

Spring 1962

Content Analysis of the Holtzman Inkblot Test with Regard to the Projection of Hostility

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CONTENT ANALYSIS OF THE HOLTZMAN INKBLOT TEST
WITH REGARD TO THE PROJECTION OF HOSTILITY

being

A Thesis Presented to the Graduate Faculty
of the Fort Hays Kansas State College in
Partial Fulfillment of the Requirements for
the Degree of Master of Science

by

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Date May 18, 1962

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ACKNOWLEDGMENT

Appreciation is expressed to Dr. David Proctor for his patient guidance during the months that were spent in completing this thesis. A sense of obligation and gratitude is further felt toward Dr. Stanley Mahoney, Dr. William Gwynn, and Dr. Joel Moss who served on my graduate committee.

The family of a student whose thesis has been a long-time project deserves recognition. My husband and daughters ignored the inconveniences while they encouraged and hectorred me into completing it.

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CHAPTER I

INTRODUCTION

This investigation is a study of hostility using the hostility scoring system of the Holtzman Inkblot Technique, a new projective technique that became available to psychologists in May of 1961 when it was released by the Psychological Corporation. Its development is the result of several years work by Wayne H. Holtzman and his associates. The Holtzman Inkblot Technique will hereafter be referred to as the HIT.

While psychologists have for many years utilized various methods for assessing an individual's emotional forces and experiences, probably the projective method most frequently used has been the Rorschach Ink Blot Test. Over the years the Rorschach has claimed its enthusiasts and detractors who have made interpretations with varying degrees of cautiousness from the information gained from administrations of the Rorschach. In recent years as more energy has been spent in attempts to provide verification of some of the assumptions upon which the Rorschach and its interpretations have been based, it has become evident that the Rorschach with its ten plates, and no parallel set of blots, had some limitations. Statistical analyses were difficult to apply correctly since

protocols with an equal number of responses to each plate were rare, unless specifically asked for. Cronbach (1949) points out the inaccuracies and undependable results that have occurred because of the lack of psychometric qualities in the Rorschach. Holtzman (1961) on the other hand points out that while many of the attempts at validation were irrelevant or inadequately conceived, many carefully designed studies yielded negative results.

Because the HIT has only recently become available, there are no reports yet of any validating work done with the HIT other than that done during the standardization process. Consequently, reports of investigations done with the Rorschach will be reviewed. The assumptions upon which the Rorschach is based would appear to be the same for the HIT since the HIT is a similar technique and has as its background many years of experience with the Rorschach.

Elizur (1949) developed a Rorschach content scoring technique for anxiety and hostility which had been used extensively in establishing the methods of scoring hostility responses on the HIT. A review of his work will be given later but it should be noted here that his correlations between his scoring system for hostility and other measures of hostility were high. For this study it was decided to duplicate Elizur's study as closely as possible, using his

validating criteria and the HIT, and to determine if similar results could be obtained.

There were two Es involved in this study, the present author and Duane Brown, another graduate student in psychology at Fort Hays Kansas State College. His data was used in his master's thesis (1961) in a study of the anxiety scoring system of the HIT. The data for this investigation had been gathered prior to the release by the Psychological Corporation of the HIT and the Manual since Dr. David Proctor, who had served as one of the research associates, had copies of the provisional manuals and a set of the Inkblots, both Forms A and B. The provisional manuals were stenciled reports of new evidence and changes in scoring that were made available to him as more validating work was completed. The manuals, consequently, were not alike, which caused some small confusion at one point in the study. This will be explained later.

A description of the HIT will be given in the Review of Literature following a short resume of the history of the development of the inkblots as a clinical instrument.

CHAPTER II

REVIEW OF THE LITERATURE

Historical survey of the use of the inkblot in testing

The fact that different people see different things in ambiguous stimuli has been known for some time. Leonardo da Vinci tested potential pupils by asking them to draw pictures of what they saw in ambiguous forms made by a sponge on the irregular surface of a wall. He used these stimuli as a test of vocational ability and as a stimulator of creative imagination (Piotrowski, 1957). Much later Justinus Kerner used ink drawings and blots to stimulate his mind when he was in a melancholy mood. His work has no scientific importance.

In 1895 Binet suggested the use of inkblots in the study of various personality traits, thus becoming the first person to realize the significance and possibilities of ambiguous stimuli in the field of psychological experimentation. Dearborn of Harvard in 1897 saw experimental possibilities in the use of inkblots. He suggested seven areas in which he saw research possibilities. For example, he proposed the study of imagination both from the qualitative and the quantitative angle as well as a study of association and the content of consciousness (Tulchin, 1940). Whipple

in 1910 reviewed Binet's work and also published the first standard series of inkblots. He used them as a stimulus for free associations and a means for gaining an indication of the fertility of the subject's imagination. It was Hermann Rorschach, however, who began to use the inkblots in personality diagnosis.

Rorschach, who was a Swiss psychiatrist, chose the ten inkblots that we have today in his Ink Blot Test from among thousands of trial blots. His preoccupation with inkblots began in 1911 and culminated in 1921 when he published the results of his studies in various psychopathic hospitals in a monograph entitled Psychodiagnostik. Ellenberger (1954) tells about the development of the inkblot test. During Rorschach's early years as a psychiatrist at Munsterlingen, Switzerland, a teacher friend had interested Rorschach in the inkblots that his students made to which they wrote their associations. According to Ellenberger, this interest was laid aside to be taken up again when Szymon Hens evolved an inkblot test of his own and published it, with Professor Bleuler's approval, in his doctor's dissertation. This reawakened interest in 1917 resulted in three years in the publication of Psychodiagnostik in June of 1921. Other briefer histories contained in Klopfer (1942) and Bell (1948) imply that the development was made in ten years.

Klopper (1942) states that Rorschach combined the sound empirical realism of a clinician with the speculative acumen of an intuitive thinker. Rorschach considered Psychodiagnostik to be only a preliminary report of his findings. Nevertheless, present day followers are amazed at the comprehensiveness of Rorschach's hypotheses and theoretical foundations. The major feature that distinguished his work from others is the shift of attention from the imaginative content of what the subject sees to the subject's method of handling the stimulus material.

With Dr. Emile Oberholzer, Rorschach published information about the "intricate relationships which exist between his inkblot technique and psychoanalysis" (Watson, 1953, p. 334). Bell (1948) calls Rorschach's publication, Psychodiagnostik, a "monumental and highly original contribution to personality diagnosis" (p. 75). The quality of this work is demonstrated by the fact that the major elements of administration, scoring and interpretation are still much the same today. At the present time clinicians who have continued to use it extensively feel that it is extremely useful in assessing the individual's unconscious motivations. On the other hand, experimental reports have revealed much contradictory evidence.

Shortly after the publication of Psychodiagnostik in 1921, Rorschach died at the age of thirty-seven, when he developed peritonitis following an attack of appendicitis. Dr. Oberholzer, a close co-worker, published more of Rorschach's material that was later included in the German edition of Psychodiagnostik in 1932. Oberholzer was responsible for the first publication in the United States describing the Rorschach method. In addition, he trained the first people who worked with this testing instrument in this country (Klopfer, 1942). Dr. David M. Levy, a child psychiatrist, studied with Oberholzer and in 1927 excited Samuel J. Beck's interest in the Ink Blot Test in an afternoon chat while Beck was waiting for his wife (Beck, 1937). In 1930, Beck, following his study with Oberholzer, wrote the first American doctoral dissertation on the Rorschach method (Beck, 1937; Klopfer, 1942).

Writing two decades later Beck (1951) tells of the milieu in which Rorschach developed his test.

In 1921, when Hermann Rorschach published the Psychodiagnostik, a monograph describing his test, psychoanalysis was just about one generation old. So also was clinical psychology, if we date its inception from the time when Binet tried some "mental tests" on his two daughters. An experimental psychology, including much study of perception, was already relatively venerable, dating back three-fourths of a century and more to Wundt, Helmholtz, Fechner, and Muller; its roots were even deeper in philosophical speculations,

principally those of Kant, as to knowledge. Comparatively young, however, was the newest of the experimental approaches to the psychology of perception, Gestalt psychology, which started in papers by Wertheimer a mere decade earlier. This is the setting that must be kept in mind if we are to understand how it happened that the Rorschach test appeared when it did and the interest it has held among students of personality. These are the facts that disclose, for one thing, the intellectual matrices within which the test derives its particular form. These facts also make clear what the intellectual forces were that dictated the invention of an objective instrument having a potential for penetrating into the whole person, in his several psychological dimensions (p. 101).

Rorschach lived and worked in or near Zurich during the years he was experimenting and developing the test. Beck continues:

Thus, he was at the very nucleus of the energetic psychiatry that includes the names of Forel and Bleuler; he was at the center of the Jungian school. Practicing psychoanalysis he was living the Freudian doctrines. Not too far away were the then great schools of psychology in Marburg, not to mention the influences of Berlin and Vienna. How all these influences entered into the test is made clear by a knowledge of its actual working. But some hints are gleaned from the Psychodiagnostik. They add up to this; as a psychoanalyst, Rorschach was at home in the field of depth psychology, and he knew the value of free association. Fortunately, too, he possessed an experimental bent, appreciated the advantages of objectivity, and was gifted also with creative insight (p. 103).

Thus was developed a test that allowed an individual to respond, in a manner that is characteristic of him, to ambiguous stimuli that would be the same for other individuals. As clinicians obtained more experience with this test and more literature became available, the more valuable it was

believed to be for gaining insight into an individual's perceptual proclivities.

Later as empirical studies were being made and reported, the results raised doubts as to the validity of some of the assumptions that were an integral part of the scoring and interpretation. Its shortcomings became more bothersome and there were repeated comments as to the desirability of a parallel test as well as the necessity for a greater number of plates to present to individuals.

A new development

While the fundamental scoring system established by Rorschach is still in use, there have been changes in emphasis, additions, and innovations that have come from new insights gained from the many studies that have been made using the Rorschach as the testing instrument. Originally Rorschach considered the content of responses in relation to the Psychogram, thinking that this was the only way that content had value. With increasing experience Rorschach changed his ideas about the importance of content (Piotrowski, 1957, p. 329). Today content analysis is an acceptable method for gaining additional information about the manner in which individuals handle their inner psychic tensions.

With the addition of content analysis, the necessity

of obtaining empirical data to support the interpretations became more and more urgent. While Rorschach had been interested in the application of statistical techniques to his data, he had had no time to apply himself to them. Others following him had the time and did apply them to their protocols, but the Ink Blot Test had qualities that did not always lend themselves to statistical treatment. Cronbach (1949) claims that the statistical applications have not always been appropriate. The fact that the number of responses are usually not held to a constant number, for each card or the test as a whole, created problems for the statisticians. Probably the most comprehensive analysis of the Rorschach's limitations as a psychometric instrument as used in research has been made by Cronbach (1949).

Wayne H. Holtzman and his associates applied themselves to the task of developing a new series of inkblots to which could be applied psychometrically sound scoring procedures and at the same time have the ambiguous stimuli that will produce rich protocols. Two major differences exist between the Rorschach and the HIT: (1) there are two parallel sets of forty-five plates each; and (2) the subject is required to give only one response per plate. The two parallel forms, Form A and Form B, have a greater variety of shading, pattern and color than the Rorschach, and there are two trial blots

that are alike for both forms. Special effort was made "to develop materials which have high 'pulling power' for responses using small details, space, and color and shading attributes to compensate for the tendency to give form-determined wholes as the first response to an inkblot" (Holtzman, 1959, p. 137).

The manual's scoring system leans heavily upon previous systems and involves six major variables: Location, Form appropriateness, Form Definiteness, Color, Shading, and Movement Energy Level (Holtzman, 1959). Responses may also be scored for anxiety and hostility. The scoring of these two variables is based upon the studies of Abraham Elizur and Bernard Murstein who developed scoring systems that utilized the content of the Rorschach protocols rather than the formal structural scoring system. Their work will be reviewed later.

Theoretically there will be several advantages to the HIT. Since the number of responses for each card will be held to one and each response will be given to a different stimulus, as is the case with most interest, ability and personality tests, the statistical treatment should yield less confusing results. The knowledge available from recent experimental studies of color, movement, shading, and other factors in inkblot perception resulted in criteria for the production of a greater variety of inkblots which has made

possible better stimuli, better in the sense of being more capable of eliciting information from subjects. And finally, the parallel forms constructed from item-analysis data will also yield adequate estimates of reliability for each major variable.

The discussion in Holtzman, et al., (1961) of objective, self-inventory personality measures reports on studies by Roebush (1960) and Barger and Sechrest (1961) dealing with anxiety and hostility. Correlations between anxiety and hostility scores and paper-and-pencil tests (Taylor's Manifest Anxiety Scale, Sarason's Test Anxiety Scale for Children, and Siegel's Manifest Hostility Scale) proved to be insignificant. Barger and Sechrest reported a lack of any relationship between peer-ratings and inkblot scores (p. 180). What inkblot test was used by them was not mentioned by Holtzman. The reports of these studies were not available to the writer prior to the collection of the data.

Because of the newness of this innovation in projective testing, the validity data is limited to that collected during the development. Thus this test is still in an experimental phase.

Basic assumptions

Although this study will not be dealing with the Rorschach, some of the basic assumptions made in using the Rorschach would seem to be applicable to the HIT. According to Piotrowski (1957) there are ten general principles that constitute the theoretical foundation of Rorschach's technique in personality assessment. They may be summarized quickly this way: when a stimulus is ambiguous and visual, the subject responds by giving perceptions that he has selected out of the many that he might have reported. Since the percepts occur without conscious effort on the part of the subject, and without explicit instructions as to what is to be seen, what creative imagination the subject has will be utilized to produce a structured percept from the unstructured material. The subject is usually ignorant of the traits that he may be revealing about himself, thus he is freed from potential anxiety and embarrassment. This technique appears to tap anxious and troublesome percepts and ideas more easily than they do happy and carefree thoughts. The subject's ability or manner of handling the inkblots parallels his ability or manner of handling social relations. The subject's successive Rorschach record or variability parallels changes in personality; yet, the fact that groups of individuals frequently report similar perceptions contributes greatly to

the validity of the method. (These are not in the order that Piotrowski presented them in Perceptanalysis.)

Because of the "indeterminateness of [the] stimuli" (Piotrowski, 1957, p. 39) and the lack of anything definite suggested in the test procedure, any specific response or reaction becomes the subject's own contribution. His personality predetermines the percepts that he will report, and he may see many that he does not report, but the broadest principle is that there must be selection since there is no perception without it (Piotrowski, 1957). This process of selection is felt to be a function of the personality. Mainly, the struggles the subject has in communicating the percepts result not from a conscious effort to "see" something in the stimuli but from the felt need to decide which of all the percepts he sees is he going to communicate. Only when he feels that the information gained in this manner may be used against him, may the evidence be of doubtful value (Piotrowski, 1957).

Murstein (1961) sounds a note of caution in this matter of projective testing. He presents evidence that appears to controvert many of the assumptions upon which projective testing has been based. He discusses ten assumptions that have been more or less popularly accepted in the past and with the results of recent experimental studies suggests

that perhaps some of the early theories need to be re-examined and revised. More will be said later about his critique.

Review of Rorschach Literature with respect to hostility

The present study is concerned with the ability of the HIT to measure hostility in subjects. Since the HIT is a new testing instrument, the material relevant to hostility and protocol content of the Rorschach has been searched for pertinent material. Regrettably there is only a limited number of experiments comparing responses believed to be indicative of hostility on the Rorschach and hostility in attitudes or overt behavior.

For the present study, work done by Elizur (1949) is most important. He attempted to show in his study that anxiety and hostility are measurable variables. He used a shortened version of Rorschach administration omitting the inquiry except in responses that appeared to be ambiguous or neutral. He scored the protocols by a system that he devised and called the Rorschach Content Test (RCT). He did not score the protocols by the formal method of location and determinants. The RCT scores were derived from the summing of numerical values given to responses that were believed to indicate anxiety and hostility. Elizur utilized a point system with strongly worded percepts of reproach,

hatred or derogation receiving two points and milder expressions receiving one point. The scoring for anxiety was independent of the scoring for hostility, thereby resulting in two separate scores for each subject. A two point score for hostility, for example, would be given for the response "an angry face" while one point would be given to "primitive war mask", according to Elizur's RCT. Anxiety scoring will not be discussed since it is not pertinent to this study.

Anxiety and hostility are considered by Elizur as systems of tension "operating within the individual which account for certain of his responses to the ink blots" (Elizur, 1949, p. 248). Systems of tension are not generally connected to any specific object but are indefinite in nature, "free floating and liable to substitution" (Elizur, 1949, p. 248). The individual will make this substitution because the Rorschach provides him with stimuli that allows for these tensions to break through without his awareness. Elizur comments further that these systems of tension denote a disturbed equilibrium of the organism.

Elizur, in addition to using volunteer college students, used protocols from neurotics and normal individuals. The results of the work with neurotics and the control group verified the hypothesis that the RCT could differentiate between these groups, but only the results of the study as

developed with the work with the college students is relevant to the present study. The volunteer group consisted of 15 males and 15 females ranging in age from 19 to 43 years with a mean age of 28.6 years and a standard deviation of 6.4 years. This group could hardly be considered to be typical of the general college population. He does not specify if this population came only from the undergraduate division. If it did, then the age range would be considered even more atypical.

Each S was first given the Rorschach. Then three other assessment techniques, serving as validating criteria, were administered. These were a Questionnaire, a Self-rating Scale, and an Interview, which are explained fully in a later chapter since they are used in toto by the present study.

The intercorrelation coefficients between the RCT hostility scores and each of the validating criteria as reported by Elizur are contained in Table I. They confirmed Elizur's hypotheses that the RCT is a valid method of interpreting Rorschach protocols. Since the RCT had the highest correlations, Elizur suggests that the RCT is the most valid measure of hostility of all the techniques applied in his study.

Elizur conducted a reliability study of the Questionnaire using the split-halves method. He studied Ideas of Reference and Aloofness since there were ten items in each of these subdivisions and obtained coefficients of .67 and .65 respectively. Corrected by the Spearman Brown formula the coefficients become .80 and .79 respectively. The Hostility subdivision contained only five items and was not reported upon.

TABLE I

INTERCORRELATION COEFFICIENTS AMONG VALIDATING
CRITERIA AS REPORTED BY ELIZUR

	Ques- tion- naire	Self- rating Scale	Inter- view ¹
RCT	.74**	.45*	.60**
Questionnaire		.54*	.39#
Self-rating Scale			.46*
Interview ¹			

1 N = 20, all others N = 30

* Significant at the .05 level

** Significant at the .01 level

Significant at the .10 level

In order to check the reliability of the RCT scoring system and to determine if the system can be taught to persons who have not previously worked with the Rorschach, Elizur used eight inexperienced scorers who had a general background in psychology. They were given instructions for scoring which they found they could use with increasing facility

feeling that the material was readily understandable. When the average intercorrelation coefficients among the eight scorers were computed, he obtained a coefficient of .82 for hostility, indicating high interscorer reliability even with minimally trained people. Elizur's scoring correlated with the eight scorers to an even greater degree, as indicated by a coefficient of .93 for hostility.

The split-half method of testing the reliability of the RCT scores indicated that the reliability of the hostility scores were the highest, but he does not know how to account for this. He comments that although his reliability coefficients do not compare unfavorably with the results of other reliability studies of projective techniques, he suggests that the reliability of the Rorschach could be improved if a larger testing sample were available, that is, more blots to present to Ss.

Low negative correlations were found between age and the RCT for both males and females on anxiety and hostility. The larger number of problems still left for the post-adolescent to solve could have contributed to the greater insecurity and the more suspicious attitude found in the younger volunteers. On the other hand, the individuals who were older in this sample are considered to have reached the most stable phase in the life cycle of human beings.

The males and females differed somewhat in their RCT scores but the differences did not reach statistical significance. The males showed higher means for both anxiety and hostility, but the females showed somewhat higher variability. He commented further that the younger mean age of the males might have contributed somewhat to the higher RCT scores.

Elizur in evaluating the RCT comments that the RCT is rather limited in scope, that it does not give a total personality description but only evaluates two systems of tension. This can be a strength for it allows for "quantitative evaluation of important personality variables rather than overall personality generalizations which hardly can compare one individual with another" (p. 278).

Results of the RCT must be applied with caution to other groups because Elizur's samples were not representative samples of the normal population. He sees a need for more work to establish norms of representative samples of the general population before any meaningful interpretations of a S's scores on the RCT can be made. He further suggested that research with a test that had more inkblots and a parallel test would be desirable. From the standpoint of this investigation, this suggestion is most meaningful.

Elizur's success with the RCT as a measure of anxiety and hostility interested other investigators. Some utilized

his RCT while others developed techniques of their own. It seems, however, whether they used his RCT or not, his work appeared to serve as a stimulus for more study of hostility and content of Rorschach protocols.

Gorlow, Zimet and Fine (1952) decided from the results of a pilot study that the RCT of Elizur is a valid means of detecting responses indicative of hostility and anxiety. Their subjects were thirteen adolescents who were in juvenile court for some infraction of the law and thirteen adolescents who had not been in court. The control group was matched for age, sex, intelligence, and socioeconomic status. The authors concluded:

The technique is sensitive to the difference between the groups. Consequently, it appears to be a worthwhile method for deriving measurements in these personality variables. Moreover, this investigation seems to have successfully related at least one of the variables, that is, hostility, to its behavioral correlates. The delinquent group had "behaved" with hostility. The findings also lent support to the hypothesis that adolescent delinquents suffer anxiety as well as hostility to a marked degree. (p. 74)

In spite of the fact that the delinquent group had a lower total number of responses, they exceeded the control group in number of responses involving the variables of hostility and anxiety.

Smith and Coleman (1956) investigated the relationship between content of Rorschach protocols and Make-a-Picture-

Story protocols and the amount of overt hostility that was exhibited by thirty white male children between the ages of nine and fifteen in a reading clinic. Behavior of these children was observed by the teachers who recorded the amount of physical hostility, quarrelsomeness and verbal hostility displayed by them over a long period of time. A hostility score on the Rorschach was obtained by constructing a scale utilizing portions of the scales of Elizur (1949) and Walker (1951). Together the two tests (Rorschach and MAPS) correlated with behavior to a greater extent than either one alone, but for purposes of the review, conclusions about the Rorschach will be discussed.

The hypothesis that a curvilinear relationship existed between the amount of hostile content and overt hostile behavior was verified. Their study demonstrated a low but statistically significant correlations between the hostile content in the Rorschach and overt hostility. High and low amounts of hostility on the Rorschach were associated with low overt hostility and mid-range amounts of hostile content were associated with high overt hostility (p. 333).

A significant methodological danger is pointed out by Smith and Coleman. The curvilinear relationship would not have been evident if extreme criteria groups had been utilized in the place of the full range of hostility levels. In other

words the \underline{r} might have been zero. This curvilinear relationship would be important in studies attempting validation of projective tests.

Gluck (1955) attempted to construct two scales that would allow him to detect overt and covert hostile responses on the Rorschach. The scales were based on other scales by other experimenters including Elizur (1949) and Walker (1951). Following the administration of the Rorschach, the patients were placed in a stressful situation designed to be extremely provocative of hostile behavior.

Gluck did not get significant results between the analysis of Rorschach protocol content and the subject's behavior in the stress situation. He discussed the possibility that "this strong authoritarian examiner may well have provoked the anxiety necessary to inhibit the hostile action at the same time that he was provoking hostile feelings within the subjects" (p. 477). He felt that this might have been a situation similar to those in which the patients frequently have difficulty adjusting.

Gluck's conclusion was that the simple assessment of the amount (*italics his*) of hostility contained in a Rorschach protocol is not adequate basis for predicting hostile behavior. The interaction of anxiety with hostility, the direction or target of the hostility, and the available

effective controls (M quality, FC to CF, for example) need to be more adequately defined before prediction of behavior from protocols is advisable.

Two criticisms can be made of Gluck's study. First, it was done in an Army Hospital. One of the first things any service man learns is that hostility is not shown toward a superior. Gluck does not tell us what his position was but it is possible he was an officer or the subjects thought he was. Consequently, it may not have been only "the strong authoritarian examiner" that caused the inhibition of overt hostility but the "system" as well. The second concerns his statement about the scale he used. He commented that the scales "were not independently tapping qualitative differences" (p. 477). Gluck took parts from scales of other experimenters and made a "hybrid" for his study. He did not know how reliable or valid these items were in themselves and his results may have been adversely affected by poor scales.

Murstein (1956) used 80 male college students in an attempt to discover if the amount of hostility projected on the Rorschach in the presumed non-threatening atmosphere of a standardized Rorschach administration would be greater if the Ss were hostile and possessed insight into that fact. The insightfulness of the Ss was determined by obtaining

Hostile non-insightful--Perceived self to be friendly,
considered hostile by others.

Murstein was able to show that hostile-insightful Ss did project a significantly greater amount of hostility on the Rorschach than the other groups in the non-threatening atmosphere of the usual Rorschach administration. The difference between the amount of hostility projected by the three other groups did not attain significance.

Murstein's study contributed to the understanding and scoring of content for hostility. He criticized Elizur's two-point scale feeling that his own two dimensional seven-point scale was more sensitive to differences in hostile projection. His scale allowed for discriminations along the phylogenetic scale with open hostility by man, for example, receiving a higher score than hostility of bears. Also, the covert-overtness of the behavior was taken into consideration with bears fighting receiving a higher score than bears vying for fish (p. 420). Murstein scored his protocols with Elizur's RCT and obtained similar results, but less significant.

In addition to the scale that Murstein developed which contributed to the hostility scoring system developed for the HIT, his postulates about the importance of self-concept appear to be especially pertinent for the present study. According to Murstein, if the S perceives self as friendly, the

perceptions on the inkblots will contain fewer responses that can be scored as hostile, but these responses may not give an accurate picture of that individual's hostility level as viewed by other individuals. Murstein (1961) reports more studies that point up the importance of self-concept in understanding the responses on projective techniques.

Walker (1951) had forty Ss in a veteran's hospital who were obtaining psychotherapy. He was interested, not in using the therapy ratings or test scores as criterion, but in discovering "to what extent are test signs of hostility related to the therapist's impression of this patient's hostility" (p. 454). Walker administered the Rorschach and MAPS test to each S then asked the psychotherapists who were treating them to rate them on (a) the ways that patients manifested hostility, (b) the direction or objects of the hostility, and (c) the way the S reacts to his own expressions of hostility. Walker criticized Elizur's RCT for its coarse grouping of responses and asked three judges who had had extensive experience with the Rorschach to score the responses for hostility. The correlation between Rorschach hostility scores and the therapist ratings was .78, significant at .01 level of confidence.

Both Elizur and Walker scored content for hostility, but their methods were dissimilar in many aspects. Elizur

used a content scoring method that he devised giving examples without telling where or how the examples were obtained. Walker took the actual responses given by his Ss and asked experienced judges to rate them on a scale of 0 to 4 (no hostility to high hostility). Elizur used inexperienced scorers. Yet Walker felt that his results were a corroboration of Elizur's finding that the Rorschach content can be used to measure hostility. On the other hand, the ratings of Ss' own hostility on a questionnaire were negatively related to the Rorschach. The correlations were not significant but were moderately high, suggesting that self-ratings for these patients is inversely related to expressions of hostility on the Rorschach.

Walker concluded that intuitive methods tend to be substantiated by his study and that projective tests proved to be good measures of the patient's hostility while the self-rating scale did not. The conclusion reached by Walker was that the Rorschach tends to measure hostility that has not reached the level of awareness in the patient.

Finney (1955), using information and Rorschach protocols of hospital patients, found that assaultive behavior is related to a small degree, but not significantly, to destructive content in the Rorschach protocols. He used a Palo Alto Destructive Content Scale and placed part of his failure to

obtain significant results upon this scale. He commented that the problem still remained of constructing a reliable measure. Greater reliability might be gained, he suggested, by increasing the number of blots and restricting the number of responses. This larger pool of responses will aid in the determination of the consistency of the person's concepts. Finney criticizes Elizur's report for using raw scores rather than percentages, causing inflated estimates. He further states that Elizur used graduate students who probably gave more responses than his hospital patients. This is the only indication of the educational level of Elizur's subjects, other than the age limits which suggests that the older ones may have been in the graduate school.

Although several different methods have been used to determine from Rorschach protocols the amount of hostility possessed by Ss, there seems to be general agreement that hostility is a measurable variable. Elizur appears to have been the first person to publish a scale for measuring hostile responses on the protocols. Others using his scale were able to obtain results that tended to confirm the value of his work. These later studies (Gorlow, et al., Smith and Coleman, Gluck, and Murstein) used Elizur's work in some way in their studies and, while critical in varying amounts of his coarse grouping, they all felt that he had made a major contribution

to the understanding of the value of the use of Rorschach content in determining the hostility of Ss.

One comment that recurs in Rorschach literature where statistical applications are made or discussed concerns the small number of blots to present to Ss and the difficulty of making proper statistical studies. The investigators frequently point out the necessity for a larger selection of blots with better psychometric qualities in the test procedure and scoring. This necessity has been met by the appearance of the Holtzman Inkblot Technique, a projective test instrument that meets the requirements of more blots and desired psychometric qualities.

CHAPTER III

PROBLEM AND HYPOTHESIS

With the introduction of the HIT there is now available the desired increase in the number of inkblots to present to subjects. This offers an opportunity to determine if the controlled number of responses, each to a different stimulus, will produce a more reliable and valid indicator of inner psychic tensions. What the HIT will mean in terms of the many variables that have been examined in the past in connection with the Rorschach, only time will tell. This study will be concerned with one of the variables, hostility. It is the purpose of this paper to determine if the hostility score obtained by the administration of the HIT will be significantly related to other measures of hostility. This is an attempt to test the validity of the hostility scoring system of the HIT.

For this study hostility was defined as feelings of resentment and enmity. In our culture these are frequently repressed, "but almost inevitably show up in the individual's distorted attitudes toward people, either being too antagonistic or too submissive" (Elizur, 1949, p. 248). If the manner in which an individual perceives the ambiguous stimuli of inkblots parallels his ability to handle social situations

(Piotrowski, 1957), then the inkblots should give indications of the manner in which he handles hostility.

The hypothesis was that the HIT, Form A, and its hostility scoring system was significantly correlated to four independent indices of hostility. Three of the validating criteria were (a) a Questionnaire, (b) a Self-rating Scale, and (c) Interview Ratings. These were adopted from Elizur's study of 1949 and will be discussed in the next chapter. The fourth index was the Peer-rating Scale which was specially constructed for the present research in order to provide some indication of the behavior of the subjects as perceived by dormitory mates. Two ratings were obtained from this Peer-rating Scale: (a) the rating of the subject by her peers and (b) the subject's rating of herself, to be called Self-rating (pr).

CHAPTER IV

SUBJECTS AND METHOD

Subjects

The subjects for this study were thirty white college women who were Freshmen and Sophomores living in one of the dormitories on the campus of Fort Hays Kansas State College. Because Elizur had found that age and sex exerted an influence upon RCT scores, it was decided to eliminate the complicating factor of sex and narrow the age range of the Ss. No subject was used who had not reached her eighteenth birthday or was over twenty-one years of age. The mean age was 18.8 years. By applying the age restriction it was hoped that the results would be more clearly applicable to a female population of college-age. By comparison, Elizur's sample had a mean age of 28.6, which is considerably older than the usual college-age population.

The decision to use women rather than men was made for several reasons, one of which was the co-operation given by the Dean of Women in the past in allowing experiments to be conducted in the dormitories. In order to save time the initial contact was to be made with the potential subjects in a group and since the women have closing hours, it was a relatively easy task to assemble them. Since all of the Ss

had lived on the chosen floor for the school term, and the data were collected prior to the final examination week of the spring semester, they, thereby, fulfilled a necessary requirement for the Peer-rating Scale, that the Ss know one another, although some were better known by the majority than others.

All of the women proved to be highly co-operative Ss. There were no drop-outs and they were on time for their appointments with the Es.

Validating criteria

Although the HIT is not one of the validating criteria, it will be mentioned briefly here to give the reader an overview of all of the instruments used in this study. At the time that the data were gathered and the HIT protocols were scored, only the provisional manuals were available to the Es. Only after the independent scoring had begun was it discovered that the manuals (Holtzman, 1958, 1960) were not the same, with the later one containing additional material as well as some important changes in scoring of hostility. This caused some confusion, but was adjusted in the manner that will be explained later.

In a previous chapter the broad outlines of the assessment techniques developed and utilized by Elizur were mentioned,

but a more specific discussion is necessary at this time. For reference a copy of each of the validating criteria has been placed in the Appendix.

Questionnaire. The questions used in the Questionnaire were adopted without modification from Elizur. The instructions were the same except for the use of the word "circle" instead of "check". Elizur did not indicate the order in which the questions were placed in the form that he gave to his Ss. Therefore, to establish the order to be used for this study, a table of random numbers was used. A nine-point scale, from 1 to 9, placed across the page from the question, was provided for the answer. A score of nine, because of the wording of the question was not always an indication of high hostility. Therefore, before calculations were begun, the polarity was taken into consideration and appropriate adjustments made.

Out of the fifty-four questions in the Questionnaire twenty-nine of them were used in the study of hostility. One question was used twice so that for scoring purposes there were thirty items. In order to study hostility Elizur included questions involving hostility and also those that involved submissiveness, aloofness, and ideas of reference. He did not combine the scores from each of these variables into a total score that could be used as an indicator of

hostility. In this study each of the variables, hostility, submissiveness, aloofness, and ideas of reference as measured by the Questionnaire are correlated separately and combined.

Five separate items or questions were used to determine the score of hostility. They dealt mainly with the S's impressions of himself and the motives of others. The identifying numbers in the Questionnaire for these questions are 14, 16, 19, 29, and 30.

Elizur hypothesized that Submissiveness is related to hostility, stating:

The accumulation of hostile feelings within the individual is probably due to his failure to provide free outlet to his natural aggressive urges. Such an individual would therefore be expected to show a rather strong submissive attitude in his overt behavior (p. 266).

The five questions on Submissiveness were designed to determine how the S perceived his overt behavior in situations that could contain hostility. In the Questionnaire these questions are numbered 12, 13, 14, 46, and 52. Question number 14 is the only one that was used twice.

Elizur included aloofness in his study of hostility by stating:

. . . that the individual who had accumulated much hostility would tend to maintain an aloof attitude toward people. In Horney's terminology he would tend to 'move away from' people as opposed to the individual with a large 'a' [anxiety] score who tends to 'move toward' people (p. 268).

To study aloofness Elizur used ten questions to investigate the perception the S has of his behavior with strangers, in making friends, and expressing resentment. These questions are numbered 5, 6, 7, 18, 24, 25, 37, 39, 49, and 54 in the Questionnaire.

For Elizur, ideas of reference are, by inference, a projection of hostility felt by an individual. He states:

It is assumed that . . . 'h' scores should correlate positively with ideas of reference. On the one hand, the same mechanism which is responsible for having the individual see frightening images in the inkblots would probably also lead him to see frightening persons in his fellows, who 'have the intentions of injuring him.' On the other hand, ideas of reference represent, almost by definition, a projection of one's own hostility (p. 269).

These questions, ten in number, are numbered 1, 10, 28, 32, 33, 38, 40, 42, 51, and 53.

Self-rating Scale (Er). Self-rating Scale (Er) will identify Elizur's instrument. This scale contained eleven statements designed to determine the amount of control (called here 'intensity') and the frequency with which the S felt that control was necessary with regard to specific emotions or feelings. A copy of the Self-rating Scale is included in Appendix D. Again the order Elizur used was not known. A table of random numbers was utilized in determining the order that would be used for this study. The wording for the items is identical with that Elizur used,

but the instructions were simplified and made more understandable. Since several changes were made, they will be easier to understand if the instructions as Elizur gave them is printed. So that comparisons can be made, the instructions as given by Elizur are placed in Appendix C, while those used by the present study are placed in Appendix D. Two nine-point scales, one for intensity and one for frequency, were used for each item and the S was asked to rate herself on each scale for each item.

Four of the eleven items were associated with the study of hostility. Three were designed specifically to test hostility and one tested submissiveness which Elizur hypothesized was an indication of the presence of hostility. Items numbered 5, 8, and 10 investigated hostility while number 3 dealt with submissiveness. The Hostility items and the one Submissive item are treated separately in the statistical analyses.

Interview. The questions appearing in the Appendix were used verbatim from Elizur. The questions were read to each S in an effort to have, as much as possible, duplicate testing situations by both Es. Efforts were made to obtain a written report of the responses as the S gave them. The purpose of the interview was to elicit answers concerning submissiveness, dependency, anxiety and hostility. The questions

alternated between the present and past life of the S and were carefully phrased in an attempt to eliminate any hint of what the interviewer was seeking.

Peer-rating Scale. This scale was specifically developed for this study. The appearance of the scale is similar to the Questionnaire and Self-rating Scale with the addition, in the instructions to the Ss, of a table to indicate the number of individuals to be placed in each category, in the hope of obtaining a normal distribution. Nervousness and friendliness were used in the instructions instead of anxiety and hostility. The scale contained the names of the 30 participating Ss opposite two nine-point rating scales, one of nervousness and one for friendliness. The instructions gave explanations of the basis upon which the judgments of Ss were to be made. The peer-rating score of a S was obtained by summing the numerical values of twenty-nine ratings on the friendliness continuum. The S's rating of self was not used in this score. A low score on this scale indicates a rating of unfriendliness and a high score indicates that the S was judged to be most friendly and least hostile. This approach was used by Murstein (1956).

Self-rating (pr). This is really a part of the Peer-rating Scale, but since the rating on the friendliness continuum given by a S to herself was treated separately in

computations, it needs to be mentioned separately as one of the validating criteria. The score obtained here was the product of only one judgment, that of the S of herself.

SCAT. The SCAT scores were available from the college and were included to determine if a relationship might exist between the HIT hostility score and intelligence. The SCAT score for one S was unavailable, while the information for five Ss was expressed percentages. For these five Ss the raw score was estimated from the percentage. Therefore, twenty-nine SCAT scores were available for this study.

Procedure

Two Es, one male (E 2) and the other female (E 1), were involved in gathering the data for this study. The data was used by E 2 in a study of anxiety. The female E made the initial contact with the Ss in the dormitory after closing hours and the floor that had the largest number of residents was chosen. Of the forty-two women on this floor thirty volunteered to be Ss. They were informed at this meeting what would take place and that approximately three hours would be involved for each S. In addition, they were told that, if they desired, they could learn something about their own performance and stress was placed upon the experimental nature of the information. They indicated their willingness

to co-operate in the study by signing a time schedule which was so arranged that two Ss could be tested and interviewed during the same two hour block of time.

When it was known who would be participants the names were entered on the Peer-rating sheet and distributed to the Ss along with the Questionnaire and the Self-rating Scale. All but two girls completed the forms during this second contact and these two were obtained the next day. The Ss were requested not to discuss any aspects of the tests because such discussion could possibly distort the final results of the experiment. From the reports of the Ss it would appear that this request was followed exceptionally well. The co-operation and interest of the women was extremely satisfying at all times.

Following the administration of the HIT during the third contact, the Ss were interviewed. The Es exchanged Ss for the interview to eliminate any bias an E might have gained during the administration of the HIT.

The procedure followed here is somewhat different from Elizur's procedure. He administered the Rorschach first and then gave Ss the Questionnaire and Self-rating Scale to complete. These were returned when the Ss were interviewed.

The School and College Ability Test (SCAT) scores were obtained for each S and the raw scores were used to determine

if there was any relationship between the scores obtained on the HIT and the SCAT. Intelligence was not a factor in deciding who would be Ss, since the SCAT scores were obtained after it was known who the Ss were to be.

CHAPTER V

RESULTS

Since Elizur's study is the basis for this one, his hypotheses were adopted for this study. Because there are three separate testing instruments from Elizur with several subdivisions within each test, and the addition of one instrument of our own, the number of variables is large enough to lead easily to confusion. The tables are placed at the beginning of each section as an introduction to the variables that will be discussed in that section.

The general working hypothesis for the present study was that the Holtzman Inkblot Test, Form A, and its scoring system for hostility will be significantly correlated with four independent indices of hostility. The four indices are (a) the Questionnaire, (b) the Self-rating Scale (Er), (c) the Interview, and (d) the Peer-rating Scale. A supplementary hypothesis concerns the Self-rating (pr) and the SCAT. It is hypothesized that these two criteria will be correlated significantly with the HIT hostility score.

Interscorer Correlation. The interscorer correlation of scores obtained by independent scoring of HIT protocols demonstrated the agreement with which the scoring can be done. Nevertheless, this was not obtained without some

difficulty. The protocols of E 1 were scored independently before it was discovered that the provisional manuals (the book was not available until months later) were different in the values to be given to a number of responses as well as in the addition of several sample responses that clarified the scoring for some responses that had been puzzling. Differences between the manuals for the scoring of anxiety were minimal while the changes for hostility were considerable and important. Since E 1 had the older and less complete manual, it was a misfortune that the differences in the manuals were not discovered before scoring was done.

Following the discovery of the difference between the manuals, the protocols recorded and scored by E 1 had to be scored the second time, making changes that were in accordance with the 1960 manual. Only those responses were re-scored where the examples in the scoring instructions compelled a change. The scoring of the protocols of E 2 then was done with the 1960 manual. With this scoring difficulty only partially solved since there were some responses that would probably have been scored differently the first time if the 1960 manual had been available, an r of .82 was obtained between the scoring of the two Es. This is, nevertheless, a satisfactory interscorer correlation.

To arrive at the final HIT scores all the protocols

were reviewed the second time, response by response, and disagreements between the scores were resolved. Thus, one score was obtained for each S that was used in all further computations. The correlation of each E's scores with the final scores reveals that most of the disagreements were resolved in favor of E 2 and the later manual. Correlation of the scores of E 1 with the final scores resulted in a coefficient of .86, while the correlation of E 2 scores with the final ones resulted in an r of .94. These are both satisfactory r's, indicating that the Es were able to follow the directions in the Manual. While efforts were directed by the developers of the HIT toward establishing a scoring system that had many objective qualities, the subjective elements still exist. These r's suggest that despite the subjective elements, scorers can agree. In Holtzman, et al., (1961) the interscorer consistency for hostility scores using highly trained E's and schizophrenic protocols was given as .96 (p. 106). No interscorer r was reported for hostility where college students had been the subjects.

Means and Standard Deviations. Table II and Table III contain the means and standard deviations for the HIT and each of the variables studied in this investigation. Table II reports the means and standard deviations for each of the validating criteria except the Questionnaire, while

Table III is concerned with the means and standard deviations of each of the variables from the Questionnaire. The parentheses in Table II indicate the number of subjects, means, and standard deviations reported by Holtzman, et al., (1961) for the college sample used in the standardization process. The rather large difference between the M's and SD's of the two samples is reflected in the raw score range of both groups. The range for this study is from 2 to 16 while the Manual discloses that the range for the college sample is from 1 to 32 with an N of 206. This information is given on p. 202 of Holtzman, et al., (1961).

TABLE II
MEANS AND STANDARD DEVIATIONS FOR INTERVIEW,
SELF-RATING, PEER-RATING AND SCAT

	N	M	SD
HIT hostility			
score	30 (206)	9.4 (13.0)	3.7 (7.22)
Interview	30	5.0	2.1
Self-rating (Er)			
(total)	29	17.4	6.5
Self-rating (Er)			
(intensity)	29	8.5	3.7
Self-rating (Er)			
(frequency)	29	8.9	4.5
Peer-rating	30	170.96	19.6
Self-rating (pr)	30	5.8	1.8
SCAT	29	63.2	15.02

() indicate the N and results obtained in Holtzman, et al., (1961).

One S apparently did not understand the instructions on

the Self-rating Scale (Er) because she failed to score herself on both intensity and frequency. Consequently, there were only 29 scores on this scale.

TABLE III
MEANS AND STANDARD DEVIATIONS FOR QUESTIONNAIRE

	N	M	SD
Hostility	30	21.03	5.6
Submissiveness	30	23.0	3.9
Ideas of Reference	30	36.7	11.3
Aloofness	30	44.5	9.9
Total Score	30	121.1	20.5

HIT and Questionnaire. Table IV (on page 48) contains the correlations between the HIT and the sub-divisions in the Questionnaire. Although Elizur did not report intercorrelations between each of the variables in the Questionnaire that he theorized were indicative of hostility, the comparable correlations available from Elizur are included in parentheses.

No correlation involving the HIT attained a significant level and only the correlation with hostility was in the expected positive direction. Several of the intercorrelations between the variables yielded significant results. The correlation between hostility and submissiveness is .59, which is significant at the .01 level. However, it is spuriously high since one question is the same for both variables. When the correlation is computed without this one question the

TABLE IV

INTERCORRELATIONS BETWEEN HIT AND
HOSTILITY CRITERIA IN QUESTIONNAIRE

	Hos	Sub	IR	A	TS
HIT Hostility score	.16 (.74**)	-.10 (.64**)	-.08 (.48**)	-.06 (.43*)	.11
Hostility		.59**	.17	.51**	.65**
Submissiveness			.19	.28	.54**
Ideas of Reference				.12	.68**
Aloofness					.74**
Total score					

* Significant at the .05 level.

** Significant at the .01 level.

() Correlations reported by Elizur between RCT and Questionnaire.

result is .34, nearly reaching the .05 level of significance. This suggests that a moderately strong relationship exists.

The correlation of .51 between hostility and aloofness attained significance. The total score based on the four groups of items was used in the hope that the entire item cluster would prove to be a more valid criterion of hostility. The total score correlated with its parts, but not with the HIT. These part-whole correlations, although reaching a significant level, in this instance would not appear to be important.

HIT and Self-rating Scale (Er). Following Elizur the scores used in the computation for the correlation here were obtained by using only the three items that pertained directly to hostility. Table V contains the correlations between HIT

TABLE V

CORRELATIONS OF HIT AND SELF-RATING SCALE (Er)

	SELF-RATING (INTENSITY)	SELF-RATING (FREQUENCY)	SELF-RATING (TOTAL)
HIT	-.31	-.26	-.24 (.45*)

* Significant at the .05 level.

() Results reported by Elizur between RCT and Self-rating Scale (Er).

and the hostility measures in the Self-rating scale.

The hypothesis of a positive relationship is not verified by these results for the negative relationship was not in the expected direction. The total score correlated negatively to the extent that it appears that a low negative relationship might exist. Elizur did not report the correlations for the two subdivisions of intensity and frequency. The r between the HIT and one item on submissiveness is .003, indicating no relationship.

HIT and Interview. The correlation between the HIT and the Interview is +.50. This r is significant at the .01 level of confidence. This finding is a partial verification of the hypothesis of this study. By comparison Elizur obtained a correlation between his RCT and the Interview of .60 with an N of 20. This r was also significant at the .01 level of confidence.

HIT and Peer-rating Scale. The correlation of the HIT

and the Peer-rating scale has two parts: (a) the rating given to an individual by her peers, and (b) the rating that she gave herself on this scale as she was rating others. The r for the Peer-rating Scale and the HIT was $-.18$ while for the Self-Rating (r_s) the r was $-.21$. In the Peer-rating Scale the high score indicated friendliness and conversely a low score denoted unfriendliness. As a result a negative relationship here indicates a trend in the hypothesized direction. The rating of the peers and the self ratings appeared to be sensitive, to a small degree, to the HIT projected hostility of the Ss but the correlation is low and not statistically significant.

HIT and SCAT. The correlation obtained for these two variables is $+.53$, significant at the $.01$ level of confidence. This inclusion of the SCAT was not a part of the original hypothesis, but since the data were available, the use of it would appear to add another dimension to the study.

Intercorrelations. Table VI contains intercorrelations that exist between the main validating criteria and the HIT. The Questionnaire in the table denotes only the hostility items in the Questionnaire. Since the r 's for the other items in the Questionnaire showed no relationship, it did not appear to be useful to include them here. Only the total Self-rating (r_s) was used here since Elizur did not use the

separate scores for intensity and frequency. The correlations in parentheses are those reported by Elizur. The correlations involving the HIT mentioned in previous sections of this chapter are included for reference.

TABLE VI
INTERCORRELATIONS BETWEEN HIT AND
MAJOR VALIDATING CRITERIA

	Int.	Ques.	S-R (Er)	P.R.	S-R (pr)	SCAT
HIT Hostility score	.50** (.60**)	.16 (.74**)	-.24 (.45*)	-.18	-.21	.53**
Interview ¹		-.26 (.39)	-.34 (.46*)	-.08	-.45*	.28
Questionnaire			.31 (.54**)	-.32	-.45*	-.11
Self-rating (Er) (total)				.03	.23	-.12
Peer-Rating					.13	-.41*
Self-rating (pr)						-.34

* Significant at the .05 level

** Significant at the .01 level

() Correlation reported by Elizur between RCT and Variable.

1 N = 20 for Elizur, significance at .10 level for .39.

Since there is no strong relationship demonstrated between the HIT and each of the validating criteria, except for the interview ratings, the many insignificant intercorrelations between the criteria were not unexpected. Several yielded some interesting results, however. An intercorrelation of $-.45$, significant at the .05 level, was obtained between the Interview and the Self-rating (pr). Keeping in mind that a high score on the Self-rating (pr) is an indication

of a rating of friendliness and a high score on the Interview is an indication of hostility, a negative relationship would be expected.

The Questionnaire and the Self-rating (pr) yielded an intercorrelation coefficient of $-.45$, significant at the $.05$ level. A high score on the Questionnaire hostility items was an indication of high hostility and a high score for the Self-rating (pr) denoted friendliness.

The SCAT scores correlated significantly and negatively with the Peer-rating scale. The r obtained between these two variables is $-.41$, significant at the $.05$ level.

Test of Curvilinearity. Smith and Coleman (1956) found a curvilinear relationship between the hostility scores on the Rorschach and measurements of overt hostile behavior observed and reported by teachers of children in a reading clinic. In order to determine if a curvilinear relationship existed between the HIT and each of the validating criteria of the present study, the correlation ratio, or Eta, was applied to them. Then the F test was applied to the r and the Eta in accordance with the instructions of Guilford (1956, p. 294) to test the significance of the difference between the r and Eta.

No significant departure from linearity was found to exist between the HIT and the Questionnaire, Interview ratings,

Self-rating Scale (Er), or Peer-rating Scale. However, the curvilinear relationship found between the HIT and the SCAT was significantly different from the \underline{r} beyond the .01 level.

Table VII contains the \underline{r} 's and Eta's for the HIT and each of the major criteria.

TABLE VII
CORRELATIONS AND CORRELATION RATIOS
BETWEEN HIT AND MAJOR CRITERIA

	R	Eta
Questionnaire H. only	.16	.38
Interview ratings	.50	.59
Self-rating Scale (Er)	-.24	.31
Peer-rating Scale	-.18	.33
SCAT	.53	.84*

* Significant difference between \underline{r} and Eta beyond .01 level of confidence.

The subjects were grouped according to four intervals on the basis of HIT scores. Means and N's are presented in Table VIII.

TABLE VIII
N'S AND M'S OF INTERVALS OF HIT SCORES

HIT Score Interval	N	M
Low (2-4)	3	52.3
Low-Average (5-9)	12	49.2
High-Average (10-14)	12	63.2
High (15-16)	3	89.3

The present study did not obtain results that would confirm the results of the study conducted by Smith and Coleman (1956).

CHAPTER VI

DISCUSSION AND SUMMARY

The Holtzman Manual (Holtzman, et al., 1961) became available after the planning for this study and the collection of the data had been completed. In discussing two yet unpublished studies the Manual revealed that other paper-and-pencil tests had resulted in correlations that were insignificant. As a result the largely insignificant results obtained by this study are not as disappointing. Nevertheless, there does appear to have been an advantage to have proceeded rather naively into investigating Elizur's work since the review of the literature did not reveal any other attempts to replicate his work, although his RCT had been utilized several times. Elizur's work had been relied upon rather heavily, along with Murstein's, in the construction of the scoring system for anxiety and hostility in the HIT. Therefore, an investigation into his work as it concerned the HIT was perhaps in order.

While Elizur reported positive and significant results in his work with the Rorschach and the Questionnaire, Self-rating Scale (Er), and Interview ratings, this investigation using the HIT cannot report such happy results. Perhaps one explanation for these negative results is the reminder in

the Manual that:

. . . . it is important to keep in mind that Anxiety and Hostility as scored in the Holtzman Inkblot Technique are strictly ratings at a fantasy level which are not necessarily related in any simple, direct way to overt behavior that is judged to be anxious or hostile. Although it is reasonable to expect a low positive relationship between fantasy and behavior in some situations, more often than not the correlation is negligible (Holtzman, et al., 1961, p. 180).

While it was hoped that peer-ratings would produce significant results, this expectation was not confirmed by the present study. Again the new Manual reports that such ratings and inkblots scores were found by Barger and Sechrest not to have much in common.

The hypothesis that the hostility scoring system of the HIT, Form A, would be correlated significantly with four indices of hostility was only partially verified. Of the four indices, the rating of the interview material obtained from the Ss was the only one that supported the hypothesis. The results with the Interview are highly satisfactory. If we assume that the Interview is a valid method for obtaining measures of Ss' hostility, then it appears that the HIT can measure it also. That these results appear to confirm the conclusions of Elizur (1949) and Walker (1951) as to the value of the interview is gratifying. There are then three studies that indicate that the interview and a group of inkblots when both are independently scored for hostility can

agree. There is no certainty about what this means, but at this point there appears to be a relationship between these two measures.

The relationship between the Hostility questions in the Questionnaire versus the HIT scores failed to reach significance although the r was in the hypothesized direction. Thus, it failed to support the hypothesis. The other sub-divisions on the Questionnaire, Submissiveness, Ideas of Reference, and Aloofness, also failed to support the hypothesis.

The negative relationship between the HIT and the Self-rating Scale (Er) did not attain significance. Thus the findings with the Self-rating Scale (Er) failed to support the hypothesis. The negative relationship was not expected, since Elizur had obtained a positive relationship.

Although the r 's obtained between the HIT and the Peer-rating Scale and the Self-rating (pr) were in the hypothesized direction, they failed to attain significance. Consequently, the results obtained using the Peer-rating Scale failed also to support the hypothesis. Since Barger and Sechrest, as reported by Holtzman, et al., (1961), failed, too, to find any relationship between inkblot scores and peer-ratings, the results of the present study appear to be a confirmation of their findings.

When the intercorrelations between the sub-divisions

of the Questionnaire are examined, it appears that the Questionnaire was only fairly consistent in its measurements of the other dimensions of hostility that Elizur in his hypothesis claimed were related. The present study can report a strong relationship between Aloofness and Hostility on the Questionnaire. This would appear to be a verification of Elizur's hypothesis; at least the questions appear to be measuring the same thing. The hypothesized relationship between Hostility and Submissiveness is only partially supported by the Questionnaire since one question was used for both of the sub-divisions. The relationship could have been demonstrated much more clearly if another question could have been used for either one, because when this question, that is common to them both, is eliminated there are only four items to use in computations.

The low and insignificant correlation between Hostility and Ideas of Reference on the Questionnaire would lead to the speculation that they are not related as Elizur hypothesized or that this sample does not use ideas of reference as a defense against their feelings of hostility. As far as this study is concerned, Elizur's hypothesis about the relationship between hostility and ideas of reference is not verified. However, since he did find a strong relationship between his hostility scores in the RCT and Ideas of Reference, it would

appear that the relationship is not really clear.

An examination of the intercorrelations between the major validating criteria (refer to Table VI) reveals that most of the relationships are insignificant. There are several, however, that yielded significant results. The relationship between the Interview ratings and the Self-rating (pr) suggests that the judgement of the Ss' hostility by the Es from the Interview ratings agreed significantly with each S's rating of herself. The negative relationship was in the expected direction since high scores on these two criteria indicate opposite traits. This would suggest that the Ss were able to actually give judgments about themselves that would agree with the judgments of others. The Interview failed to correlate significantly with any of the other validating criteria although the negative correlation between the Interview and the Self-rating Scale (Er) approaches significance at the .05 level. However, this relationship was not in the expected direction and satisfactory explanations have not been readily apparent.

The Questionnaire correlated significantly with the Self-rating (pr) in the expected direction. The negative relationship came about again because of the inverse scoring system of the Peer-rating Scale. This correlation is perhaps an indication that the Ss can be consistent about their

judgments of themselves on two entirely different types of measuring devices. Perhaps the previously mentioned relationship between the Interview and the Self-rating (pr) was no accident, but a fairly accurate measure of the Ss' rating of themselves. The Questionnaire failed to correlate significantly with the other major validating criteria.

The Peer-rating Scale also failed to correlate significantly with the other validating criteria. However, it did correlate significantly with the SCAT scores. As the SCAT scores went up, the Peer-rating scores went down (indicating a rating of hostility). It would appear that the more intelligent Ss tended to be more hostile. This is consistent with the results of the correlation between the HIT and the SCAT.

The correlation ratio, or Eta, did not reveal any deviation from linearity for any of the major validating criteria. Curvilinearity was demonstrated to exist between the HIT and the SCAT and the difference between the Eta and the r was found to be significant.

When the results of the present study are assessed, there are several comments that could be made. The first is about the Ss and their level of hostility as measured by the HIT and Interview. Although nothing was done to engender hostility in the Ss, it was expected that there would be more evidence of it than there was. In spite of the fact that the

data collection was made just prior to final examination week and the tension level in the Ss had risen perceptibly, their co-operation and lack of overt hostility toward the Es for having chosen this period for making demands on their time would lead to the speculation that perhaps the Ss as a group were not very hostile. If the HIT hostility scoring system is actually a measure of a S's hostility then the fact that the mean of the HIT for the present study is lower than that of the standardization group (refer to Table II, p. 45) might be further evidence that the Ss of the present study were not as hostile as another group of college students.

Whether the Ss were able to censor their projections of hostile responses to the HIT is a possibility that cannot be ignored. Murstein (1961) believes that there is a

strong volitional component on the part of the S with regard to the determination of the response he makes. One must not suppose, however, that S's awareness necessarily results in the prevention of the appearance of highly personal material. Rather, this awareness has the effect of more carefully filtering the material to be manifested so that it is consistent with S's self concept. . . .

Implicit in the foregoing has been the belief that S is capable of differentiating between responses which are favorable and unfavorable to his self concept . . . It is logical to presume that not all Ss are completely capable of sensing the import of their responses. Nevertheless, the average intelligent college student, who makes up a good deal of manpower employed in psychological research, can readily distinguish between the personality-revealing properties of an "azalea" and "an axe buried in the head of an old lady with blood oozing down the handle" (p. 119).

The possibility that the Ss in the present study censored their responses must be considered. Several Ss blushed very noticeably or made some vocal response indicative of surprise and hesitated before responding. Then the response would be bland and not worth a blush if it had truly been their first impression of the blot. This behavior occurred usually on blots that would appear to be particularly eductive of sexual or hostile responses. Many times the initial response was laughter. Was this a device for gaining time to find what was for them an acceptable answer? Sometimes the responses were amusing and sometimes not.

If self-concept plays a part in the kind of response that will be given to inkblots, then it would appear to be reasonable to assume that the responses to items on the validating criteria might be equally vulnerable to the demands of self-concept. For example, when the Self-rating Scale (Er) is examined, it is apparent that the items are so worded (see items 5, 8, and 10 in this scale in Appendix D) that a rating of hostility is openly asked for. Such items might be particularly vulnerable to the demands of self-concept.

Self-concept, if Murstein's idea be acceptable, then must have been a factor in Elizur's results also. Perhaps the answer to the widely differing results lies in the Ss

and the cultural backgrounds of the two samples.

When the differences between Elizur's study and this one are examined, there are two possible sociological factors, cultural background and age of the Ss, that need to be considered. Sociological differences have been known in the past to produce differences in self-concept and these two groups would appear to be so dissimilar that a difference in their group concept as well as self-concept would be expected.

First of all, a description of the racial and cultural backgrounds of the Ss used by Elizur very possibly would have revealed several racial and cultural differences that would not be present in many of the studies done in other parts of the United States. It seems reasonable to assume that in such a cosmopolitan university as Columbia in New York City that a few of the Ss may have come from other than the Caucasian race and thereby possessed differing cultural backgrounds. Perhaps foreign students were subjects. This heterogeneous group, if perhaps these speculations about the sample are approaching the truth, would have been aware of and very possibly had experienced first hand the discrimination and prejudice which minority groups frequently meet in this country. Acknowledging that discrimination is only one aspect of hostility, it is possible that the hostility level of these Ss may have been higher and, because hostility may have been

openly expressed toward them, they perhaps more readily expressed it in the several ways that Elizur's study provided. If these speculations about Elizur's sample are true, the self-concept of his Ss could be expected to be somewhat different from the Ss in the present study whose experience with discrimination and prejudice has for the most part been only academic.

By contrast, the Ss in this study all came from a small Midwestern college where the cultural backgrounds are fairly consistent. Generally the wealthier students from this area go to larger schools in the state and country, leaving the great body of students on this campus to come from the 'great middle class'. The Ss for the present study had grown up in this area where there is little or no opportunity to see first hand how racial discrimination and prejudice works. The hostility expressed in the interview by the Ss of this study was usually directed toward a parent or sibling, the house-mother of the dormitory in which they lived, or toward a present or past roommate who had been considered unpleasant to live with. These feelings generally were expressed in a conversational tone without the fervor or ardor that could be expected from someone with a great amount of hostility directed toward a particular idea, object, or person. Under these circumstances the self-concept of the Ss of the present

study may have been a friendly one. Murstein (1956) found those Ss whose self-concept was friendly projected less hostility on the inkblots. These speculations about the sociological differences may not account for the widely differing results that were obtained by these two studies, but the possibility of their exerting an influence needs to be considered.

The second factor, the age of the Ss, is intertwined with the time, or Zeitgeist, that existed at the time the data were collected. The fact that Elizur's study was reported in 1949 means that the work may have been completed a year or more earlier. The age of his Ss, 19 to 43 years, suggests that very probably some, if not all, of the 15 men may have been actively engaged in some manner of war activity. Very possibly the women also were involved in some manner in the war effort. What residual effects the war hatreds may have had cannot be known, but in retrospect it seems that open (verbal) hostility was more frequently met, then than now, among the young people.

Another comment about the sample of the present study concerns the Ss' lack of sophistication in psychological matters. As the Ss returned the Questionnaire, Self-rating Scale (Er), and Peer-rating Scale to the E, a very frequent comment was that there were questions in these papers that

they had never thought of before. There was no opportunity to question the Ss since there were always other Ss with the E when the papers were returned so it is not known just which questions had been considered the most unusual. Since these Ss were college students it cannot be assumed that they did not understand the questions, but perhaps, because they were unsophisticated in psychological matters, they tended to rate themselves lower than they might have had they known that all of the questions were about traits frequently found among people. This may have had a very direct bearing upon the insignificant results that were obtained by this study, but, unfortunately, at this point it can only be a conjecture.

Since the geographic area in which the present study was made is not a crowded one, there does not appear to be the tension in individuals that seems to be aroused from having to 'push' or be aggressive in order to be noticed. Simply getting the attention of a sales clerk in a metropolitan department store requires more aggressive behavior than is usually exhibited in most small Midwestern cities or towns. Perhaps this also has affected the self-concept of the Ss and had an effect upon the results of the present study.

The highly significant results that were obtained between the HIT and the SCAT are not a confirmation of any

part of the hypothesis, but perhaps a significant contribution, nevertheless. The high correlation obtained here seems to suggest that the more intelligent Ss are the most hostile, an interpretation supported by the SCAT versus Peer-rating correlation. However, an alternative possibility is that the more intelligent Ss by giving fewer rejections, and more imaginative and elaborate responses could not avoid receiving a higher hostility score. Superior verbal ability, more creative imagination, and generally more curiosity about the blots was evidenced by those Ss who were above the mean in SCAT scores than those who were below.

Several comments may be made about the insignificant results that were obtained between the HIT hostility scoring system and the validating criteria used in the present study to operationally define hostility. Despite the strong relationship that was demonstrated to exist between the HIT hostility scoring system and the Interview (which suggests that perhaps they were measuring the same dimension of hostility), there does not appear yet to be one definitive technique for measuring the amount of hostility possessed by an individual. Consequently, the largely inconclusive results obtained by this study leads to several speculations. The first, of course, is the possibility that the HIT hostility scoring system does not, in fact, measure individual hostility.

Secondly, the criteria might have been inadequate measures of hostility or measuring other dimensions of hostility that the HIT does not measure. Yet another possibility is that the restrictions of age and sex placed upon the sample may have affected the final results by narrowing the range of hostility obtained from the Ss. The socioeconomic factors that may have affected the results were discussed. It is possible also that the population from which the sample was taken is more homogeneous with regard to hostility. This was discussed.

At this point several suggestions would appear to be pertinent. Because such a strong relationship was demonstrated to exist between the hostility scoring system and intelligence, it would appear to be necessary to either consider revising the scoring system or in some manner make adjustments for IQ in the final scoring system. This suggestion is based on the assumption, of course, that hostility and intelligence are not truly correlated.

As a suggestion for further research, it might prove worthwhile to determine if the HIT hostility scoring system and the SCAT would correlate as highly in another population. However, it might be more valuable to use other measures of IQ, such as the Stanford-Binet or WAIS to determine if similar results can be obtained.

Since the HIT is still a new instrument without the wealth of experience and material that the Rorschach has gained over the years, any experimental study that would add to the knowledge of its strengths and weaknesses would enhance its usefulness. At times when the HIT was being administered, it seemed to be about 10 to 15 blots too long. Some of the blots seemed to be particularly eductive of idiosyncratic responses, while others brought out "butterfly" time after time. Perhaps several studies will demonstrate which blots have proved to be the most valuable from a diagnostic viewpoint.

Summary. This study was an attempt to duplicate a study made by Elizur (1949) but using the Holtzman Inkblot Technique as the projective test. Three of his criteria, Questionnaire, Self-rating Scale and Interview questions, were used in toto by this study. The Peer-rating Scale was specially constructed for this investigation. The subjects were thirty female college students with a mean age of 18.8 years, who were students at Fort Hays Kansas State College.

The hypothesis was that these instruments would be significantly and positively correlated with the HIT hostility scoring system. While there were trends in the hypothesized direction on the Questionnaire and the Peer-rating Scale, the

Interview was the only measure that clearly supported the hypothesis. These results appear to confirm the results of previous studies where the interview was highly correlated with measures of hostility on the Rorschach. The lack of significant results with the Questionnaire and the Peer-rating Scale appears to confirm findings of other studies, where little or no relationship was found to exist between peer-ratings and inkblots.

The SCAT scores of the Ss were available and a strong relationship was found to exist between SCAT scores and both the HIT hostility scoring system and Peer hostility ratings. The possibility of some modifications in the scoring system to correct for IQ was discussed.

Differences that may exist between Elizur's sample and this one were discussed since a sociological difference may possibly account for the divergent results that were obtained by these two studies of hostility.

Suggestions for further research were discussed very briefly.

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APPENDICES

APPENDIX A

APPENDIX A

THE CENTRAL QUESTIONS IN THE INTERVIEW

1. Now suppose we talk about a few aspects of your personality. First, would you describe yourself as a person who would rather be with people or as a person who likes to be alone? In this case, as in any subsequent case, you may wish to describe yourself differently than by direct answers to my questions.
2. How would you describe yourself as a child?
3. In what way do you usually react to people: Are you more of an aggressive and outgoing type of a person or do you usually prefer to comply with other people's wishes? Again, illustrate by examples.
4. What were you like as a child?
5. As a child, did you try to get security through reliance and dependency upon your parents or other adults, or were you struggling for independence?
6. How do you feel now with reference to being dependent or independent?
7. Did you have a happy childhood or were you bothered by special fears, worries, and feelings of inferiority?
8. What are the things that bother you most and cause you to feel inferior now? Are there special things you are afraid of or worry about?
9. Children feel strong resentment, sometimes, against their parents, other adults, or their brothers and sisters and friends. How did you feel in this respect?
10. Describe your feelings of resentment in your actual relationships now.
11. What are other special problems you may wish to talk about?

APPENDIX B

APPENDIX B

INSTRUCTIONS FOR THE QUESTIONNAIRE

On this form you are asked to compare your behavior and emotional reactions with those of other college people of your own sex and age. To do this, think of the college people as ranging from 1 to 9, 1 being the lowest and 9 being the highest. The other numbers between these points are intermediate positions.

Read each statement carefully and circle the proper number, according to whether you consider the statement to be less true and appropriate for you (numbers 1 to 4) or more true and appropriate for you than for the average (numbers 6 to 9). Number 5 represents the average. Do not hesitate to use the extremes of the scale. Do not omit any item.

- | | | | | |
|--|-----------|---------|-----------|--|
| 1. Often things go wrong for me by no fault of my own. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 2. I feel lonely and homesick when I am in a strange place. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 3. I often avoid open competition because I fear that I may appear in a bad light. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 4. I am somewhat afraid of the dark. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 5. I usually keep myself somewhat aloof and inaccessible. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 6. I avoid very close intimacies with other people. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |
| 7. I am very discriminating in my choice of friends. | less true | average | more true | |
| | 1 2 3 | 4 5 6 | 7 8 9 | |

- | | | | | |
|-----|--|-----------|---------|-----------|
| 8. | I think of myself some-
times as neglected and
unloved. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 9. | I am easily moved to
tears. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 10. | I am troubled with the
idea that people are
watching me on the street. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 11. | I am rather dependent
upon the presence and
judgment of my friends. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 12. | I am more apt to give in
than to continue a fight. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 13. | My friends think that I
am too humble. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 14. | When something goes wrong
I am more apt to blame
myself than to blame the
other fellow. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 15. | I feel lost and helpless
when I am left by someone
I love. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 16. | I was considered a
"goodygoody" as a child. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 17. | I worry a lot about my
ability to succeed. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 18. | I often seclude myself so
that every Tom, Dick and
Harry cannot bother me. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |

- | | | | | |
|-----|--|-----------|---------|-----------|
| 19. | I think that most people seek their own selfish interests in life and have little regard for the welfare of their fellows. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 20. | I am often in low spirits. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 21. | I am nervous and apprehensive before taking an important examination or test. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 22. | I frequently feel blue and depressed. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 23. | I am afraid of physical pain. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 24. | I often express my resentment against a person by having nothing more to do with him. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 25. | I often cross the street to avoid meeting someone I know. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 26. | Sometimes I fear that I may be injured in an accident. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 27. | I often shrink from a situation because of my sensitiveness to criticism and ridicule. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 28. | I often feel self conscious because of my personal appearance. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |

- | | | | | |
|-----|---|-----------|---------|-----------|
| 29. | I believe that people are mostly motivated by envious and hostile impulses. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 30. | People regard me as very good natured. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 31. | I experience many unpleasant moods. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 32. | I think my friends talk sarcastically about me behind my back. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 33. | Other people frequently express my ideas and opinions as if they were original with them. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 34. | I fear certain things, such as lightning, high places, rough water, horseback riding, airplane riding, etc. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 35. | I like sympathy when I am sick or depressed. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 36. | I enjoy the comforting realization that I know one or two older people whose wisdom and sympathy I can rely upon. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 37. | I am intolerant to people who bore me. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 38. | I sometimes suspect that people on the street are laughing at me. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |

- | | | | | |
|-----|--|-----------|---------|-----------|
| 39. | I usually ignore, rather than attack, an opponent. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 40. | I am often regarded as queer. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 41. | I often feel sorry for the things I do. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 42. | I sometimes worry about losing my friends. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 43. | I prefer to have some friend with me when I receive bad news. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 44. | I want sympathy, affection, and understanding more than anything else. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 45. | I hesitate to put my abilities to the test, because I dread the humiliation of failure. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 46. | I feel nervous and anxious in the presence of superiors. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 47. | I avoid passing through certain districts at night on account of vague fears of assault. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 48. | I usually tell my friends about my difficulties and misfortunes. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 49. | I am indifferent to the petty interests of the people I meet. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |

- | | | | | |
|-----|---|-----------|---------|-----------|
| 50. | I am apt to rely upon the judgment of some member of my family. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 51. | I am sometimes nervous for fear that my personal appearance will make people look down on me. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 52. | I am rather submissive and apologetic when I have <u>done</u> wrong. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 53. | I suspect now and then that my friends deliberately avoid including me in their plans. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |
| 54. | I maintain a dignified reserve when I meet strangers. | less true | average | more true |
| | | 1 2 3 | 4 5 6 | 7 8 9 |

APPENDIX C

APPENDIX C

INSTRUCTIONS FOR THE SELF RATING SHEET AS PUBLISHED BY ELIZUR (1949, p. 253)

Most people experience, at one time or another, feelings and wishes which they have to keep in check. People differ as to the intensity and frequency with which they experience the need to control their impulses. For some people such control is felt, if at all, to be a very easy task; for others it might constitute a serious hardship. Again, some people feel the need for such control very rarely; others experience it rather often.

In the following are listed some areas in which control is called for. In each case compare yourself with your friends and indicate by a number from 1 to 9 (a) how easy or difficult you feel this task is for you; (b) how often or rarely you experience the necessity of controlling yourself in that area. Number 1a represents the category of easiest and 1b, the rarest felt cases, while number 9a represents the category of hardest and 9b, the most frequently felt cases and 5a and b represent the average. The other numbers for both a and b represent intermediate positions. Before answering each item think of some of your actual experiences during the last few months. Do not hesitate to use the extreme numbers of the scale. Do not omit any items.

APPENDIX D

APPENDIX D

INSTRUCTIONS FOR SELF-RATING SCALE

Most people experience, at one time or another, feelings and wishes which they have to keep in check. People differ as to how much and how often they experience the need to control their feelings. For some people such control is felt, if at all, to be a very easy task; for others it may be very difficult. Again, some people feel the need for such control very rarely; others experience it rather often.

In the following are listed some areas in which control is called for. In each case compare yourself with your friends and circle a number from 1 to 9 to indicate (a) how easy or difficult you feel this task is for you; (b) how often or rarely you experience the necessity of controlling yourself in that area. Number 1 represents the category of easiest and rarest felt cases, while number 9 represents the category of most difficult and most frequently felt cases. Number 5 represents the average. The other numbers represent intermediate positions. Before answering each item, think of some of your actual experiences during the last few months. Do not hesitate to use the extreme numbers of the scale. Do not omit any item.

- | | | | |
|---|---------------|------------------|--------------------|
| 1. Control of sentiments of fear. | easy
1 2 3 | average
4 5 6 | difficult
7 8 9 |
| | rare
1 2 3 | average
4 5 6 | frequent
7 8 9 |
| 2. Control of the wish to be dependent or to be cared for. | easy
1 2 3 | average
4 5 6 | difficult
7 8 9 |
| | rare
1 2 3 | average
4 5 6 | frequent
7 8 9 |
| 3. Control of the tendency to succumb instead of asserting oneself. | easy
1 2 3 | average
4 5 6 | difficult
7 8 9 |
| | rare
1 2 3 | average
4 5 6 | frequent
7 8 9 |

4. Control of tendency to worry.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
5. Control of hostile or aggressive feelings against members of the family.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
6. Control of general shyness.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
7. Control of depressive moods.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
8. Control of hostile or aggressive feelings against strangers or people of minority groups (Negroes, Jews, etc.).	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
9. Control of sexual shyness.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
10. Control of hostile or aggressive feelings against friends.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9
11. Control of feelings of inferiority.	easy	average	difficult
	1 2 3	4 5 6	7 8 9
	rare	average	frequent
	1 2 3	4 5 6	7 8 9

APPENDIX E

APPENDIX E

INSTRUCTIONS FOR THE PEER GROUP RATINGS

As is true of all the data collected in this study, the rating information is for the purpose of this research only and your ratings will not in any way affect you or the rated students. The ratings will be available only to the research people involved in this study.

The students participating in this study are listed on the form. Here you are asked to rate each student with regard to first, nervousness and then friendliness. To do this, think of the characteristic you are rating as ranging from one to nine, one representing the lowest or least amount of the characteristic and nine being the highest or largest amount of the characteristic. The other numbers between these points are intermediate positions. Five is average. Circle the number according to whether you consider the student to be less nervous or friendly than the average (numbers 1 to 4) or more nervous or friendly than the average (numbers 6 to 9). Number 5 represents the average for both nervousness and friendliness. Do not hesitate to use the extremes of the scale. The information on the form under the heading, Guide to Raters, is based on a theoretical distribution of the percentage of people who would fall in each of the nine categories. The Guide is included as a reminder that many people are in the average range (4, 5, or 6) but that some fall near the extremes (1 or 2 and 8 or 9). Do not omit any student, even though you feel you do not know her very well.

To aid you in your decisions, nervous people are often characterized by one or more of the following: fears, lacking in self confidence, extreme shyness, and worries.

Friendly people are often characterized by one or more of the following: cordiality, warmth, and pleasantness.

Guide to Raters

Percent of the population falling into each of the nine steps.

Percentage								
2	6	12	18	22	18	12	6	3
Steps								
1	2	3	4	5	6	7	8	9

NAME

1.

<u>not nervous</u>			<u>average</u>			<u>nervous</u>		
1	2	3	4	5	6	7	8	9
<u>not friendly</u>			<u>average</u>			<u>friendly</u>		
1	2	3	4	5	6	7	8	9