

A COMPARISON OF WRITTEN AND ORAL RESPONSES  
TO A PROJECTIVE-PICTURE TEST

By

LAVERN PINE

Bachelor of Science

Northeastern State College

Tahlequah, Oklahoma

1953

Submitted to the faculty of the Graduate School of  
the Oklahoma Agricultural and Mechanical College  
in partial fulfillment of the requirements  
for the degree of  
MASTER OF SCIENCE  
August, 1956

OKLAHOMA  
AGRICULTURAL & MECHANICAL COLLEGE  
LIBRARY

JAN 2 1957

A COMPARISON OF WRITTEN AND ORAL RESPONSES  
TO A PROJECTIVE-PICTURE TEST

Thesis Approved:

*Henry D. Schaloch*  
\_\_\_\_\_  
Thesis Adviser

*Virginia Messenger Stapley*  
\_\_\_\_\_

*Josephine Hoffer*  
\_\_\_\_\_

\_\_\_\_\_  
*Robert MacKean*  
\_\_\_\_\_  
Dean of the Graduate School

369958

## ACKNOWLEDGEMENT

I wish to express my appreciation and gratitude to Dr. Henry Del Schalock for his valuable guidance and assistance throughout this study.

I would also like to express appreciation to Dr. James Walters and Mr. Owen Morgan for their contribution as co-raters in the demonstration of rater reliability and for their critical reading of the manuscript; to Mrs. Josephine Hoffer for her reading of the manuscript and support throughout the study; and to Mrs. Louise Thomas who spent many tiresome hours preparing typescripts from the tape recordings.

Special thanks go to my husband, Charles, who was a constant source of encouragement, and who provided much assistance in the analysis of the data.

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION . . . . .	1
Purpose of the Study . . . . .	1
Background of the Study . . . . .	1
Review of Literature . . . . .	3
II. PROCEDURE . . . . .	6
Subjects . . . . .	6
Design of Experiment . . . . .	6
Administration . . . . .	8
Individual Oral . . . . .	8
Individual Written . . . . .	10
Group Written . . . . .	10
Marital Happiness Ratings . . . . .	11
Scoring of Protocols . . . . .	11
Rationale for this Scoring Procedure . . . . .	12
Rater Reliability . . . . .	13
III. RESULTS . . . . .	17
IV. DISCUSSION . . . . .	24
V. SUMMARY AND CONCLUSIONS . . . . .	28
Summary . . . . .	28
Conclusions . . . . .	30
REFERENCES . . . . .	31
APPENDICES . . . . .	32

## LIST OF TABLES

Table	Page
I. Design of Experiment: Assignment of Subjects to Experimental Groups . . . . .	7
II. Per cents of Agreement Between Scorers A, B, C, and D in Identifying "Thought Units" . . . . .	15
III. Per cents of Agreement Between Raters in Labeling Thought Units Expressing Satisfaction, Dissatisfaction and Neutrality . . . . .	16
IV. Significance of the Difference Between the Proportions of Satisfaction and Dissatisfaction Units to Total Units for the Three Administrative Procedures . . . . .	18
V. Significance of the Differences between the Mean Frequencies of a) Satisfaction, b) Dissatisfaction, c) Satisfaction and Dissatisfaction, d) Neutral and e) Total Units for Individual Oral and Individual Written Administrations .	19
VI. Significance of the Differences between the Mean Frequencies of a) Satisfaction, b) Dissatisfaction, c) Satisfaction and Dissatisfaction, d) Neutral and e) Total Units for Individual Oral and Group Written Administrations . . . .	20
VII. Significance of the Differences between the Mean Frequencies of a) Satisfaction, b) Dissatisfaction, c) Satisfaction and Dissatisfaction, d) Neutral and e) Total Units for Individual Written and Group Written Administrations . .	21
VIII. Correlation Between Marital Happiness Ratings and Satisfaction Units Expressed in Individual Oral, Individual Written and Group Written Administrations . . . . .	22

## CHAPTER I

### INTRODUCTION

#### Purpose of the Study

The purpose of this study was to determine the most effective and at the same time the most economical means of administering a projective-picture test that has been designed to elicit information pertaining to the relationship that exists between a husband and wife in a marriage. Three administrative procedures were compared: 1) having the subjects respond to the pictures orally while alone with the tester, 2) having the subjects write their response to the pictures while alone with the tester, and 3) having the subjects write their response to the pictures while with a group.

#### Background of the Study

As part of a study dealing with the relationship between interparental attitudes and the personality development of children, Schalock and Morgan (8) have devised a projective-picture test, the purpose of which is to assess the intramarital relationship.<sup>1</sup> Before attempting to establish

---

<sup>1</sup>Throughout this study this test will be referred to as the M.I.T., the Marriage Interaction Test.

the validity of this test it was deemed desirable, from the point of view of economy, to determine the simplest means of administering the test without impairing its usability. The present study was designed to answer this question.

Traditionally, the administration of projective instruments such as the M.I.T. has been on an individual oral basis. In order that the responses from this type of administration be usable for research purposes, they had to be recorded. Methods of recording have varied considerably, but perhaps the most desirable from a research point of view has been the verbatim recordings afforded by the use of tape or wire recorders. The use of such a procedure, however, introduces the problem of economy because the responses must then be typed from the tape so that the researcher may have the responses in a form that can be worked with indefinitely and in any number of ways. Such a procedure is expensive, and therefore generally prohibitive to studies requiring large numbers of cases or repeated testing of fewer individuals. What is needed in research work with projective instruments is a method of test administration that will "streamline" the process of data collection, without seriously impairing the test's usability, and thereby enable the collection of greatly needed data at a less prohibitive cost (6).

One approach to "streamlining" the collection of data with a test such as the M.I.T. is the use of written instead of oral responses, thereby doing away with the cost of typing the responses from the tape. A further saving would be

possible if it were found that group administration with written responses provided information similar to that obtained with either individual written or individual oral administration.

The study reported here addressed itself to the problem of determining the extent to which individual written and group written responses to the M.I.T. would be similar to those secured by individual oral administration. Also under consideration was the problem of whether one type of administration was markedly superior to the other. If either the individual written or group written administration of the test provided as much and as adequate information about the marital relationship as was obtained through the oral administration, certain practical benefits would result as the test could be used much more widely and in settings where it would be impractical otherwise. It would not only mean that researchers could use the M.I.T. more extensively in problems relative to marital satisfaction and dissatisfaction, but that they also could investigate the test itself more economically.

#### Review of Literature

There is some evidence in the literature that written responses to unstructured stimuli may provide as much information as oral responses. In a study comparing individual and group administrations of the Thematic Apperception Test, Eron and Ritter (5) found that in general there was marked similarity between the stories obtained with the two



procedures for administering the test; in fact, the actual thematic material elicited by the two approaches was almost identical. The results of a similar investigation by Lindzey and Heinemann (6) suggest the equality or even slight superiority of the group administration of the Thematic Apperception Test over the oral, individually administered test. They attributed this superiority to certain qualities associated in the group atmosphere. First of all, there is the much less important role that is played by the examiner in the group. Also it is possible that there are social facilitation effects that operate in the group situation to increase the story telling motivation of the subjects. In the same line of thought, Clark (2) has suggested that in some situations the group projective method would probably have definite advantages over the individual method of administration.

Also relevant to the problem are the results of a study by Metzner and Mann (7) who found that self-administered questionnaires elicited responses to most questions that were similar to those obtained with open-end interviews.

There is evidence, however, that suggests the advantage of the oral administration over the written administration. Terry (9) compared differences in level of response to oral and written administrations of the Thematic Apperception Test, and found that written stories showed a significantly lower average level of response than did the oral stories. She suggested that this might indicate that subjects who were writing their responses became less involved in the test and

thus produced less personal material.

All of the studies mentioned above involve the Thematic Apperception Test. While the M.I.T. utilizes some of the same principles as this test, generalizations cannot be made on the basis of one to the other. It was necessary, therefore, to demonstrate the similarities and differences found in written and oral administrations of the M.I.T.

## CHAPTER II

### PROCEDURE

#### Subjects

Thirty-five subjects were used in the investigation. Thirty-one of these subjects were majors in the School of Home Economics, Oklahoma Agricultural and Mechanical College. Four were married women who had recently attended college but were no longer enrolled. Most of these persons were undergraduates, but a few were enrolled in the Graduate School.

The criteria for the selection of the subjects were as follows:

1. White
2. Female
3. Married (marriage intact)
4. College training.

No attempt was made to control in this sample such variables as age, socio-economic status, length of time married, number of children, or age of children.

#### Design of Experiment

The twelve stimulus pictures making up the M.I.T. were divided at random into three groups, four pictures to each group.<sup>1</sup>

---

<sup>1</sup>The twelve pictures included in the M.I.T. appear in Appendix A, p. 33.

Each subject responded to four pictures orally, four pictures individually with a written response and four with a written response under group conditions. This procedure enabled the control of variance errors due to individual differences in language facility, motivation, and the like, as each person acted as his own control for each of the three administrative procedures. To reduce errors resulting from the presentation of the pictures in any particular administrative order the subjects were divided into three groups, and the three groups of pictures were administered in rotating order. Group I took the individual oral administration first, followed by the individual written and the group written administrations. The subjects in group II took the individual written administration first, followed by the group written and the individual oral administrations. The subjects in group III took the group written administration first, followed by the individual oral and the individual written administrations. The design of this experiment is reproduced in Table I.

TABLE I

DESIGN OF EXPERIMENT: ASSIGNMENT OF SUBJECTS  
TO EXPERIMENTAL GROUPS

ADMINISTRATION			
	Pictures 1-4	Pictures 5-8	Pictures 9-12
Group I	Indiv. Oral	Indiv. Written	Group Written
Group II	Indiv. Written	Group Written	Indiv. Oral
Group III	Group Written	Indiv. Oral	Indiv. Written

After each subject had completed all of the experimental procedures, she was asked to rate the happiness of her marriage on a nine-point scale.<sup>1</sup> The happiness ratings were used as a rough criterion measure against which the data in the protocols could be tentatively validated, i.e., the content of the protocols relating to marital happiness elicited by each of the administrative procedures was correlated with the marital happiness ratings. These correlations were taken as evidence of the adequacy of the administrative procedure, the higher the correlation coefficient the more valid the data.

#### Administration

The subjects were first contacted by means of a letter that carried the signature of the Dean of the Division of Home Economics.<sup>2</sup> In this letter they were asked to come to the Research Center and talk with the writer further about the study. During this interview the subjects were given some printed information describing the study,<sup>3</sup> and a chance to ask any questions they wished. Those who were interested in participating in the project were assigned a time and place for the administration of the test.

Each of the administration procedures is described below:

Individual Oral: Each subject, during the administration of

<sup>1</sup>The scale for rating marital happiness appears in Appendix B, p. 39.

<sup>2</sup>A copy of this letter appears in Appendix C, p. 40.

<sup>3</sup>This information appears in Appendix D, p. 41.

the individual oral examination was alone with the tester. The subjects were made aware of the fact that their responses were to be tape recorded. While looking at the first picture, they were given the following instructions:

I am going to show you some pictures. In these pictures you will see two stick figures. These figures represent a husband and wife in situations that appear frequently in married life. It is up to you to decide which figure will represent the husband and which figure will represent the wife.

I am going to show you these pictures one at a time, and your task will be to make up a story for each. Tell what has led up to the event shown in the picture, describe what is happening at the moment, what the husband and wife are thinking and feeling, and then give the outcome. Speak your thoughts as they come to your mind. To help you remember these instructions, the words printed on this card (at this time a card was presented that had the words BEFORE, NOW, THINK AND FEEL, OUTCOME printed on it) will serve as guides in making up your story. Do you understand? Here is the first picture.

These instructions were supplemented by the use of "probing" techniques to elicit additional information from the subjects when further information was necessary, and to clarify or make more specific information which the respondent had already given (1). These techniques consisted of such phrases as "Would you tell me some more about that?" "I see, you mean . . ." and then the interviewer summarized what the subject had said. The effect of such probing was simply to increase the intensity or "response getting" power of the stimulus without changing its content or structure.

After the subject had responded to the first card, the instructions pertaining to the points to be included in the story were presented again. The responses were taped with

the awareness of the subject. No limit was set upon the time the subject had to respond to any particular picture. Individual Written: Each subject, during the administration of the individual written examination, was alone with the tester. The subjects were given the same instructions as to what to do with the pictures as they were given in the case of the individual oral administration, except instead of being asked to speak their thoughts, they were asked to write them. The following sentence was also added: "You have five minutes to write your story about each picture." Probing techniques were not used in this administrative procedure.

The instructions given at the beginning of the test pertaining to the points to be included in the stories were repeated to the subject after he had completed his response to the first picture. Only five minutes were allowed to write the response to any one picture (6). One minute before the end of the time limit for any one story, the subjects were warned to bring their stories to a close.

Group Written: For purposes of this administration the subjects came together as a group to take the test. The stimulus pictures were presented to the group by means of a lantern-slide projector. Each picture was shown for the entire five minutes of time allowed for writing the response to it. While showing the group the first picture, the same instructions were given as to what to include in their responses as were given to the subjects taking the test under individual oral and individual written conditions. These

directions were repeated after the group had completed their response to the first picture. One minute before the end of the time limit for each story the subjects were warned to bring their stories to a close.

Marital Happiness Ratings: After each subject had responded to all twelve cards, she was asked to rate her own marital happiness. It was pointed out to each subject that she did not have to give the rating if she did not wish to, but that the rating would be treated with confidence and that an important part of the study did depend upon obtaining an accurate rating of the marital happiness of most of the subjects. All subjects cooperated by providing a marital happiness rating.

#### Scoring of Protocols

The responses to the M.I.T. were coded in terms of a classificatory system that was a modification of Dollard and Mowrer's discomfort-relief quotient (3). Each "thought unit" within a protocol was scored in terms of its evidencing satisfaction, dissatisfaction or neutrality. Thought units were labeled as evidencing satisfaction if they were characterized by feeling qualities of happiness, reward, pleasantness, pleasurable, relaxation, comfort, or any other evidence of a reduction of unpleasant tension or of the presence of or increase in pleasurable tension. Thought units were labeled as evidencing dissatisfaction if they were characterized by feeling qualities of unhappiness, unpleasantness, pain, suffering, want, discomfort or any other



evidence of unpleasant tension. Thought units were labeled as evidencing neutrality if neither of the feeling qualities of satisfaction or dissatisfaction were not expressed or if they were expressed in approximately equal amounts.

Rationale for this Scoring Procedure: Since the study centered around marital satisfaction and dissatisfaction, it may seem that the procedure used in scoring the protocols should have focused on only those thought units that stated behaviors or feelings explicitly related to the marital relationship.

There are several difficulties inherent in such an approach.

- 1) The problems involved in identifying or delineating these thought units from those that involve, for instance, family relationships are great.
- 2) The fact that statements that appear to be totally unrelated to the marital relationship may in reality reflect very poignantly the marital relationship increases the difficulty of deciding what units to score.
- 3) If criteria as rigid as "...considering for marital satisfaction-dissatisfaction classification only those units that involve explicitly specified husband-wife interaction" are to be used, the number of units that are classifiable are exceedingly few. On a superficial check, the satisfaction-dissatisfaction ratio derived by this method of analysis varied considerably from the ratio derived by use of the procedure that rated every thought unit for evidence of simple satisfaction or dissatisfaction expressed in terms of tension and tension reduction.

With these difficulties in mind that accompany a scoring

system focused on marital satisfaction-dissatisfaction per se, it was proposed that the analysis of the protocols be made simply in terms of satisfaction and dissatisfaction defined primarily in terms of tension and tension reduction. There seemed to be some justification of a positive nature for this procedure: Firstly, it is reasonable to assume that there is a rather high correlation between the over-all satisfaction-dissatisfaction state of a married person and his or her state of marital satisfaction-dissatisfaction. Thus, by scoring each unit for satisfaction-dissatisfaction one may, in reality, not have arrived at too erroneous an index of marital satisfaction-dissatisfaction. Secondly, since the pictures and the instructions accompanying the pictures were structured in such a way as to focus the respondents attention on marital interaction, it is doubtful whether enough respondents talked enough about factors that apparently did not relate to the marital relationship to contaminate appreciably the results. Thirdly, by scoring every unit for satisfaction, dissatisfaction, or neutrality, all the data available was used, i.e., it was not necessary to label some units as "not pertinent."

Rater Reliability: Rater reliability was demonstrated for the identification of thought units per se, and for the coding of these units, i.e., labeling each unit in terms of its expression of satisfaction, dissatisfaction or neutral qualities. Although Dollard and Mowrer (3) were able to demonstrate adequate rater reliability in the coding of thought

units without first establishing reliability on the identification of the thought units per se, it was decided that for this study methodologically it would be more desirable to demonstrate the raters' ability to first identify thought units before they attempted to establish reliability for the coding of these units. Reliability measures were obtained on sample protocols prior to the coding of protocols that were used as a source of data for the study.

Three specialists in the area of family relations and child development worked with the writer in establishing reliability. Special training sessions were held to familiarize all raters equally with the directions<sup>1</sup> for identifying the thought units and for coding these units in terms of satisfaction, dissatisfaction, or neutrality.

After several training sessions using sample protocols as a basis for practice and discussion, the raters each coded ten new sample protocols independently for identification of thought units and the labeling of these units. Scores were then compared in terms of the per cent of agreement between each of the raters, this percentage being found by the formula

$$\text{per cent of agreement} = \frac{\text{number of agreements}}{\text{number of agreements} + \text{disagreements}} \times 100$$

The protocols were analyzed to determine the consistency with which the raters agreed on the identification of

---

<sup>1</sup>A statement of the essential directions that were used in the identification of thought units and the coding of these units appears in Appendix E, p. 42.

thought units. If two raters differed on the identification of a thought unit, it was treated as a disagreement for both raters, but was corrected by these raters before they proceeded with the coding of the units for satisfaction, dissatisfaction, or neutrality.

The reliability data for identifying "thought units" is presented in Table II.

TABLE II  
PER CENTS OF AGREEMENT BETWEEN SCORERS A, B, C, AND D  
IN IDENTIFYING "THOUGHT UNITS"

A and B	A and C	A and D	B and C	B and D	C and D	Average
95%	94%	96%	92%	94%	92%	94%

As evidenced in Table II, each of the four coders were approximately equally competent in identifying thought units, the average per cent of agreement being 94. This percentage of agreement between independent coders was taken as evidence of the ability of several independent raters to identify thought units accurately, and thereby to enable the writer to identify these units independently.

After reaching an agreement on the identification of the thought units on which the raters initially evidenced disagreement, the raters then proceeded with the coding of the units for satisfaction, dissatisfaction, or neutrality. If two raters differed on the coding of a unit, it was treated as a disagreement between these two raters. Scores

were then compared in terms of the per cent of agreement between each of the raters. The reliability data for the coding of each thought unit as expressing satisfaction, dissatisfaction, or neutrality appears in Table III.

TABLE III

PER CENTS OF AGREEMENT BETWEEN RATERS IN LABELING THOUGHT UNITS EXPRESSING SATISFACTION, DISSATISFACTION, AND NEUTRALITY

A and B	A and C	A and D	B and C	B and D	C and D	Average
86%	90%	86%	82%	89%	88%	87%

As evidenced in Table III, the average per cent of agreement between raters for the coding of thought units in terms of satisfaction, dissatisfaction, or neutrality was 87, with no single coder being particularly unreliable. These data were taken as evidence of the ability of several independent raters to label thought units accurately, and thereby to enable the writer to label these units independently.

## CHAPTER III

### RESULTS

The purpose of this study was to determine the most effective means of administering a projective-picture test designed to elicit information pertaining to the relationship that exists between a husband and a wife in a marriage. The primary analysis used in determining the relative effectiveness of the three administrative procedures involved a comparison of the ratio

$$\frac{\text{satisfaction units} \neq \text{dissatisfaction units}}{\text{satisfaction} \neq \text{dissatisfaction} \neq \text{neutral units}}$$

for each of the three administrative procedures. The use of a ratio such as this eliminated the problem of varying lengths of the protocols in ascertaining which procedure provided the most relevant information (satisfaction and dissatisfaction units) in relation to the over-all economy of the procedure.

The significance of the differences between the ratios were computed with the following formula:

$$\sigma_{p_1 - p_2} = \sqrt{\frac{d \neq a}{n^2}}$$

This formula may be found in Edwards (4, p. 88).

The ratios for the three administrative procedures are compared in Table IV. It will be noted that the ratio for the group written procedure was significantly greater than the

TABLE IV

SIGNIFICANCE OF THE DIFFERENCE BETWEEN THE PROPORTIONS  
OF SATISFACTION AND DISSATISFACTION UNITS TO TOTAL  
UNITS FOR THE THREE ADMINISTRATIVE PROCEDURES

Proportion	t-value	Level of significance
Individual oral (.416)	1.37	-----
Individual written (.434)		
Individual oral (.416)	6.714	.001
Group Written (.510)		
Individual written (.434)	5.507	.001
Group written (.510)		

ratios for the individual oral or the individual written administrations. The significance of the difference between the ratios for the individual oral and the individual written administration was not significant. These results point to the superiority of the group written procedure in eliciting content that may be labeled as evidencing either satisfaction or dissatisfaction in relation to the total content expressed.

A further analysis used in determining the relative effectiveness of the three administrative procedures involved a comparison of the frequencies of the satisfaction, dissatisfaction, neutral, and total units elicited by each of the three administrative procedures. The data relevant to this analysis appears in Tables V, VI and VII. The formula used in computing the t analysis for correlated samples was:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{d^2}{N(N-1)}}}$$

This formula may be found in Wert, Neidt and Ahmann (10, p. 141).

Upon inspection of Table V, it will be noted that there were no significant differences in the frequency with which the various units appeared with the individual oral and individual written administrative procedures. These data are in line with the results of the ratio analysis appearing in Table IV.

TABLE V

SIGNIFICANCE OF THE DIFFERENCES BETWEEN THE MEAN FREQUENCIES OF a) SATISFACTION, b) DISSATISFACTION, c) SATISFACTION AND DISSATISFACTION, d) NEUTRAL, AND e) TOTAL UNITS FOR INDIVIDUAL ORAL AND INDIVIDUAL WRITTEN ADMINISTRATIONS

	Individual Oral Mean	Individual Written Mean	t Value	Level of Signifi- cance
Satisfaction Units	10.2	9.51	.62	---
Dissatisfaction Units	8.11	7.54	.51	---
Satisfaction and Dissatis- faction Units	18.31	17.05	.86	---
Neutral Units	25.71	22.26	1.47	---
Total number of Units	44.03	39.31	1.51	---



Table VI contains comparative data for the individual oral and group written administrative procedures. It will be

TABLE VI

SIGNIFICANCE OF THE DIFFERENCES BETWEEN THE MEAN FREQUENCIES OF a) SATISFACTION, b) DISSATISFACTION, c) SATISFACTION AND DISSATISFACTION, d) NEUTRAL, AND e) TOTAL UNITS FOR INDIVIDUAL ORAL AND GROUP WRITTEN ADMINISTRATIONS

	Individual Oral Mean	Group Written Mean	t Value	Level of Signifi- cance
Satisfaction Units	10.2	9.43	.81	---
Dissatisfaction Units	8.11	9.6	1.65	---
Satisfaction and Dissatis- faction Units	18.31	19.03	.63	---
Neutral Units	25.71	17.11	3.35	.01
Total number of Units	44.03	36.14	2.37	.05

noted that the satisfaction and dissatisfaction units for the individual oral and group written administrations did not have frequencies of appearance that were significantly different. However, the neutral and total number of units did reveal differences that were significant. These data may be taken as evidence of the superiority of the group written procedure to the individual oral in that it provided as many satisfaction and dissatisfaction units as the individual oral while at the same time yielding significantly fewer neutral units, i.e., the protocols tended to be significantly shorter

than for the individual oral administration.

Table VII contains comparative data for the individual written and group written administrative procedures. It will

TABLE VII

SIGNIFICANCE OF THE DIFFERENCES BETWEEN THE MEAN FREQUENCIES OF a) SATISFACTION, b) DISSATISFACTION, c) SATISFACTION AND DISSATISFACTION, d) NEUTRAL, AND e) TOTAL UNITS FOR INDIVIDUAL WRITTEN AND GROUP WRITTEN ADMINISTRATIONS

	Individual Written Mean	Group Written Mean	t Value	Level of Signifi- cance
Satisfaction Units	9.51	9.43	.08	---
Dissatisfaction Units	7.54	9.6	2.04	.05
Satisfaction and Dissatis- faction Units	17.05	19.03	1.56	---
Neutral Units	22.26	17.11	2.79	.01
Total number of Units	39.31	36.14	1.53	---

be noted that the group written procedure yielded significantly more units that could be classified as dissatisfaction and significantly fewer neutral units than the individual written administration. These data may be taken as evidence of the superiority of the group written procedure to the individual written in that it provides significantly more dissatisfaction units than the individual written administration while at the same time yielding significantly fewer neutral units.

In an effort to determine which administrative procedure provided information that was most meaningful, the satisfaction units of each procedure were correlated with the subjects ratings of their own marital happiness. The formula used in computing this correlation was:

$$r_{xy} = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

The formula may be found in Wert, Neidt, and Ahmann (10, p. 81).

The correlations for the happiness ratings and the satisfaction units expressed in individual oral, individual written and group written procedures are shown in Table VIII.

TABLE VIII

CORRELATION BETWEEN MARITAL HAPPINESS RATINGS AND  
SATISFACTION UNITS EXPRESSED IN INDIVIDUAL ORAL,  
INDIVIDUAL WRITTEN AND GROUP WRITTEN ADMINISTRATION

Administration	Happiness Rating
Individual Oral	-.137
Individual Written	.0307
Group Written	-.038

It will be noted that a very slight positive relationship existed between the marital happiness ratings and the satisfaction units expressed in the individual written procedure, while a slight negative relationship existed between the marital happiness ratings and the satisfaction units expressed in the individual oral and group written procedures.

On the basis of these data, which may be interpreted as validity coefficients, it would appear that the information pertaining to marital happiness elicited by the M.I.T. with these three administrative procedures has little validity or meaning. These data will be discussed at some length in the following Chapter.

## CHAPTER IV

### DISCUSSION

The results of this study indicate that in terms of economy and in terms of eliciting thought units that could be classified as evidencing dissatisfaction, the group written administration is superior to either the individual oral or the individual written administrations. There were no apparent differences in the effectiveness with which the three administrative procedures elicited thought units that could be classified as evidencing satisfaction. Thus, it would appear that from the point of view of economy and from the point of view of effectiveness in eliciting material that can be classified as either satisfaction or dissatisfaction, the most adequate administrative procedure to accompany the M.I.T. would be the group written administration. These results are in keeping with what has been found in similar studies using the Thematic Apperception Test (5, 6).

The apparent superiority of the group written procedure found in this study and others would seem to be attributable to certain qualities associated with the group situation. First of all, in a group the role that is played by the interviewer is probably less important than it is in an individual testing situation, for a group situation tends to minimize the influence of the personality and skill of the

interviewer on the subject's performance. Second, it would seem that the subject would be more likely to have a greater sense of anonymity in a group situation, and thereby feel freer to reveal certain kinds of information than he would under conditions where he was forced to state his stories to an individual. Third, it may be that there are certain social effects that operate in the group situation because of group identity, increased anonymity, or some other reason, to increase the story telling motivation of the subjects. In any event, there seems to be something about the group situation that inspires more freedom of expression of feelings while at the same time decreases the total length of the protocols.

The implications of these results for users of the M.I.T., and perhaps for users of any test similar to the Thematic Apperception Test, are important. The great saving of time that is possible through group administration of projective tests makes practical more adequate normative information and a more detailed study of the essential properties of projective instruments.

The group administration could also be used to an advantage where an investigator was interested in limited properties of large numbers of subjects, or where he wished to screen large numbers of subjects for particular qualities. It should be pointed out, however, that the traditional method of administration, i.e., the individual technique, may represent a more valuable approach to individual

diagnosis because of the valuable information that can be obtained through the opportunity to observe the subject in the process of taking the test, and because of the possibility of encouraging, adapting, inquiring and probing during the test administration.

The preceding comments are without reference to or are not made in the light of the results of the validation aspect of the study. It will be recalled that when the satisfaction units elicited by the three administrative procedures were correlated with the subject's ratings of their own marital happiness, the relationships found were very low or negative. Although this was a rather incidental attempt to check on the validity of the results obtained with the M.I.T. and the administrative procedures in question, it was nevertheless a measure of validity, and the coefficients obtained did not in any way indicate the validity of the responses elicited.

There are several sources of error that could account in part for the low validity coefficients. In the first place is the question of the adequacy of the projective approach to measuring interparental attitudes, i.e., will unstructured stimuli of the sort used in the M.I.T. call forth projections based on personal experiences of the subjects in their own lives, or are the stories elicited by these stimuli unrelated to or at best only partly related to the subject's personal family experiences? Whether or not this is the case will be known only after the instrument has been subjected to the validation study. Secondly, the marital happiness ratings

may well have been invalid. Since the subjects gave their ratings under conditions that lacked anonymity, and since they were aware that their ratings were to be used in a further analysis, it may be that they adapted their ratings to these conditions. Some evidence to this effect was the fact that in all but one instance the marriages were rated as being "very happy," i.e., in the eighth and ninth interval of a nine interval scale.

Thirdly, the method of analysis used in the study may not have been appropriate. It will be recalled that the method used employed the classification of thought units into those evidencing simply satisfaction, dissatisfaction, or neither; units were not labeled in terms of expressed marital satisfaction or dissatisfaction. It remains to be seen whether or not an analysis of the same data using a system of classification based on marital satisfaction and dissatisfaction would yield results that would be different from those obtained in the present study.

Until all of these possibilities are checked by further research no final conclusions can be drawn in regard to the validity of the responses elicited by the M.I.T. with each of the administrative procedures in question, but tentatively, one is faced with the conclusion that the responses are not valid.



## CHAPTER V

### SUMMARY AND CONCLUSIONS

#### Summary

The purpose of this study was to determine the most effective and at the same time the most economical means of administering a projective-picture test that has been designed to elicit information pertaining to the relationship that exists between a husband and wife in a marriage. To accomplish this, three administrative procedures were compared: 1) having the subjects respond to the pictures orally while alone with the tester, 2) having the subjects write their response to the pictures while alone with the tester and 3) having the subjects write their response to the pictures while in a group situation.

The twelve pictures making up the test were divided into three groups, four pictures to each group. Each subject responded to four pictures orally, four pictures individually with a written response and four with a written response under group conditions. The thirty-five subjects participating in the study were divided into three groups and the three groups of pictures were administered in rotating order. Group I responded to the pictures with the individual oral administration first, followed by the individual written and the group

written administrations. The subjects in group II responded to the pictures with the individual written administration first, followed by the group written and the individual oral administrations. The subjects in group III responded to the pictures with the group written administration first, followed by the individual oral and the individual written administrations.

Upon completion of the three administrations of the test the subjects were asked to rate their marital happiness. The happiness ratings were used as the criterion against which to establish an estimate of the validity of the responses elicited by the three administrative procedures.

The responses to the stimulus pictures were coded in terms of thought units with each thought unit being scored for evidences of satisfaction, dissatisfaction or neither. Four raters were able to demonstrate reliability for identifying the thought units and labeling them. These reliability figures were found by an item by item comparison of sample protocols scored by the raters independently, and were expressed in terms of the per cent of agreement between the raters on the identification of the thought units and the labeling of these units. The formula used to calculate the per cent of agreement was

$$\text{per cent of agreement} = \frac{\text{number of agreements}}{\text{number of agreements} + \text{disagreements}}.$$

Average rater reliability for the identification of thought

units was 94 per cent. Average rater reliability for the labeling of the thought units was 87 per cent. After reliability had been established, the responses that were to be used for purposes of the study were scored.

### Conclusions

On the basis of the results of this study, several conclusions seem justified:

1) The group written procedure for eliciting information with the M.I.T. is equal to either the individual oral or individual written procedures in eliciting responses that can be labeled as evidencing satisfaction.

2) The group written procedure is superior to the individual written procedure in eliciting responses that can be labeled as evidencing dissatisfaction.

3) The group written procedure is economically superior to both of the other administrative procedures because of its tendency to elicit significantly shorter protocols and because it may be administered to more than one person at one time.

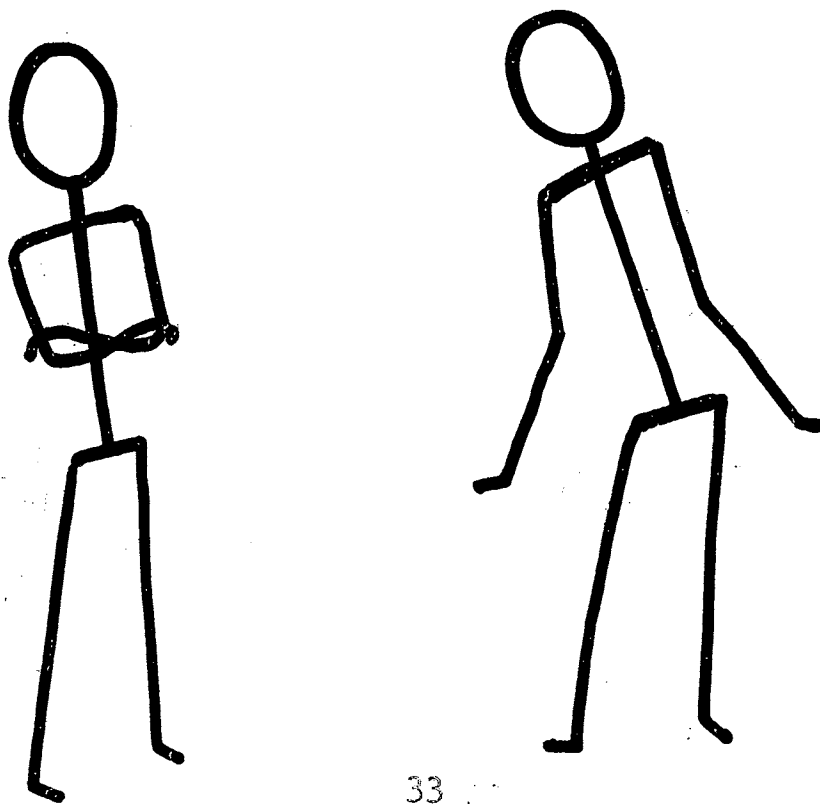
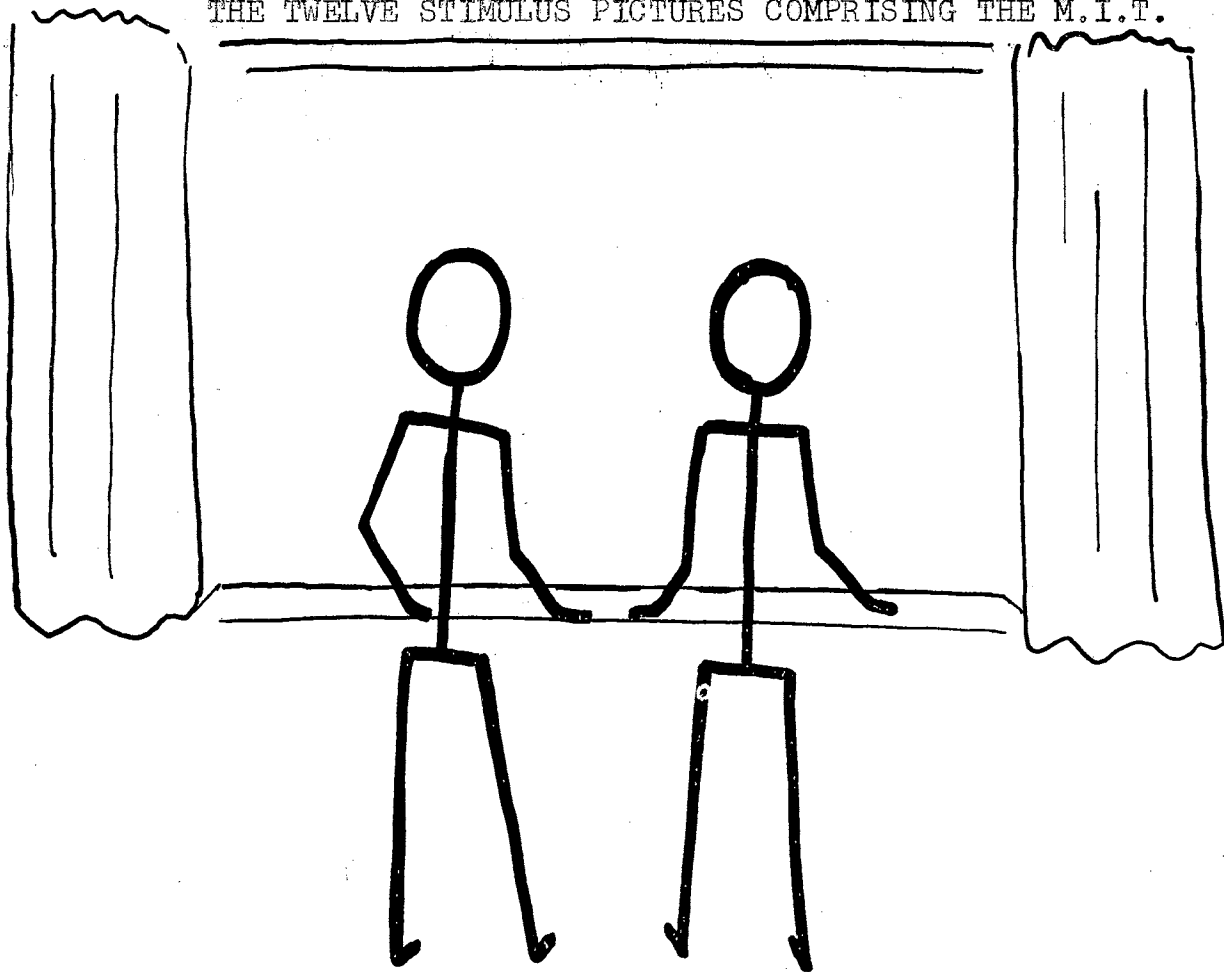
In view of these conclusions it would seem that the group administration of the M.I.T., or perhaps any projective test resembling the Thematic Apperception Test, would be especially useful for normative studies, for identifying properties of large numbers of subjects, for screening large numbers of subjects for particular qualities, or for studying the characteristics of the test itself.

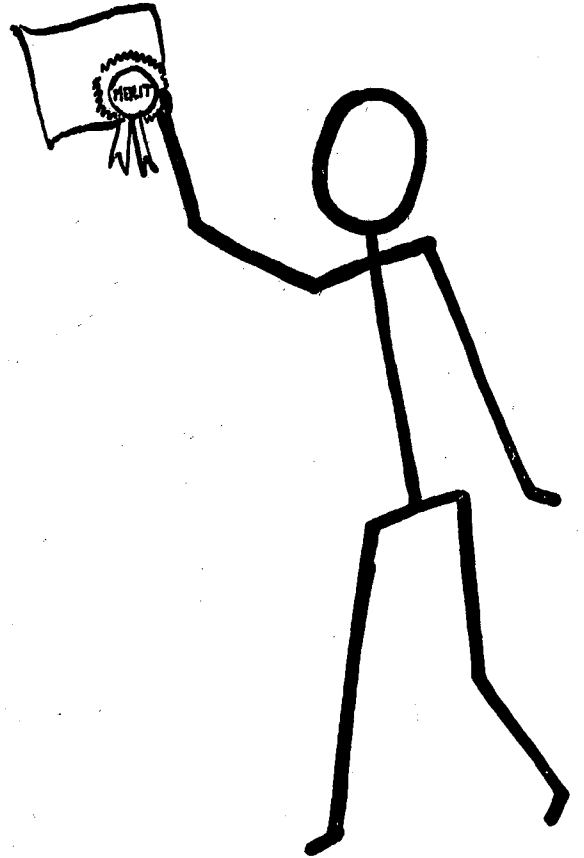
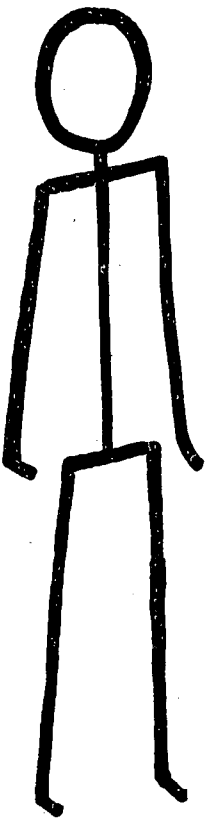
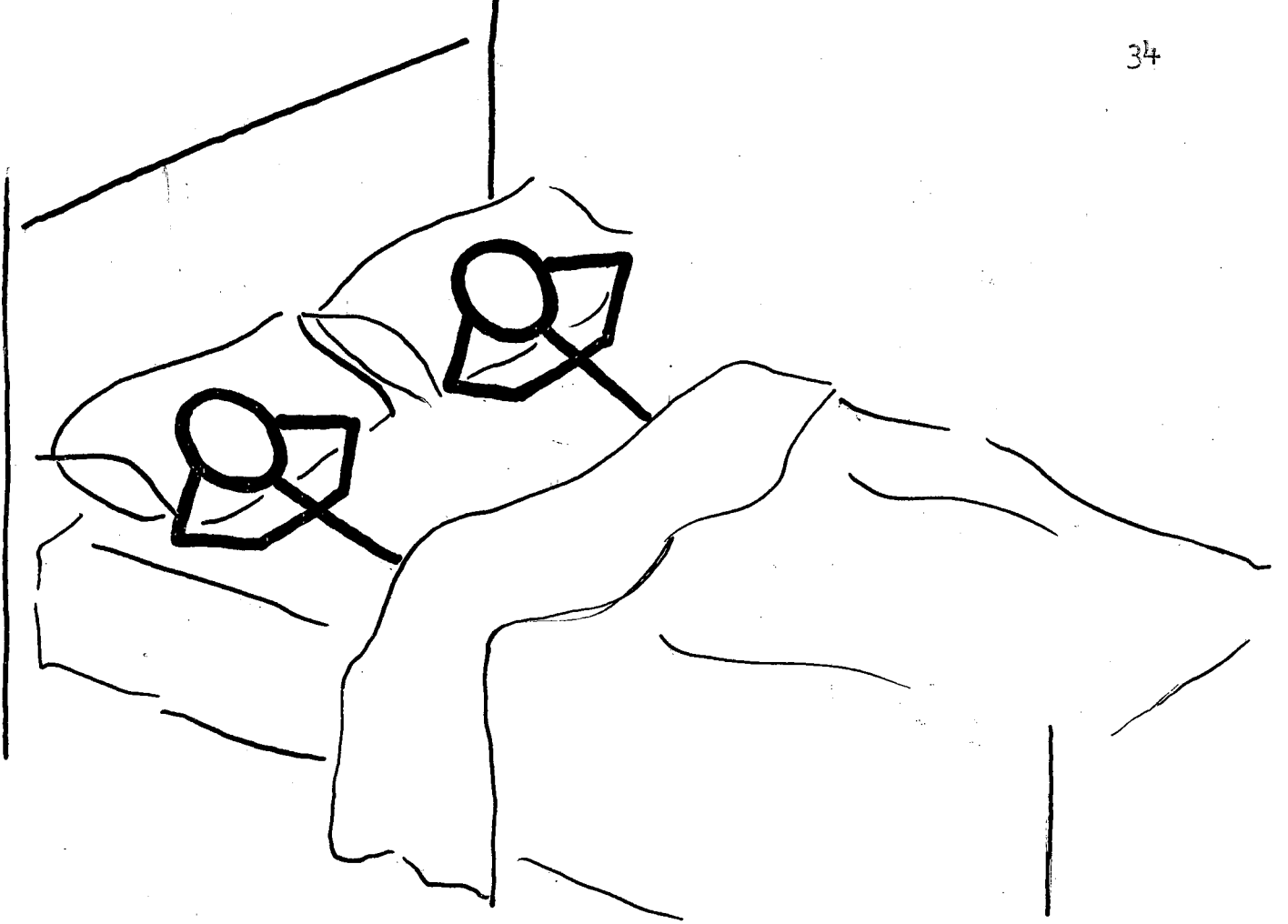
## REFERENCES

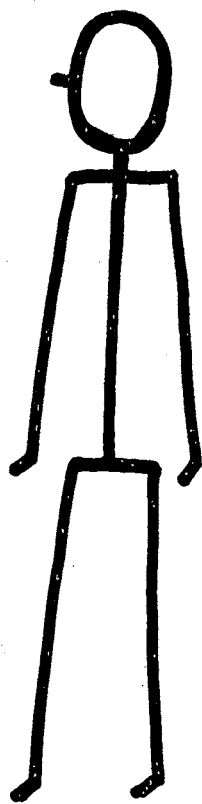
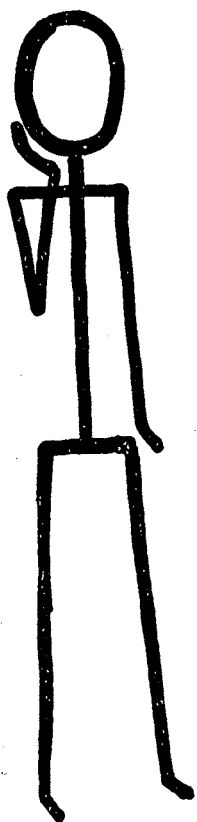
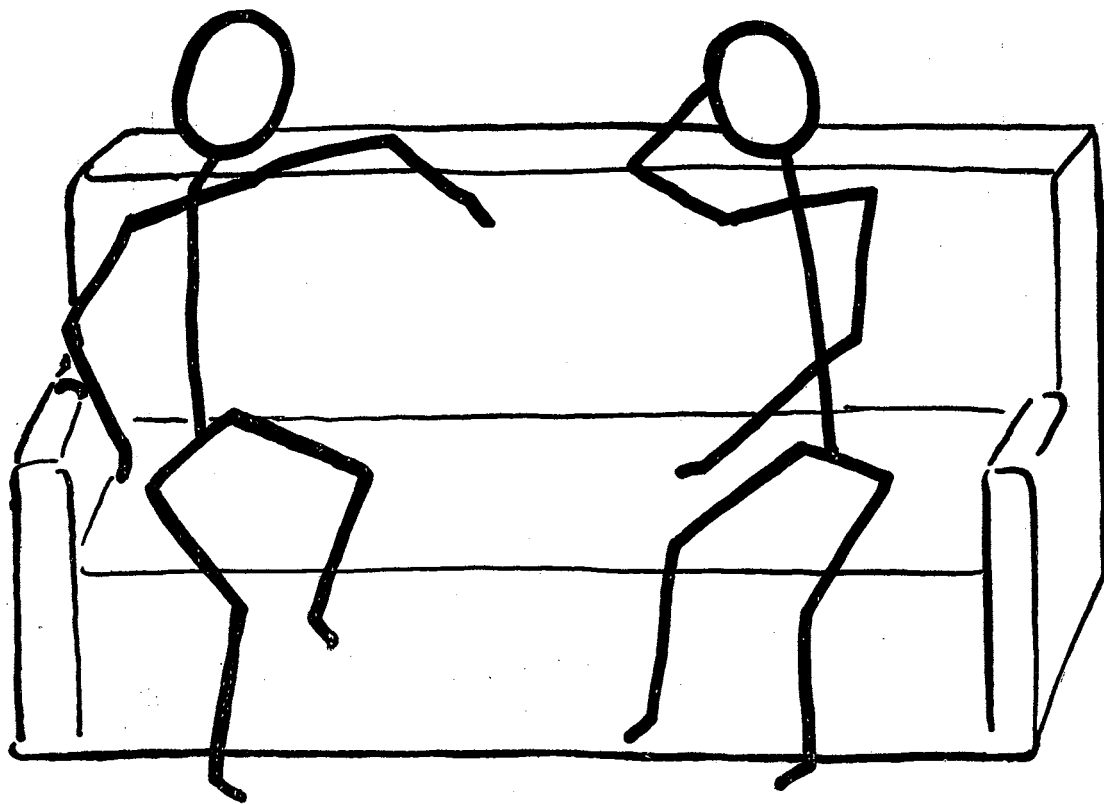
1. Cannell, F., and Kahn, R. L. The collection of data by interviewing. In L. Festinger and D. Katz, (Ed's.), Research methods in the behavioral sciences. New York: Dryden, 1953.
2. Clark, Ruth M. A method of administering and evaluating the TAT in a group situation. Genet. Psychol. Monogr., 1944, 64.
3. Dollard, J., and Mowrer, O. H. A method of measuring tension in written documents. J. abnorm. soc. Psychol., 1947, 42, 3-32.
4. Edwards, A. L. Experimental design in psychological research. New York: Rinehart, 1950.
5. Eron, L. E., and Ritter, Anne M. A comparison of two methods of administration of the Thematic Apperception Test. J. consult. Psychol., 1951, 15, 55-61.
6. Lindzey, G., and Heinemann, Shirley. Thematic Apperception Test: Individual and group administration. J. Personality, 1955, 24, 34-55.
7. Metzner, Helen, and Mann, F. A limited comparison of two methods of data collection: The fixed alternative questionnaire and the open-ended interview. Amer. Sociol. Rev., 1952, 17, 486-491.
8. Schalock, H. D., and Morgan, O. W. Personality development of children as related to interparental attitudes. (Study in progress at Oklahoma A. & M. College.)
9. Terry, Dorothy. The use of a rating scale of level of response in TAT stories. J. abnorm. soc. Psychol., 1952, 47, 507-511.
10. Wert, J. E., Neidt, C. O., and Ahmann, J. S. Statistical methods in educational and psychological research. New York: Appleton-Century-Crofts, 1954.

APPENDICES

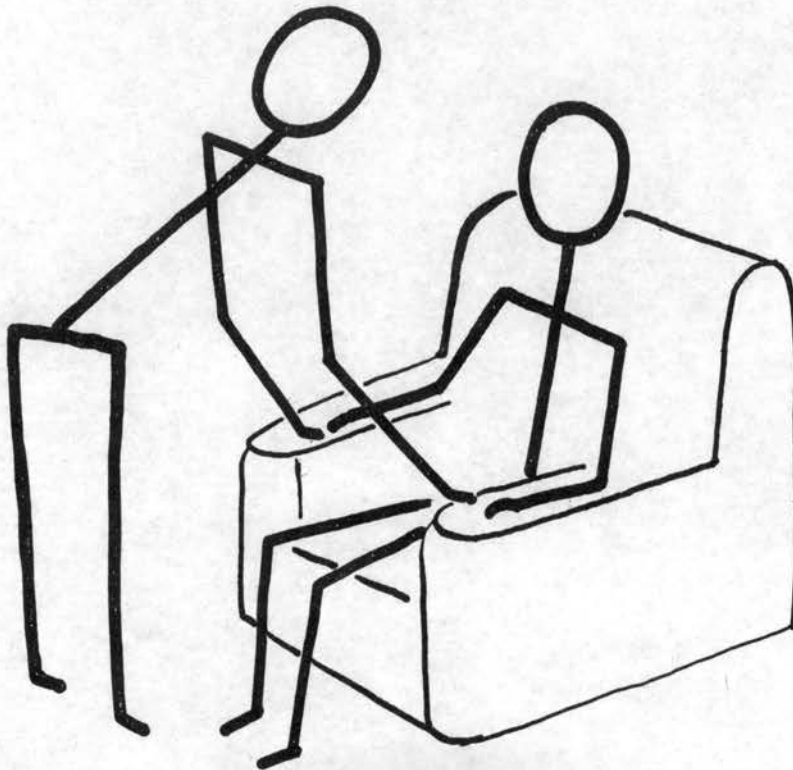
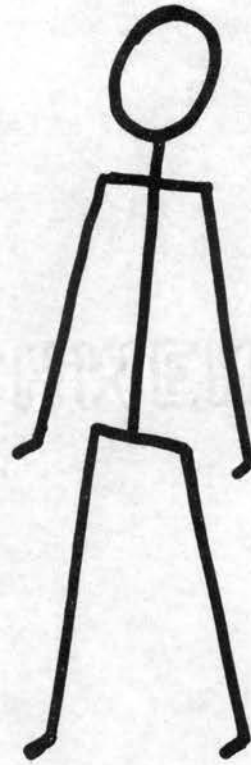
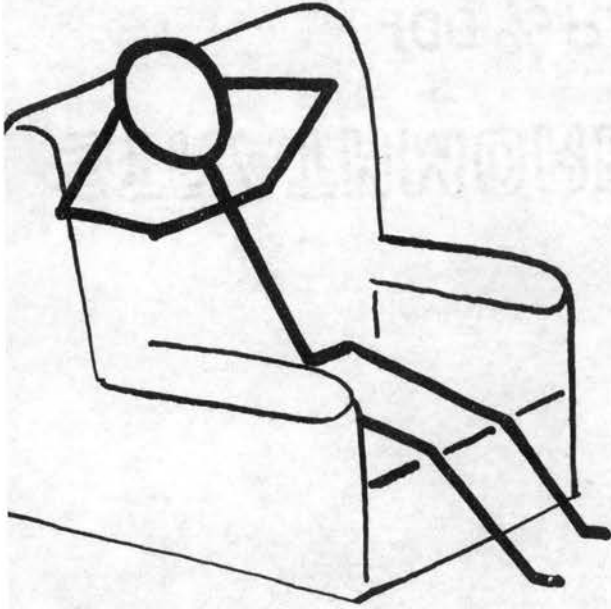
THE TWELVE STIMULUS PICTURES COMPRISING THE M.I.T.

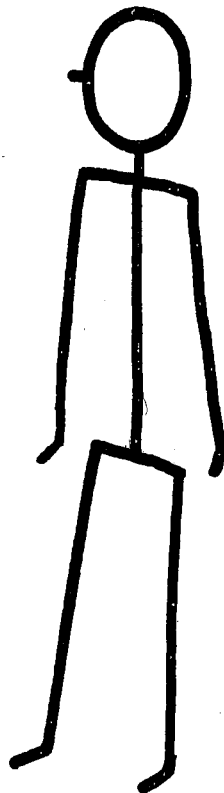
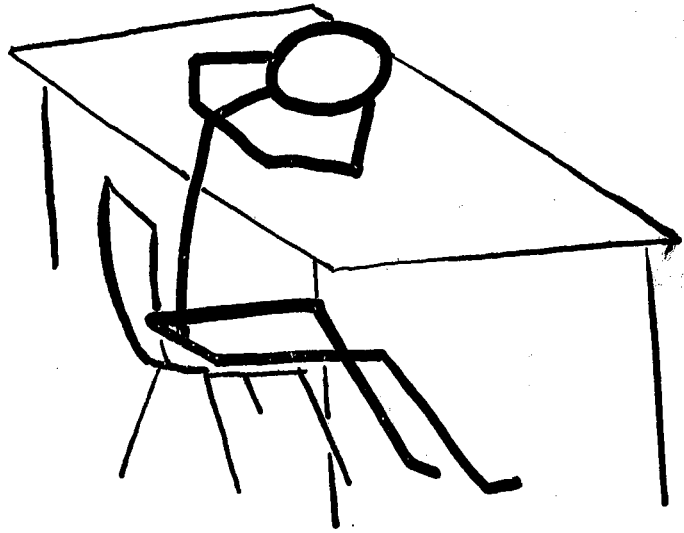
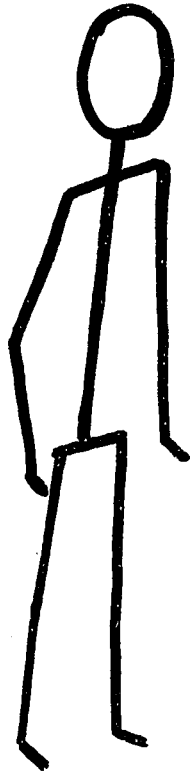


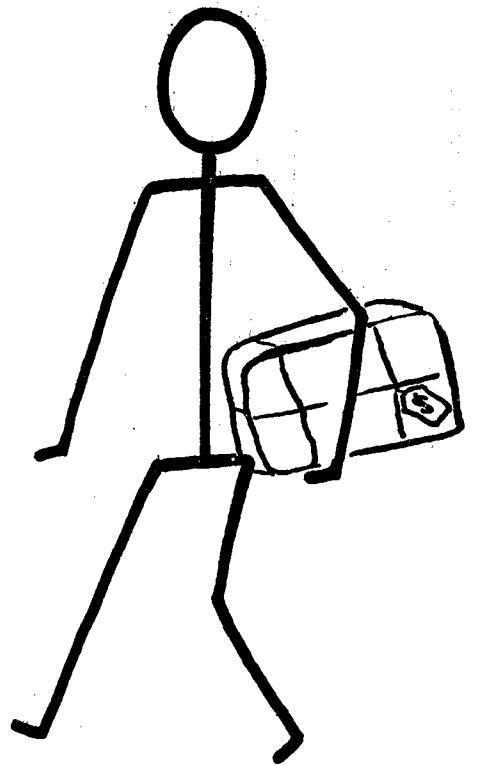
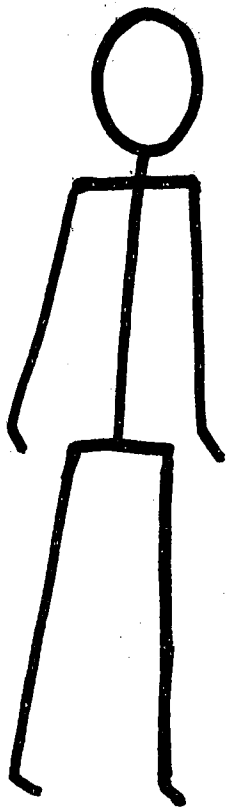
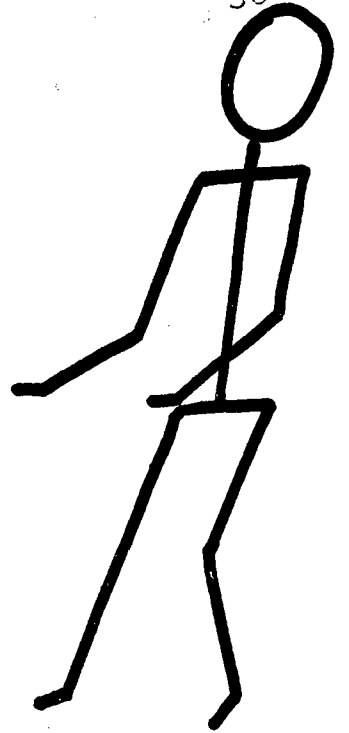
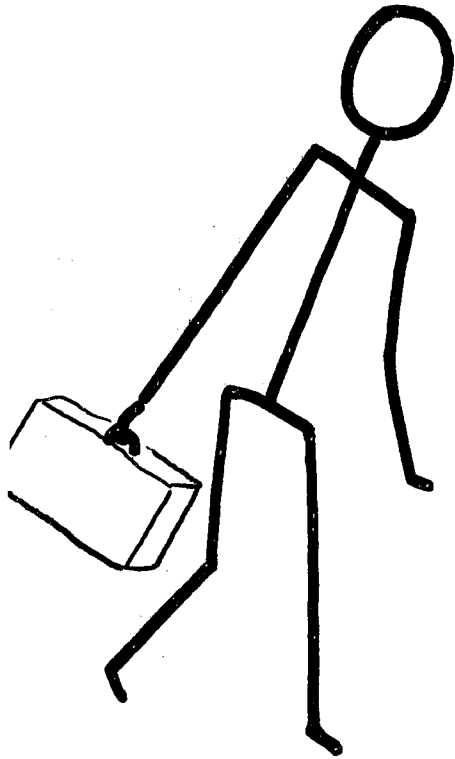














APPENDIX C

LETTER TO PROSPECTIVE SUBJECTS

Oklahoma  
Agricultural and Mechanical College  
Division of Home Economics

Office of  
the Dean

STILLWATER

March 6, 1956

We would like to ask your cooperation in a research study dealing with the responses of married women to a set of stick-figure pictures, each of which represents a situation in which married couples find themselves. Your participation in this study will involve between one and one-half to two hours of your time. More than one hour at any one time will never be required.

Rather than ask you to commit yourselves at this time to this research study, we are asking that you stop by Room 226 in the New Home Economics building on Thursday or Friday of this week, March 8 or 9, and talk with Mrs. Pine or Dr. Schalock further about the specific requirements of the study. On the basis of this discussion, we are hoping that you will see your way clear to cooperate in the research.

The cooperation of all married students in the School of Home Economics is needed for this research. I am sure that the experience would be enjoyable to you, so please stop by Room 226 NHE for a few minutes on Thursday or Friday of this week.

Sincerely yours,

(signed) Lela O'Toole

Dean

APPENDIX D

INFORMATION DESCRIBING THE STUDY

TO: Married Women Students

FROM: Mrs. LaVern Pine and Dr. Schalock

RE: Requirements of students participating in the research study dealing with the response of married women to a set of stick-figure pictures.

The purpose of the research study in which you have been asked to cooperate is to determine which of three administrative procedures, individual oral, individual written or group written, is the most effective and at the same time the most economical way to administer the stick-figure pictures.

Each subject cooperating in the study will be required to make up a story about each of twelve stick-figure pictures. Four of these stories will be told to the interviewer and four will be written when you are in a group. Past experience indicates that each story will take approximately five minutes to tell or write.

You will be required to come to the N.H.E. building on either two or three occasions to tell these stories, one of these meetings, that with the group, being in the evening. No one of these occasions will take more than one hour of your time. The evening period will require approximately only one-half an hour. For the scheduling of these meetings, check with Mrs. Pine.

## APPENDIX E

### INSTRUCTIONS FOR "THOUGHT UNIT" SCORING

Identification of thought units: In order to score the "thought units" within a protocol for evidence of satisfaction, dissatisfaction or neutrality, it becomes necessary to first identify the thought units per se. The statements and examples that follow are designed to help the rater in this process, and have been taken in part from the article by Dollard and Mowrer.<sup>1</sup>

A thought unit, in most cases, appears to be what grammarians call an "independent clause." Sometimes a sentence will consist of only one such clause: e.g., "He went into the house." There are sentences, however, that consist of more than one independent clause: e.g., "He was scheduled to go to the calisthenics class, and this raised the question of gym equipment, as he would need money for this." In terms of independent clauses, or "ideas that will stand alone," this sentence breaks down as follows: "He was scheduled to go to the calisthenics class,/ (and) this raised the question of gym equipment,/ (as) he would need money for this."

---

<sup>1</sup>Dollard, J., and Mowrer, O. H. A method of measuring tension in written documents. J. abnorm. soc. Psychol. 1947, 42, 3-32.

In breaking sentences up into clauses it may be necessary to supply missing words. Thus, "He is more comfortable/ and (he is) happier away from them, too." A sentence such as, "He was feeling restless, uneasy, and uncertain," means, "He was feeling restless;/ (he was feeling) uneasy;/ and (he was feeling) uncertain."

On the other hand, the sentence, "We said that he was perfectly at liberty to do that," cannot be broken into two independent clauses ("We said;/ (that) he was perfectly at liberty to do that.") The reason that such a separation is not permissible is that the verb "said" is transitive and requires the clause, "that he was perfectly at liberty to do that," as its object.

If a parenthetical clause is non-restrictive, i.e., if it can stand alone and does not distort the meaning of the rest of the sentence when taken away, it can be treated as independent. Thus, "Dr. Blank, who incidentally is a German refugee psychiatrist, feels that the boy is now prepared to make an adjustment;" is equivalent to saying, "Dr. Blank is a German refugee psychiatrist;/ he feels that the boy is now prepared to make an adjustment." But if the sentence had said, "The doctor who is a German refugee psychiatrist feels that the boy is now prepared to make an adjustment," there would be only one independent clause, or thought unit.

If a sentence is ungrammatical or contains obvious typographical errors, it should be converted into proper form and treated as any other sentence. For example, "It was felt



also important that this boy for us to try and plan if possible away from Manhattan," should read, "It was felt also important for us to try to plan that this boy (should live) away from Manhattan if possible." If an ungrammatical sentence is not intelligible at all, it should be disregarded.

In scoring sentences which refer to the husband and wife performing in the same capacity, the husband and wife are to be treated as one unit: e.g., "The husband and wife were looking out of the window." However, if a sentence should read, "They were washing their hands and face," it should be treated as two units: e.g., "They were washing their hands/ (they were washing their) face."

Scoring thought units: After having identified the thought units in a sentence, our task is then to decide for each unit whether it indicates (a) satisfaction, (b) dissatisfaction, or (c) neutrality. Thought units are to be labeled as evidencing satisfaction if they are characterized by feeling qualities of happiness, reward, pleasantness, pleasurable-ness, relaxation, comfort, or any other evidence of a reduction of unpleasant tension or of the presence of or increase in pleasurable tension. Thought units are to be labeled as evidencing dissatisfaction if they are characterized by feeling qualities of unhappiness, unpleasantness, pain, suffering, want, discomfort or any other evidence of unpleasant tension. Thought units are to be labeled as neutral if neither of the feeling qualities of satisfaction or dissatisfaction are not expressed or if they are expressed in approximately equal

amounts.

The individual statements are to be rated irrespective of context. They are also to be rated in terms of how we feel the average person or the majority of people would feel in the situation. If there is doubt as to how this "average" person would feel, the unit is to be scored as neutral. Also, whenever a clause contains a word or words that do not connote pleasurable or unpleasant tension, e.g., sleep, curiosity, interest, etc., it is to be scored as neutral unless the clause is so worded that there can be little doubt as to the directionality of the tension.

If it seems that the feeling quality of the unit is more rewarding than painful, i.e., if the general level of tension is lower at the end of the clause than at the beginning, the clause is to be labeled as evidencing satisfaction. If, on the other hand, it is felt that the tension level is probably greater at the end of the clause than at the beginning it is to be scored as evidencing dissatisfaction. (You may find it useful in trying to discriminate between these two types of states to ask yourself whether you would or would not like to experience such a state yourself.) If it seems that there is neither an over-all reduction or increase in tension, or if you were uncertain about the situation, the clause is to be scored neutral.

Try not to attempt to "interpret," "evaluate," or assign meaning" to purely factual statements unless you feel that the motivational implications of such behavior is relatively

unequivocal, i.e., they will be consistently interpreted in the same way by others. If you feel that there is a good chance that others will not interpret the statement as you have interpreted it, score the clause as being neutral.

In general, score all questions as neutral on the grounds that they do not make a statement about either satisfaction or dissatisfaction and anything which can be said about them in this connection must necessarily be in the nature of an interpretation.

VITA

LaVern Pine

Candidate for the Degree of

Master of Science

Thesis: A COMPARISON OF WRITTEN AND ORAL RESPONSES TO A  
PROJECTIVE-PICTURE TEST

Major Field: Family Relations and Child Development

Biographical:

Personal data: Born near Kinta, Oklahoma, November 2,  
1925.

Education: Attended grade school in Beggs, and Kinta,  
Oklahoma; graduated from Kinta High School in  
1943; received the Bachelor of Science degree  
from Northeastern State College, Tahlequah,  
Oklahoma, with a major in Home Economics Education  
in August, 1953.

Professional experience: Elementary school teacher in  
Pittsburg County Oklahoma, District 46, 1947 to  
1949; Recorder for McCleary Clinic and Hospital,  
Excelsior Springs, Missouri, 1949 to 1951; Home  
Economics teacher, Arcadia, Oklahoma 1953-54;  
and Adult Education teacher, Winfield, Kansas  
1954-55.