that the two groups did not differ significantly on either form of the test. These findings led him to conclude that,

although the other-referent items elicited a greater number of "negative" responses, they did not differentiate the adjusted and maladjusted individuals. His prior assumption of the validity of Allport's postulate caused him to conclude that neither type of item could be considered a "projective" method.

Several criticisms can be made of Keating's work. His assumption of the validity of Allport's postulate would appear to have been premature in view of the validating evidence presented in the literature. His selection of subjects on the basis of one psychiatric interview makes it difficult to know in which ways and to what extent the adjusted and maladjusted groups were different to start with. The fact that all the subjects were seeking admission to the air force may have affected their responses to one or both kinds of items. Finally his method of statistical analysis can be questioned. Keating compared the means of the two groups for each form of the test, but in this way missed relevant information which could have been obtained by a different approach. Allport's theory is that the responses of the normal to direct and projective methods will be consistent because of awareness of his motivational and personality make-up, whereas those of the abnormal will be different. If Keating had compared the consistency of response of each group on the individual matched items, his

analysis would have been more in keeping with Allport's position. It is possible, for example, that the adjusted group in his study had the same problems as the maladjusted group, but admit to them on both types of items, whereas the maladjusted individual would not report them on the self-reference item but unknowingly express it on the other referent form.

In the same year another study based on Allport's theory was conducted at the University of Ottawa. Piccinin³⁶ attempted to validate Allport's view that normal individuals will not differ on direct and projective test response by extending it to the area of body attitudes. Two measures of body attitude were used, one direct and one projective. The direct measure was the Body Cathexis Test which requires subjects to rate forty-six of their body parts on a five-point scale. The projective measure was the Barrier score obtained from the Rorschach. The sample of 140 students at the University of Ottawa was made up of seventy-eight males and sixty-two females.

Piccinin found no significant relationship in the expected direction. He reports a slight tendency in the opposite direction. In discussing this finding Piccinin suggests that it may stem from the lack of refinement afforded

³⁶ Sergio J. Piccinin, Assessment of Body Attitudes of Normal Individuals by Direct and Projective Measures, unpublished master's thesis, presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1960, xii-30 p.

by the rating categories of the Body Cathesis Test. While this may be the case, it is felt that a more likely explanation is that the Barrier score may have been measuring a different aspect of body attitude than the Body Cathesis Test.

Since 1960 two more studies could be found which follow more closely upon the work of Davids and Davids and Pildner. In 1961, Dachowski³⁷ conducted a study to investigate the relationship of consistency as measured by direct, indirect, and projective tests to neuroticism. Her study is the first direct test of Allport's hypothesis that the normal individual will be consistent in his responses to direct and projective tests while the neurotic's responses will be significantly inconsistent.

She obtained her subjects from two sources: volunteers from courses in psychology at the University of Illinois, and students seeking help with personal problems at the University of Illinois Counseling Service. The groups finally selected were comparable in relevant respects. Dachowski considered it essential to control in some way for the fact that the Counseling Service group was being motivated to seek help by strong internal stress. Because motivation has been demonstrated to affect performance in this kind of experimental

³⁷ M.M. Dachowski, Inconsistency as Measured by Direct, Indirect and Projective Tests and its Relationship to General Neuroticism, unpublished doctoral dissertation, University of Illinois, Urbana, 1961, iv-76 p.

situation, Dachowski used three experimental groups as follows:

1. Normal Control - this group was composed of seventy-nine volunteers from psychology classes. They indicated on a personal data sheet that they were not seeking therapeutic help at the present time nor had they had such help in the recent past.

2. Neurotic Control - this group was composed of twenty students selected from the Normal Control whose scores on a general neuroticism factor on the Minnesota Multiphasic Personality Inventory placed them in the upper quartile of the distribution of scores. This general neuroticism factor was composed of the summed standard scores of the F, D, Pt, and Sc scales (K corrected) found to make up a first principal component in several factor analytic clinical studies at the University of Illinois. Dachowski hoped this group would be operating under a condition of internal stress similar to that of the group seeking help, but would not be motivated by the idea of obtaining immediate help through the tests in a counseling situation.

3. Therapy Neurotics - this group was composed of twenty-four students who had recently applied for help with personal problems at the Student Counseling Service and who were judged by a trained staff to be in need of more than superficial therapeutic help.

The Neurotic Control group and the Therapy Neurotic group did not differ significantly in neuroticism, but both groups were significantly different from the Normal Control group. Also, it was found that the Minnesota Multiphasic Personality Inventory categories were distributed among the two neurotic groups in such a manner that the groups were reasonably comparable in this respect.

Dachowski gave these subjects a test battery which consisted of four tests, all measures of the alienation syndrome. A self-rating scale was used as the direct measure, the Affect Questionnaire was the indirect measure, and two projective methods were administered: a sentence completion test and the Thematic Apperception Test. Cards 1, 2, 3BM, 4MF, 13MF, and 18 of the Thematic Apperception Test were used.

In her analysis of the results, Dachowski first analyzed for consistency within the three experimental groups. She did this by correlating each measure used with every other measure. She then determined the group concordance measure by means of the Kendall W. The Therapy Neurotic group showed considerably fewer significant intercorrelations on the test battery. Both the Normal Control and the Neurotic Control groups had seven out of ten correlations that were significant at the .05 level or better; the Therapy Neurotic group had only two out of ten reaching the .05 level

or better. The group showing the highest absolute correlations in general was the Neurotic Control group. These observations were confirmed in the computation of the Kendall concordance coefficients. The concordance coefficients were as follows: for the Normal Control .397, for the Neurotic Control .580, and for the Therapy Neurotics .337.

The last step in Dachowski's analysis was the investigation of possible differences in consistency between groups. Since concordance measures cannot be used for a test of significance of differences between groups, Dachowski decided to perform this aspect of the analysis by treating the amount of variance for each individual from one test to another in the battery as scores and testing the resulting means for significance. In order to make the test scores comparable the data were pooled and a linear transformation to standard scores with a mean of fifty and standard deviation of ten for each test was computed. Scores were again grouped into the three experimental groups and the intra-individual test variance for each person was computed. These variances were then treated as scores and "t" tests were used to test for differences between the means of the groups. The results confirmed the observations concerning the concordance coefficients and the differences in consistency within the three groups. Once again it was the Neurotic Control and the Therapy Neurotic groups that showed significant difference

in variance for individuals from one test to another in the test battery.

Commenting on these statistical findings Dachowski writes:

The use of two different kinds of control groups appears to have added an interesting dimension to this study. A comparison of the Normal Control and Therapy Neurotics alone would have led to the conclusion that Allport's hypothesis had been at least partially supported by our data; that is that neurotic individuals do appear to be less consistent than normal individuals when compared on a variety of types of tests (...)

However when the results of the Neurotic Control group are compared to those of the Therapy Neurotics it becomes apparent that the problem is not as simple as it had appeared on the surface (...) for (...) it was the Neurotic Control group that showed the most consistency on all tests (...) In addition this group also had the highest κ coefficient and demonstrated a significantly smaller amount of intra-individual test variance when compared to the Therapy Neurotic group.³⁸

Dachowski offers two possible explanations for her findings. In the first place she questions what tests like the Minnesota Multiphasic Personality Inventory measure when administered to a non-clinic population. She writes:

One hypothesis that seems plausible is that the presence of neurotic kinds of symptoms may not necessarily mean the same thing as feeling the need for therapeutic help (...) Illness, financial stress, the need to make difficult decisions concerning future situations, etc. can temporarily make a person feel the kind of symptoms that might also be typical for the truly neurotic individual. During such a period it might be quite logical to expect the sensitive person to become more aware of himself as an object and therefore more analytical (and perhaps consistent) in his evaluation of himself.³⁹

³⁸ Ibid., p. 29.

³⁹ Ibid., p. 30.

Her second possible explanation, or perhaps supplementary hypothesis, has to do with the perception of the world which is characteristic of each group. She writes:

Perhaps the world of the Neur-C person simply hasn't been as threatening as that of the T-Neur's world. Perhaps the Neur-C has been able to come to terms with it, and to see it in a way that is quite similar to that of the normal. This may not be true of the T-Neur individual and he may therefore feel a stronger need for help in straightening out his problems.⁴⁰

It would appear to this writer that still another interpretation of Dachowski's findings is possible. Her findings can be interpreted readily within the context of the personality theory of Joseph Nuttin.⁴¹ Nuttin differentiates two levels of personality in the normal, the level of "psychic intimacy" and the "public" level. Psychic intimacy refers to that area of psychic content "to which certain dynamic contents which do not fit in with the social or constructive form of personality are relegated".⁴² The contents of this intimate level of psychic life do not absolutely coincide with the social personality or "persona" which is the public form of personality and which is formed by the process of socialization and contact with others. The

⁴⁰ Ibid., p. 31.

⁴¹ Joseph Nuttin, Psychoanalysis and Personality, A Dynamic Theory of Normal Personality, New York, Sheed and Ward, xiv-310 p.

⁴² Ibid., p. 172.

constructive image of personality is that image "which the person is tending to realize within himself".⁴³ The constructive image is an intimate aspect of personality. The intimate and social aspects of personality are available to awareness in the normal, but only the latter level is public. The healthy well-balanced individual must integrate the intimate and public spheres of his personality. Commenting on the importance of this integration of the different levels of personality in the normal individual Muttin writes:

Personality, if it is to reach a balanced development, here finds itself faced with a difficult task, for a dangerous tension can arise between this intimate form and the 'persona' which develops and makes a 'public appearance'.⁴⁴

Muttin's description of this situation in the normal could provide a possible interpretation of Dachowski's findings. It should be recalled that Dachowski drew her Neurotic Control group from among her "normals". Is it not possible that her Neurotic Control group was a normal group that had not yet adequately integrated the intimate and public levels of personality? Since both these levels of personality are open to awareness, these individuals would report consistently on the three types of measures. They could present an accurate picture of their symptoms.

⁴³ Ibid., p. 196.

⁴⁴ Ibid., p. 194.

The problem which remains is why one group (the Therapy Neurotics) sought help, while the other (the Neurotic Controls) did not seek help. What sets the person who seeks therapeutic help apart from the individual who does not and yet looks just as disturbed on a measure of neuroticism?

This writer would suggest that it is not the presence of symptoms, or of symptoms alone, which results in the difference. Rather it may be the degree of anxiety experienced that differentiates the two groups. It seems logical that degree of anxiety might well be a variable which would differentiate neurotics who seek help from individuals who appear equally neurotic but do not seek help. Anxiety, when in great amounts, is a powerful, disorganizing force. It tends to interfere with the ordered behavior required for coping in a complex world. Not only is this a fact of experience, but it has also been demonstrated in empirical studies.⁴⁵

More theoretical reasons for considering anxiety an important correlate of inconsistency of response to direct, indirect, and projective tests can be found in the writings of Carl Rogers. His point of view will be considered more thoroughly in the next section of this chapter.

⁴⁵ R.W. White, The Abnormal Personality, New York, Ronald Press, 1963, p. 195-202.

One more study remains to be reviewed here. This study was conducted by Carberry⁴⁶ at the University of Ottawa in 1964. The purpose of Carberry's study was to investigate the degree of congruence existing between the expressed needs of normal and neurotic adults as derived from direct, indirect, and projective measures of needs. His primary objective was an empirical evaluation of Allport's contention in this regard.

He used two groups of subjects matched for age and educational level. The normal group consisted of sixty male adult evening college students; the neurotic group was made up of thirty psychiatrically diagnosed neurotic males attending outpatient clinics for treatment. Three measures of needs were used: the Self-Ranking Need Sheet was the direct measure, the Edwards Personal Preference Schedule was the indirect measure, and ten Thematic Apperception Test cards, 1, 2, 3BM, 4, 5, 6BM, 7BM, 10, 13MF, and 18BM made up the projective measure. Ten needs were studied: achievement, abasement, affiliation, aggression, autonomy, deference, dominance, nurturance, sex, and succorance.

In his analysis of the results, Carberry first compared the global discrepancy scores between the two groups for each pair of measures. He then compared the discrepancy scores between groups for each of the ten needs on each pair

⁴⁶ Carberry, Op. Cit., 1x-123 p.

of measures. The final aspect of his analysis consisted of within group comparisons of the rank-order placement of each of the ten needs on the direct, indirect, and projective measures.

Carberry found that his results tended to support Allport's findings "but with important qualifications". His comparison of the global discrepancy scores of the two groups confirmed Allport's position regarding the phenomenon of wider discrepancy for neurotic subjects on the direct versus indirect dimension and the direct versus projective dimension. However, the null hypothesis of no significant differences between the groups with regard to their discrepancy scores on indirect versus projective methods of need assessment could not be rejected. Carberry then did a more specific analysis of the discrepancy scores on each of the ten needs for the two groups. The neurotics were again found to have significantly greater discrepancy scores on six of the thirty comparisons made as follows: (1) the discrepancy scores of the neurotics were found to be significantly greater than those of the normals on the direct-indirect dimension for needs abasement and deference; (2) on the direct-projective dimension the neurotics had a greater discrepancy score for needs abasement, deference and sex; (3) the neurotics had a significantly greater discrepancy score for need sex on the indirect-projective dimension. Finally, the within group

comparisons revealed seventeen significant differences in rank-order placement of needs out of thirty possibles for the normal subjects and fifteen significant differences out of thirty for the neurotic subjects. The specific needs found to yield significant differences on the various method comparisons varied in the two groups as did the change of measured need strength from method to method.

Carberry's statistical findings can be summarized in two statements: (1) the neurotic subjects' discrepancy scores were both globally and specifically greater than the normal subjects; (2) the normal subjects were far from perfectly consistent in their responses to the three methods of assessment. In fact, the within group comparisons of consistency on the three measures revealed significant differences on more needs for the normal subjects than for the neurotic subjects. Carberry concludes:

In view of these findings one might conclude that Allport's theoretical note regarding the response discrepancy of normal and neurotic subjects is much more complex than his basic idea implies. The results indicate that it is not enough to indicate that a greater discrepancy exists between the normal and neurotic adults, it seems that one must specify the particular variables in question and the direction of the change from method to method. Global discrepancy scores which have been used in the majority of previous studies tend to obscure the more meaningful aspects of the comparison between the two groups on various assessment techniques.⁴⁷

⁴⁷ Ibid., p. 98.

This quotation also points to what is probably the most important single feature of Carberry's study. He is the first investigator to study a number of specific motivational variables rather than single global variables such as "adjustment" or the "alienation syndrome". His specific analysis of within group and between group differences on each specific variable across the three methods of assessment proved to be very fruitful and has opened up a new dimension for investigation in this area.

However, Carberry's findings, particularly with respect to the neurotics, need to be interpreted very cautiously. Unfortunately, Carberry was apparently unaware of Dachowski's study. At least he makes no mention of it anywhere. He would undoubtedly have designed his study differently had he been acquainted with Dachowski's work. Carberry's study lacks a very important control which Dachowski has shown to be necessary. Dachowski has shown that consistency of response to direct, indirect, and projective tests is not a direct function of degree of neuroticism. It will be recalled that she found a significant difference in the degree of consistency of two equally neurotic groups one of which was seeking help, the other not seeking help. The former was most inconsistent, the latter most consistent, even more consistent than a normal control group. Carberry's study lacks the neurotic control group.

Carberry's neurotic subjects were selected on the basis of a psychiatric diagnosis by one psychiatrist. The fact that the diagnosis was not always done by the same psychiatrist raises the question of the reliability of these diagnoses. Another problem with his method of selecting his subjects is that the degree of pathology of the neurotics could not be controlled. Dachowski, on the other hand, did control this variable. It should be recalled that Carberry's findings within his neurotic group differed from Dachowski's. The latter found that her Therapy Neurotics were most inconsistent on the three tests as well as when compared to the other two groups. Carberry, on the other hand, found in his within group comparison of the discrepancy scores on the three measures that the neurotics were consistent on seventeen within group comparisons as opposed to only fifteen comparisons within the normal group. In other words, in Carberry's study the neurotics actually achieved greater intra-group consistency than the normals on the three types of measures. Such a finding is especially difficult to interpret in the absence of a neurotic control group.

One final remark can be made of Carberry's study. In his selection of the Thematic Apperception Test cards, he does not really succeed in avoiding or controlling the problem of the "stimulus pull" of the cards. Using Eron's⁴⁸ normative

⁴⁸ Leonard Eron, "A Normative Study of the TAT", in Psychological Monographs, Vol. 46, No. 2, whole No. 315, 1950, p. 1-45.

data, Carberry listed the three themes most frequently mentioned for each card in the set. This listing was compared with the ten needs Carberry was studying. If a particular card had a theme which seemed to involve one of these needs it was noted. A final tabulation of the most frequently noted cards determined the final selection he made. In other words, he selected cards because they had the greatest stimulus pull for the needs he was studying. However, to select cards because they have a particular "stimulus pull" does not control for this problem. The question of the "stimulus pull" also had to be faced in the present study. As will be seen, the selection of the particular Thematic Apperception Test cards was handled very differently with a view to resolving this thorny problem.⁴⁹

This has been a rather lengthy section so that a brief summary is provided. This section began with a discussion of Allport's position that normals will be consistent on direct versus projective test performance, whereas neurotics will be inconsistent. A number of relevant studies were then reported and critically evaluated. Getzels' study is used by Allport to support his position. The studies by Davids and Davids and Pildner indicated the need to qualify Allport's position regarding the test performance of normals. They showed how a motivational condition such as seeking

⁴⁹ See p. 77-82.

employment can result in a lack of consistency even among normal subjects. Dachowski was the first person to study the comparative consistency of normal and neurotic subjects on direct, indirect, and projective tests. Making very ingenious use of control groups she found that consistency of response is not determined by degree of neuroticism alone. More must be known about individuals seeking help for their problems and how they differ from equally neurotic individuals who do not seek help. Carberry's study indicates that Allport's position is tenable but that this is dependent to a great extent on the specific variable in question. It is possible for both normals and neurotics to be consistent or inconsistent on certain needs when assessed by direct, indirect, and projective methods.

Dachowski's study is the immediate stepping stone for the present investigation. The present study is based on the hypothesis that degree of anxiety may be a variable significantly related to consistency of response to the three types of personality assessment methods. Anxiety is seen as a potentially significant variable because it is such a disorganizing force if it is high; it tends to interfere with the ordered behavior required for adequate living. It was mentioned that support for this hypothesis can also be found in the writings of theoreticians such as Carl Rogers and Joseph Muttin. Their views will be examined in the next section.

4. The Views of Rogers and Nuttin.

Carl Rogers and Joseph Nuttin have dealt with the problem of consistency in personality. Their views will be discussed briefly in this section and the implications for this study will be elaborated. The views of Carl Rogers will be examined first. Rogers has recently presented the most complete formulation of his theory of personality.⁵⁰ His theory of personality can perhaps best be classified as a "self" theory. In his view the organism is born with an inherent tendency to develop all its capacities in ways which serve to maintain or enhance the organism. The infant perceives his experience as reality. The infant's experience is his reality. He lives in an environment which for theoretical purposes may be said to exist only in him, or to be of his own creation.

The actualizing tendency involves a gradual differentiation in personality. A portion of the individual's experience becomes differentiated and symbolized in an "awareness of being, awareness of functioning". This awareness may be described as self-experience. Self-experience refers to any event discriminated by the individual as

⁵⁰ Carl R. Rogers, "A Theory of Therapy, Personality and Interpersonal Relationships, as Developed in the Client-Centered Framework", in S. Koch (ed.), Psychology: A Study of a Science, Vol. 3, New York, McGraw Hill, 1959, p. 184-256.

related to the "me" or "I". As a result of continued interaction with the environment composed of significant others, the self-experiences become elaborated into a concept of self. Self-experiences then, are the raw material out of which the self-concept is organized. The self-concept is an organized, consistent, conceptual gestalt composed of perceptions of the characteristics of the "me" or "I".

As the awareness of self emerges, the individual develops a need for positive self-regard. This is a universal need in humans for love and affection. The expression of positive regard by a significant social other becomes highly valued by the individual so that he becomes more adient to the positive regard of others than toward experiences which are of positive value in actualizing the organism.

Initially positive regard is experienced only in interaction with a significant social other. However, as a result of learning, the individual comes to experience positive regard or the loss of it, independent of transactions with any social other. The individual becomes, in a sense, his own significant social other. Positive regard experienced in this way is termed self-regard. Self-regard may be described as a learned need which develops out of the association of self-experiences with the satisfaction or frustration of the need for positive regard.

When an individual's self-experiences are discriminated by significant others as being more or less worthy of positive regard, then self-regard becomes similarly selective. A condition of worth is said to have been acquired when a self-experience or set of such experiences is sought or avoided solely because they are more or less worthy of self-regard. The individual now perceives his experiences selectively in terms of the conditions of worth which have come to exist in him, and not because the experiences enhance or fail to enhance his organism. The result is that experiences which are in accord with the learned conditions of worth are perceived and symbolized accurately in awareness; experiences which run contrary to the conditions of worth are perceived selectively and distorted as if in accord with the conditions of worth, or are in part or whole denied to awareness.

Some experiences now occur in the organism which are not recognized as self-experiences, are consequently not accurately symbolized in awareness, and not organized into the self-structure in accurate form. It is in this way that, from the time of the first selective perception of experience in terms of a condition of worth, a state of incongruence exists to some degree between the self and experience. This, according to Rogers, is the beginning of psychological maladjustment. It is the beginning of threat to the self-

structure. As the individual continues to have experiences which are incongruent with the self-structure and its incorporated conditions of worth, there is increased need for defense. The essential nature of this threat is that if the incongruent experience were accurately symbolized in awareness, the self-concept would no longer be a consistent gestalt, the conditions of worth would be violated, and the need for self-regard frustrated. In short, Rogers says that a state of anxiety would exist. Rogers describes anxiety as:

(...) a state of uneasiness or tension whose cause is unknown. From an external frame of reference anxiety is a state in which the incongruence between the concept of self and the total experience of the individual is approaching symbolization in awareness. When experience is obviously discrepant from the self-concept a defensive response to threat becomes increasingly difficult. Anxiety is the response of the organism to the 'subception' that such discrepancy may enter awareness thus forcing a change in the self-concept.⁵¹

Elsewhere, discussing the consequences of a state of incongruence between the self-concept and experience, Rogers states boldly that, "the degree of anxiety is dependent upon the extent of the self-structure which is threatened".⁵²

Clearly Rogers' theorizing lends support to the idea formulated in the previous section that anxiety is an indicator of a lack of congruence in personality. No studies could be found in the literature which are specifically directed at testing this hypothesis implicit in Rogers' theory.

⁵¹ Ibid., p. 204.

⁵² Ibid., p. 229.

If it is assumed that the direct method of personality assessment assesses the individual's conscious view of himself, and that the projective method penetrates this defensive facade and assesses more accurately the individual's total experience, and if anxiety is an indicator of a lack of congruence in personality, then it should be possible to predict the one from the other. That is, high anxiety subjects should demonstrate a greater lack of congruence than low anxiety subjects on direct, indirect, and projective methods of personality assessment. This is precisely the problem to be investigated in this thesis. Before proceeding to a more exact statement of the hypotheses of the present study, the view of Joseph Nuttin will be presented.

One relevant aspect of Nuttin's thinking has already been seen in the re-interpretation given to Dachowski's findings.⁵³ A closer examination of Nuttin's writings reveals a point of view which adds strength to the argument already presented for the need of the present investigation. Nuttin's position is that varying amounts of tension can be found even in the normal individual who is not completely integrated. This tension is seen as an indicator of a lack of congruence between two conscious levels of personality, the intimate and the public. The normal individual is aware of the discrepancy and can report it. Nuttin has attempted

⁵³ See p. 41-45.

to explain the dissolution of this tension by his theory of the "canalization of needs".⁵⁴ This principle does not imply any repression of one force by another, as in psycho-analytic theories. Summarizing his position in this regard Nuttin writes:

In well-adjusted people, a lot of psychological contents which theoretically are considered as repressed and 'unconsciously' active may rather be conceived as nothing other than original contents of the intimate sphere which gradually lost their psychological reality and effectiveness.⁵⁵

While on the one hand he emphasizes the role of his theory of the canalization of needs in the development of the normal personality, he does not make this the only process that exists, or exclude the possibility of other developments. In this regard he notes: "We do not mean to deny the existence of the process of repression or the notion of the unconscious."⁵⁶

In comparing normal processes of development and pathological deviation, Nuttin remarks that the dynamic tension implicit in the development of personality does not always result in constructive development. For various reasons individuals may fail "to achieve the canalization and the

⁵⁴ Nuttin, Op. Cit., p. 185.

⁵⁵ -----, "Intimacy and Shame in the Dynamic Structure of Personality", in Martin L. Reymer (ed.), Feelings and Emotions, New York, McGraw-Hill, 1950, p. 347.

⁵⁶ -----, Psychoanalysis and Personality. A Dynamic Theory of Normal Personality, New York, Sheed and Ward, 1953, p. 201.

successful renunciation which are a sign of constructive development".⁵⁷ When this happens constructive development is blocked and the inherent drive toward self-realization is inhibited and becomes a source of frustration. Discussing the effects of this situation Nuttin writes:

This can cause in the individual obsessional returns towards the object which has been refused him; aggressive attitudes; fixations. The theory which we have expounded does not by any means underestimate the importance of any side of this kind of pathological development.⁵⁸

Nuttin does not dichotomize normal and pathological development. Rather the two can be found together. He states:

To realize the complex reality of the development of personality, it should be remembered that the two lines of development, the normal and the pathological, are not simply alternatives. In the development of the individual, the integration of personality as we have described it is never completely achieved (...)⁵⁹

Elsewhere, in a discussion where he wishes to stress the two processes, normal and pathological, he writes:

In other words, besides the way in which dynamic contents are 'repressed' but still remain active in unconscious life - as is the case in poorly integrated people - there is a way in which the same contents may be eliminated by positive personality development.⁶⁰

⁵⁷ Ibid., p. 201-202.

⁵⁸ Ibid., p. 202.

⁵⁹ Ibid.

⁶⁰ Nuttin, "Intimacy and Shame in the Dynamic Structure of Personality", in Reymer, Op. Cit., p. 347.

Muttin then clearly admits of both lines of development and holds that both can exist at the same time. The result of pathological development is the repression of unacceptable feelings, impulses, or needs, a situation which creates a state of tension or anxiety between the unconscious intimate aspects and the social or public aspects of personality. Tension or anxiety is, in his view, an indicator of a lack of congruence between the unconscious and public levels of personality. Muttin's view on the origin of anxiety is seen as supporting the hypothesis of this study, namely, that anxiety may be a significant variable in determining degree of consistency of response to various types of personality measures.

5. Summary and Hypotheses.

The first section of this chapter delineated the focus of the present investigation and sets the problem into its historical framework. In the second section, empirical studies which offer indirect evidence on the problem of consistency of response to direct and projective measures were reviewed and critically evaluated. Five out of seven of these studies, though not specifically designed to study Allport's position, can be interpreted as lending support to Allport's view. Allport's position is presented in the third section together with a critical review of a number of

related studies. Again five out of seven of these tend to support Allport's theoretical view. Only the studies by Keating and Piccinin do not. However, although Allport's position tends to be supported, this support is not without important qualifications.

David's study indicated the advisability of differentiating three types of assessment methods, the direct, indirect, and projective. David and Pildner showed that a condition of motivation at the time of assessment can influence the consistency of response even of normal subjects to the three types of measures. Dachowski found that while neurotics seeking therapy are more inconsistent than normals on direct, indirect, and projective measures of personality, degree of neuroticism is not sufficient to explain the inconsistency. Her neurotic control group which did not differ significantly in degree of neuroticism from the neurotic group seeking therapy, was significantly more consistent. In fact, the neurotic control group was more consistent than even the normal control group. She suggests that perhaps variables other than neuroticism may be relevant. Another researcher, Carberry, has shown that it is not enough to demonstrate consistency or inconsistency of normals and neurotics on the three methods of assessment when assessing such global variables as "adjustment". He has shown how a more specific analysis of consistency on a number of more

specific intra-personal variables is necessary to yield a more accurate picture.

The present study evolves directly from Dachowski's findings. It is suggested that degree of anxiety is a significant variable in determining an individual's degree of consistency of response to direct, indirect, and projective measures. Theoretical evidence from the writings of Carl Rogers and Joseph Ruttin presented in section four lend support to the direction of the present investigation.

The specific problem of the present study is this: to investigate the relationship of degree of anxiety to consistency of response on direct, indirect, and projective methods of need assessment. The specific statistical hypotheses of this study are stated in null form as follows:

- I. Among the low anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.
- II. Among the high anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.
- III. There are no significant differences between the high and low anxiety subjects with regard to their discrepancy scores on direct, indirect, and projective measures of needs.

Each of these main hypotheses includes sub-hypotheses referring to comparisons of responses on the following dimensions: direct versus indirect, direct versus projective, indirect versus projective.

In the next chapter the experimental design of the study will be described.

CHAPTER II

EXPERIMENTAL DESIGN

This chapter will present the procedures followed in a study designed to test the hypotheses proposed at the end of the preceding chapter. The design of the study will be set forth under six topics.

The first section will describe the selection of the two groups of subjects used in the study. In addition, the choosing of the tool by means of which subjects were assigned to the two groups is discussed. In the second section, the selection and description of the instruments used in testing the hypotheses will be set forth. In particular, it is the rationale for choosing the Thematic Apperception cards that takes up most of this second section. The testing procedure is outlined in a third section. The fourth section deals with the scoring of the tests. The statistical procedures used in analyzing the data are described in the last section.

1. Selection of the Subjects .

The subjects used in this study were volunteers from among students in some first and second year courses at Laurentian University of Sudbury. First year courses in Psychology, History, and French, and second year courses in History and French were chosen because these had the largest

enrolments and it was desirable to test as many volunteers as possible at any one time. These courses also provided a sufficiently broad cross-section of the student body. Another consideration in selecting groups of potential volunteers for testing was to select those classes where there was not much overlapping of students. Among the courses where volunteers were sought, some of the classes were scheduled at five o'clock p.m. As a result, some extension students taking first year courses were among the subjects who eventually made up the final samples used in the study.

It was arranged with the professor in the case of each group tested that his class be taken over by the experimenter and his assistants. The assistants were three senior undergraduate students in psychology.

The experimenter began by introducing himself and his assistants. He then explained to the group that he was presently engaged in some research and was seeking the co-operation of volunteers as subjects. The subjects were informed that they were free to participate or not. It was stressed that voluntary participation was most important. The subjects were told that whether or not they participated would in no way affect their personal or academic status within the university. Those who did participate were assured of anonymity. They would use a five-digit code number which they personally would select in place of their names

on any of the materials which would be presented to them. The examiner also made it clear that the study was concerned with them only as a group, not as individuals.

In order to insure that only truly willing subjects participated, subjects who did not wish to participate were excused from the classes. Several students took advantage of this situation to leave. Others simply did not return for the second testing session, indicating their lack of desire to participate in this way.

The subjects were told that the experimenter could not yet tell them the purpose of the study but promised he would arrange an opportunity at a later date for them to learn about this. They were also informed that they could obtain their own results if they so desired by arranging an appointment with the experimenter and informing him of their code number.

Although the final samples were to consist only of high and low anxiety male subjects, all of the tests were administered to all of the volunteers. It was felt that this would be easier than trying to separate the sexes, or selecting the high and low anxiety males and then trying to bring them together for the remainder of the test battery used in the study. Also, if the final sample had been segregated and only they administered the research tools, they might have questioned their inclusion in the research groups. Their

resulting concern might have affected their performance on the tests. The selection of two groups on the basis of the independent variable, anxiety, is discussed below.

The basic problem was the selection of a suitable measure of anxiety. There are many conceptions of anxiety and many measures of anxiety. The measure used would have to meet certain requirements. It must be a valid measure. By this is meant that it must correlate highly with other known measures of anxiety, with psychiatric ratings of anxiety, and perhaps even with physiological measures of anxiety. Hopefully it would also be a measure of anxiety alone and not of other unspecified variables. A factorially derived test would best meet this requirement. The measure must also be reliable. Finally, because of the large groups that were to be tested, and the number of tests to be given, it was desirable that the measure be easy to administer, that the time required for administration be short and that it be quick-scoring. It was also important that norms be provided for college males.

After a review of the major measures of anxiety the IPAT Anxiety Scale¹ was selected as the measure which best fitted the requirements stipulated. A copy of this test is found in Appendix 1. The IPAT Anxiety Scale, a forty-item

¹ R.B. Cattell, The IPAT Anxiety Scale, Institute for Personality and Ability Testing, Champagne, Illinois, 1957.

inventory to assess "general anxiety", was based on a second order factor analysis² of the seventy-five most representative items from Cattell's earlier Sixteen Personality Factor Questionnaire.³ The IPAT Anxiety Scale is a product of Cattell's very extensive program of research in the area of personality measurement. This fact alone prompts one reviewer⁴ to say that it deserves more serious consideration than the typical newly offered inventory.

The construct validity of the items used in the questionnaire has been well demonstrated. The forty items finally selected out of two thousand are the most highly correlated with the five oblique primary factors making up this second order factor of general anxiety. This fact has been replicated in six separate studies⁵ covering a total population of over one thousand subjects.

The IPAT Anxiety Scale has also been validated against external criteria. Cattell⁶ emphasizes the correlation

2 R.B. Cattell, "Second Order Personality Factors in the Questionnaire Realm", in Journal of Consulting Psychology, Vol. 20, 1956, p. 411-416.

3 -----, The Sixteen Personality Factor Questionnaire, Institute for Personality and Ability Testing, Champagne, Illinois, 1949-1957.

4 E. Lowell Kelly, "Review of the IPAT Anxiety Scale", in O.K. Buros (ed.), The Fifth Mental Measurement Yearbook, New Jersey, the Gryphon Press, 1959, p. 139.

5 R.B. Cattell, Handbook for the IPAT Anxiety Scale, Institute for Personality and Ability Testing, Champagne, Illinois, 1957, p. 6.

6 Ibid., p. 9.

(.85) of the scores with psychiatrists' estimates of anxiety level in eighty-five patients, its correlation with behavioral, physiological and other laboratory tests of anxiety, and finally the degree to which the scores differentiate between normals, neurotics, and anxiety hysterics.

The split-half reliability of the total score is reported as .84 for a sample of 240 normal adults and .91 for a mixed group of normals and hospitalized neurotics.⁷ These reliability estimates compare favorably with those for other available inventories, some containing many more items and hence being more time consuming.

There are also many practical advantages to the use of the IPAT Anxiety Scale. It is easily administered, only five to ten minutes is required for administration, and it is quickly and objectively scored.

Reviewers have also commented favorably on its merits. Lawrence Schaffer⁸ says, "the IPAT Anxiety Scale has a sounder conceptual base than any other current instrument of its type". K. Lowell Kelly says:

This is a highly promising brief scale for assessing a pervasive personality variable. It is likely to be widely used as a research instrument and probably should in view of the substantial evidence for its construct validity.⁹

⁷ Ibid., p. 9.

⁸ Lawrence Schaffer, "Psychological Test Reviews", in the Journal of Consulting Psychology, Vol. 21, October 1957, p. 438.

⁹ Kelly, Op. Cit., p. 140.

J.P. Guilford¹⁰ states of the IPAT Anxiety Scale that "the instrument should have its best use as a quick screening device used with large groups."

The norms used in the present study were those for college men published in an IPAT Memorandum in December 1960.¹¹ In order to enhance the possibility of significant findings in the study, it was desirable to select groups that were maximally different insofar as anxiety was concerned. A total raw score of thirty-eight was chosen as the lower limit defining the high anxiety group. This corresponds to a sten score of eight to ten. The interpretation given to scores in this range is that the individuals are of very high anxiety, and "definitely needing help, either for amelioration of a situation or in terms of counseling or psychotherapy."¹²

The low anxiety group was made up of those individuals who scored lowest on the IPAT Anxiety Scale. All but three of the low anxiety group obtained a raw score of twenty-two or less. This corresponds to a sten score of zero to four. Three subjects were at the lower end of the sten five group,

¹⁰ J.P. Guilford, "Review of the IPAT Anxiety Scale", in O.K. Buros (ed.), Fifth Mental Measurement Yearbook, New Jersey, the Gryphon Press, 1959, p. 140.

¹¹ This memorandum is provided to test users as a supplement to the general population norms published in R.B. Cattell, Handbook for the IPAT Anxiety Scale.

¹² Cattell, Handbook for the IPAT Anxiety Scale, p. 7.

two with raw scores of twenty-three, and one with a raw score of twenty-four. Sufficient subjects were thus selected at the lower end of the scale so that the number of low anxiety subjects equalled the number of high anxiety subjects.

Initially, a high anxiety group of thirty-eight subjects was selected. For reasons to be explained in section three,¹³ eight high anxiety subjects subsequently had to be eliminated. This left a final sample of thirty high anxiety subjects. Accordingly, a corresponding group of thirty low anxiety subjects was then selected. The high anxiety group ranged in age from nineteen to thirty-three years, with a mean of 21.66 and a standard deviation of 3.20. The low anxiety group ranged in age from seventeen to thirty-seven years with a mean of 21.46 and a standard deviation of 3.56.

Differences in age and intellectual level might affect the test results. The problem of intellectual level was not met in this study since the educational level of both groups was beyond grade thirteen. A study by Ritter¹⁴ shows that once an average level of intelligence is attained, there is no correlation between the quantity or quality of response in the Thematic Apperception Test and added increments

¹³ See p. 87-88.

¹⁴ J.B. Ritter, "Suggestions for Administration and Interpretation of the Thematic Apperception Test", in the Journal of Personality, Vol. 15, No. 1, September 1946, p. 70-92.

of intelligence. In another study, Jacques¹⁵ notes that protocols with satisfactory stories were obtained from subjects with an intelligence quotient as low as eighty. Clearly the groups used in this study are far superior to this.

Table I presents a descriptive summary of the two groups for age, as well as a comparison of the groups on this variable by means of the "t" test for uncorrelated samples. No significant difference was found, at or beyond the .01 level of probability, between the means and standard deviations of the high and low anxiety groups for the age variable.

2. Selection of the Instruments Used.

It will be recalled that the basic question of this study is: will high anxiety subjects be less consistent than low anxiety subjects on projective, indirect, and direct measures of the same variable?

The variables to be assessed in this study are needs. Needs were selected for study because they are motivational variables. Allport's theoretical formulation was specifically concerned with motivational variables. Needs were also chosen

¹⁵ E. Jacques, "The Clinical Use of the Thematic Apperception Test with Soldiers", in the Journal of Abnormal and Social Psychology, Vol. 40, No. 1, October 1945, p. 363-384.

Table I.-

Comparison of the Ages of the Low and High Anxiety Subjects
by Means of the "t" Test.

Variable	Stat.	Group		Diff.	σ_D	t^a	Sign.
		Low	High				
Age	N	30	30				
	M	21.46	21.66	.20	.32	.66	N.S.
	σ	3.96	3.20	.36	.21	1.71	N.S.
	σ_M	.66	.59				
	$\sigma_{\bar{D}}$	.413	.457				

^a A "t" value of 2.64 is required to be significant at the .01 level.

because of the possibility of studying several needs. It is then possible to study not only the overall relationship of anxiety to consistency of test response, but also to study the comparative consistency of the low and high anxiety groups on each need. Earlier studies of global variables such as "alienation" or "goodness of adjustment" may, because of their generality, have masked more specific differences. It has already been seen in the previous chapter¹⁶ how Carberry's study illustrates this point.

Seven needs were selected for study. Only seven were selected rather than the ten Carberry¹⁷ used because in two pilot studies subjects frequently complained that it was extremely difficult to rank order ten needs as required by the Need Ranking Form.¹⁸ This caused them to rank the middle intensity needs randomly.

The seven needs selected for study are as follows: achievement, deference, exhibition, aggression, sex, affiliation, and dominance. One reason these needs were selected for study was that they are among the more important psychological motives. Secondly, they seemed to be relatively clearly

16 See p. 47.

17 Hugh Carberry, A Comparison of Three Methods of Need Assessment with Normal and Neurotic Subjects, unpublished doctoral dissertation, presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1964, p. 49.

18 This instrument will be discussed below.

defined and specific variables. Thirdly, themes relevant to these needs are among the most frequently appearing in stories told by subjects to the Thematic Apperception Test stimuli.¹⁹ The choice of these particular needs is also related to the problem of selecting Thematic Apperception Test cards, a problem which will be discussed in more depth below.²⁰ Still another reason for the selection of these particular needs is that they are measured by the Edwards Personal Preference Schedule, another test used in this study and to be discussed below.

It is essential that the projective, indirect, and direct methods of assessment measure the same needs. The assessment methods to be described below were chosen very carefully in order to achieve this end. The description of the three assessment methods also provides the reader with the operational definition of the terms projective, indirect, and direct as used in this study. The assessment methods will be discussed in the following order: projective, indirect, direct.

a) The Thematic Apperception Test.-- This is the projective measure of the needs. Devised by Henry A. Murray and Christiana D. Morgan, the Thematic Apperception Test

¹⁹ Leonard Eron, "A Normative Study of the Thematic Apperception Test", in Psychological Monographs, Vol. 64, No. 9, Whole No. 315, 1950, p. 1-45.

²⁰ See p. 75-82.

consists of nineteen pictures printed on white bristol board and one blank card. In administering the test,²¹ this series of pictures is presented and the subject is encouraged to tell spontaneous stories about them. Murray indicates²² that stories obtained in this manner will reveal significant aspects of the individual's personality. This is due to the psychological tendency of people to interpret an ambiguous human situation in conformity with their past experiences and present needs. Murray points out further that, if the pictures are presented as a test of imagination, the subject's interest, together with his need for approval, can so involve him in the task that he forgets the necessity of defending himself and reveals significant aspects of his personality, especially his needs.

Of the twenty Thematic Apperception Test cards, eight were selected for administration to the group in this study. The selection of cards was a difficult problem for at least two reasons. First, there is sufficient replicated research in the literature²³ demonstrating clearly that

21 H.A. Murray, Thematic Apperception Test Manual, Harvard University Printing Office, Cambridge, Mass., 1943, p. 1-2.

22 Ibid., p. 2.

23 This research is summarized in B.I. Murstein, Theory and Research in Projective Techniques, New Jersey, Van Nostrand, 1963, p. 167-229.

each of the Thematic Apperception Test pictures has a particular "stimulus pull". This means that each card tends to elicit certain thematic contents and emotional tones in the stories told to them. Each picture has individual stimulus properties which evokes particular themes, identifications and feeling tones. Probably the most comprehensive research directed at identifying these characteristics of stories given to the Thematic Apperception Test is that of Eron.²⁴ Eron analyzed the Thematic Apperception stories of a number of groups of subjects for the following variables: themes, identification of characters, perceptual distortions, unusual details, level of interpretation, emotional tone of story, outcome of story. Other studies²⁵ have analyzed the Thematic Apperception productions of subjects for other variables. However, no normative data could be found anywhere for the frequency of appearance of specific needs in response to particular Thematic Apperception Test cards.

If the Thematic Apperception cards have a particular "stimulus pull" of their own for the needs that are elicited, then the stories obtained may not truly reflect needs, but may merely represent an artifact of the stimulus properties of the cards. It is important then, in a study of this nature, to elicit needs which truly represent the need structure of

²⁴ Eron, Op. Cit., iii-47 p.

²⁵ Murstein, Op. Cit., p. 167-229.

the story-teller, and which are as independent of the stimulus properties of the particular cards as possible. This was the approach taken.

It was decided that this could best be done if the cards selected were as nearly equal as possible in ambiguity. An ambiguous picture is one which is open to many varied interpretations. It is important in this respect to distinguish two often confounded variables, structure and ambiguity. The term structure is used in the physical sense to refer to 'the arrangement and organic union of parts in a body or object'.²⁶ Thus, when a projective technique is said to possess little structure, the reference is to its physical stimulus properties. When ambiguity is alluded to, the reference is to the meaning of the situation. For example, card 13MF of the Thematic Apperception Test, which depicts a partially nude woman beneath the covers of a bed and a man standing with an arm across his face, is highly structured. But it is ambiguous for the perceptual task of telling a story, since the scene is capable of multiple interpretation. Accordingly, some subjects see the scene as depicting illicit love, while others state that the woman is ill or has died, etc.

²⁶ Funk and Wagnalls, New Standard Dictionary of the English Language, New York, Funk & Wagnalls, 1955, as quoted by B.I. Murstein, Theory and Research in Projective Techniques, New Jersey, Von Nostrand, 1962, p. 167.

Of crucial importance here is the possibility of obtaining optimal variability of response in terms of the meaning of the pictures for the subjects. Two related questions arose at this point: (1) What degree of ambiguity results in optimal response variability? (2) Is ambiguity correlated with the projection of personality-revealing responses? Variability of response is of little importance unless the response is meaningful for personality analysis. This gives rise to the second question. It is conceivable, for example, that the perceptual ambiguity of highly structured pictures be so low that the pictures have little or no ability to differentiate between any personality groups. (The opposite situation could also prevail.)

Murstein²⁷ has summarized the very extensive research around these two questions. There are several schools of thought regarding the relationship of ambiguity and the production of meaningful thematic responses. The classical approach has been that the less the stimulus structure the greater the projection of "self" into the thematic story. Another approach believes that thematic stories represent an organizational process, and accordingly, projection is most facilitated when the stimulus elements are clearly presented. In this latter situation energy is not diverted

²⁷ Murstein, Op. Cit., p. 182-195.

for purposes of perceptual identification, but can be used directly for the interpretation of the events portrayed.

The work of Kenny and Bijou^{28,29} agrees with neither of these views. In 1951, Bijou and Kenny asked a heterosexual group of college students to rank twenty-one male series Thematic Apperception Test cards according to their ambiguity. Their definition of ambiguity is similar to the one outlined above because their instructions to the subjects defined ambiguity as the estimated number of interpretations that might be derived from each card. In 1953, the same authors selected fifteen of these twenty-one cards and divided them into three groups of five cards each according to high (5, 15, 18BM, 11, 19), medium (4, 7BM, 8BM, 12M, 13MF), or low ambiguity (12BG, 1, 2, 9BM, 17BM). This time, however, they went one step further. They had the stories told by the subjects (college males) Q-sorted by two trained psychologists for personality "revealingness". They found that the medium ambiguous series yielded themes of greater personality revealingness than either the high or low ambiguous series.

28 S.W. Bijou and D.T. Kenny, "The Ambiguity of Thematic Apperception Test Cards", in the Journal of Consulting Psychology, Vol. 15, 1951, p. 203-209.

29 D.T. Kenny and S.W. Bijou, "Ambiguity of Pictures and Extent of Personality Factors in Fantasy Responses", in the Journal of Consulting Psychology, Vol. 17, 1953, p. 283-288.

Further evidence that medium ambiguous cards result in a greater variety of possible interpretations for the pictures comes from a study by Murstein.³⁰ Using Bijou and Kenny's rankings of ambiguity of a male series of cards, he found significant curvilinear correlations with the number of themes elicited from an all-male population composed of both college students and psychiatric patients. He concludes, "the moderately ambiguous cards produced the most themes, with the high and low ambiguous cards less productive". It should be noted in passing that Murstein's study suggests that Bijou and Kenny's findings with respect to the medium ambiguous cards are also characteristic of other groups, and in the case of Murstein's study, at least also psychiatric patients.

Another line of investigation which was useful in the task of selecting Thematic Apperception cards for this study was the work of Jacobs.³¹ His work is of particular interest here because he was concerned with precisely the problem being discussed, the problem of the cue-value of pictures. His method was to obtain judgments from a number of people about what might be the dominant concerns portrayed

³⁰ Murstein, Op. Cit., p. 184.

³¹ Berne Jacobs, "A Method for Investigating the Cue Characteristics of Pictures", in J. Atkinson, Motives in Fantasy, Action and Society, Princeton, N.J., Van Nostrand, 1958, p.617-629.

in a given picture. To do this he compiled what he considered a fairly comprehensive list of the needs or goals of human behavior. These were derived largely from Murray's list of needs. He then had subjects (college males) rank these needs or goals in the order that seemed appropriate for situations portrayed in each of twelve pictures, four of which were Thematic Apperception Test cards, 3BM, 7BM, 8BM, and 20.

Among the needs which Jacobs selected from Murray's list were the seven which are being used in this study. The most important conclusion in Jacob's study for purposes of this investigation is that he found the four Thematic Apperception cards, of the twelve cards which he used, to be of optimal ambiguity for the needs he studied. It was on these cards that he found maximal variety of need expression by the subjects. In other words, none of these four cards tended to elicit one need more than another.

In a study of need achievement, Murstein³² found card 14 to be of medium ambiguity with a group of college students similar to those used in this study.

In selecting the cards for the present study, it was decided to use the cards which these three previous studies had shown to be of optimal ambiguity, i.e., the five from

32 Murstein, Op. Cit., p. 184.

Kenny and Bijou (4, 7BM, 8BM, 12M, 13MF), the four from Jacobs (3BM, 7BM, 8BM, 20), and card 14 from Murstein's study. Cards 7BM and 8BM are common to two of the studies, so that the final number of cards used was eight. A brief description of each card is found in Appendix 2.

As already mentioned, the needs used in the present study are the ones for which Jacobs showed his cards to be of medium ambiguity. This fact was an additional reason for selecting these particular needs. The other reasons for choosing these needs have already been discussed.³³

b) The Edwards Personal Preference Schedule.³⁴ This is the indirect measure of the needs. This measure was designed primarily as an instrument for research and counseling purposes, to provide a quick and convenient measure of fifteen relatively independent personality variables. The items in the Edwards Personal Preference Schedule and the variables purported to be measured were derived from a list of manifest needs presented by H.A. Murray. The fifteen needs are as follows: achievement, deference, order, exhibition, autonomy, affiliation, intraception, succorance, dominance, abasement, nurturance, change, endurance, heterosexuality, and aggression.

³³ See p. 73-74.

³⁴ Allen L. Edwards, Edwards Personal Preference Schedule, New York, Psychological Corporation, 1959.

The Edwards Personal Preference Schedule is the first thorough-going attempt to measure most of the manifest needs in the Murray system by the inventory method. It is hoped that this study will indirectly add to the evidence concerning the degree of its relationship with Murray's Thematic Apperception Test. At least one writer³⁵ mentions the desirability of such information.

In its present form the Edwards Personal Preference Schedule consists of 210 pairs of items in a forced-choice format, with items from each of the fifteen scales being paired off twice against items of the other fourteen. In addition, fifteen items are repeated in order to obtain an estimate of the respondent's consistency. The pairing of variables against one another thus yields an assessment of the relative strength of competing needs within the person.

Construction of the Edwards Personal Preference Schedule began with the preparation of a pool of ten items for each of fourteen scales which appeared face valid for measurement of the need variables. Initially a true-false rather than paired comparison format was used. In an early study with the Edwards Personal Preference Schedule in this form, it was found that the frequency of endorsement of an

³⁵ Aks Bjerstedt, review of the Edwards Personal Preference Schedule, in G.K. Buros (ed.), Fifth Mental Measurement Yearbook, New Jersey, Gryphon Press, 1959, p. 118.

item correlated .57 with the judged social desirability of the items. It was this finding which led Edwards to adopt a forced paired comparison method, with the items in each pair being matched for scale values on the social desirability scale.

Several independent experiments demonstrated that, when judged in terms of general cultural norms, the social desirability of items remains remarkably stable in groups differing in sex, age, education, socioeconomic level, or nationality.³⁶

Coefficients of internal consistency are reported in the manual to range between .60 and .87. Test-retest reliability coefficients range from .74 to .88. Intercorrelations of the variables measured are also reported in the manual. These are, in general, satisfactorily low. The largest coefficient is .46 between affiliation and nurturance. The next largest is -.36 between autonomy and nurturance. Many of the correlations are close to zero. The low values of the intercorrelations indicate that the variables being measured are relatively independent.

There is general agreement among the reviewers³⁷ of the Edwards Personal Preference Schedule that it is a

³⁶ A.L. Edwards, The Social Desirability Variable in Personality Assessment and Research, New York, Dryden Press, 1957, p. 59-71.

³⁷ O.X. Buros (ed.), Fifth Mental Measurement Yearbook, New Jersey, Gryphon Press, 1959, p. 113-119.

promising research instrument. A copy of the Edwards Personal Preference Schedule may be seen in Appendix 4.

c) The Need Ranking Form.-- This is the direct measure of the needs. It was developed by the writer and revised somewhat after a pilot study revealed some shortcomings. The Need Ranking Form is made up of a list of the seven needs being studied. Each need is defined briefly, the definitions being taken from Henry Murray's definitions in the Thematic Apperception Test Manual.³⁸ The items of the Edwards Personal Preference Schedule are also basically Murray's need definitions. The subjects are instructed to read the needs and their descriptions carefully, and then to rank the needs in order from greatest to least strength as they thought these needs influenced their behavior. A copy of the Need Ranking Form and the instructions may be seen in Appendix 5.

It can be asked whether the Need Ranking Form will provide information concerning the relative strength of the needs as they actually exist in the individual, or whether the subjects will tend to rank them according to the strength which they feel the needs ought to have in motivating behavior. It was for this reason that the Need Ranking Form was followed by the Need Ranking Form (Form SD). The latter asks the subjects to rank the needs according to the strength which they

³⁸ Murray, Op. Cit., p. 9-10.

feel the needs ought to have in motivating behavior. This will permit comparison of the ranks given to the two Need Ranking Forms by the two groups. A copy of the Need Ranking Form (Form 8D) can be seen in Appendix 6.

3. Testing Procedure.

It will be recalled that all the tests were administered to all of the volunteer subjects. Subsequently the tests of those subjects who fell into either the high or low anxiety groups were extracted for analysis.

As already mentioned, before any tests were administered, the groups were informed that participation was on a purely voluntary basis. They were told that the project was concerned only with group results and not with the scores of any particular individual. The subjects were assured that the results would in no way jeopardize their personal or academic status within the university, and that their anonymity was guaranteed. A final plea was made for sincerity and cooperation on their part. They were also told that the experimenter would be happy to arrange an opportunity for them to hear about the nature of the research at a later date. Those who did not wish to participate were then excused.

In short, every possible effort was made to control the motivational conditions of the study by creating a situation in which only willing subjects participated and where

the subjects could feel free to answer the tests as carefully and sincerely as possible. Thus the likelihood of malingering was minimized. Extreme care was exercised in controlling the motivational conditions because the importance of the motivational conditions was demonstrated in earlier studies discussed in the first chapter.

A further attempt to control the motivational factor involved the use of the consistency score on the Edwards Personal Preference Schedule. In his manual for the Personal Preference Schedule, Edwards states³⁹ that a consistency score of less than nine on the fifteen personality variables may be questioned. In the normative sample only two per cent of the 1509 subjects obtained consistency scores as low as or lower than nine. While the consistency score is not necessarily a measure of malingering, since it is possible to lie consistently, it is useful for detecting cases where test instructions were misunderstood, or where responses were checked carelessly or haphazardly. Use of the consistency score resulted in the elimination of three low and four high anxiety subjects.

In addition the scores of the rows and columns of the Edwards Personal Preference Schedule were rank ordered

39 A.L. Edwards, Revised Manual of the Edwards Personal Preference Schedule, New York, the Psychological Corporation, 1959, p. 7.

and a rank order correlation coefficient was computed for each subject. Any subject that was not highly reliable (.95) was rejected from the study. This procedure resulted in the elimination of four more high and four low anxiety subjects. It was felt that although this would reduce the sample sizes, their quality would be enhanced. As discussed previously, this resulted in a final sample of thirty high anxiety subjects and enough subjects were chosen from the lower end of the population to have an equal number of low anxiety subjects.

All the tests were administered in a group setting in the following order: IPAT Anxiety Scale, Thematic Apperception Test, Edwards Personal Preference Schedule, and finally the Need Ranking Form. Two seventy-five minute regular class periods were found to be adequate testing time. The testing was always done in two consecutive regularly scheduled classes with no more than a two-day interval between. The IPAT Anxiety Scale is a short, simple, non-threatening paper-and-pencil test. It was felt that its position as the first test in the battery would not influence the responses of the subjects on the others. The Thematic Apperception Test was given next because it is least revealing of its purpose. The Edwards Personal Preference Schedule, and finally the Need Ranking Form were administered because the Need Ranking Form is most obvious as to what the individual is rating himself

on. This was done in order to avoid the development of a response set if the direct method were introduced first.

In considering group administration of the Thematic Apperception Test, an important question is whether or not stories obtained in a group administration differ in significant respects from those obtained in individual administration. The evidence indicates that they do not. It was Terry⁴⁰ who suggested that group stories show a significantly lower average level of response than do oral (individually administered) stories. He felt that the subjects writing stories in a group become less involved in the test and thus produce less personal material. This finding is contradicted by at least two other studies.^{41,42} Both of these indicate no difference in either the themes obtained or the range of content. Also, group administration of the Thematic Apperception cards permits more precise control of test conditions such as instructions given and time of administration.

⁴⁰ D. Terry, "The Use of a Rating Scale of Level of Response in Thematic Apperception Test Stories", in the Journal of Abnormal and Social Psychology, Vol. 47, 1952, p. 507-511.

⁴¹ L.D. Eron and A.M. Ritter, "A Comparison of Two Methods of Administration of the Thematic Apperception Test", in the Journal of Consulting Psychology, Vol. 15, No. 1, February 1951, p. 55-61.

⁴² G. Lindzey and H. Meinemann, "The Thematic Apperception Test: Individual and Group Administration", in the Journal of Personality, Vol. 24, No. 2, September 1951, p. 34-55.

The first testing session was always held in a large, well ventilated, amphitheatre-type classroom familiar to the subjects. This location was selected because it was equipped with the most modern projection equipment for presenting the Thematic Apperception pictures. On one or two occasions the second testing session was moved to a regular classroom because the amphitheatre was used for other purposes. The latter room was likewise ideal for testing.

The group administration of the Thematic Apperception cards consisted in projecting slides of the cards on a huge screen. The slides were made by a professional photographer employed as director of photography with a large nationally known (Canadian) firm. Only the most modern equipment and finest materials were used. The photographic reproductions of the slides were extremely well done. They were encased in steel frames.

The slides were projected by means of a manually operated projector, a Viewlex Model V-25-P, Serial no. P 60728. Prior to each testing session it was checked carefully and a clear focus was obtained. Two experimental assistants manned the projection room. One assistant operated the projector while the other timed the exposures and controlled the lighting in the testing room. This facilitated precise timing and general efficiency of procedure.

Each slide was exposed twenty seconds and the subjects were then given five minutes to write their story. These time limits were chosen after careful scrutiny of the literature on group administration of the Thematic Apperception Test. Exposure of the slides for twenty seconds has been found to be adequate in group administrations in a number of studies.^{43,44} When it was tried by the experimenter in a pilot study it was found to be adequate. The research of Lindsey and Heinemann⁴⁵ also found no differences in the stories whether the subjects were given five or eight minute periods to write the stories. They indicate a preference for the shorter procedure because it allows less time for censoring the stories and is less tiring for the subjects.

A copy of the instructions given to the subjects prior to administration of the Thematic Apperception cards is found in Appendix 3. These instructions, as well as the instructions to all other tests taken were read aloud to the subjects while they followed them silently.

When all the stories were written the subjects were asked to go through them quickly again, underlining in each

⁴³ A. Lindsey and M. Goldberg, "Motivational Differences between Male and Female as Measured by the Thematic Apperception Test", in the Journal of Personality, Vol. 22, 1953, p. 101-117.

⁴⁴ Lindsey and Heinemann, Op. Cit., p. 34-55.

⁴⁵ Ibid.

story the name of the hero or central character. This was done not only to facilitate the task of the psychologists who would score the protocols, but also to eliminate a frequent source of lowered inter-scorer reliability.

The Edwards Personal Preference Schedule and the Need Ranking Form were administered in the second testing session. The Edwards Personal Preference Schedule was administered as directed in the manual. A copy of this test is found in Appendix 4. The Need Ranking Form was administered last. A copy of this form along with the instructions read prior to its administration are found in Appendix 5. It was followed by the Need Ranking Form (Form 3D), as discussed at the end of the preceding section.

4. Scoring of the Tests

The Edwards Personal Preference Schedule was scored by hand according to the directions in the manual. Scoring of the Need Ranking Form was simply a question of noting the rank position given to each need. The scoring of each of these instruments was double-checked for accuracy.

Two registered psychologists scored the Thematic Apperception Test stories for the presence of the seven motivational variables. Each psychologist was provided with the same definitions of each of the seven needs as were used on the Need Ranking Form. It will be recalled that these

definitions are also used in the Edwards Personal Preference Schedule. This was done in order to assure comparability of need meaning across all three methods.

Each scorer was also provided with a set of scoring instructions and some examples of stories already scored to serve as models. A score of zero to three was given for each need in each story. The basis for assigning this single score was a combination of the frequency and strength of expression of the need in the story. A score of zero indicated the absence of the need in the story. A score of three indicated expression of the need at the highest intensity.

Prior to scoring the protocols of the experimental groups, a number of protocols obtained in a pilot study were scored to give the psychologists familiarity and practice with the scoring method. The scoring models were selected from this same pilot study.

A copy of the list of definitions of the needs, of the scoring instructions and samples of stories already scored which were given to the scorers is found in Appendix 7.

5. Techniques for Evaluating the Data.

Nonparametric statistical methods were used throughout this study. The data obtained from the Thematic Apperception Test do not meet the requirements of parametric

techniques, namely, that the variables be normally distributed and have homogeneity of variance. The scores obtained cannot be considered exact in any numerical sense. They are better thought of as placing individuals in rank order, than as measuring amounts of this or that variable.

In order to insure comparability of measurement, the raw scores from the Edwards Personal Preference Schedule were converted to ranks. Similarly the Keed Ranking Form was devised as a rank-order instrument.

Three steps were planned in the statistical analysis. First, it seemed desirable to obtain estimates of the reliabilities of the instruments and scoring procedures used. The inter-scorer reliability of the two registered psychologists who independently scored the Thematic Apperception Test protocols was computed. After each scorer had assigned each subject a rank on each of the seven variables, the ranks were summed and the sums were ranked to provide a comprehensive and composite ranking of the variables. The inter-scorer reliability of these composite rankings was then computed by means of the Spearman rank correlation method. The formula used was:⁴⁶

$$r_{ho} = 1 - \frac{\frac{6}{1} \sum \frac{d_i^2}{N}}{N^3 - N}$$

⁴⁶ S. Siegel, Nonparametric Statistics for the Behavioral Sciences, New York, McGraw-Hill, 1956, p. 204.

The data did not necessitate the application of the correction formula for tied ranks.

One of the problems in doing research, where the cooperation of groups of individuals is required, is that some will not be well motivated, honest, and serious for all or part of the testing. The Edwards Personal Preference Schedule was administered in the second testing session. It is a rather lengthy test and it was noted during testing that the enthusiasm of some individuals was beginning to pall. When this happens subjects frequently give less careful thought to their responses. This naturally makes the overall results, on which theoretical conclusions are to be based, less reliable. In the case of the Edwards Personal Preference Schedule, however, it is possible to guard against this problem by eliminating those in the population whose test protocols were unreliable. This was accomplished by calculating a rank order coefficient of internal consistency between the row and column scores of each need for each individual. The Spearman rank correlation method was used. Only the most highly reliable subjects were retained for inclusion in the final samples.

The next step in the statistical analysis of the data was to test Hypotheses I and II and their sub-hypotheses. Hypothesis I states, in null form, that:

Among the low anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.

Hypothesis II, in null form, states that:

Among the high anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.

The three sub-hypotheses in each case refer to the following differences: direct versus indirect, direct versus projective, indirect versus projective.

The Wilcoxon matched-pairs signed ranks test⁴⁷ was used to test these hypotheses because it is applicable to the case of matched samples when the researcher wishes to determine if the two conditions are different. The Wilcoxon test is especially useful in this case because it utilizes information regarding the relative magnitude as well as of the direction of difference observed. It gives more weight to a pair which shows a large difference between the two conditions than a pair which shows a small difference.

By means of the Wilcoxon test then, the differences between the rank orders of direct, indirect, and projective methods of need assessment for both the low and high anxiety groups were investigated separately for each of the seven variables. This revealed differences from method to method for each need within each group. Sixty-three Wilcoxon tests were computed.

⁴⁷ Ibid., p. 75.

When the sample size exceeds twenty-five, the sampling distribution of the sums of ranks approaches a normal distribution and consequently may be converted to a z for testing the significance of difference between the two conditions. The formula used was:⁴⁵

$$z = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

The third and final step in the statistical analysis involved testing Hypothesis III and its sub-hypotheses. This is the central hypothesis of this study because it is concerned with the comparison of the low and high anxiety groups. Hypothesis III and its sub-hypotheses can be stated as follows:

- (a) There are no significant differences between low and high anxiety subjects with regard to their discrepancy scores on direct versus indirect measures of needs.
- (b) There are no significant differences between low and high anxiety subjects with regard to their discrepancy scores on direct versus projective measures of needs.
- (c) There are no significant differences between low and high anxiety subjects with regard to their discrepancy scores on indirect versus projective measures of needs.

There are two distinct stages in testing Hypothesis III and sub-hypotheses. The first involved a test for the

⁴⁵ Ibid., p. 79.

significance of difference between the global discrepancy scores of the low and high anxiety groups for the three pairs of methods: direct versus indirect; direct versus projective; indirect versus projective. The Mann-Whitney U Test,⁴⁹ one of the most powerful of the nonparametric tests, and alternative for the parametric "t" test, was selected for this purpose. The U test is used to test whether two independent groups have been drawn from the same population. The value of U was computed by the following formula:

$$U = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

where R_1 = sum of the ranks assigned to the group whose sample size is n_1 . The symbol n_2 refers to the number of cases in the larger of the two independent groups.

As the sample size increases, and more specifically when it exceeds twenty, the sampling distributions of U rapidly approaches the normal distribution. Thus the U may be converted to a Z for testing the significance of difference between the two groups. The formula used was:⁵⁰

$$Z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\frac{(n_1)(n_2)(n_1 n_2 + 1)}{12}}}$$

⁴⁹ Ibid., p. 120.

⁵⁰ Ibid., p. 121.

The correction for ties was applied when the proportion of ties was large or if the obtained p was very close to the previously set significance level of .01. With the correction for ties, Z was found by⁵¹

$$Z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\left(\frac{n_1 n_2}{N(N-1)}\right) \left(\frac{N^3 - N}{12} - \sum T\right)}}$$

The second stage of this last part of the statistical analysis consisted of a more specific study of hypothesis III. The discrepancy scores of the low and high anxiety subjects were compared for each of the seven needs. This analysis was performed in order to determine on which needs, if any, significant differences in discrepancy scores between low and high anxiety subjects occurred.

The median test⁵² was the statistical procedure selected to achieve this end. This test gives information as to whether it is likely that two independent groups (not necessarily of the same size) have been drawn from populations with the same medians. The median test was selected in preference to the Mann-Whitney U test for this aspect of the analysis, because it is more appropriate than the U test when the data cannot be completely ranked.⁵³ This was the case

⁵¹ *Ibid.*, p. 124.

⁵² *Ibid.*, p. 111.

⁵³ *Ibid.*, p. 157.

here, because the discrepancy scores of the low and high anxiety subjects on the individual needs resulted in a much larger proportion of ties of greater length than did the data used in computing global discrepancy scores.

The median test required placing the discrepancy scores for each need in rank order and then determining the median discrepancy score for the combined groups. The number of cases falling above and below these combined medians was then determined. When many scores fell at the combined median, they were randomly assigned above or below it. The probability of the observed values was determined by the use of the chi-square test corrected for continuity since $n_1 + n_2$ is larger than forty. The formula used was:⁵⁴

$$\chi^2 = \frac{N \left(|AD - BC| - \frac{N}{2} \right)^2}{(A+B)(C+D)(A+C)(B+D)}$$

Two tailed tests of significance were used in all of the statistical analyses. The acceptable level of p , selected in advance, was .01.

The results of this investigation are presented and discussed in the following chapter.

⁵⁴ Ibid., p. 114.

CHAPTER III

PRESENTATION OF RESULTS AND DISCUSSION

The results of the study are presented and discussed in this chapter. The material is presented in six sections. The first of these is concerned with the inter-scorer reliability of the two psychologists who scored the projective assessment method, and also with the reliability of the other assessment methods used. In the second section an overall view is taken of the composite ranking of the needs in the two groups. Section three presents the results of the within group analysis for consistency, and in section four the between group results are presented. An attempt is made to interpret these results as they are presented. Section five is devoted to the presentation and interpretation of the results of the Need Ranking Form (Form SD). In the final section a general discussion of the findings is presented. Interwoven with this discussion are suggestions for possible further research and some of the limitations of the present study.

1. Reliability of the Instruments.

Before proceeding to an analysis of the main hypotheses of the study the reliability of the procedure used to score the Thematic Apperception Test, and also the reliability

of the other instruments used in the study were determined.

a) Inter-scorer Reliability of the Thematic Apperception Test.- It will be recalled that the Thematic Apperception Test protocols were scored independently by two individuals. Both scorers were registered psychologists (Ontario). Each scorer was provided with a list of definitions of the variables to be scored, a copy of the directions to be used in scoring, and also a number of stories already scored to serve as models. The latter were stories obtained in a pilot study. A copy of the materials given to each scorer is found in Appendix 7.

*The Spearman rank correlation coefficient was used to determine the reliability of the two scorers. The rho coefficient was calculated between the composite ranking of the seven needs by each scorer for the sixty subjects. The obtained rank order correlation between the two scorers was .924. An rho of .924 is significant beyond the one per cent level of confidence indicating a satisfactory degree of agreement between the scorers.

b) The Edwards Personal Preference Schedule.- It will be recalled that a high level of internal consistency on the Edwards Personal Preference Schedule was a prerequisite for a subject's inclusion in the final research sample. The reasons for this decision have already been outlined.¹

¹ See p. 87.

A coefficient of internal consistency was calculated between the composite ranks of the rows and columns of the seven needs for the combined group of sixty subjects. The Spearman rank correlation coefficient was the statistic employed. The obtained rho was .95, significant at the one per cent level of confidence. It is also slightly higher than similar coefficients reported by Edwards² and Carberry.³

c) The Need Ranking Form.-- An estimate of the reliability of the Need Ranking Form was obtained by means of a test-retest. It was impossible to obtain this coefficient of stability on the research subjects. For this reason a comparable group (in age, educational level, and from a bilingual university) was selected at random for this purpose. Twenty-five subjects were administered the Need Ranking Form and retested after a two-week interval. The Spearman rank correlation coefficient was calculated between the composite ranks of the seven needs on the two occasions. The obtained stability coefficient of 1.0, which is significant at the one per cent level, is a powerful indicator of the

2 Allen L. Edwards, Manual of the Edwards Personal Preference Schedule, Psychological Corporation, New York, 1959, p. 8.

3 Hugh H. Carberry, A Comparison of Three Methods of Need Assessment with Normal and Neurotic Subjects, unpublished doctoral thesis presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1964, p. 68.

stability of the instrument. It compares very favorably with the stability coefficient reported for a similar instrument, by Carberry.⁴

The indices of reliability found for the instruments used and the high level of inter-scorer reliability are satisfactory for purposes of the present research. The subsequent sections of this chapter will be concerned with an analysis and interpretation of the research data.

2. Composite Ranking of Needs in the Two Groups.

The relative strength of each need within the low and high anxiety groups as yielded by the three assessment methods can be seen by comparing the composite need ranks of the two groups for each method of assessment. The composite need ranking is obtained after all the protocols are scored. Each subject is then assigned a rank on each of the seven needs for each of the three assessment methods. The ranks are summed and the sums ranked to provide the composite ranking. A rank of one was assigned to the lowest rank and indicates greatest relative strength. Conversely, a rank of seven indicates least relative strength. The sum of ranks and composite rank order placement of the needs

⁴ Ibid., p. 68.

for the two groups on the three assessment methods is presented in Table II.

A Spearman rank correlation coefficient was computed between the composite rankings of the two groups on the three methods of assessment. The correlation between the composite need ranks of the low and high anxiety groups on the direct method was .679; on the indirect method .715; while on the projective method it was .820. When $N = 7$ a rho coefficient of .893 is necessary to achieve significance at the one per cent level. It can be seen that none of the obtained rho coefficients is significant at the one per cent level. This finding is somewhat different from that of Carberry who used similar tests with groups of normal and neurotic subjects. Carberry⁵ obtained significant correlation (at the one per cent level) between his normal and neurotic subjects on the direct and projective measures, but not on the indirect method. He does not comment on this inconsistent finding.

The correlation of .17 which Carberry found between his normal and neurotic subjects on the indirect method is markedly different from the significant correlations between his two groups on the direct (.95) and projective (.75). In the present study, the correlations between the low and high anxiety groups on the three methods of assessment are

⁵ Ibid., p. 70.

Table II.-
Sum of Ranks and Composite Rank Order of Needs for the Low and High
Anxiety Groups on the Three Assessment Methods.

Needs	Direct			Indirect			Projective		
	Low Ans	High Ans	Total Rank	Low Ans	High Ans	Total Rank	Low Ans	High Ans	Total Rank
Achievement	56	1	65	111	4	98	2	81	3
Deference	161	6	164	138	7	156	7	153	7
Exhibition	156	5	161	122	5	121	5	168	5
Aggression	174	7	174	137	6	126	6	84	2
Sex	113	4	94	108	3	71	1	94	4
Affiliation	80	2	102	107	2	120	4	65	1
Dominance	100	3	121	87	1	117	3	159	6

all about the same size and are all non-significant. All three would appear to suggest the existence of a different need strength pattern in the two groups of subjects. Closer inspection of Table II may elucidate this difference of need strength pattern between the two groups on the three assessment methods.

Comparison of the composite ranks of the two groups on the direct method reveals that both groups rank need achievement as strongest. This is the only need on which such agreement is found in this direct-direct comparison. The low anxiety group ranked need affiliation second, need dominance third, and need sex fourth. Needs exhibition, deference, and aggression are ranked fifth, sixth, and seventh respectively. In the high anxiety group the composite rank order on the direct method is as follows: need sex is second, while needs affiliation and exhibition are third and fourth respectively. Needs dominance, aggression, and deference are fifth, sixth, and seventh respectively.

On the indirect measure, comparison of the relative need strength of the two groups results in a slightly different picture from that observed on the direct measure. The four strongest needs in the low anxiety group are dominance, affiliation, sex, and achievement respectively. In the high anxiety group the four strongest needs are sex, achievement, dominance, and affiliation respectively. There

is perfect agreement in the two groups on the three weakest needs as assessed by the indirect measure. Needs exhibition, aggression, and deference are ranked fifth, sixth and seventh by both groups.

On the projective method, the composite rank order of needs by the two groups resulted in greater agreement than on the direct and indirect methods as expressed in the slightly higher rho coefficient (.62) reported above. However, even this coefficient is not significant at the one per cent level. The strongest needs in the low anxiety group, as measured by the projective measure, are affiliation, achievement, aggression, and sex respectively. In the high anxiety group the strongest needs are affiliation, aggression, achievement, and sex. The three weakest needs, ranked fifth, sixth and seventh respectively are deference, dominance, and exhibition in the low anxiety group, while in the high anxiety group the three corresponding weakest needs are exhibition, dominance, and deference.

To sum up these preliminary observations, non-significant coefficients were found between the low and high anxiety groups when the rank orders of the seven needs as obtained from each group on the direct, indirect, and projective measures were correlated. This was interpreted as suggesting that the relative need strength patterns of the two groups were not identical.

In the next section the consistency of response to the three measures within the groups will be studied. This involves the testing of hypotheses I and II.

3. Within Group Consistency.

In this section, a statistical analysis pertinent to the first two hypotheses of this study will be presented and discussed. It will be recalled that hypothesis I refers to consistency of response within the low anxiety group on the three methods of need assessment. Hypothesis II refers to consistency of response within the high anxiety group. Each of these will be examined in turn.

a) Consistency within the Low Anxiety Group.-

Hypothesis I states that:

Among the low anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.

In reality this includes three hypotheses since three comparisons for consistency can be made within the low anxiety group: direct versus indirect, direct versus projective, and indirect versus projective.

The Wilcoxon matched-pairs signed ranks test was employed to perform this analysis. The Wilcoxon λ not only indicates the magnitude of a difference between rank order placement of the seven needs, but the sign of the λ value also indicates the direction of the difference in rank order

placement of the needs from method to method. A negative sign before a significant Wilcoxon Z indicates that the rank order placement of the group for the particular need was significantly lower on the first method of assessment listed than on the second method listed. Conversely, a positive sign before a significant Wilcoxon Z indicates that the rank order placement of the group for the particular need was significantly higher on the first method than on the second assessment method listed. It must be recalled that a rank of one is lowest but indicates greatest strength. A rank of seven is highest but indicates least strength. The results of the application of the Wilcoxon test to the data for the low anxiety subjects are presented in Table III.

It can be seen from Table III that eleven out of twenty-one possible comparisons result in a significant difference beyond the one per cent level. The null hypothesis of no significant differences between the rank order position of the seven needs on the three methods of assessment for the low anxiety group must be rejected in these cases. The low anxiety subjects were consistent on ten of the twenty-one comparisons. The null hypothesis can be accepted for these ten comparisons.

A clearer picture of the consistency or inconsistency within the low anxiety group is obtained by examining the three comparisons made: direct versus indirect, direct

Table III.-

Wilcoxon Z Test Between the Rank Orders of Seven Needs on Three Methods of Assessment within the Low Anxiety Group.

	Direct vs. Indirect $\frac{N}{2}$ Signif	Direct vs. Projective $\frac{N}{2}$ Signif	Indirect vs. Projective $\frac{N}{2}$ Signif
Achievement	24 -3.61 .0001	25 -2.39 N.S.	26 2.74 .01
Deference	13 -2.35 N.S.	20 - .85 N.S.	23 -1.09 N.S.
Exhibition	20 2.72 .006	24 - .74 N.S.	27 -3.25 .001
Aggression	21 3.09 .002	26 4.30 .0006	29 3.02 .002
Sex	27 - .44 N.S.	29 -1.19 N.S.	26 .58 N.S.
Affiliation	23 -2.50 .01	23 -1.27 N.S.	26 2.94 .003
Dominance	22 -1.42 N.S.	26 -3.78 .0002	29 -4.23 .0006

versus projective, indirect versus projective. Each of these will now be examined in turn.

On the direct versus indirect comparison the low anxiety subjects are consistent on three out of seven needs, namely, deference, sex, and dominance. On the needs for which the group was inconsistent, the signs preceding the Wilcoxon Z values indicate that the subjects tended to rank achievement and affiliation significantly stronger on the direct measure than on the indirect method. Needs aggression and exhibition on the other hand were ranked significantly lower in strength on the direct than on the indirect method.

On the direct versus projective method comparison the low anxiety subjects are consistent on five out of seven needs, namely, achievement, deference, exhibition, sex, and affiliation. A significant difference in the ranked response of the low anxiety group to these two methods occurred for needs aggression and dominance. Aggression was reported as significantly weaker in strength on the direct method, while dominance was ranked as significantly stronger on the direct method than on the projective method.

On the indirect versus projective method comparison the low anxiety subjects did not differ significantly in their responses on needs deference and sex. Their responses to the two measures were significantly different for needs achievement, exhibition, aggression, affiliation, and

dominance. The signs preceding the Wilcoxon Z values indicate that they tended to report significantly greater strength on the indirect method for needs exhibition and dominance. On the other hand needs achievement, aggression, and affiliation were reported as significantly lower in strength on the indirect than on the projective methods.

The theoretical positions of Carl Rogers and Joseph Muttin from which the hypotheses of the present study are derived led to the prediction that the low anxiety group would be consistent in their responses to the three assessment methods. This prediction implies the acceptance of hypothesis I that, among the low anxiety group, there are no significant differences between the rank order positions of the seven needs on the three assessment methods.

The results just presented do not permit an unqualified acceptance or rejection of this general hypothesis. Hypothesis I can be accepted for ten of the twenty-one comparisons, but must be rejected for eleven comparisons. The general hypothesis must be qualified to the level of specific variables. Of the ten comparisons for which no significant differences were found, three are on the direct versus indirect comparison (deference, sex, and dominance), five on the direct versus projective comparison (achievement, deference, exhibition, sex, and affiliation), and two on the indirect versus projective comparison (deference and sex).

It can be seen that there is a certain overlap between the three comparisons. Needs deference and sex are ranked consistently on all three comparisons. Parenthetically, it should be remarked that, although he does not specifically comment on it, Carberry⁶ found his normal subjects to be consistent for these two needs on the three comparisons he performed. Also, the low anxiety group is inconsistent on all comparisons for need aggression. This need is reported significantly lower in strength on the direct than on the indirect method, and is reported significantly lower in strength on both the direct and indirect than on the projective method.

The direct versus projective comparison resulted in the greatest amount of consistency. There is no significant difference between these two methods for the low anxiety group on five of the seven needs. The direct versus projective comparison may be considered the most pertinent comparison relative to the topic of this study (i.e. the relative consistency of low and high anxiety subjects on assessment methods which purport to tap different levels of awareness). Theoretically, the direct method gets at the most conscious level of personality, while the projective method gets at the most hidden aspect of personality. Also, in terms of

⁶ Ibid., p. 88.

subject awareness of what is being measured, the direct measure is most transparent, whereas the projective method is least transparent. When one regards the direct versus projective comparison in this way then it becomes the most meaningful test of the central hypothesis of this study. The five out of seven non-significant differences found on the direct versus projective comparison are indicative of a high degree of consistency within the low anxiety group. The two needs on which they showed significant inconsistency of response were needs aggression and dominance. The signs preceding the Wilcoxon Z scores for these two needs indicate that as a group the low anxiety subjects tend to rank need aggression as significantly weaker in strength on the direct than on the projective method. On the other hand, they tended to rank need dominance as significantly stronger on the direct than on the projective method.

The direct versus projective comparison suggests a picture of the low anxiety subject in this study as one who views himself as significantly more dominant and less aggressive on the direct method than he is depicted by the projective method. In Rogerian terms the symbolization of need aggression in awareness is perhaps being distorted to appear in a more acceptable way as dominance. That is, although the low anxiety individual considers himself as one who influences, leads, and organizes, he fails to

recognize or symbolize accurately his anger, his tendency to laugh at people, and to impose his will on others. In terms of Muttin's theory there has not been a perfect integration of the intimate and unconscious levels of personality and some repressive force may be operative insofar as need aggression is concerned.

While both Rogers and Muttin indicate that anxiety is a correlate of inconsistency, and each would hold that perfect consistency is theoretically possible, neither tends to consider perfect consistency as possible in practice. Rogers has expressed this point of view when discussing the development of the conditions of worth, as follows:

If an individual should experience only unconditioned positive regard then no conditions of worth would develop, self-regard would be unconditional, the needs for positive regard and self regard would never be at variance with organismic evaluation, and the individual would continue to be psychologically adjusted, and would be fully functioning. This chain of events is hypothetically possible and hence important theoretically though it does not appear in actuality.⁷

The present study confirms this latter point of view. Even in the low anxiety group some denial or distortion of experience in awareness may occur. This will be reflected in tests which are sensitive to different levels of response.

7 C.R. Rogers, "A Theory of Therapy, Personality and Interpersonal Relations as Developed in the Client-Centered Framework", in S. Koch (ed.), Psychology. A Study of a Science, New York, McGraw-Hill, 1959, Vol. 3, p. 224.

To sum up, Rogers theorizes that inconsistency will occur regarding those experiences which are denied or not symbolized accurately in awareness. It becomes necessary, therefore, to specify in what areas an individual is inconsistent rather than to consider consistency or inconsistency globally.

b) Consistency Within the High Anxiety Group.-

Hypothesis II is concerned with the consistency within the high anxiety group. It states that:

Among the high anxiety subjects, there are no significant differences between the rank order positions of seven needs as obtained from direct, indirect, and projective measures.

This main hypothesis includes three sub-hypotheses since, just as for the low anxiety group, three comparisons can be made for consistency, namely, direct versus indirect, direct versus projective, and indirect versus projective. Again the Wilcoxon matched-pairs signed-ranks test was used to perform this analysis. The results of the application of the Wilcoxon test to the data for the high anxiety group are presented in Table IV.

It can be seen from Table IV that eleven out of twenty-one comparisons are not significant at the one per cent level. The null hypothesis must be accepted for those eleven comparisons, but is rejected for the ten comparisons where significant differences were found.

Table IV.-

Wilcoxon Z Test Between the Rank Orders of Seven Needs on Three Methods of Assessment Within the High Anxiety Group.

	Direct vs. Indirect			Direct vs. Projective			Indirect vs. Projective		
	N	Z	Signif ^a	N	Z	Signif	N	Z	Signif
Achievement	23	-2.92	.003	25	-1.36	N.S.	23	-1.09	N.S.
Deference	20	3.00	.002	20	-2.40	N.S.	24	- .36	N.S.
Exhibition	24	-1.80	N.S.	28	-3.80	.0001	23	-2.52	.009
Aggression	22	3.96	.0001	28	4.62	.0001	25	-1.87	N.S.
Sex	24	-1.97	N.S.	26	-1.04	N.S.	26	-3.15	.001
Affiliation	19	-1.70	N.S.	27	3.44	.0006	27	4.05	.0006
Dominance	23	.35	N.S.	22	-2.61	.008	27	-2.34	N.S.

^a $P = .01.$

A clearer picture of the consistency or inconsistency within the high anxiety group is obtained by examining the three comparisons made: direct versus indirect, direct versus projective, and indirect versus projective. Each of these will now be examined in turn.

On the direct versus indirect comparison the high anxiety group is consistent on four out of seven needs, namely, exhibition, sex, affiliation, and dominance. The signs preceding the Wilcoxon Z values for the three needs on which they are inconsistent on this comparison indicates that this group tended to rank need achievement as significantly stronger on the direct than on the projective measure. On the other hand the high anxiety group tended to rank needs deference and aggression as significantly weaker on the direct than on the indirect method.

On the direct versus projective comparison the high anxiety subjects are consistent on needs achievement, deference, and sex. They are inconsistent on needs exhibition, aggression, affiliation, and dominance. The negative Z value for needs exhibition and dominance indicates that the high anxiety subjects tend to report these needs as significantly stronger on the direct than on the projective method. On the other hand, they tend to report needs aggression and affiliation as significantly weaker in strength on the direct measure than on the projective measure.

On the indirect versus projective comparison, the high anxiety group is consistent on needs achievement, deference, aggression, and dominance. On the three needs for which they showed inconsistency of response, needs exhibition and sex are reported as significantly stronger on the indirect than on the projective measure, whereas need affiliation is ranked significantly lower in strength on the indirect than on the projective measure.

The theoretical formulations of Rogers and Nuttin led to the prediction that the high anxiety group would be inconsistent in their responses to the three assessment methods. This prediction implies the rejection of hypothesis II that, among the high anxiety group, there are no significant differences between the rank order positions of the seven needs on the three assessment methods.

The results in the high anxiety group do not permit an unqualified acceptance or rejection of this general hypothesis. The latter must be qualified to the level of specific variables just as for the low anxiety group. Hypothesis II can be rejected for ten of the comparisons, but must be accepted (contrary to prediction) for eleven comparisons on which no significant differences were found. This finding, that the high anxiety group is consistent on one more comparison than the low anxiety group, was unexpected. In this connection it should perhaps be noted that Carberry

had a similar finding. His neurotic subjects were consistent on more comparisons than his normal subjects. His neurotics were consistent on seventeen out of thirty comparisons, whereas his normals were consistent on thirteen out of thirty.

However, although the high anxiety group is not inconsistent on more comparisons than the low anxiety group, another feature of the results must be noted. In the high anxiety group the results are more haphazard insofar as the consistent needs are concerned. For example, there are no needs for which this group is consistent or inconsistent across all three comparisons. The needs for which the high anxiety group is consistent are as follows: needs exhibition, sex, affiliation, and dominance on the direct versus indirect comparison; needs achievement, deference, and sex on the direct versus projective comparison; and needs achievement, deference, aggression, and dominance on the indirect versus projective comparison. Thus the high anxiety group is consistent on four needs on the direct versus indirect and indirect versus projective comparisons. However, only need dominance is common to these two comparisons. The direct versus projective comparison resulted in two consistent needs in common with the indirect versus projective comparison, but a third and different consistent need on the direct versus projective comparison is also consistent only on the direct versus indirect comparison.

If one accepts the direct versus projective comparison as the most meaningful test of the hypothesis,⁸ then the high anxiety group is inconsistent on four out of seven needs, twice as many as were found for the same comparison in the low anxiety group. The four out of seven needs for which significant differences were found on this direct versus projective comparison in the high anxiety group is indicative of considerable inconsistency, and certainly much greater inconsistency than is found within the low anxiety group. To this extent hypothesis II can be rejected. The results offer a measure of support to the prediction of Rogers and Nuttin regarding the inconsistency of high anxiety subjects.

The four needs on which the high anxiety group is inconsistent on the direct versus projective comparison are needs aggression, affiliation, exhibition, and dominance. Aggression and affiliation are reported significantly weaker on the direct than on the projective method, whereas needs exhibition and dominance are reported significantly stronger on the direct than the projective method.

One can wonder if there is any relation between these four needs on which the high anxiety group is inconsistent. Could they be related in such a way that they give a picture of the high anxiety subjects as a group?

⁸ See p. 115.

The projective test suggests that they have strong aggressive feelings. However, on the direct measure, the subjects rank their aggressive need significantly lower. What they do rank higher on the direct measure is need dominance. Is it possible that at a conscious level they interpret their aggressive feelings as the more socially acceptable need, dominance: (to persuade and influence others, to be regarded as a leader, etc.)?

The projective test suggests also that the high anxiety subjects have strong affiliative needs. These are not admitted on the direct measure. But need exhibition is ranked high on the direct measure. Is it possible that their affiliative needs are not met and are therefore denied to awareness as such, but come out rather as the more superficial need of exhibition? Both exhibition and affiliation have reference to one's relation with other people but affiliation suggests a closer, more intimate relation with others, whereas exhibition involves need of surface approval only from others.

It might further be hypothesized that the strong unconscious aggressive feelings spring from the unmet affiliative needs. Because they feel such strong anger they may tend to project this anger onto others and to fear anger from others, developing a strong need to have the approval of others, to be considered popular and a fine fellow (need exhibition).

Some further observations regarding the results of the analysis of consistency within the low and high anxiety groups may be of worth. It can be seen from Tables III and IV that in every case when both groups are inconsistent on a need, regardless of the comparison, the inconsistency is always in the same direction. On the direct versus indirect comparison both the low and high anxiety groups ranked need achievement significantly greater in strength on the direct method; both groups ranked need aggression significantly lower in strength on the direct method. On the direct versus projective comparison both groups are inconsistent for needs aggression and dominance. In each case aggression is ranked significantly lower in strength and dominance significantly greater in strength on the direct method. On the indirect versus projective comparison both groups are inconsistent for needs exhibition and affiliation. Exhibition is ranked greater in strength and affiliation lower in strength on the indirect than on the projective measure. It is clear then that there are striking similarities as well as differences between the low and high anxiety subjects when one considers the areas in which they are inconsistent.

Another observation which is significant has to do with need sex. On the direct versus projective comparison both groups are consistent for this need. Contrary to a frequently held view in psychology it would appear that the

sexual area of the lives of these subjects is not denied to awareness or even distorted in awareness. Both groups seem to be aware of the strength of their sex needs. It is especially noteworthy that this is the case in the high anxiety group also.

In this section the consistency within each group was studied. The question which remains is whether or not there is a significant difference in consistency between the groups on the three method comparisons possible in this study. This, in fact, is the question implicit in hypothesis III and will be taken up in the next section.

4. Between Group Consistency.

It was seen in the previous section, where the consistency of response by each group to the three methods of assessment was investigated, that neither group was perfectly consistent. Hypothesis III is concerned with a comparison of the groups on their degree of consistency. Is one group more or less consistent than the other on the three methods of assessment? In null form hypothesis III states that:

There are no significant differences between the low and high anxiety subjects with regard to their discrepancy scores on direct, indirect, and projective measures of needs.

This hypothesis contains three sub-hypotheses, since three comparisons are possible, namely, direct versus indirect,

direct versus projective, and indirect versus projective. Hypothesis III will be examined in two ways. First an analysis of global differences between the two groups will be performed to see if any differences exist in consistency between the two groups. If significant global differences are found, then an analysis of differences between the groups for each need will be performed to determine on which needs the differences occur.

The first step in testing this hypothesis then, was to calculate global discrepancy scores for each individual. The global discrepancy score is obtained by summing the differences between the ranks of each of the seven needs on the following method comparisons: direct versus indirect, direct versus projective, indirect versus projective. Each individual thus has three global discrepancy scores, one for each possible method comparison. The Mann-Whitney U Test was used to test for the significance of difference between the distribution of the discrepancy scores of the low and high anxiety groups. The discrepancy score distributions of the low and high anxiety groups were set into a combined rank order and the Mann-Whitney U Test used to test for the significance of differences of global differences between the distributions of the low and high anxiety groups. Table V presents the value of the Mann-Whitney U and the significance of the derived Z for the three comparisons.

Table V.-

Mann-Whitney U and Significance of Derived Z Between
the Distributions of Discrepancy Scores for the
Low and High Anxiety Subjects.

Comparison	U	Z	Significance
Direct versus Indirect	437.00	- .63	N.S.
Direct versus Projective	530.50	3.98	.0001
Indirect versus Projective	426.50	1.87	N.S.

No significant difference was found between the groups in the distribution of their global discrepancy scores on the direct versus indirect or indirect versus projective comparison. However, there is a highly significant difference (at the .0001 level) between the groups for the distributions of their global discrepancy scores on the direct versus projective comparison.

The hypothesis of no significant differences between the discrepancy scores of the two groups must be accepted for the direct versus indirect, and indirect versus projective comparisons. However, the hypothesis of no significant differences between the groups must be rejected for the direct versus projective comparison.

The theoretical positions of Carl Rogers and Joseph Nuttin led to the prediction that the high anxiety group would be significantly more inconsistent than the low anxiety group. This prediction implies the rejection of null hypothesis III. The results just presented permit the rejection of this general hypothesis only for the direct versus projective comparison. The non-significant differences between the global discrepancy scores of the two groups on the direct versus indirect and indirect versus projective method is contrary to prediction and does not permit rejection of hypothesis III for these comparisons. Rather the null hypothesis of no significant differences between the groups must be accepted for these two comparisons.

However, if for reasons already given,⁹ the direct versus projective comparison is accepted as the most meaningful test of hypothesis III, it can be said that the high anxiety group is significantly more inconsistent than the low anxiety group. It can then be said that the findings for this comparison lend support to the theoretical positions of both Carl Rogers and Joseph Nuttin insofar as the relative consistency of low and high anxiety subjects is concerned.

It can now be asked whether the high anxiety group differs significantly in consistency from the low anxiety subjects on one, several, or all the seven needs. The global difference just described does not shed light on this question. Yet the answer to this problem is important in terms of knowing more precisely the need areas where the high anxiety group is more inconsistent than the low anxiety group. In order to answer this question, the difference in discrepancy scores between the low and high anxiety groups for each of the seven needs was compared. The median test was the statistical method employed to perform this analysis. The value and significance levels of the obtained chi-squares are presented in Table VI.

⁹ See p. 115.

Table VI.-

Comparison of the Discrepancy Scores of the Low and High Anxiety Groups
for Each Need by Means of the Median Test.

	Comparisons					
	Direct vs. Indirect		Direct vs. Projective		Indirect vs. Projective	
	Chi Square	Signif	Chi Square	Signif	Chi Square	Signif
Achievement	.066	N.S.	.600	N.S.	.269	N.S.
Deference	.085	N.S.	.000	N.S.	.60	N.S.
Exhibition	.000	N.S.	9.620	.01	.066	N.S.
Aggression	.600	N.S.	.079	N.S.	.760	N.S.
Sex	2.770	N.S.	.600	N.S.	.070	N.S.
Affiliation	.274	N.S.	1.908	N.S.	.280	N.S.
Dominance	.069	N.S.	.196	N.S.	1.077	N.S.

Only one out of twenty-one chi-squares obtained was significant at the one per cent level. This one significant difference between the two groups occurred for need exhibition on the direct versus projective comparison. At the level of specific needs, the hypothesis of no significant differences between the groups on each of the seven needs as assessed by the three methods must be accepted except in the case of need exhibition on the direct versus projective comparison. In the latter case the hypothesis is rejected.

There would appear to be at least two ways of understanding this finding in relation to the previously reported and highly significant difference in global consistency between the two groups on the direct versus projective comparison. It may be that the highly significant difference in global consistency between the groups on this comparison is entirely explainable by the difference on one need, exhibition. On the other hand, could it not be that the global difference in consistency is the result of an accumulation of small differences on other needs in addition to need exhibition? That is, although only one need attains significance when the needs are studied individually, there may be an accumulation of other smaller differences which contribute to the large global difference. Cross validity studies may be of value to ascertain whether this is so.

It may be that small but real differences on other needs do not reach a level of significance when the needs are studied separately, but when accumulated contribute to the global difference.

These results of the between group comparison, along with the other findings presented up to now will be discussed in relation to the theoretical positions of Rogers and Nuttin in a later section. One further question, that of social desirability and the Need Ranking Form, will be taken up first.

5. Social Desirability and the Need Ranking Form.

On the direct measure, the Need Ranking Form, the subjects are asked to rank the seven needs in the order in which they motivate their own behavior. It can be asked whether the rankings they give represent the actual strength of the needs in the subjects, or whether the rankings merely provide an indication of what the subjects consider to be a socially acceptable need strength pattern.

In order to determine whether this was the case, an alternate form of the direct method, the Need Ranking Form (Form 8D), was administered to the subjects after they had taken the Need Ranking Form. The Need Ranking Form (Form 8D) requires the subjects to rank the needs according to the strength which they feel the needs ought to have in

motivating behavior. In other words, the object of the latter technique was to have the subjects present what they considered to be the most socially acceptable need strength pattern. This kind of check on the responses to the direct measure is a unique feature of the present study and has not appeared in any of the previous investigations in this area.

Table VII presents the sum of ranks and composite ranks of the low and high anxiety subjects on the two forms of the direct method, the Need Ranking Form and the Need Ranking Form (Form SD). The correlation between the low and high anxiety subjects on the Need Ranking Form has already been noted and discussed.¹⁰ Table VII provides other valuable information to be presented below.

The Spearman rank correlation coefficient between the composite ranking of the needs on the Need Ranking Form and Need Ranking Form (Form SD) in the low anxiety group is .965. This coefficient is significant at the one per cent level and indicates that the low anxiety group reports no difference between their actual need strength pattern and the need strength pattern which they feel ought to exist. At the level of conscious self-report, the low anxiety subjects indicate that they do not deviate significantly from the way they feel one ought to be insofar as the need strength pattern

¹⁰ See p. 105.

Table VII.-

Composite Ranking of Needs for the Two Groups on the
Need Ranking Form and the Need Ranking Form (Form SD).

	Direct				Direct (SD)			
	Low		High		Low		High	
	Total Rank		Total Rank		Total Rank		Total Rank	
Achievement	56	1	65	1	36	1	38	1
Deference	161	6	184	7	142	5	149	6
Exhibition	156	5	101	3	159	6	171	5
Aggression	174	7	174	6	175	7	175	7
Sex	113	4	94	2	126	4	129	4
Affiliation	80	2	102	4	80	2	66	2
Dominance	100	3	121	5	108	3	109	3

of these seven needs is concerned. Reference to Table VII reveals that the only discrepancy between the two sets of composite rankings is on the rank order positions of needs deference and exhibition. On the direct form, exhibition is ranked fifth and deference sixth. On the Need Ranking Form (Form 5D), deference is ranked fifth and exhibition sixth.

The Spearman rank correlation between the composite ranking of the needs on the Need Ranking Form and the Need Ranking Form (Form 5D) in the high anxiety group is .679. This correlation is not significant at the one per cent level, and indicates that the high anxiety subjects report their actual need strength pattern as different from what they feel it ought to be. They differ from the low anxiety subjects in this respect. The latter did not report themselves as deviating from what they felt ought to be the need strength pattern.

It would seem important to know the extent to which the low and high anxiety subjects agree in their perceptions of what ought to be the relative strength of the seven needs in motivating behavior. One would expect that common cultural experience and learning would result in a fairly close correspondence between the low and high anxiety subjects in this respect. In order to investigate this issue, a Spearman rank correlation coefficient was computed between

the composite rankings of the needs by each group on the Need Ranking Form (Form SD). The coefficient obtained was .965. This correlation coefficient is significant at the one per cent level. It indicates that there is no significant difference between the high and low anxiety groups in their perception of the relative strength which these seven needs ought to have in motivating behavior. Inspection of Table VII reveals that the only difference between the two groups is on the relative position of deference and exhibition. The low anxiety group feels that deference and exhibition ought to be ranked fifth and sixth respectively. The high anxiety group feels that exhibition ought to be fifth and deference sixth.

In summary, it would appear that three general statements can be made: (1) there is a significant correlation between the low and high anxiety groups with regard to the relative strength which they feel the seven needs ought to have in motivating behavior; (2) among the low anxiety subjects there is a significant correlation between the actual need strength reported and the strength which they feel the needs ought to have in motivating behavior; (3) among the high anxiety subjects there is no significant correlation between the actual need strength reported and the strength which they feel the needs ought to have in motivating behavior.

The question arises as to the meaning of these correlations. The two groups agree on what pattern of strength the needs ought to have, so that we can accept this as the socially desirable need strength pattern. However, the groups differ on whether they feel they personally conform to the socially desirable pattern. The high anxiety group accepts the same picture of what is socially desirable as the low anxiety group but view themselves as deviating from what is desirable. This seeming dissatisfaction with their own motivational pattern would seem to go along with a high level of anxiety. This finding can also be considered in relation to the within group consistency of the high anxiety subjects. It will be recalled that the high anxiety subjects were inconsistent on four of the seven needs on the direct versus projective comparison. Thus, while on the one hand the high anxiety subjects can report a need strength pattern which is significantly different from what they feel it ought to be, they are not capable of providing a consistent picture of their need strength patterns on the direct versus projective method comparisons. It may be that, while they are capable of recognizing that their need strength pattern is not what it should be, they are incapable of providing an accurate and consistent picture of themselves on two assessment methods which tap different levels of response. They know that something is wrong and at a conscious level they can report this much. However, they are incapable--and this may in fact be where the anxiety is

operating--of viewing their dynamic structure as it really is. This way of interpreting the finding is in keeping with the theoretical views of Rogers and Nuttin regarding the psychodynamics of high anxiety subjects.

On the other hand the low anxiety subjects as a group report their own need strength pattern as conforming to the socially desirable pattern. If they truly feel that they conform to the socially desirable pattern, such a view of themselves would go along with a feeling of tranquility and self-satisfaction and one would expect a lower level of anxiety.

A recent study by Schafer¹¹ suggests an alternate explanation of these results for the low anxiety subjects. Schafer investigated the relationship between a custom-made pencil-and-paper measure of motivational distortion and questionnaire as well as objective, non-fakable indices of anxiety. He reports that:

A strong, significant, negative and linear relationship was observed between a questionnaire measure of the tendency to fake good and non-fakable (projective and performance) estimates of anxiety which in turn were significantly and positively correlated with pencil and paper measures of anxiety.¹²

¹¹ Ted Schafer, Motivational Distortion and Anxiety in an Industrial Applicant Sample, unpublished doctoral thesis presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1965, vii-101 p.

¹² Ibid., p. 94.

Relating this to the present study, it is possible that the low anxiety subjects are consciously malingering when they claim their need strength pattern is the same as the socially desirable one. Their feelings about themselves are such that it does not create anxiety in them to fake consciously in this way.

However, on the question of distortion by the low anxiety subjects, it must be recalled that the direct versus projective comparison for the low anxiety group does not support this idea that the low anxiety group tends to distort. This divergence of findings in the two studies may be due to the fact that Schafer's study involved a motivational variable (a job application situation) which could have motivated his subjects to distort, whereas the motivational conditions were scrupulously controlled in the present study. It may be that where there is something to be gained by malingering, the low anxiety subjects can do this without threatening their self-picture. It may be that their self-appreciation and sense of values are such that they can accept with equanimity the fact that they malingering when there is something to be gained by it.

The next section will return to a discussion of the overall findings of the present study. The implications of the results and possible directions for further research, together with some of the limitations of the present study, will also be brought out.

6. Discussion and Suggestions for Further Research.

The theoretical basis of this study was the views of Carl Rogers and Joseph Nuttin regarding the relationship of degree of anxiety to consistency in personality. Three specific predictions were made from the theoretical formulations. The first prediction was that the low anxiety subjects would be consistent in their responses to direct, indirect and projective measures of seven needs. The second prediction was that the high anxiety subjects would be inconsistent in their responses to direct, indirect, and projective measures. The third was that the low anxiety subjects would be significantly more consistent than the high anxiety group when their responses to the three assessment methods were compared.

If one accepts the arguments for considering the direct versus projective comparisons as the most meaningful comparison insofar as each of the predictions is concerned,¹³ then the findings in the present study provide a limited degree of support for the predictions and consequently also for the theoretical positions of Carl Rogers and Joseph Nuttin in this regard.

The present findings indicate that consistency in low anxiety subjects or inconsistency in high anxiety subjects

¹³ See p. 115.

is not an either-or phenomenon. The low anxiety subjects were inconsistent on some needs. Of course, Rogers and Nuttin have both expressed the view that even for low anxiety subjects, perfect consistency may be hypothetically possible and hence important theoretically, though it may not occur in actuality. In the present study, on the direct versus projective comparison, two inconsistencies occurred in the low anxiety group at a statistically significant level. In the case of the high anxiety subjects, as a group they were significantly inconsistent on four needs, two more needs than the low anxiety subjects, on the direct versus projective comparison. The global comparison of differences in consistency between the groups on the direct versus projective comparison indicated that the high anxiety subjects were significantly more inconsistent than the low anxiety subjects, beyond the .001 level. The significance of this finding must be viewed in the light of the results of the analysis of each specific variable. The global significant difference in consistency between the two groups may be due to a difference on one need. However, it may be that small but real differences on the other needs are also contributing to the high global discrepancy between the groups.

The importance of analysis to the level of specific variables is clearly seen in these findings. The global comparison of differences in consistency between the groups

did not provide a complete picture. Without the specific analysis, the global between group comparison might be given undue importance. The analysis for each need provides a much clearer picture and limits the extent of the interpretation of the global finding considerably.

Thus while in general it can be said that the findings in the present study are in the predicted direction, they offer only limited support for the hypotheses and the theoretical positions from which the latter were derived. It becomes important in the light of these findings to stress on which variables consistency or inconsistency is likely to occur rather than making global statements about the groups. Perhaps subsequent studies could be done, using groups known to have anxieties due to unresolved problems in the area of some of these needs, to see if, in fact, inconsistencies will occur in their responses regarding these same needs to the three assessment methods.

One tool used in the present study has created a problem. The Edwards Personal Preference Schedule, the indirect measure used, tended to confound the results with respect to all three hypotheses. In spite of the concerted efforts to insure commonality of need meaning across all three assessment methods, this method does not seem to be measuring the same thing as the direct and projective tests, or perhaps is not measuring it in the same way. It should

be noted that Carberry¹⁴ found the same problem in his study. He interprets this finding as support for the inclusion of the indirect measure in the test battery since it provides a view of the subjects not obtainable in any other way. While there may be some merit to this point of view, it may also be that the forced-choice statements of the Edwards Personal Preference Schedule do not, as they are purported to, reflect the same needs defined in the same way as were used in both the direct measure and for scoring the projective measure. This may be another problem which merits further investigation in view of the findings of the present study.

One other problem regarding the use of the Edwards Personal Preference Schedule in this study has already been alluded to.¹⁵ It is a lengthy test requiring forty-five to sixty minutes for administration. The repetitive nature of the forced-choice questions can be frustrating, and such a test can be tiring when it is given as one of a series of measures such as was done in this study. It is difficult to assess the cumulative effects of these factors on the motivation of volunteer subjects such as were used in this study.

¹⁴ Carberry, Op. Cit., p. 91.

¹⁵ See p. 95.

A solution to these problems may be found by using the Adjective Check List,¹⁶ a test published since the present research was undertaken, as an alternative to the Edwards Personal Preference Schedule. The Adjective Check List is an indirect measure in the sense that the term is used in this study. It is a measure of needs, among which are included the seven needs used in this study. It has the advantage over the Edwards Personal Preference Schedule of requiring much shorter time for administration.

To continue this discussion to one other tool, it can be said that the use of the Need Ranking Form (Form SD) seems to have been a worthwhile addition to the present study. The high level of agreement it revealed between the two groups regarding the socially desirable need strength pattern is an interesting finding and seems to provide an affirmative answer to the question of whether there is, in fact, a commonly shared socially desirable need strength pattern for these seven needs. It also proved useful in attempting the formulation of a possible interpretation of the results of the Need Ranking Form in relation to the projective measure for both the low and high anxiety groups. Although both groups were in agreement as to the socially desirable need

16 H.G. Gough and A.B. Heilbrun, Adjective Check List Manual, California, Consulting Psychologists Press, 1965, 33 p.

strength pattern of the seven needs, only the high anxiety group reported their actual need strength pattern as different from the socially desirable one. Yet this same group was unable to present as consistent a picture of themselves as the low anxiety group on the direct and projective measures. It would not be possible to make the above interpretation without a knowledge of what they consider to be a socially desirable need strength pattern.

While the present study evolved directly out of the views of Rogers and Muttin concerning the relationship of anxiety and consistency in personality, and only indirectly from the position of Gordon Allport regarding the correlates of inconsistency as assessed by direct and projective measures of personality, the findings in the present study may have implications for Allport's theory also. Allport's theoretical position was treated at some length in the first chapter.¹⁷ Briefly, his view is that the neurotic will be inconsistent on direct versus projective measures, whereas the normal individual will be consistent. The empirical investigations generated by Allport's theorizing resulted in a need to modify his position somewhat.¹⁸ In 1959, Davids¹⁹

¹⁷ See p. 20-23.

¹⁸ See p. 24-51.

¹⁹ A. Davids, "A Comparison of Three Methods of Personality Assessment: Direct, Indirect, and Projective", in the Journal of Personality, Vol. 23, No. 4, June 1955, p. 423-440.

suggested a need to modify Allport's classification of tests into direct and projective by the addition of a third category, namely, the indirect measure. A few years later, Davids and Pildner²⁰ showed that a motivational variable, such as is operant in a job application situation, can result in inconsistency of response to direct, indirect, and projective tests, even by a normal group of subjects. Lachowski²¹ was the first person to study the comparative consistency of normal and neurotic subjects on direct, indirect, and projective tests. Making very ingenious use of control groups she found that consistency of response is not determined by degree of neuroticism alone. Commenting on her findings in relation to Allport's position, she suggests that more must be known about how neurotics seeking help differ from equally neurotic subjects who do not seek help. The present study evolved directly from Lachowski's. It was hypothesized that anxiety may be a significant correlate of consistency or inconsistency of response.²² Support

20 A. Davids and H. Pildner, "Comparison of Direct and Projective Methods of Personality Assessment under Different Conditions of Motivation", in Psychological Monographs, Vol. 72, No. 11, Whole No. 464, 1958, p. 1-30.

21 M.M. Lachowski, Inconsistency as Measured by Direct, Indirect and Projective Tests and Its Relationship to General Neuroticism, unpublished doctoral dissertation, University of Illinois, Urbana, Ill., 1961, iv-76 p.

22 See p. 57.

was also found for this hypothesis in the writings of Rogers and Nuttin. This evidence has been presented.²³

One other study by Carberry²⁴ has investigated the relative consistency of normals and neurotics. Rather than studying a global variable such as adjustment or alienation, Carberry studied a number of specific variables. He found support for Allport's view but he indicates that the support must be qualified to the level of specific variables. Carberry found that his normals were not completely consistent, and that his neurotics were not completely inconsistent. In the present study, as well as in Carberry's, a number of specific variables were studied.

The studies of both Dachowski and Carberry offer a limited degree of support for Allport's hypothesis regarding the consistency or inconsistency of normal and neurotic subjects. But Dachowski's study, which contains the added controls, raises the question of whether the correlate of inconsistency is neuroticism per se. The present study is based on the idea that anxiety is a correlate of consistency. It must also be recalled that the measure of anxiety used in this study is a factorially derived measure. As such it has been reliably shown in several studies to be conceptually

²³ See p. 52-59.

²⁴ Carberry, Op. Cit., p. 78 and 91.

distinct from the neuroticism factor. It is also highly correlated with psychiatric ratings and physiological measures of anxiety. The results of the present study, while not unequivocal, do offer limited support to the hypothesis that anxiety is a correlate of consistency or inconsistency of response to direct, indirect, and projective measures.

These results should not be construed in any way as nullifying Allport's view regarding the relationship of neuroticism and consistency. Rather they can perhaps be regarded as a specification of his view. While anxiety may be conceptually distinct from neurosis, it is the basis of all neurotic processes.²⁵ Anxiety may be present without neurosis, but neurosis is never seen without underlying anxiety. Anxiety is a common element in all neurotic conditions. The present study seems to offer limited support for this more specific variable as a correlate of consistency or inconsistency on the three assessment methods.

One final comment may be made. It would seem worthwhile to do further research to study consistency or inconsistency on different personality variables and using other assessment instruments. With regard to any other personality variables which are studied, it would seem important to bear in mind the value of studying specific rather than global variables.

²⁵ R.W. White, The Abnormal Personality, New York, Ronald Press, 1964, p. 188-218.

SUMMARY AND CONCLUSIONS

This study was concerned with the question of man's awareness of his motives. It was Allport who suggested that this problem might be investigated empirically by studying the consistency of response of individuals on tests which purport to tap different levels of awareness. Allport felt that normals would be consistent, neurotics inconsistent in their responses to direct and projective measures of personality. Subsequent empirical investigation has revealed that neuroticism per se may not be a correlate of consistency or inconsistency. In the present investigation, it is suggested that anxiety may be a correlate of consistency or inconsistency of response to measures which purport to tap different levels of awareness. Theoretical support for considering anxiety a possible correlate is found in the writings of Carl Rogers and Joseph Muttin.

This hypothesis was investigated by studying the consistency of response of low and high anxiety subjects on direct, indirect, and projective measures of seven needs. The results on the indirect measure tended to be haphazard and patternless, raising the question that it may not have been measuring the same things as the direct and projective methods, or perhaps not measuring them in the same way.

Focussing on the direct versus projective comparison, limited support was found for the hypotheses. The within

group analysis for consistency in the low anxiety group revealed that this group was not perfectly consistent, but the hypothesis of no significant differences in consistency could be accepted (as predicted) for five out of seven needs on the direct versus projective comparison. In the high anxiety group the hypothesis of no significant differences in consistency could not be rejected for all the needs. The high anxiety group was inconsistent on four out of seven needs, twice as many as the low anxiety group.

It was concluded that consistency in the low anxiety group, or inconsistency in the high anxiety group was not an either-or phenomenon. It was suggested that further studies might be conducted, using groups known to have anxieties due to unresolved conflicts in specific need areas, to determine if, in fact, inconsistencies do occur in their responses concerning these needs.

With regard to the third major hypothesis it was found that the high anxiety group was globally significantly more inconsistent than the low anxiety subjects on the direct versus projective comparison. A more specific analysis at the level of each need seemed to suggest that this highly significant global difference was due entirely to a significant difference on one need. An alternate explanation could be that the global difference in consistency is the result of an accumulation of small differences on other needs in

addition to the one highly significant need. Cross validity studies may be of value in checking the latter hypothesis. In line with these findings the importance of the use of specific variables, rather than a global variable, in studies of this type was emphasized. It was recommended that further research might be undertaken to study consistency or inconsistency on other personality variables.

As a check on the direct measure, the Need Ranking Form, an alternate form was administered to discover what the subjects felt was the socially desirable need strength pattern. It was found that the two groups were in agreement as to the socially acceptable need strength pattern. But the high anxiety group reported itself as deviating significantly from the socially desirable pattern. Yet this same group was most inconsistent on the direct versus projective comparison. These findings were interpreted as suggesting that, while the high anxiety subjects are aware something is wrong, they are unable to report their dynamic structure as it is revealed by the projective method. It was suggested that this characteristic of the high anxiety subjects might be investigated further.

BIBLIOGRAPHY

Allport, Gordon W., "The Trend in Motivational Theory", in the American Journal of Orthopsychiatry, Vol. 23, No. 1, January 1953, p. 107-119.

A thoughtful theoretical article setting forth his view regarding the correlates of consistency and inconsistency of response to direct and projective measures. This article was the impetus to a series of empirical studies in this area including the present research.

-----, Pattern and Growth in Personality, New York, Holt, Rinehart, and Winston, 1961, xiv-593 p.

This book presents the latest formulation of his personality theory. He devotes a section to the measurement of personality and tacitly gives recognition to Davids' view regarding the need for the "indirect" category of tests.

Carberry, Hugh H., A Comparison of Three Methods of Need Assessment with Normal and Neurotic Subjects, unpublished doctoral dissertation presented to the School of Psychology and Education of the University of Ottawa, Ontario, 1964, ix-123 p.

This study was one of the first to test a hypothesis derived from Allport's theoretical formulation of 1953. It also indicates clearly the value of investigating consistency on a number of specific variables as opposed to global variables such as adjustment.

Dachowski, Marjorie M., Inconsistency as Measured by Direct, Indirect and Projective Tests and Its Relationship to General Neuroticism, unpublished doctoral dissertation, University of Illinois, Urbana, 1961, iv-76 p.

The results of this study were the immediate stepping stone for the present research. The study included a neurotic control group not found in Carberry's research. The neurotic control group was more consistent than the normal group leading to speculation that another variable is present.

Davids, Anthony, "A Comparison of Three Methods of Personality Assessment: Direct, Indirect and Projective", in the Journal of Personality, Vol. 23, No. 4, June 1955, p. 423-440.

It was in this study that Davids introduced his argument for the inclusion of an "indirect" measure. His tripartite classification of tests has been used in the present research.

Davids, Anthony, and Henry Pildner, "Comparison of Direct and Projective Methods of Personality Assessment under Different Conditions of Motivation", in Psychological Monographs, Vol. 72, No. 11, whole no. 464, 1958, p. 1-30.

This research presents an improved repetition of Davids' earlier study. In addition to using Davids' tripartite classification of tests, this study illustrates how a motivational condition such as is present in a job application situation can influence the consistency of response to direct, indirect, and projective measures.

Getzels, J.W., The Assessment of Personality and Prejudice by the Method of Paired Direct and Projective Questionnaires, unpublished doctoral dissertation, Harvard University, Cambridge, Mass., 1951, as quoted by G. Allport, "The Trend in Motivational Theory", in the American Journal of Orthopsychiatry, Vol. 23, No. 1, January 1955, p. 107-109.

This study is interpreted by Allport as supportive of his point of view regarding the relative consistency of normal and neurotic subjects.

Nuttin, Joseph, Psychoanalysis and Personality. A Dynamic Theory of Normal Personality, New York, Sheed and Ward, 1953, xiv-310 p.

Nuttin presents a critical review of Freudian psychology together with his position regarding the development of the normal as opposed to the abnormal personality. The hypothesis of the present study is in accord with his view of anxiety as a correlate of consistency in personality.

Rogers, Carl R., "A Theory of Therapy, Personality and Interpersonal Relationships, as Developed in the Client-Centered Framework", in S. Koch (ed.), Psychology: A Study of a Science, Vol. 3, New York, McGraw Hill, 1959, p. 184-256.

This presents the most recent exposition of Rogers' theory of personality. He spells out his view of the nature of anxiety and its relation to consistency in personality. His view is similar to Nuttin's and lends support to the hypothesis of the present study.

APPENDIX 1
THE IPAT ANXIETY SCALE

I P A T SELF ANALYSIS FORM

NAME _____ TODAY'S DATE _____
 First Middle Last

SEX _____ AGE _____ OTHER FACTS _____
 (Write M or F) (Nearest Year) (Address, Occupation, etc., as instructed)

CONFIDENTIAL

Inside this booklet you will find forty questions, dealing with difficulties that most people experience at one time or another. It will help a lot in self-understanding if you check Yes, No, etc., to each, frankly and truthfully, to describe any problems you may have.

Start with the two simple examples just below, for practice. As you see, each inquiry is actually put in the form of a sentence. By putting a cross, X, in *one* of the three boxes on the right you show how it applies to you. Make your marks now.

1. I enjoy walking _____ Yes ☐ Occasionally ☐ No ☐

A middle box is provided for when you cannot definitely say Yes or No. But use it as little as possible.

2. I would rather spend an evening:
 (A) talking to people, (B) at a movie _____ A ☐ In between ☐ B ☐

About half the items inside end in A and B choices like this. B is always on the right. Remember, use the "In between" or "Uncertain" box only if you cannot possibly decide on A or B.

Now:

1. Make sure you have put your name, and whatever else the examiner asks, in the place at the top of this page.
2. Never pass over an item but give some answer to every single one. Your answers will be entirely confidential.
3. Do not spend time pondering. Answer each immediately, the way you want to at this moment (not last week, or usually). You may have answered questions like this before; but answer them as you feel *now*.

Most people finish in five minutes; some, in ten. Hand in this form as soon as you are through with it, unless told to do otherwise. As soon as the examiner signals or tells you to, turn the page and begin.

STOP HERE—WAIT FOR SIGNAL

- | | | | |
|---|---|--|------------------------------------|
| 1. I find that my interests, in people and amusements, tend to change fairly rapidly..... | True
☐ | In between
☐ | False
☐ |
| 2. If people think poorly of me I can still go on quite serenely in my own mind..... | True
☐ | In between
☐ | False
☐ |
| 3. I like to wait till I am sure that what I am saying is correct, before I put forward an argument..... | Yes
☐ | In between
☐ | No
☐ |
| 4. I am inclined to let my actions get swayed by feelings of jealousy..... | Sometimes
☐ | Seldom
☐ | Never
☐ |
| 5. If I had my life to live over again I would:
(A) plan very differently, (B) want it the same..... | A
☐ | In between
☐ | B
☐ |
| 6. I admire my parents in all important matters..... | Yes
☐ | In between
☐ | No
☐ |
| 7. I find it hard to "take 'no' for an answer", even when I know what I ask is impossible..... | True
☐ | In between
☐ | False
☐ |
| 8. I doubt the honesty of people who are more friendly than I would naturally expect them to be..... | True
☐ | In between
☐ | False
☐ |
| 9. In demanding and enforcing obedience my parents (or guardians) were: (A) always very reasonable, (B) often unreasonable..... | A
☐ | In between
☐ | B
☐ |
| 10. I need my friends more than they seem to need me..... | Rarely
☐ | Sometimes
☐ | Often
☐ |
| 11. I feel sure that I could "pull myself together" to deal with an emergency | Always
☐ | Often
☐ | Seldom
☐ |
| 12. As a child I was afraid of the dark | Often
☐ | Sometimes
☐ | Never
☐ |
| 13. People sometimes tell me that I show my excitement in voice and manner too obviously..... | Yes
☐ | Uncertain
☐ | No
☐ |
| 14. If people take advantage of my friendliness I:
(A) soon forget and forgive, (B) resent it and hold it against them..... | A
☐ | In between
☐ | B
☐ |
| 15. I find myself upset rather than helped by the kind of personal criticism that many people make..... | Often
☐ | Occasionally
☐ | Never
☐ |
| 16. Often I get angry with people too quickly | True
☐ | In between
☐ | False
☐ |
| 17. I feel restless as if I want something but do not know what..... | Very rarely
☐ | Sometimes
☐ | Often
☐ |
| 18. I sometimes doubt whether people I am talking to are really interested in what I am saying..... | True
☐ | In between
☐ | False
☐ |
| 19. I have always been free from any vague feelings of ill-health, such as obscure pains, digestive upsets, awareness of heart action, etc..... | True
☐ | Uncertain
☐ | False
☐ |
| 20. In discussion with some people, I get so annoyed that I can hardly trust myself to speak..... | Sometimes
☐ | Rarely
☐ | Never
☐ |

CONTINUE ON NEXT PAGE.

A Score

B

21. Through getting tense I use up more energy than most people in getting things done..... True Uncertain False
22. I make a point of not being absent-minded or forgetful of details..... True Uncertain False
23. However difficult and unpleasant the obstacles, I always stick to my original intentions..... Yes In between No
24. I tend to get over-excited and "rattled" in upsetting situations..... Yes In between No
25. I occasionally have vivid dreams that disturb my sleep..... Yes In between No
26. I always have enough energy when faced with difficulties..... Yes In between No
27. I sometimes feel compelled to count things for no particular purpose..... True Uncertain False
28. Most people are a little queer mentally, though they do not like to admit it True Uncertain False
29. If I make an awkward social mistake I can soon forget it..... Yes In between No
30. I feel grouchy and just do not want to see people:
(A) occasionally, (B) rather often..... A In between B
31. I am brought almost to tears by having things go wrong..... Never Very rarely Sometimes
32. In the midst of social groups I am nevertheless sometimes overcome by feelings of loneliness and worthlessness Yes In between No
33. I wake in the night and, through worry, have some difficulty in sleeping again Often Sometimes Never
34. My spirits generally stay high no matter how many troubles I meet..... Yes In between No
35. I sometimes get feelings of guilt or remorse over quite small matters... Yes In between No
36. My nerves get on edge so that certain sounds, e.g., a screechy hinge, are unbearable and give me the shivers..... Often Sometimes Never
37. If something badly upsets me I generally calm down again quite quickly..... True Uncertain False
38. I tend to tremble or perspire when I think of a difficult task ahead..... Yes In between No
39. I usually fall asleep quickly, in a few minutes, when I go to bed..... Yes In between No
- I sometimes get in a state of tension or turmoil as I think over my recent concerns and interests..... True Uncertain False

STOP HERE.

BE SURE YOU HAVE ANSWERED EVERY QUESTION.

B Score

Name _____ Sex _____ Age _____ Date _____ Examiner _____

Raw Scores: A Score (Covert, indir.) _____ (p. 2 score) B Score (Overt, manifest, sympt.) _____ (p. 3 score) TOTAL RAW SCORE _____ (A + B)

Q₃(-) _____, C(-) _____, L _____, O _____, Q₄ _____ Overt-Covert Ratio $\left(\frac{B}{A}\right)$ _____

Stens: Q₃(-) _____, C(-) _____, L _____, O _____, Q₄ _____ TOTAL, STANDARD STEN SCORE _____ (from Table 2)

Standard Score Deciles (Total)	Qualitative Observations:	Standard Score Stens (Total)
10		10
9	Diagnostic Summary:	9
8		8
7		7
6		6
5		5
4		4
3		3
2		2
1		1

(This column normally used only when deciles are preferred to stens.)

APPENDIX 2

DESCRIPTION OF THEMATIC APPERCEPTION CARDS

APPENDIX 2

DESCRIPTION OF THEMATIC APPERCEPTION CARDS¹

3BM. On the floor against a couch is the huddled form of a boy with his head bowed on his right arm. Beside him on the floor is a revolver.

4. A woman is clutching the shoulders of a man whose face and body are averted as if he were trying to pull away from her.

7BM. A gray-haired man is looking at a younger man who is sullenly staring into space.

8BM. An adolescent boy looks straight out of the picture. The barrel of a rifle is visible at one side, and in the background is the dim scene of a surgical operation, like a reverie-image.

12M. A young man is lying on a couch with his eyes closed. Leaning over him is the gaunt form of an elderly man, his hand stretched out about the face of the reclining figure.

13MF. A young man is standing with downcast head buried in his arm. Behind him is the figure of a woman lying in bed.

14. The silhouette of a man (or woman) against a bright window. The rest of the picture is totally black.

20. The dimly illumined figure of a man (or woman) in the dead of the night leaning against a lamp post.

¹ H.A. Murray, Thematic Apperception Test Manual, Harvard University Printing Office, Cambridge, Mass., 1943, p. 19-20.

APPENDIX 3

INSTRUCTIONS FOR SUBJECTS AND FORM FOR PROTOCOLS
OF THE THEMATIC APPERCEPTION TEST

APPENDIX 3

INSTRUCTIONS FOR SUBJECTS AND FORM FOR PROTOCOLS OF THE THEMATIC APPERCEPTION TEST

INTRODUCTION

Thank you for having volunteered to participate in this research project. Rest assured that your identities will remain anonymous. To insure this anonymity use only the code numbers which you have already chosen when you fill in the spaces below.

The success and meaningfulness of this research depends upon your cooperation and sincerity. Since your identities are protected there is no reason for deception. Thank you again for your valuable time.

Now would you please fill in the required information below:

Code Number _____ Date _____
Age _____ Sex _____ Education _____

INSTRUCTIONS (Please read carefully)

This is a test of creative imagination. A number of pictures will be projected on the screen before you. You will have 20 seconds to look at the picture and then about five minutes to make up a story about it.

Notice that you have one page for each story and at the top of each page are listed four elements which are to be brought into each story.

1. What is happening at the moment?
2. What are the characters feeling and thinking?
3. What has led up to this situation?
4. What will the outcome be?

Obviously there are no right or wrong stories so you may feel free to make up any kind of story about the picture that you choose. Try to make your stories vivid, dramatic and interesting, for this is a test of creative imagination. Remember, do not merely describe the picture. Tell a story about it.

Are there any questions? Now here is the first picture.

1. What is happening at the moment?
2. What are the characters feeling and thinking?
3. What has led up to this situation?
4. What will the outcome be?

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APPENDIX 4

THE ADAPTED PERSONAL PREFERENCE SCHEDULE

Edwards Personal Preference Schedule

Allen L. Edwards, University of Washington

DIRECTIONS

This schedule consists of a number of pairs of statements about things that you may or may not like, about ways in which you may or may not feel. Look at the example below.

A I like to talk about myself to others.

B I like to work toward some goal that I have set for myself.

Which of these two statements is more characteristic of what you like? If you like talking about yourself to others more than you like working toward some goal that you have set for yourself, then you should choose A over B. If you like working toward some goal that you have set for yourself more than you like talking about yourself to others, then you should choose B over A.

You may like both A and B. In this case, you would have to choose between the two and you should choose the one that you like better. If you dislike both A and B, then you should choose the one that you dislike less.

Some of the pairs of statements in the schedule have to do with your likes, such as A and B above. Other pairs of statements have to do with how you feel. Look at the example below.

A I feel depressed when I fail at something.

B I feel nervous when giving a talk before a group.

Which of these two statements is more characteristic of how you feel? If 'being depressed when you fail at something' is more characteristic of you than 'being nervous when giving a talk before a group', then you should choose A over B. If B is more characteristic of you than A, then you should choose B over A.

If both statements describe how you feel, then you should choose the one which you think is more characteristic. If neither statement accurately describes how you feel, then you should choose the one which you consider to be less inaccurate.

Your choice, in each instance, should be in terms of what you like and how you feel at the present time, and not in terms of what you think you should like or how you think you should feel. This is not a test. There are no right or wrong answers. Your choices should be a description of your own personal likes and feelings. Make a choice for every pair of statements, do not skip any.

The pairs of statements on the following pages are similar to the examples given above. Read each pair of statements and pick out the one statement that better describes what you like or how you feel. Make no marks in the booklet. On the separate answer sheet are numbers corresponding to the numbers of the pairs of statements. Check to be sure you are marking for the same item number as the item you are reading in the booklet.

If your answer sheet is printed in BLACK ink For each numbered item draw a circle around the A or B to indicate the statement you have chosen.	If your answer sheet is printed in BLUE ink For each numbered item fill in the space under A or B as shown in the Directions on the answer sheet.
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Do not turn this page until the examiner tells you to start.

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The Psychological Corporation

New York, New York

- 1 (A) I like to help my friends when they are in trouble.
B I like to do my very best in whatever I undertake.
- 2 (A) I like to find out what great men have thought about various problems in which I am interested.
B I would like to accomplish something of great significance.
- 3 A Any written work that I do I like to have precise, neat, and well organized.
(B) I would like to be a recognized authority in some job, profession, or field of specialization.
- 4 A I like to tell amusing stories and jokes at parties.
(B) I would like to write a great novel or play.
- 5 (A) I like to be able to come and go as I want to.
B I like to be able to say that I have done a difficult job well.
- 6 A I like to solve puzzles and problems that other people have difficulty with
(B) I like to follow instructions and to do what is expected of me
- 7 (A) I like to experience novelty and change in my daily routine.
B I like to tell my superiors that they have done a good job on something, when I think they have.
- 8 (A) I like to plan and organize the details of any work that I have to undertake.
B I like to follow instructions and to do what is expected of me.
- 9 A I like people to notice and to comment upon my appearance when I am out in public.
(B) I like to read about the lives of great men.
- 10 (A) I like to avoid situations where I am expected to do things in a conventional way.
B I like to read about the lives of great men.
- 11 (A) I would like to be a recognized authority in some job, profession, or field of specialization.
B I like to have my work organized and planned before beginning it.
- 12 (A) I like to find out what great men have thought about various problems in which I am interested.
B If I have to take a trip, I like to have things planned in advance.
- 13 A I like to finish any job or task that I begin.
(B) I like to keep my things neat and orderly on my desk or workspace.
- 14 (A) I like to tell other people about adventures and strange things that have happened to me
B I like to have my meals organized and a definite time set aside for eating.
- 15 (A) I like to be independent of others in deciding what I want to do
B I like to keep my things neat and orderly on my desk or workspace.
- 16 (A) I like to be able to do things better than other people can.
B I like to tell amusing stories and jokes at parties.
- 17 A I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
B I like to talk about my achievements.
- 18 A I like to have my life so arranged that it runs smoothly and without much change in my plans.
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- 19 A I like to read books and plays in which sex plays a major part.
B I like to be the center of attention in a group.
- 20 A I like to criticize people who are in a position of authority.
B I like to use words which other people often do not know the meaning of.
- 21 A I like to accomplish tasks that others recognize as requiring skill and effort
B I like to be able to come and go as I want to.
- 22 A I like to praise someone I admire.
B I like to feel free to do what I want to do.
- 23 A I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
B I like to be independent of others in deciding what I want to do.
- 24 A I like to ask questions which I know no one will be able to answer.
B I like to criticize people who are in a position of authority.
- 25 A I get so angry that I feel like throwing and breaking things.
B I like to avoid responsibilities and obligations.
- 26 A I like to be successful in things undertaken.
B I like to form new friendships.
- 27 A I like to follow instructions and to do what is expected of me.
B I like to have strong attachments with my friends.
- 28 A Any written work that I do I like to have precise, neat and well organized.
B I like to make as many friends as I can.
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B I like to write letters to my friends.
- 30 A I like to be able to come and go as I want to.
B I like to share things with my friends.
- 31 A I like to solve puzzles and problems that other people have difficulty with.
B I like to judge people by why they do something—no by what they actually do.
- 32 A I like to accept the leadership of people I admire.
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- 34 A I like to say things that are regarded as witty and clever by other people.
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- 36 A I like to accomplish tasks that others recognize as requiring skill and effort.
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B When serving on a committee, I like to be appointed or elected chairman.
- 42 A When I am in a group, I like to accept the leadership of someone else in deciding what the group is going to do.
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- 43 A I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
B I like to be one of the leaders in the organizations and groups to which I belong.
- 44 A I like to ask questions which I know no one will be able to answer.
B I like to tell other people how to do their jobs.
- 45 A I like to avoid responsibilities and obligations.
B I like to be called upon to settle arguments and disputes between others.
- 46 A I would like to be a recognized authority in some job, profession, or field of specialization.
B I feel guilty whenever I have done something I know is wrong.
- 47 A I like to read about the lives of great men.
B I feel that I should confess the things that I have done that I regard as wrong.
- 48 A I like to plan and organize the details of any work that I have to undertake.
B When things go wrong for me, I feel that I am more to blame than anyone else.
- 49 A I like to use words which other people often do not know the meaning of.
B I feel that I am inferior to others in most respects.
- 50 A I like to criticize people who are in a position of authority.
B I feel timid in the presence of other people I regard as my superiors.
- 51 A I like to do my very best in whatever I undertake.
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- 53 A I like to make a plan before starting in to do something difficult.
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- 54 A I like to tell other people about adventures and strange things that have happened to me.
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- 65 A I like to do things that other people regard as unconventional.
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- 100 A I feel that I am inferior to others in most respects.
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- 101 A I like to be successful in things undertaken.
B I like to form new friendships.
- 102 A I like to analyze my own motives and feelings.
B I like to make as many friends as I can.
- 103 A I like my friends to help me when I am in trouble.
B I like to do things for my friends.
- 104 A I like to argue for my point of view when it is attacked by others.
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- 105 A I feel guilty whenever I have done something I know is wrong.
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- 108 A I like my friends to do many small favors for me cheerfully.
B I like to judge people by why they do something—not by what they actually do.
- 109 A When with a group of people, I like to make the decisions about what we are going to do.
B I like to predict how my friends will act in various situations.
- 110 A I feel better when I give in and avoid a fight, than I would if I tried to have my own way.
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- 111 A I like to form new friendships.
B I like my friends to help me when I am in trouble.
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B I feel depressed by my own inability to handle various situations.
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B I like to sympathize with my friends when they are hurt or sick.
- 128 A I like my friends to help me when I am in trouble.
B I like to treat other people with kindness and sympathy.
- 129 A I like to be one of the leaders in the organizations and groups to which I belong.
B I like to sympathize with my friends when they are hurt or sick.

- 130 A I feel that the pain and misery that I have suffered has done me more good than harm.
B I like to show a great deal of affection toward my friends.
- 131 A I like to do things with my friends rather than by myself.
B I like to experiment and to try new things.
- 132 A I like to think about the personalities of my friends and to try to figure out what makes them as they are.
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- 133 A I like my friends to be sympathetic and understanding when I have problems.
B I like to meet new people.
- 134 A I like to argue for my point of view when it is attacked by others.
B I like to experience novelty and change in my daily routine.
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B I like to move about the country and to live in different places.
- 136 A I like to do things for my friends.
B When I have some assignment to do, I like to start in and keep working on it until it is completed.
- 137 A I like to analyze the feelings and motives of others.
B I like to avoid being interrupted while at my work.
- 138 A I like my friends to do many small favors for me cheerfully.
B I like to stay up late working in order to get a job done.
- 139 A I like to be regarded by others as a leader.
B I like to put in long hours of work without being distracted.
- 140 A If I do something that is wrong, I feel that I should be punished for it.
B I like to stick at a job or problem even when it may seem as if I am not getting anywhere with it.
- 141 A I like to be loyal to my friends.
B I like to go out with attractive persons of the opposite sex.
- 142 A I like to predict how my friends will act in various situations.
B I like to participate in discussions about sex and sexual activities.
- 143 A I like my friends to show a great deal of affection toward me.
B I like to become sexually excited.
- 144 A When with a group of people, I like to make the decisions about what we are going to do.
B I like to engage in social activities with persons of the opposite sex.
- 145 A I feel depressed by my own inability to handle various situations.
B I like to read books and plays in which sex plays a major part.
- 146 A I like to write letters to my friends.
B I like to read newspaper accounts of murders and other forms of violence.
- 147 A I like to predict how my friends will act in various situations.
B I like to attack points of view that are contrary to mine.
- 148 A I like my friends to make a fuss over me when I am hurt or sick.
B I feel like blaming others when things go wrong for me.
- 149 A I like to tell other people how to do their jobs.
B I feel like getting revenge when someone has insulted me.
- 150 A I feel that I am *inferior* to others in most respects.
B I feel like telling other people off when I disagree with them.
- 151 A I like to help my friends when they are in trouble.
B I like to do my very best in whatever I undertake.
- 152 A I like to travel and to see the country.
B I like to accomplish tasks that others recognize as requiring skill and effort.
- 153 A I like to work hard at any job I undertake.
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- 162 A I like to meet new people.
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- 163 A I like to finish any job or task that I begin.
B I like to keep my things neat and orderly on my desk or workspace.
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- 188 A I like to keep working at a puzzle or problem until it is solved.
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B I like to be regarded by others as a leader.
- 192 A I like to try new and different jobs—rather than to continue doing the same old things.
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- 213 A If I have to take a trip, I like to have things planned in advance.
B I like to keep working at a puzzle or problem until it is solved.
- 214 A I like to be in love with someone of the opposite sex.
B I like to complete a single job or task before taking on others.
- 215 A I like to tell other people what I think of them.
B I like to avoid being interrupted while at my work.
- 216 A I like to do small favors for my friends.
B I like to engage in social activities with persons of the opposite sex.
- 217 A I like to meet new people.
B I like to kiss attractive persons of the opposite sex.
- 218 A I like to keep working at a puzzle or problem until it is solved.
B I like to be in love with someone of the opposite sex.
- 219 A I like to talk about my achievements.
B I like to listen to or to tell jokes in which sex plays a major part.
- 220 A I feel like making fun of people who do things that I regard as stupid.
B I like to listen to or to tell jokes in which sex plays a major part.
- 221 A I like my friends to confide in me and to tell me their troubles.
B I like to read newspaper accounts of murders and other forms of violence.
- 222 A I like to participate in new fads and fashions.
B I feel like criticizing someone publicly if he deserves it.
- 223 A I like to avoid being interrupted while at my work.
B I feel like telling other people off when I disagree with them.
- 224 A I like to listen to or to tell jokes in which sex plays a major part.
B I feel like getting revenge when someone has insulted me.
- 225 A I like to avoid responsibilities and obligations.
B I feel like making fun of people who do things that I regard as stupid.

APPENDIX 5

THE SEED HANDLING FORM

APPENDIX 5

THE NEED RANKING FORM

THE N R F

Code Number _____ Date _____
Age _____ Sex _____ Education _____

INSTRUCTIONS (Please read carefully)

Please fill in the required information above.

Most psychologists accept the fact that an individual knows more about himself than anyone else knows about him. In his more honest moments, any sensitive person is the most accurate judge of his own personality. Some psychologists, in fact, say that the best way to discover a person's motivations, desires, strengths and weaknesses, etc., is to ask him directly. Therefore, we are asking you now to rank a number of needs according to the strength you judge them to have in motivating your own behaviour.

On the following page you will find listed seven needs which often motivate people to behave as they do. Beside each need is a brief description which will help you to understand its meaning. Will you please rank these needs in order from greatest to least strength as you see them motivating your behaviour. For example, if you feel the need to let others make decisions for you and to conform to what is expected of you is the strongest of the seven, then you would place Deference on line 1. The second strongest would be placed on line 2 and so on until you reach the need which is weakest on line seven. Remember, rank the needs according to how you think they influence your behavior not in the order of strength you'd like them to have or feel they should have.

In order for this information to have any scientific value, you must be frank and honest. Since this is completely anonymous, there is no reason to use deceit.

Are there any questions? Now turn over the page.

THE N R F

ACHIEVEMENT: to do ones best, to accomplish something very difficult or significant.

DEFERENCE : to conform to what is expected of you, to let others make decisions.

EXHIBITION : to have the attention of others, to be in the limelight, to be considered popular and a fine fellow.

AGGRESSION : to come out against contrary points of view, to become angry, to laugh at people, to show hostility to others.

SEX : to go out with or be in love with someone of the opposite sex, to be sexually excited.

AFFILIATION: to be loyal, to participate in friendly groups, to share or do things with others.

DOMINANCE : to persuade others and influence them, to supervise others, to be regarded as a leader.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

APPENDIX 6

THE NEED RANKING FORM (FORM 8D)

APPENDIX 6

THE NEED RANKING FORM (FORM SD)

THE N R F (FORM SD)

Code Number _____ Date _____

Age _____ Sex _____ Education _____

INSTRUCTIONS (Please read carefully)

Please fill in the required information above.

On the attached page is a list of the same needs which you have just ranked.

This time, however, you are asked to rank these needs in the order of strength which you feel they OUGHT to have in motivating behavior.

THE N R F

- ACHIEVEMENT: to do ones best, to accomplish something very difficult or significant.
- DEFERENCE : to conform to what is expected of you, to let others make decisions.
- EXHIBITION : to have the attention of others, to be in the limelight, to be considered popular and a fine fellow.
- AGGRESSION : to come out against contrary points of view, to become angry, to laugh at people, to show hostility to others.
- SEX : to go out with or be in love with someone of the opposite sex, to be sexually excited.
- AFFILIATION: to be loyal, to participate in friendly groups, to share or do things with others.
- DOMINANCE : to persuade others and influence them, to supervise others, to be regarded as a leader.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

APPENDIX 7

PROCEDURE FOR SCORING THE THEMATIC
APPERCEPTION TEST PROTOCOLS

APPENDIX 7

PROCEDURE FOR SCORING THE THEMATIC APPERCEPTION TEST PROTOCOLS

1. Each story is to be scored separately for each of seven needs. Brief descriptions of these seven needs are provided on the accompanying sheet. Refer to this definition sheet often in order to familiarize yourself with them.
2. The first task in scoring the stories is to take note of the hero. You will notice in each story that the name of one of the characters is underlined. That personage is the hero. The story writer himself determined this at the time of writing it.
3. Read each story trying to determine the needs of the hero scoring each story separately for each of the seven needs.
4. The score for each need for each story is determined on the basis of the intensity or strength of the need. Scores ranging from 0 to 3 are assigned to each need as follows:

<u>SCORE</u>	<u>INTENSITY</u>	<u>DESCRIPTION</u>
0	-	the need does not appear in the story
1	low	mild affect and appearing once
2	medium	moderate affect and appearing once mild affect and appearing twice
3	high	very strong affect moderate affect appearing more than once mild affect appearing 3 or more times.

5. Some examples of stories and scores assigned are provided on the accompanying sheets. Study them before beginning and refer to them often to guide you in assigning scores.

DESCRIPTION OF NEEDS

- ACHIEVEMENT:** to do ones best, to accomplish something very difficult or significant.
- DEFERENCE:** to conform to what is expected of you, to let others make decisions.
- EXHIBITION:** to have the attention of others, to be in the limelight, to be considered popular and a fine fellow.
- AGGRESSION:** to attack contrary points of view, to become angry, to laugh at people, to show hostility to others.
- SEX:** to go out with or be in love with someone of the opposite sex, to be sexually excited or aroused.
- AFFILIATION:** to be loyal, to participate in friendly groups, to share or do things with others.
- DOMINANCE:** to persuade others and influence them, to supervise others, to be regarded as a leader.

SCORING EXAMPLES OF THEMATIC APPERCEPTION STORIES¹

EXAMPLE 1, CARD 3BM

This is a little boy crying. He is down because he is alone and feels more secure in that position.

This boy just lost a real friend, his pet dog. He is sorry not only for his dog but for himself. What will he do now? Who will hear his confidences. This boy is very lonely and the pain of being without his greatest friend is unbearable. He used his dog for play, as a confident, . . . He is losing his courage with this dog. He will be a long time resenting this loss and he will blame forever the driver of the car who killed his friend. The boy will become very insecure because his parents don't like him very much. He's a lost child, he has lost his support, his spirit.

Hero - the boy

SCORING

1) n Affiliation is the first need scored. It is given a score of 3. The boy has lost a "real friend". He is "very lonely" and the pain of being without his "greatest friend" is "unbearable". This need is clearly expressed very strongly.

2) n Aggression is also given a score of 3. The boy will be a "long time resenting" the loss; also he will "blame forever" the driver of the car who killed the dog. It is clear that this feeling is also very intensely felt.

These are the only two needs of the seven with which this study is concerned that are found in this story.

EXAMPLE 2, CARD 14

It's a beautiful day; John went to bed early last night and now he just feels great. It's early enough, the birds are singing and nothing could go wrong. John is an optimist, he is always making great plans, changing them but that's the prize for being independent. Today John will learn very well. He is sure to make many people happy.

¹ These stories were obtained in a pilot study conducted prior to the main study.

EXAMPLE 2, CARD 14 (Cont'd.)

He'll go to his courses, enjoy them, have a beer with the boys and then go to a night club with his girl. Yes, John is quite a fellow, never a worry, he likes everybody and on days like this, he's even better than usual. John will spend a pleasant day, like any other day, because he makes them happy.

Hero - John

SCORING

i) n Achievement is given a score of 3. John, the hero is "always making great plans"; John will learn "very well", and will "enjoy his courses".

ii) n Affiliation is given a score of 2. The need, as expressed is of medium intensity. John will "have a beer with the boys", and John "likes everybody".

iii) n Exhibition is also given a score of 2. John is "sure to make people happy" and again in the last sentence, "he makes them happy".

iv) n Sex is given a score of 1. This need is expressed in John's desire to "to to a night club w' th his girl".

EXAMPLE 3, CARD 8BM

John is day-dreaming again. In his dreams he sees a soldier wounded and a doctor and a doctor's aid helping the wounded soldier. He would like to be the soldier for he thinks nothing is greater than fighting to preserve one's country. He now is studying how his forefathers had to fight to save the world from tyranny and likes to think of himself as capable to do the same thing. If again the world would be faced with such a problem John would surely rise to the occasion and fight oppression with all his available means.

Hero - the soldier (John)

SCORING

i) n Achievement is given a score of 2 because it is expressed at medium intensity. John, the hero, thinks "nothing greater than fighting to preserve one's country". Then again, "John would surely rise to the occasion and fight oppression."

EXAMPLE 3, CARD 58M

SCORING (Cont'd.)

11) n Aggression is also given a score of 2. At least moderate aggression is involved in John's desire to fight "tyranny" and "oppression".

111) n Exhibition is scored 2 because of the expressed need to be considered a great soldier even to the point of being wounded and earning fame in this way.

EXAMPLE 4, CARD 2C

The man under the lamp post has just finished work. This overtime is to make sure he has enough money to provide for his children. He is very tired but satisfied. If only the bus would hurry he could get home to his family and a well deserved rest. He hopes his boy will not have to work as hard as he does. If only he can put him through college his future would be much brighter. His son will realize how hard his father works and being strongly motivated by that example he will work hard and succeed.

Hero - the father

SCORING

1) n Achievement is given a score of 2. The hero, the father, works "overtime" to make sure he has enough money for his children; he wants to put his son through college.

11) n Affiliation is also given a score of 2. The father is impatient to get home to his family". He wants the bus to hurry.

111) n Dominance is scored 1. The father wants to provide an example and leadership for his son so his son will do the same.

APPENDIX 8

ABSTRACT OF

Anxiety and Its Relationship to Consistency of Response on
Three Measures of Needs

APPENDIX 8

ABSTRACT OF

Anxiety and Its Relationship to Consistency of Responses on Three Measures of Needs¹

This study is concerned with man's awareness of his motives. Allport recommended studying consistency of response on tests which purport to tap different levels of awareness. He felt that normals would be consistent, neurotics inconsistent. Subsequent research suggests that neuroticism per se may not be a correlate of consistency. In the present study, it is postulated that anxiety is a significant correlate of consistency or inconsistency in personality. The theories of Carl Rogers and Joseph Muttin lend support to this hypothesis. This hypothesis was tested by assessing the consistency of low and high anxiety male subjects on direct, indirect, and projective measures of seven needs.

Subjects were selected on the basis of their scores on the IPAT Anxiety Scale. The Thematic Apperception Test, the Edwards Personal Preference Schedule, and the Need Ranking Form, the projective, indirect, and direct measures respectively, were then administered. Three major hypotheses were tested.

¹ Sergio J. Piccinin, doctoral thesis presented to the Faculty of Psychology and Education of the University of Ottawa, Ontario, May 1966, vii-166 p.

The first two concerned an analysis of consistency within the low and high anxiety groups respectively; the third involved a between group comparison for consistency.

The indirect measure tended to confound the results. Accepting the direct versus projective comparison as the most meaningful in terms of the theory involved, the results offer limited support for the theoretical views of Rogers and Nuttin. The within group comparison revealed that the low anxiety group was consistent on five of seven needs, while the high anxiety group was inconsistent on four of seven. In the between group analysis, the high anxiety group was significantly more inconsistent than the low anxiety group globally. A comparison of the two groups on each need revealed that the high anxiety group was significantly more discrepant on only one need. It could be that the highly significant global difference was due entirely to this one significant need. However, it could be that an accumulation of small but real differences on other needs contribute to the global difference; further research might be of value to clarify this. Other recommendations for future research have also been made.