

AN INVESTIGATION OF THE EFFECTS OF  
CHARACTERISTIC HOSTILITY ON BODY  
BOUNDARY MAINTENANCE DURING  
AGGRESSIVE STIMULATION

By

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## CHAPTER I

### INTRODUCTION

The concept of body boundary has been the subject of research interest for many years. A full description of the measures used and the theoretical considerations involved in the study may be found in Appendix A. In particular, the work of Fisher and Cleveland (1958) has taken a prominent role in body boundary research. It is the basic premise of these theorists that individuals differ in how they perceive their bodies as differentiated from the environment. The measurement used by these theorists is based on the number of "Barrier" responses that are given to either the Holtzman or Rorschach inkblots. A response that emphasizes the protective, decorative, or containing attributes of the periphery of the percept is scored "Barrier". Examples of responses scored Barrier would include: "person in a fancy costume", "man in armor", "man covered with a sheet", "turtle in a shell", and "flower in a vase". The total number of such responses given to a series of inkblots (the most frequent number of blots presented being 25) is called the Barrier score. Throughout the numerous studies, it has been shown that the Barrier index can be scored quite objectively with highly adequate reliability; i.e., test-retest, inter-scorer, split-half, and odd-even indices.

A wide range of experiments have shown that the Barrier index is a function of the clarity with which the individual experiences the



boundary regions of his body (his skin and musculature). The fact that the Barrier score is anchored in body experience is affirmed by several lines of investigation. It is 1) positively correlated with reports of the relative frequency of sensations of exterior body sites (Fisher, 1970); 2) positively related to selected memory for words referring to exterior sensations (Fisher, 1970; Andrews, 1968); 3) apparently influential in determining the occurrence of placebo-induced exterior vs. interior symptoms (Fisher and Cleveland, 1960; Williams, 1962; Cleveland, Snyder, and Williams, 1965); 4) Correlated with differential ability to distinguish pictures of exterior and interior body regions presented tachistoscopically (Cassell, 1966); and 5) systematically alterable by changing the individual's usual patterns of attention to his body (Fisher and Renik, 1966). More indirectly, the pertinence of body phenomena to Barrier has been pointed up by its correlation with body anxiety, body awareness, and exterior vs. interior differences in physiological reactivity and psychomatic symptom formation. It is also a matter of interest that while the Barrier predicts tolerance for various types of stress it has been particularly successful in predicting reactions to stress associated with the disablement of one's own body, such as loss of limbs, etc. To quote Fisher, "Few, if any other indices, are intimately linked with body response at so many different levels (as the Barrier index)" (Fisher, 1971).

In addition, evidence has emerged that the Barrier score is positively correlated with a "self-steering" orientation which embraces interest in achievement, need for task completion, and adaptability to stress, pain, and body incapacitation (Appleby, 1956; Winder, 1952; Sieracki, 1963; Nichols and Tursky, 1967). The Barrier score has been

shown to be negatively correlated with measures of yielding, suggestibility, and hypnotic susceptibility (Fisher and Cleveland, 1958; Dorsey, 1965). In investigations studying the relationship between Barrier and interpersonal variables, it is found that the Barrier score is positively correlated with being communicative and sensitive to the needs of others in small group situations (Cleveland and Morton, 1962; Ramer, 1963). Along the same lines of research, the Barrier has been found to be positively related to frequency of initiating messages to others in a group, communicativeness in an interview setting, and acceptance by other group members (Rosenbluh, 1967; Frede, Gautney, and Baxter, 1968). The person with clear boundaries seems to take the initiative in group situations and to seek an integrative role.

Theorists who have dealt with the boundary concept consider that one of its functions is to modulate incoming stimuli. Stimuli are viewed as being modified by the boundary during the process of being perceived. It has never been delineated how this process might occur but there are empirical findings which have demonstrated significant correlations between boundary attributes and several aspects of sensory input. Thus, Fisher (1970) found that the apparent perceptual vividness of a variety of visual stimuli was positively linked with the Barrier index. Cauthen (1970), following Fisher's lead, was able to show that Fisher's finding held true when the apparent vividness of a series of weights was related to the Barrier score. Wertheimer and Bachelis (1966) observed that the ability to discern fine color was positively correlated with the Barrier score. Twente (1964) reported that receptivity to sensory experience upon first awakening in the morning is positively correlated with boundary definitiveness.

The Barrier score has shown itself to be positively related to arousal levels in those body areas most directly in contact with and involved in communication with the environment. It is positively linked with measures of activation of skin (GSR), muscle (electromyograph), and peripheral circulatory systems. By contrast, it is negatively related to indices of internal activation (heart rate). From these findings it seems that the arousal of "exterior" body layers results in an intensified "tuning in" on what is occurring in one's immediate environment. Support for this comes from Lacey (1959) whose findings indicate that during the time an individual is oriented to receive information from outside, he manifests heightened skin activity and diminished heart activity, but when his attention is turned inward, the physiological pattern of the heart is reversed. These findings point to the fact that the more definite an individual's boundary, the more sensitive he is to "outer" stimuli.

In considering the above findings, one might question whether input itself can affect the individual's body boundary structure. Reitman and Cleveland (1964) found that sensory isolation decreases boundary definitiveness in neurotic male patients and increases it in schizophrenic male patients. Silverman and others (1965; 1966; 1967; 1968) showed shifts in boundary definitiveness could be produced by presenting subliminal aggressive stimuli (through the use of a tachistoscope) to male schizophrenics. The direction of the shift in boundary was dependent upon when the Rorschach task was presented in the experiment. When it was the first task given, the penetration score was significantly reduced and the Barrier score remained unchanged. When it was administered later, the Barrier score was significantly increased and the penetration

score showed no change.

Fisher (1970) found that the following stimuli did not affect boundary definitiveness in women: exciting music, relaxing music, a film containing themes of body mutilation, a film with highly boring content, a film with exciting content, and an altered visual image of one's own body viewed in a distorted mirror. Similar findings are observed for male subjects.

In sum, the Barrier score has been shown to be a very stable measure. However, since boundary functioning has been shown to be involved in such a wide variety of phenomena, it seemed to be a worthwhile endeavor to examine the situations where boundary definitiveness alterations might occur. Once such instances were discovered, procedures for reinstating boundary definitiveness could be investigated.

With this view, Fisher (1971) was able to produce a boundary decrement in the case where male subjects were required to listen to hostile auditory messages. In this particular study, no other boundary shifts occurred when subjecting both males and females to white noise, dependency messages, depressive messages, and positive reassurance messages. In discussing the result of the hostile messages, Fisher suggested that males are not equipped to deal with situations where hostile tensions are aroused and no adequate way to express such tension is provided. In this study the subjects were required to sit quietly and write out responses to a series of inkblots while being continuously bombarded by rather loud and vivid communications about performing very hostile behaviors (e.g., "kill", "stab", etc.). Implicit in Fisher's discussion was the opinion that if males had the opportunity to act on the hostile tensions aroused, the boundary decrement would have been

minimal, if such decrement occurred at all.

A recent study (Tatyrek, 1974), was undertaken following Fisher's suggestion. The study of Tatyrek (1974) was divided into two parts. Part I was a successful attempt to replicate Fisher's (1971) finding mentioned above. In addition to Fisher's procedure, a second group of male subjects listened to "neutral" or non-aggressive messages. Replication was considered necessary since the Barrier index had been such a stable measure over a wide and varied array of input stimuli.

Part II of the study examined Fisher's opinion that boundary decrement results from the lack of opportunity for males to resolve the tensions elicited by the hostile messages. Three pairs of hostile message/neutral message groups were used in Part II, with the neutral message groups serving as controls for the hostile message groups. Three pairs of groups were given the following titles; 1) a non-resolution group, 2) a task resolution group, and 3) a free resolution group.

The non-resolution condition provided the subjects with the experience of undergoing boundary decrement. In this condition the subjects heard the hostile messages of Fisher's study and then were required to immediately begin a task designed to severely limit the opportunity of the subject to act on the hostile tensions aroused by the messages. A somewhat complex digit-symbol coding task was selected for this purpose.

In contrast to the above condition, the task resolution condition was designed to provide the subject with the opportunity to act on the hostile feelings aroused during the experiment by providing him with a task that instead of preventing him from acting on his hostile feelings,

would allow him to meaningfully ventilate his feelings. The task selected for this condition was an incomplete sentence stems to which the subject was free to express his current feelings. In providing such an outlet it was hypothesized that the subjects of this condition would experience little or no Barrier decrement. The sentence stem task also acted as a control between the digit-symbol task of the non-resolution condition and the free time of the free resolution condition. Such a control was needed to avoid the possible confounding of the effects of the experimental manipulations with the performance of a task.

The free resolution condition provided the subjects with an opportunity to bring his own individualized defenses or methods of resolution to the experimental situation with no intervening task. This was accomplished by providing a significant time gap between the time the subjects received the messages and the time they must respond to the inkblots, from which a measure of his boundary state was taken. This time gap was literally "free time" in which no experimental demands were made. It was thought that in providing this free time the subject would be able to maintain his boundary definitiveness.

It can be summarized that the predictions of the experiment were that the subjects of the non-resolution condition who received hostile messages would experience a boundary decrement similar in magnitude to that of the Fisher replication, hostile message group. The results of the task resolution condition would not be significantly different from those of the free resolution condition, with both conditions experiencing little, if any, boundary decrement. It was thought that these latter two conditions would provide the subjects closure in dealing with the stimuli of the messages. All the above hypotheses were borne out by the

data. It was found that hostile content of the inkblot responses of the non-resolution condition was significantly greater than the two resolution conditions, but not significantly dissimilar to the hostile content of the Fisher replication, hostile message group. It would appear that the subjects of the replication and the non-resolution condition were using the inkblots as a means of venting the hostility elicited by the messages, whereas those of the resolution conditions had already dealt with the hostility before being presented the inkblots. This interpretation of the data received further support when it was found that the hostile content of the sentence stems was significantly greater for the hostile message group of the task resolution condition than the neutral message group. It was assumed that a similar ventilation process was occurring during the free time of the free resolution procedure. This assumption, however, was seen as an area requiring further research in that the specific processes taking place during this free time were unknown.

#### Statement of the Problem

As with much research, the study described above yielded questions which could not be answered without additional information. The present study sought to provide answers to two areas of inquiry.

The first area of inquiry involved the question: would a male subject's characteristic level of hostility differentially affect his ability to maintain his boundary structure? To study this issue, subjects were selected on the basis of their pre-experimental levels of hostility on the Holtzman Inkblot Technique (HIT). Here pre-experimental and characteristic are viewed as equivalent and defined as a trait of

the individual rather than a transient state. The rationale for such a definition is found when examining the intra-subject stability of the hostile content of inkblots as measured by the Holtzman scoring system. Holtzman et al. (1961), states (paraphrased) "Test/retest correlation can be considered lower bounds for the intra-subject stability, just as the odd-even correlations for the same variables ... serve as upper bounds" (p. 137). The intra-subject stability of hostility for standardization subjects similar to those of the current study is .47 to .78 with one year between retesting. These measurements were viewed as adequate in defining "characteristic" for the purposes of the present study.

The second question that evolved from the Tatyrek (1974) study concerned the experience of the different resolution and non-resolution conditions. It was of interest to discover the nature of the experience of those undergoing a boundary decrement, as is the case of the non-resolution, hostile message group of the Tatyrek (1974) study. Next, it was felt to be of importance to discover how the subjects of the free resolution condition used the free time to cope with the hostile input which prevented boundary decrement.

To measure the above experience it was proposed that two tools of investigation be used. First of all, it was proposed that a content analysis of the Holtzman inkblot responses be used with the variables of Barrier, Hostility, and Anxiety being extracted from the early, middle, and late inkblot responses. Here the divisions consisted of the initial eight (8) responses for the "early" group, responses 9 through 12 plus 14 through 17 for the "middle" group, and the final eight (8) responses for the "late" group. It was felt that such an analysis would provide



insight into the experience of the subject as he performed the required experimental procedures through time. In other words, through such an analysis it would be possible to detect trends in the subjects psychological state.

The second technique for investigating the experience of the subject was a standardized post-experimental questionnaire. Here, also, a content analysis of the subjects' responses to the questionnaire was made. Gottschalk and Auerbach (1966) have described a technique of content analyzing the psychiatric interview for the variables of Anxiety, Hostility Directed Outward, Hostility Directed Inward, and Ambivalent Hostility. It was felt that such variables would be important in understanding the subjects' experiences as they participated in the study. Also, the Gottschalk and Auerbach system of analysis could be easily adapted to scoring the responses to the post-experimental questionnaire.

In summary, it was of interest in the present study to determine if the results of the Tatyrek (1974) study could be replicated. Secondly, the relationship between a person's characteristic level of hostility and his ability to maintain his boundary structure was to be studied. Additionally, the study was designed to detect differential effects on measures of hostility and anxiety based upon characteristic hostility and experimental manipulation. Finally, the study sought to determine the experience of subjects either undergoing Barrier decrement or resolving hostile input to prevent Barrier decrement.

## CHAPTER II

### HYPOTHESES

The following hypotheses were tested:

- 1) The mean Barrier scores of the non-resolution and free resolution condition would not be significantly different from each other in the pre- experimental phase of the study. Also, the mean level of hostility would not be significantly different from each other for the two conditions in the pre-experimental phase of the study.
- 2) The mean Barrier scores of the free-resolution groups would be significantly greater than the mean Barrier scores of the non-resolution groups on the experimental trials. The level of aggressive content of the Holtzman responses from the experimental conditions would be significantly less for the free-resolution than the non-resolution condition.
- 3) There would not be a significant difference between the early, middle, and late phases of the measures of Barrier, Hostile content, and Anxiety of the two experimental groups in the pre-experimental condition.
- 4) There would exist a significant interaction between the trial phase (early, middle, and late), and experimental condition on Barrier scores and Anxiety.

- 5) There would exist a significant interaction between pre-experimental level of hostility and experimental time (pre-experimental vs. experimental trials) on measures of Barrier and Anxiety.
- 6) There would exist a significant interaction between pre-experimental level of hostility and the experimental condition (non-resolution vs. free resolution) on measures of Barrier, Anxiety, and Hostility.
- 7) There would be a significant interaction among the pre-experimental level of hostility, experimental phase, and experimental time (pre-experimental vs. experimental trials) variables on measures of Barrier, Anxiety, and Hostility.
- 8) In regards to the post experimental questionnaire, there would be a significant difference between experimental conditions on measures of Anxiety, Hostility-inward, Hostility directed outward, and Ambivalent hostility for both questions.

## CHAPTER III

### METHOD

#### Subjects

The study utilized 60 lower division subjects drawn from the male undergraduate population of Oklahoma State University. One hundred subjects were initially screened to extract the 60 subjects meeting the criteria of the upper, middle, and lower quartile scores on the Holtzman Hostility Scale. The choice of male subjects was due to the desire to replicate previous experimental designs and the earlier finding that females had shown no experimental effect when undergoing aggressive stimulation. The subjects were randomly assigned to the two treatment conditions of the study, with 30 subjects in each condition. This assigned 10 S<sub>s</sub> to each cell. Informal debriefing was conducted following the experiment.

#### Apparatus

The following materials were used in the experiment: tape recorder with external speaker; taped hostile messages supplied by Seymour Fisher; Holtzman inkblots, Forms A and B in slide form, blots 1-25 for each form; a carousel slide projector; viewing screen; and response sheets for inkblot responses (see Appendix B).

For the non-resolution groups both Holtzman response sheets and a digit-symbol coding task were used. The digit-symbol task was composed

by the experimenter, yet was not unlike the type of task involved in the Wechsler intelligence tests. To avoid the possibility of interference of "practice effects", nine variations of the tasks were used (Appendix C). The free resolution groups required the Holtzman response sheets only.

In addition to the above materials, a standardized two-item post-experimental self-report questionnaire was used. The two items were:

- 1) What were you thinking and feeling during the taped recordings?;
- 2a) (For the Non-resolution groups) What were you thinking and feeling during the number coding task?; and 2b) (For the Free-resolution condition) What were you thinking and feeling during the time between the taped recordings and the inkblot slides? (Appendix D).

#### Procedure

Upon entering the experimental room the subjects, who were handled in groups of up to 10 subjects per session, were given an instruction period in which the standard instructions for the Holtzman Inkblot Technique, adapted for slide presentation, were given (Appendix E). The subjects were then told that after the initial set of inkblots were presented (Blots 1-25 of Form B) a taped recording would begin playing. To increase imagery and minimize the possible interfering effects of others present, the subjects were told to close their eyes during the playing of the taped messages. The Non-resolution subjects were told, "Each time the tape ends you are to begin a task similar to the example before you." The example was stapled to the response booklet. The standard instructions from the WAIS were then given for the digit-symbol task (Appendix E). After the above instruction period and one practice trial, 25 trials of: /message (30 seconds)/ digit-symbol task (30

seconds)/ Holtzman inkblot (30 seconds)/ were completed. After the twenty-five trials, the subjects were to respond for five minutes to each question of the post-experimental self-report. The procedure for the Free resolution groups were the same as the non-resolution groups excluding the digit-symbol instructions. Instead, the subjects of the free-resolution groups were told, "You will be hearing a taped recording over the speaker. The tape will end, and after a brief period of time you will be shown an inkblot." The standard Holtzman instructions were then given. These instructions and one practice were then followed by 25 trials of: /message (30 seconds)/ free time (30 seconds)/ Holtzman inkblot (30 seconds)/. The identical procedure for the post-experimental questionnaire mentioned above were followed for the free-resolution group.

#### Variables

The independent variables of the study were:

- A. Pre-experimental Hostility level.
- B. Treatment condition (Non-resolution & Free resolution).
- C. Testing time (Pre & Post).
- D. Trial phase (Early, Middle, & Late).

After the experimental procedures listed above were carried out, the following dependent variables were extracted for analysis:

- A. HIT Hostile content (Reliability: odd/even = .67-.78; intrascorer = .95; interscorer = .88-.96; test/retest = .47-.59).
- B. HIT Anxiety content score (Reliability: odd/even = .54-.78; intrascorer = .93; interscorer = .86-.99; test/retest = .52-.55).
- C. HIT Barrier score (Reliability: odd/even = .70;

intrascorer = .90; interscorer = .84-.95; test/retest  
= .38-.40).

- D. Post-experimental self-report "Hostility out" score (Gottschalk system).
- E. Post-experimental self-report "Hostility in" score (Gottschalk).
- F. Post-experimental self-report "hostility-ambivalent score (Gottschalk).
- G. Post-experimental self-report "Anxiety" score (Gottschalk).

The above variables were extracted by two scores, with the appropriate reliability checks being made.

## CHAPTER IV

### RESULTS

The results of this study will be presented sequentially in the order of Barrier scores, Hostile content, and Anxiety scores, followed by an exposition of the results of the post-experimental questionnaire.

The statistical analysis on the HIT Barrier scores was a two-between Ss (Hostility Level X condition) and two within Ss (time X phase) mixed design ANOVA. The results comparing the mean Barrier scores of the two experimental conditions are depicted by pre-experimental and experimental scores in Figure 1. A significant treatment condition (free resolution, non-resolution) X time (pre- vs. experimental trials) interaction effect occurred in the analysis of variance ( $F_{(1,54)} = 19.7335$ ,  $p < .01$ ) (see Table I). The results of planned comparisons indicate that the means of the two treatment conditions were not significantly different on pre-experimental Barrier measures ( $F_{(1,54)} = 1.933$ ,  $p > .05$ ). See Table II for the means. However, the means of the two treatment conditions were significantly different during the experimental trials ( $F_{(1,54)} = 4.944$ ,  $p < .05$ ). See Table II for the means. Other comparisons indicated that the subjects of the non-resolution condition underwent a significant decrement of Barrier scores from pre- to experimental trials ( $F_{(1,54)} = 4.712$ ,  $p < .05$ ). The subjects of the free resolution condition did not experience such a decrement ( $F_{(1,54)} = 1.616$ ,  $p > .05$ ). An examination of Figure 1 will show that these subjects



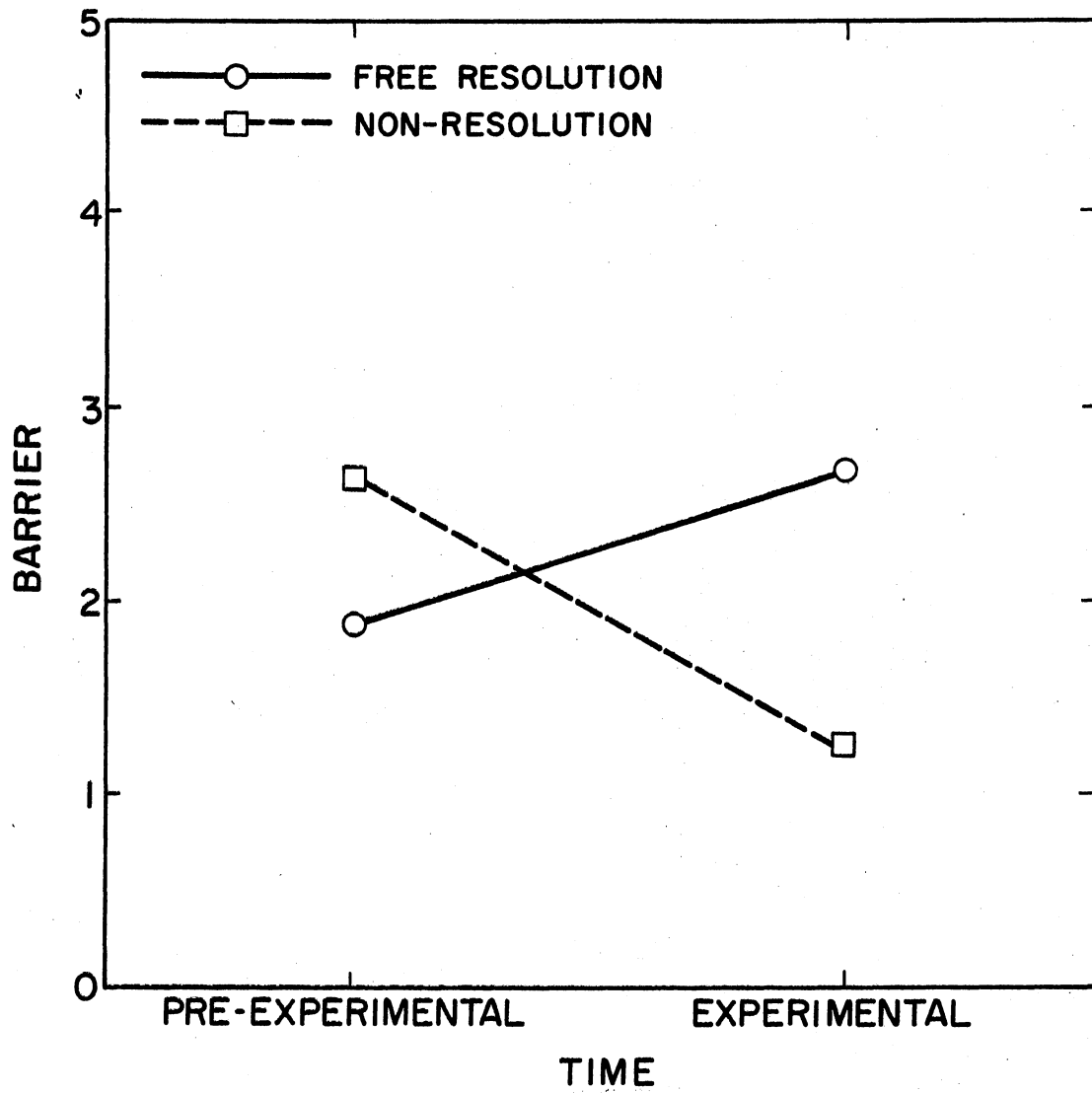


Figure 1. Treatment Condition x Time Interaction in the ANOVA on the Barrier Scores of Inkblot Responses

TABLE I  
ANALYSIS OF VARIANCE OF BARRIER SCORES

Source	Mean Square	df	F
Condition (C)	1.0027	1	0.9361
Level (L)	0.5444	2	0.5082
CL	0.5444	2	0.5082
Error	1.0712	54	
Time (T)	0.8037	1	1.3498
CT	11.7361	1	19.7335**
LT	0.3444	2	0.5792
CLT	0.7776	2	0.1308
Error	0.5947	54	
Phase	3.7444	2	7.1958**
CP	1.8777	2	3.6086*
LP	0.4111	4	0.7900
CLP	1.1444	4	2.1993
Error	0.5203	108	
TP	1.3777	2	2.5336
CTP	0.3111	2	0.5721
LTP	0.2694	4	0.4955
CLTP	0.4527	4	0.8326
Error	0.5438	108	

Planned Comparisons

Non-Resolution (Pre-experimental Trials) 2.6334	vs.	Free Resolution (Pre-experimental Trials) 1.8666	F 1.933
Non-Resolution (Experimental Trials) 1.2666	vs.	Free Resolution (Experimental Trials) 2.6667	F 4.944*
Non-Resolution (Pre-experimental Trials) 2.6334	vs.	Non-Resolution (Experimental Trials) 1.2667	F 4.712*
Free Resolution (Pre-experimental Trials) 1.8666	vs.	Free Resolution (Experimental Trials) 2.6667	F 1.616

\*p < .05

\*\*p < .01

actually increased their Barrier scores in the experimental trials from the level of the pre-experimental trials, although not significantly so. These findings are essentially a strong replication of Fisher (1971) and Tatyrek (1974). The findings support the hypotheses (#1 and #2) which state the two treatment conditions would not be significantly different in the pre-experimental time on measures of Barrier but that the Barrier scores of the free resolution condition would be significantly greater than those of the non-resolution condition in the experimental time.

TABLE II  
MEAN BARRIER SCORES OF CONDITION  
X TIME INTERACTION

	Pre-experimental Trials		Experimental Trials	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>Free Res.</u>	1.87	1.12	2.67	1.78
<u>Non-res.</u>	2.63	1.84	1.27	1.15

A significant main effect of phase of trials (early, middle, and late) and Barrier scores was found ( $F_{(2,108)} = 7.196, p < .01$ ). The means for the early, middle, and late phases are: early = 1.08; middle = 1.78; late = 1.35. Additionally, a significant treatment condition X phase interaction effect was found ( $F_{(2,108)} = 3.609, p < .05$ ). This interaction is depicted in Figure 2. The means of the

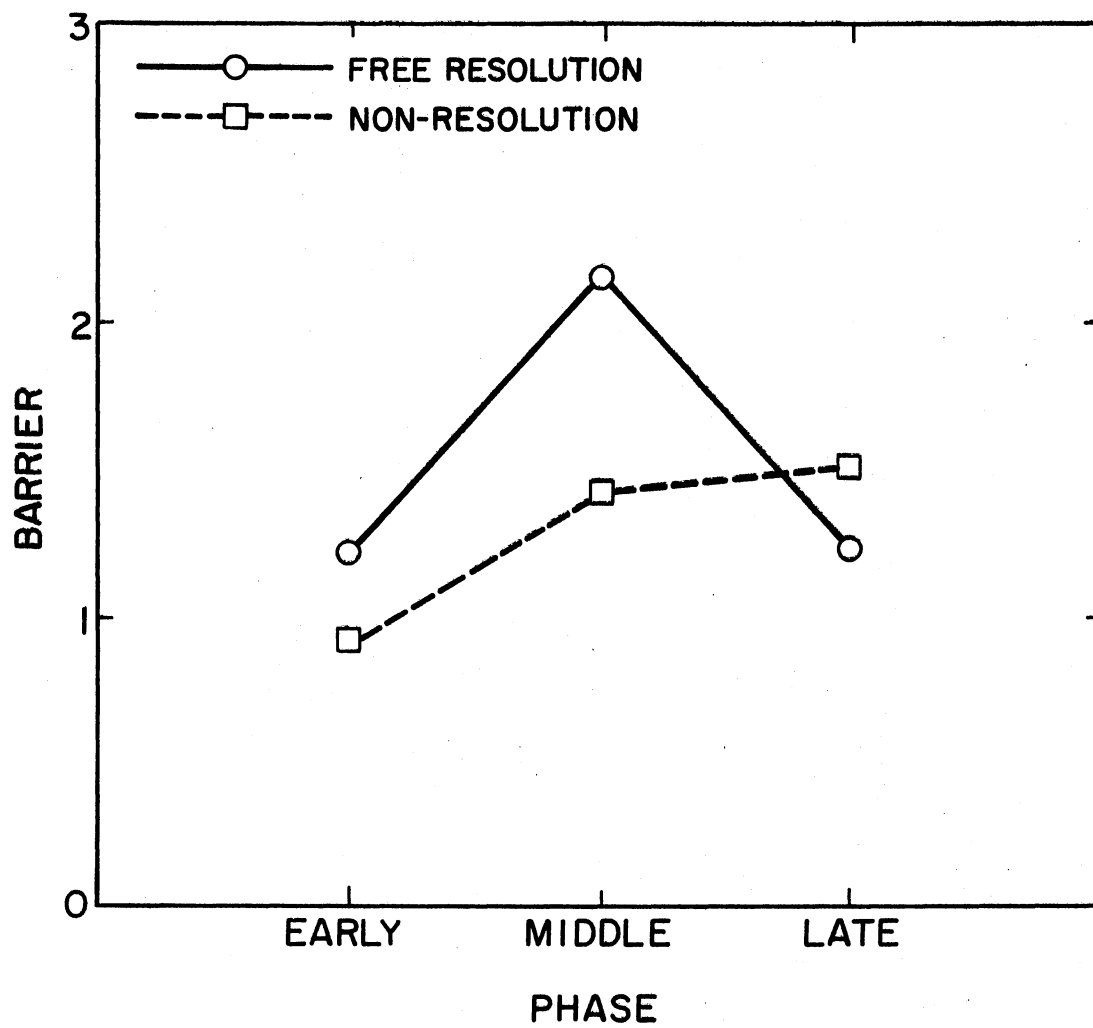


Figure 2. Treatment Condition x Phase in the ANOVA on the Barrier Scores of Inkblot Responses

two treatment conditions may be seen in Table III. While these findings are significant, they do not involve a discrimination of time and, therefore, the data does little to clarify the issues of the present study. A significant treatment condition X pre-experimental hostility level X time interaction was not found ( $F_{(2,54)} = 0.131, p > .05$ ). No other main or interaction effects were found to be significant in this ANOVA on Barrier scores.

TABLE III  
MEAN BARRIER SCORES OF CONDITION  
X PHASE INTERACTION

	Non-Resolution		Free Resolution	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>Early</u>	.97	1.196	1.2	1.29
<u>Middle</u>	1.43	1.14	2.43	1.39
<u>Late</u>	1.5	.99	1.2	1.137

To examine the HIT Hostile content of the inkblot responses, an ANOVA identical to the one above on Barrier scores was computed. A significant main effect of phase upon hostile content was found ( $F_{(2,108)} = 9.365, p < .01$ ). The means of the early, middle, and late phases are: early = 8.01; middle = 4.8; late = 6.99. The ANOVA may be found in Table IV.

TABLE IV  
ANALYSIS OF VARIANCE OF HOSTILE CONTENT  
IN INKBLOT RESPONSES

Source	Mean Square	df	F
Condition (C)	0.2777	1	0.0009
Level (L)	78.2111	2	24.7686
CL	10.5444	2	3.3393*
Error	3.1576	54	
Time (T)	0.1361	1	0.0504
CT	0.6944	1	0.0257
LT	26.6776	2	9.8822**
CLT	2.7444	2	1.0166
Error	2.6995	54	
Phase (P)	23.3361	2	9.3648**
CP	0.6028	2	0.2419
LP	0.5361	4	0.2151
CLP	2.2944	4	0.9207
Error	2.4019	108	
TP	2.5694	2	1.4697
CTP	2.9694	2	1.6985
LTP	4.1611	4	2.3801
CLTP	3.2695	4	1.8701
Error	1.7482	108	

<u>Planned Comparisons</u>			
Non-Resolution (Experimental Trials)	vs.	Free Resolution (Experimental Trials)	F
6.8333		6.90	.00091

\*p < .05

\*\*p < .01

It was also found there existed a significant treatment condition X pre-experimental hostility level interaction effect on hostile content ( $F_{(2,54)} = 3.339, p < .05$ ). This interaction is seen in Figure 3. The means and standard deviations are displayed in Table V. Generally, the hostile content of the two treatment conditions was similar when comparing each level of pre-experimental hostility. The significant interaction is due to the higher level of hostile content for the non-resolution condition in the high level group. However, this effect was based on the HIT hostile content scores collapsed across the two time periods. Therefore, the importance of the significant interaction to the problem of this study is diminished. A significant pre-experimental hostility level X time interaction effect was also found ( $F_{(2,54)} = 9.882, p < .01$ ). This interaction is depicted in Figure 4. The means may be seen in Table VI. As can be seen in an examination of Figure 4 and the means, the groups tended toward the same level of hostility in the experimental trials. Due to the random assignment of subjects to conditions, the two conditions were identical in level of hostile content in the pre-experimental trials. A planned comparison indicated that the two conditions were essentially identical in the experimental time ( $F_{(1,54)} = .0009, p > .05$ ). The means are shown in Table VII. This finding does not support the hypothesis (#2) that postulates the hostile content of the non-resolution condition would be greater than that of the free resolution in the experimental time. Nor do the results replicate Tatyrek (1974) in regards to hostile content.

The treatment condition X pre-experimental hostility level X time interaction was not found significant ( $F_{(2,54)} = 1.017, p > .05$ ). No other main or interaction effects were found to be significant in the

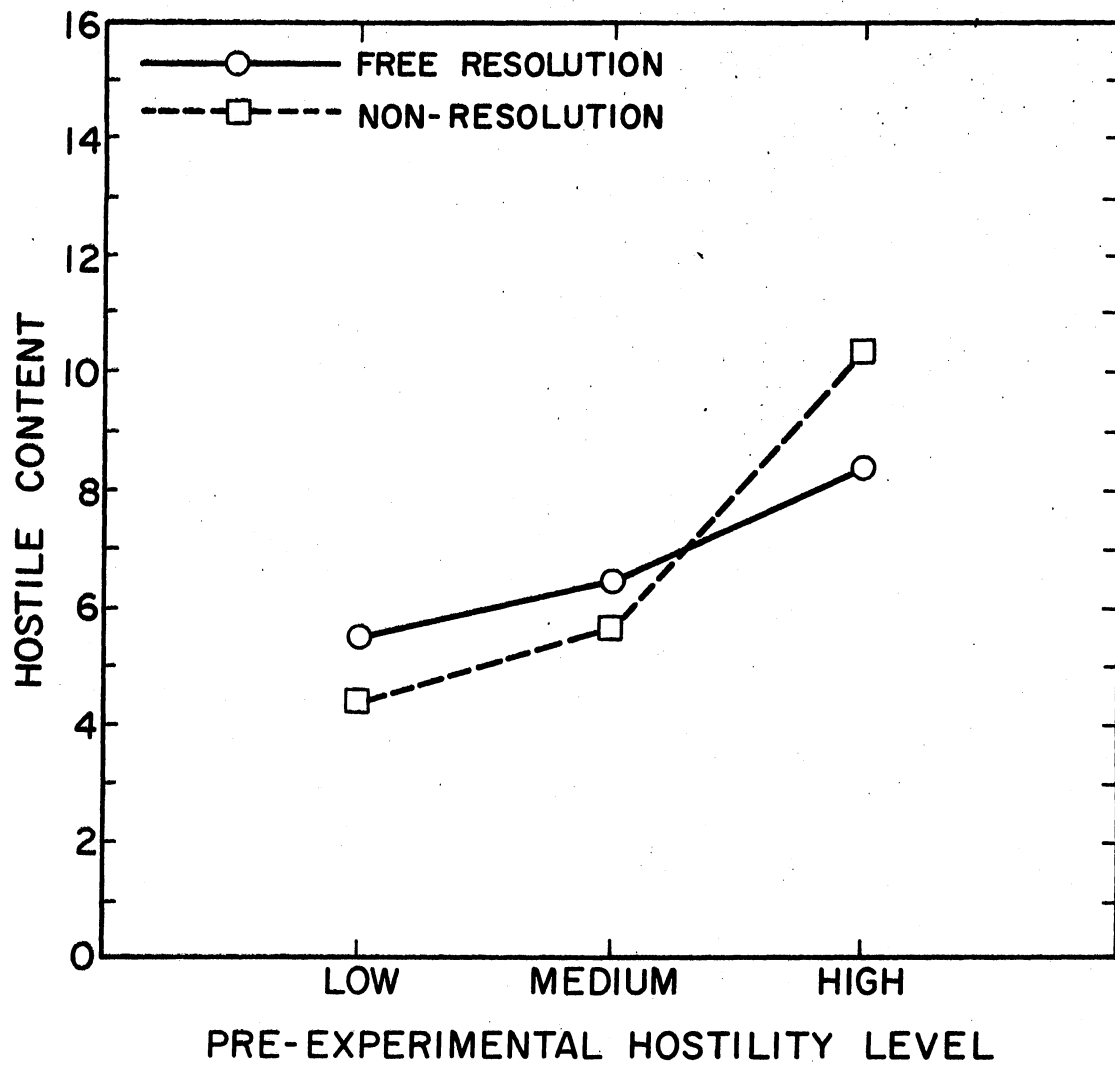


Figure 3. Treatment Condition x Pre-Experimental Hostility Level Interaction in the ANOVA of the Hostile Content of Inkblot Responses



TABLE V  
 MEAN HOSTILITY SCORES OF CONDITION  
 X LEVEL INTERACTION

	Non-Resolution		Free Resolution	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>High</u>	10.55	10.7	8.5	8.44
<u>Medium</u>	5.65	8.67	6.4	6.21
<u>Low</u>	4.25	4.73	5.5	6.27

TABLE VI  
 MEAN HOSTILITY SCORES OF LEVEL  
 X TIME INTERACTION

	Pre-Experimental Trials		Experimental Trials	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>High</u>	10.65	2.03	8.9	2.84
<u>Medium</u>	6.45	.49	5.7	13.75
<u>Low</u>	3.25	.83	6.5	4.29

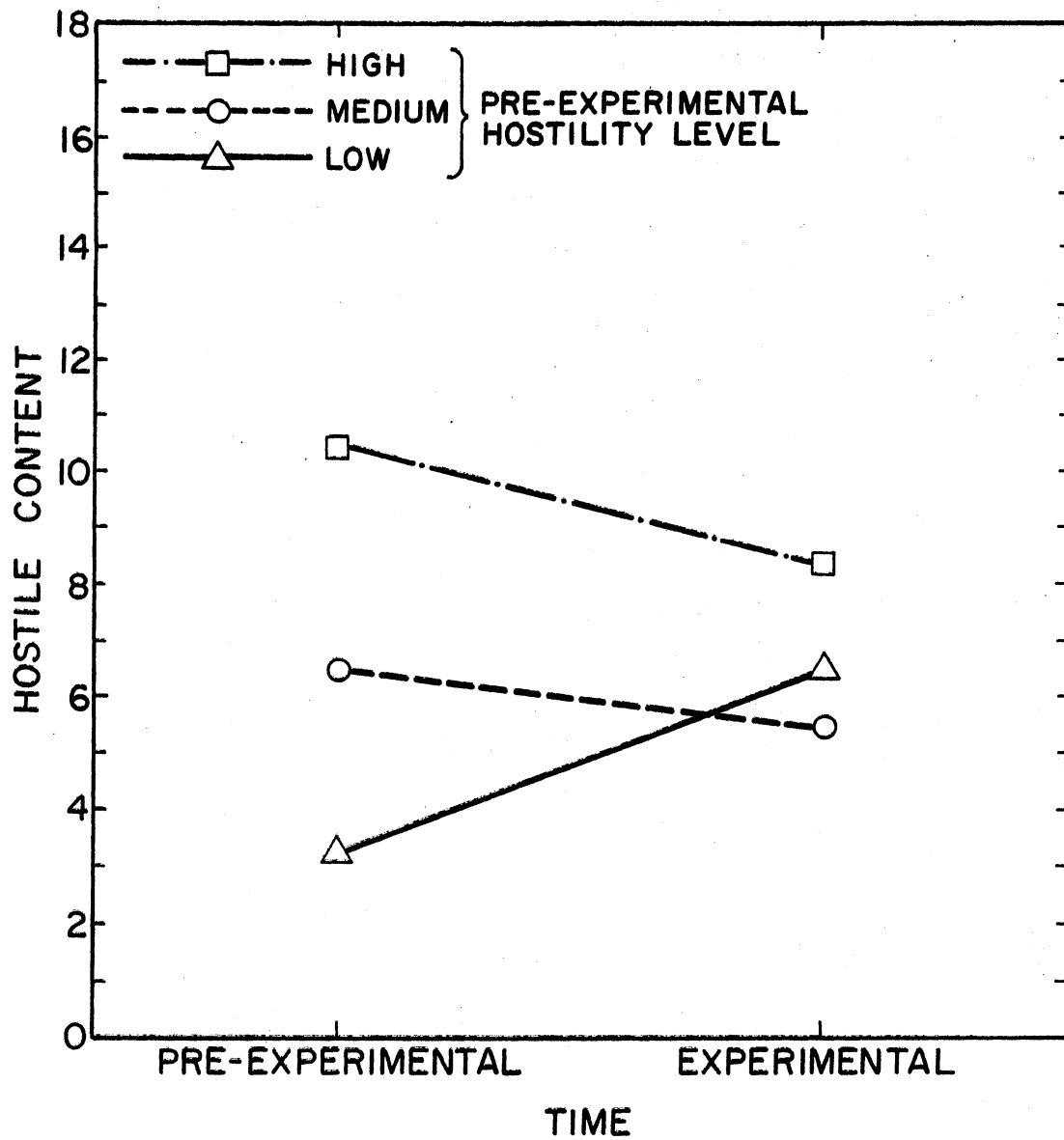


Figure 4. Pre-Experimental Hostility Level x Time Interaction in the ANOVA on Hostile Content of Inkblot Response

analysis of variance.

TABLE VII  
MEAN HOSTILITY SCORES OF THE  
EXPERIMENTAL CONDITIONS

	Pre-Experimental Trials		Experimental Trials	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>Non-Res.</u>	6.8	3.65	6.83	4.58
<u>Free Res.</u>	6.75	2.9	6.9	3.486

In summary the hypotheses (#1 and #3) which projected no difference between the conditions in hostile content during the pre-experimental time or a difference between phases during the pre-experimental time were supported. Therefore, the findings of Tatyrek (1974) were only partially supported. The findings of the current study replicate those of the earlier study in regard to Barrier scores but not those related to hostility measures.

To examine the HIT anxiety scores of the responses to inkblots, an ANOVA identical to those listed above was computed. No significant main nor interaction effects were found in the ANOVA on HIT anxiety (see Table VIII). The means are depicted for pre-experimental trials vs. experimental trials for the three hostility levels of the two treatment conditions in Figure 5, with the means and standard deviations shown in

TABLE VIII  
ANALYSIS OF VARIANCE OF ANXIETY SCORES  
IN INKBLOT RESPONSES

Source	Mean Square	df	F
Condition (C)	6.6694	1	2.2778
Level (L)	8.3999	2	2.8688
CL	0.1444	2	0.0493
Error	2.9280	54	
Time (T)	4.6694	1	2.2214
CT	0.2500	1	0.0119
LT	4.0777	2	1.9399
CLT	1.7333	2	0.8246
Error	2.1020	54	
Phase (P)	2.5749	2	1.2820
CP	0.2694	2	0.1341
LP	3.0499	4	1.5185
CLP	0.7944	4	0.3955
Error	2.0085	108	
TP	1.5027	2	1.1109
CTP	0.4083	2	0.3018
LTP	0.3611	4	0.2669
CLTP	1.3166	4	0.9733
Error	1.3528	108	

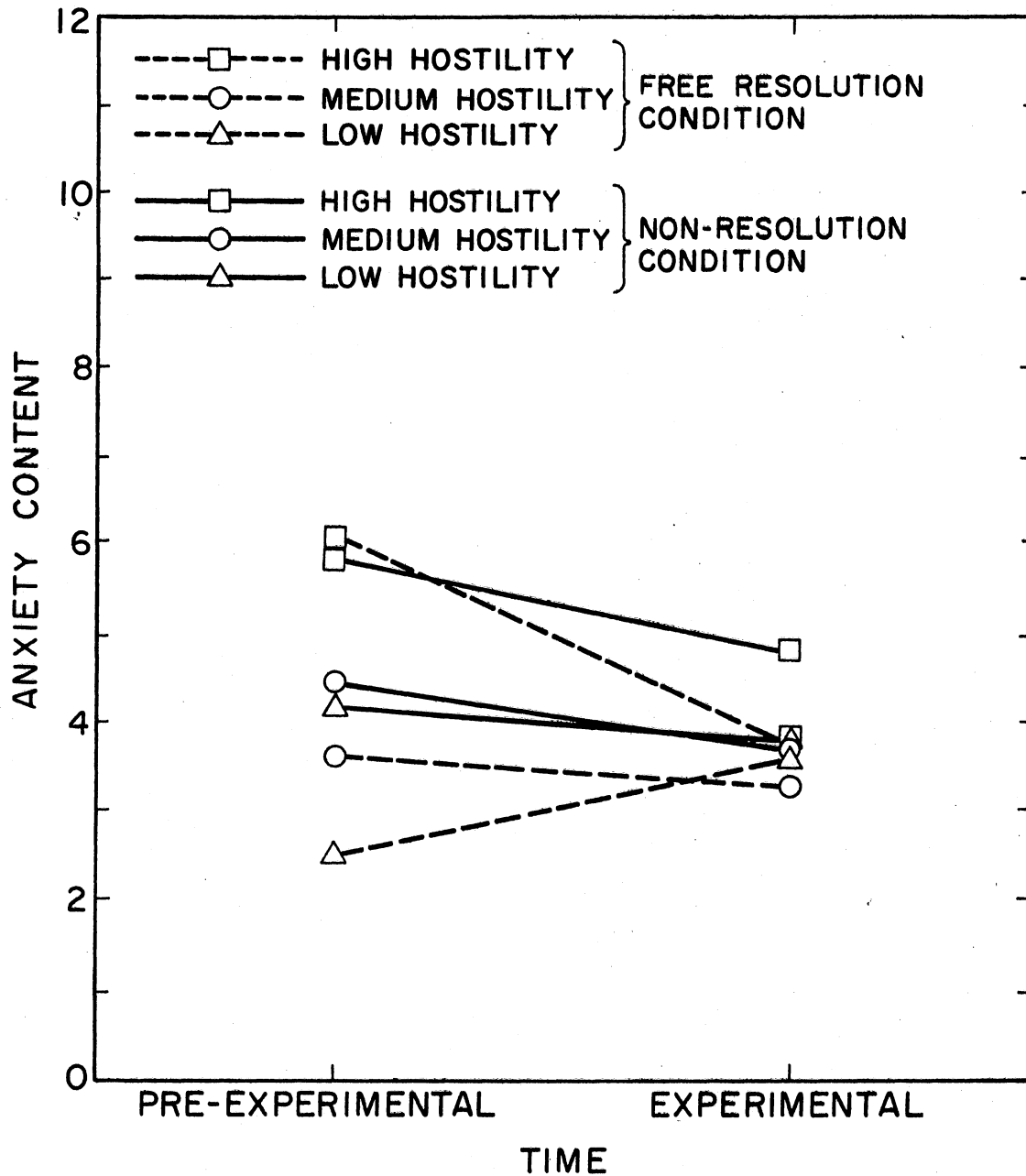


Figure 5. Treatment Condition x Pre-Experimental Hostility Level x Time Interaction in the ANOVA on the Anxiety Content of Inkblot Responses

Table IX. This nonsignificant interaction is graphed here because of the previously hypothesized effects. It should be noted that the level of anxiety of the subjects compares to the lower 10% of college students in standardization studies.

TABLE IX  
MEAN ANXIETY SCORES

	Pre-Experimental Trials		Experimental Trials	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
<u>Free Res.</u>				
<u>High</u>	5.9	2.662	4.8	4.118
<u>Med.</u>	4.6	1.685	3.8	2.482
<u>Low</u>	4.2	2.84	3.9	2.364
<u>All</u>	4.9	2.55	4.167	3.13
<u>Non-Res.</u>				
<u>High</u>	6.0	3.0	3.4	1.356
<u>Med.</u>	3.6	2.06	3.3	2.934
<u>Low</u>	2.5	1.63	3.5	1.88
<u>All</u>	4.03	2.73	3.4	2.15

The subjects were also given a post-experimental questionnaire in an effort to gain insight into their psychological experiences during the experimental trials. The questions were evaluated initially according to Gottschalk's (1963) system of measuring hostility and anxiety. The responses of the subjects are shown in Table X, Appendix F. The low level of output made the planned use of an analysis of variance inappropriate. However, Ferguson (1971) describes a method of analysis known as "Significance of differences between two correlated proportions" which was judged to be proper for analyzing question #1, "What were you thinking and feeling during the taped recordings?". Through this technique it was found that both the free resolution and non-resolution subjects expressed "hostility directed outward" significantly more often than "hostility directed inward" ( $z = 3.0$  and  $3.46$ ,  $p < .01$ , respectively). Also, it was found that the non-resolution groups expressed "hostility directed outward" a significantly greater proportion of the time than "anxiety" ( $z = 3.04$ ,  $p < .01$ ). This was not the case for the free resolution groups, however ( $z = 1.59$ ,  $p > .05$ ).

In addition a  $\chi^2$  corrected for continuity was performed on "ambivalent hostility" on question #1. It was found the non-resolution condition expressed more "ambivalent hostility" than the free resolution condition ( $\chi^2 = 5.82$ ,  $p < .05$ ); see Appendix G, Table XI. In a similar analysis it was found the non-resolution subjects expressed more "ambivalent hostility" on question #1 than on question #2 ( $\chi^2 = 5.82$ ,  $p < .05$ ); see Appendix G, Table XI.

The responses to question #2 that fit the Gottschalk criteria were of a lower proportion than those to question #1. The level of output made even the analyses mentioned inappropriate (see Table X, Appendix F).

In an attempt to further understand the subjects' experiences, the experimenter broadened the categories of responses (see Table X, Appendix F). In response to question #1, many of the subjects attempted to resist or deny the hostile messages, e.g., "tried not to get into the tapes" and "did not let the tapes affect me." All but one of the groups, the low hostility, free resolution group, included such responses to the tapes. The greatest proportion of such responses occurred in the high hostility, free resolution group where 70% of the subjects said they attempted to forget or resist the hostile tapes. Although most groups of subjects gave such responses, it appears the free resolution subjects employed this style more frequently.

It was also found that 16% of each condition stated they were attempting to "figure out the purpose" of the messages. This approach may also be viewed as an attempt on the subject's part to defend against the hostile messages. This behavior could be thought of as an "intellectualizing" style. One-fifth of the non-resolution subjects and one-third of the free resolution subjects stated the taped messages reminded them of either past or current events or situations in their lives. These recollections and associations were presumably of events of a hostile nature.

In an attempt to further understand the experience of resolution, an examination beyond the Gottschalk analysis of the second question was also made (see Table X, Appendix F). Here it was found that a great majority of the non-resolution subjects, for all levels of "characteristic" hostility, stated they were "trying to get as many (digit-symbol task) as I (they) could", "to do more than the last time", or "get them all right". A strong emphasis on a competitive and intense approach to



the task was noted in the subjects' statements. In contrast to the rather stressed feeling expressed by the non-resolution subjects, many of the free resolution subjects related they were involved in daydreaming or thinking about their inkblot responses. Among the free resolution subjects, 70% of the high hostility group and 40% of the medium and low groups stated they were so involved. This sort of behavior may be viewed as a type of fantasy experience and as a means of dealing with the demands of the experiment.

It was also found that many of the subjects of the free resolution condition spent the "free time" involved in some form of drawing. Nearly one-third of the high and medium hostility groups was involved in producing drawings of a hostile nature. These responses included drawings of instruments of aggression such as guns and knives, violent scenes, or line sketches of a jagged and tense nature. Most of these subjects' drawings were accompanied by hostile words similar to the taped words and phrases. One subject of the high hostility group produced "doodles" of a more flowing and rounded nature. In contrast to the high and medium hostility groups, the low hostility subjects produced more "doodle" type drawings than hostile drawings. In general, the drawings of the free resolution subjects indicate that many of the subjects were involved, at some level, responding to the hostility of the tapes.

Inter-scorer reliability measures for all variables were made through the use of two scorers, the experimenter and a "blind" scorer taking a 20% sample. The inter-scorer reliabilities for all three measures were high: Barrier,  $r = .89$ ; Hostility,  $r = .87$ ; Anxiety,  $r = .84$ .

## CHAPTER V

### DISCUSSION

The purpose of the current study was varied. First, it was of interest to determine if the results of the Tatyrek (1974) study could be replicated. Second, the relationship between a person's characteristic level of hostility and his ability to maintain his boundary structure was studied. Additionally, the study was designed to detect differential effects on measures of hostility and anxiety based upon characteristic hostility and experimental manipulation. Finally, the study sought to determine the experience of subjects either undergoing Barrier decrement or resolving hostile input to prevent Barrier decrement.

In the current study, the major finding of Tatyrek (1974) was replicated. The present study and Tatyrek (1974) both found that the subjects of the free resolution experimental condition were able to maintain their body boundary structures as measured by Barrier responses to inkblots. Also, it was found in both studies that the non-resolution subjects experienced a significant decrement of body boundaries when subjected to hostile messages. It should be recalled that the non-resolution subjects were required to perform a rather complex and demanding digit-symbol task between taped hostile messages and the inkblots. The free resolution subjects had no experimental demands upon them for the same time period.

The strength of these findings is increased by the fact that the two studies used different experimental designs to arrive at the above results. The present study used a pre- post design with each subject serving as his own control while Tatyrek (1974) employed only a post test with a control group that received neutral messages. Both designs yielded the finding that the non-resolution group experienced a Barrier decrement while the free resolution groups showed no such decrement.

A secondary, but important, finding of the Tatyrek (1974) study was not replicated, however. In that study it was found that the subjects of the non-resolution condition exhibited a significantly greater amount of projective hostility than the free resolution subjects. In the current study the subjects of the two conditions reported virtually the same level of hostility during the experimental trials.

In an attempt to go beyond the Tatyrek (1974) study, it was hypothesized that a subject's characteristic hostility level would differentially affect his ability to maintain his body boundary structure during aggressive stimulation. This hypothesized result was not supported by the data. It was found that the non-resolution subjects uniformly experienced a significant Barrier decrement, while those of the free resolution condition uniformly maintained their Barrier structures. It would appear that the above effect on Barrier measures is quite strong and may be expected to occur independent of an individual's characteristic level of hostility. This certainly suggests the potentially great applicability of the technique used in both studies.

The effects of one's characteristic hostility level on anxiety measures had also been anticipated helpful in gaining insight into the subject's experiences. However, like the hostility measures, the anxiety

measures of the two experimental conditions were not significantly different when comparing the independent variables. From an inspection of the means it is seen that the anxiety levels were positively related with characteristic hostility levels during the pre-experimental trials. All groups tended to gravitate toward the same level of anxiety in the experimental time. It was expected that subjects who underwent a Barrier decrement would show an increase in anxiety scores. This relationship was not found. The mean level of anxiety was comparable to the lower 10% of similar subjects in standardization studies. The results point strongly to the conclusion that the experimental manipulations were not of an anxiety producing nature.

The findings mentioned above point to an interesting relationship between projective affect and measures of ego-boundaries. One might expect that changes in structures as basic to personality as ego-boundary would be associated with affective or emotional changes. However, this was not found. It should be pointed out that the amount of Barrier decrement in the current study was similar to Tatyrek (1974).

In an attempt to determine the experiences of subjects during the experimental procedures, the subjects were given a two-item post-experimental questionnaire. The responses to the questions were calculated according to procedures described by Gottschalk (1963). When asked what they were "thinking and feeling" during the taped recordings, the subjects of both conditions expressed more hostility "outward" or toward elements of their environment than they directed "inward" or toward themselves. This behavior might indicate that the subjects were, in a manner, defending against the hostility in a direct way. It was also found that the non-resolution subjects expressed hostility directed

outward a greater proportion of the time than they expressed anxiety. The free resolution subjects did not respond similarly in that there was no difference in hostility expressed outward and anxiety.

The Gottschalk system for scoring the subjects' responses to the second question was found to be of very limited value. This question asked the subject what he was "thinking and feeling" during the time between the tapes and the inkblots (either free time or the digit-symbol task). Only 13% of all subjects responded in a manner that fit the Gottschalk system of scoring.

Due to the very limited data yielded by the Gottschalk analysis, the experimenter was impelled to look elsewhere for an understanding of what the subjects' psychological experiences were during the experimental manipulations. It was found that many subjects of the two conditions spent the time of message presentation in repressive styles of coping, e.g., "tried not to get into the tapes" and "did not let the tapes affect me"; or intellectualizing, e.g., "tried to figure out the purpose". Many subjects spent the time reflecting on incidents in their lives that were associated with scenes described on the tapes. When examining how the subjects spent their time between the tapes and the inkblots a qualitative difference was noted between the two experimental conditions. Most of the non-resolution subjects shifted "sets" from dealing with the hostile tapes to a competitive, performance-oriented approach to the digit symbol task, e.g., "tried to get as many (digit-symbol) as I could", "to do more than the last time", and "get them all right". On the other hand, the subjects of the free resolution condition spent the time of this period involved in imagery and fantasy or in drawings, many expressive of hostility, e.g., drawings of guns, knives, or violent

scenes. Many of the drawings were accompanied by "hostile" words.

In summary, the primary differentiation of the two conditions comes when viewing the Barrier scores. Otherwise, the subjects of the two conditions responded very similarly to the experiment. That is, on measures of hostility and anxiety for both the Holtzman and Gottschalk scoring systems the two conditions were much alike. The exceptions were noted above.

In the Tatyrek (1974) study it was postulated that the results could be attributed to the idea that the digit-symbol task interfered with the subjects' abilities to cope with the hostility aroused by the tapes. The free resolution subjects were seen as having the opportunity to defend against the hostility and thereby were able to maintain their body boundary structures. It was felt the results of the Tatyrek (1974) study fit well with Perls' concepts of ego-functioning described by the process of "holistic function" (Perls, 1947). In this context, the subjects of the non-resolution condition are seen as having their "holistic function" disrupted by the digit-symbol task, thereby causing a shrinkage of body boundaries, "Every inhibition and repression narrows down the Ego-boundaries" (Perls, 1947, p. 142). The subjects of the free resolution condition do not have to contend with such interference. It should be noted that the finding of a Barrier decrement in individuals undergoing aggressive stimulation with no opportunity to deal with the hostility has been seen in four studies to date: Fisher (1971), the Tatyrek (1974) replication of Fisher's finding, the Tatyrek (1974) extension of Fisher's study, and the current study.

When noting the similarity of the two conditions' hostility scores and anxiety measures, the reader might question if the experimental

procedures produced any emotional change or interference in the subjects at all, regardless of the presence or absence of a Barrier decrement.

To the question of emotional impact of the hostile messages, the reader should recall that both groups reported greater "hostility outward" than "hostility inward" when listening to the tapes. Additionally, many subjects reported repressive, intellectualizing, or associative behaviors when listening to the messages, indicating the subjects were defending against the messages. It is apparent the hostile tapes did have an "engaging" quality and were not simply passively attended to.

The hypothesis that the digit-symbol task interferes with the person's coping ability and has affective impact may be viewed as viable in that it is the task or no-task time that stands out as the variable which best differentiates the two conditions. It was seen that many of the free resolution subjects frequently dealt with the hostile tapes through drawings of a hostile nature and through fantasy. Therefore, the subjects of the free resolution condition were primarily oriented toward dealing with the hostile tapes and the inkblots during the experimental trials. Those of the non-resolution condition were oriented to the tapes, the inkblots, and the digit-symbol task. As mentioned above, the digit-symbol task elicited considerable competitiveness and a "successful" performance demand. This more pressured orientation stands in contrast to the approach used by the free resolution subjects.

It is the competitive, "get it right" approach of the non-resolution subjects that raises some interesting points in considering the results of the current study. Perhaps the Barrier decrement found in the condition can be attributed to a combination of stresses rather than just the stress of the hostile messages. The other stress in this case is

that contributed by the demands of the digit-symbol task. In this explanation both the hostility and the digit-symbol task are considered unfinished business. Dealing with the hostility is considered unfinished business due to the reasons noted above. The "unfinished" view of the digit-symbol task comes first from the fact that most subjects literally could not finish the task in the time allowed. Additionally, many subjects reported they were trying to get "more than the last time". This indicates past performance was something with which the subjects continually dealt.

An addition to the above explanation of the Barrier decrement in the non-resolution condition is the view that these subjects were venting the aroused hostility through the digit-symbol task, i.e., displacement. This displacement appears to have permitted ventilation to the point of effectively reducing the affect (hostility and anxiety) generated by the tapes specific to the disturbing factor that produced the Barrier decrement. Therefore, the ventilation of the non-resolution subjects is seen as less effective than the direct ventilation of the free resolution subjects who used drawings, imagery, and fantasy to deal with the aroused hostility. This explanation can be combined with that listed above by stating that the non-resolution subjects were using the digit-symbol task to vent their feelings and that the involvement in the task became additional unfinished business. Therefore, the non-resolution subjects' means of ego-boundary maintenance, which were indirect at best, were further thwarted by the additional unfinished business of their performance demands.

This view lends itself to a consideration of strategies in psychotherapy. The findings suggests the therapeutic value of ventilation



alone is limited at best. Here ventilation is viewed as an indirect and incomplete means of coping with stress. The results of the non-resolution condition indicate that ventilation may help the individual "feel" better but adds little to strengthening ego-functioning. Therefore, interventions which lead the client to a more direct and confrontative approach to the issues and stresses of his life are suggested.

Future directions for research that grow from this study include the question of the level of interference, if any, of the digit-symbol task in body boundary maintenance. This would do much to clarify the consistent difference between the two conditions on Barrier measures. Due to the paucity of information the researcher gleaned from the Gottschalk-scored post experimental questionnaire, it is also suggested that other designs and perhaps more sensitive affective measures be employed to explore the experience of Barrier decrement, no matter what the stimulus of the decrement be. Finally, it would be of interest to discover the interrelationship of Barrier scores and measures of personal growth and self-assertiveness.

#### Clinical Implications

The findings of the current study provide the opportunity to critically examine various therapeutic approaches and their relationship to long-term benefits of ego-enhancement or growth. The data of the current study indicates that ventilation in isolation adds little to the strengthening of ego functioning. Examples of approaches which place primary emphasis on affective discharge as the "curative" agent in therapy are Janov's (1970) "Primal Scream" therapy, T-groups, and, to an extent, bioenergetic therapy (Lowen, 1975). Yalom (1976) has found that

the initially positive impact of highly affectively-charged therapeutic approaches may be expected to diminish within a twelve week period following such an experience. Here Yalom was referring to weekend workshop-type groups that were not followed by other therapy. The results of the current study show that a client might report feeling better after affective discharge but with little enhancement of ego functioning. One should not rule out, however, the potentially positive effect of such discharge. It is possible the client, without benefit of future or additional therapeutic intervention, might view himself from a different perspective and go through a process of positive relabeling of the cathartic experience. Therefore, catharsis can add to his growth. It is this relabeling or placing emotional discharge into a cognitive, therefore, more meaningful, structure that appears to create more enduring personality change. The subjects of the current study were able to maintain their ego-boundary where they could directly link their affective discharge to the disturbing features of the hostility. Likewise in therapy the most enduring and growth evoking experiences are those in which the client can integrate the emotional and cognitive aspects of his life's experiences. Here Gestalt (Perls, 1947) and Psychoanalytic therapies (Wolberg, 1967) seem to fit these requirements. That is, it is the goal of these approaches for the client to be more fully aware of his emotional experience and to assimilate these experiences into a meaningful structure of self. Therefore, much work of these two approaches are reconstructive in nature in that the individual is often blocked in emotional expression or in some way, has little insight, i.e., understanding of his behavior. It would appear that the most potent therapeutic approach is one that aids the client's emotional

discharge or expression and then goes beyond this expression to link emotional experiences to a "cognitive" understanding of self.

The results also lead one to consider the efforts of "helping programs" such as "widows to widows", "probation", and "retired citizen" groups. If these groups report a significant recidivism rate, they might consider that their interventions are not oriented to an "integrative" approach to traumatic or disruptive life changes.

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## APPENDIX A

### LITERATURE REVIEW

#### Rorschach as A Personality Test

As the present experiment revolves about the use of the Barrier index obtained from inkblots, the review of the literature will begin with a discussion of the problem of evaluating inkblot techniques.

Since Herman Rorschach first published his monograph, "The Form Interpretation Test", in 1921, the Rorschach has become one of the most heavily researched and most disputed instruments to appear on the psychological scene. Since its introduction, the Rorschach has unquestionably generated research. To date, the number of publications on the Rorschach has gone well beyond the 3000 mark.

"Despite all the research, most psychologists seem to remain in one of two camps: believers or non-believers" (Goldfried, et al., 1971). The reasons for this split are varied, to be sure, but seem to cluster around the question of the Rorschach's "validity." A good deal of this controversy seems to be perpetuated by the unsystematic approach which has been taken in the attempts to validate the Rorschach. This lack of direction in research may be attributed to the very elusive nature of the question that has been asked about the Rorschach. "Is the Rorschach valid?" approaches to the evaluation of the Rorschach have been guided by this rather global question and much room has consequently been left for variability as to what is actually being asked.

In the past, the classic analogy about projective tests in general, and the Rorschach in particular, was that they were like psychological X-rays. Projective tests were seen as being the ideal method for bypassing an individual's defenses and inhibitions and getting information as to what he is "really" like. Few today would hold this view, but continuing with the analogy will make a useful point. If one had occasion to question the validity of the X-ray itself, any technician would readily admit that his device is useful only for certain purposes; clearly X-rays are not able to measure everything under the skin. The implication for the Rorschach seems obvious. And yet it seems at times those questioning the validity of the Rorschach made such a requirement. If this is the job of the Rorschach, to measure everything psychological about a person, it will never be shown to be "valid." The job of measuring such a global concept as "personality" is likely too large for any test, let alone one made up of only ten inkblots.

Goldfried, et al. (1971), suggest that rather than focusing on the interpretive significance of isolated aspects of a protocol (such as the hypothesis that a high F% indicates constriction), a more meaningful and yet manageable way to approach the validity question is to use the personality characteristic, and not the test, as the point of departure. In other words, the relevant validity question which should be asked is: "What is the Rorschach valid for?"

Harris (1960) expressed a very similar orientation to the problem of Rorschach validity:

The search for validity of personality description from Rorschach data seems, then, to require not so much the splitting apart of primary traits or tendencies into infinitesimal units, as a conservative retention of larger traits (which may change with the development of theory)

and an empirical specification of the major environmental situations in which these traits usually express themselves (p. 414).

In asking for what the Rorschach is valid, the kinds of questions which need to be asked are as follows: "Can the Rorschach be useful in predicting success in psychotherapy?", "Is the Rorschach a valid indicator of homosexuality?", "Is the Rorschach a good measure of degree of hostility?" One can continue to pose as many questions as there are uses for the Rorschach. The list of such questions will undoubtedly grow, "yet it is by asking these specific questions that we shall determine those areas in which the Rorschach may and may not be validly applied" (Goldfried, et al., 1971, p. 5).

By the reduction of the larger question of Rorschach validity to questions of validity in specific areas, the vagueness of what is being measured is reduced, but by no means eliminated. The reason for some continuation of this vagueness is that the nature (either behaviorally or theoretically) of many of the constructs which the Rorschach is purported to measure are themselves often loosely defined. This is perhaps the case in using Elizur's (1949) approach in scoring for anxiety. However, not all areas of Rorschach applicability involve this problem of definition. In some approaches, the definition of the construct being measured is delineated better by theory. An example of this approach would be Friedman's (1953) scoring for developmental level, in which the definition of the construct comes directly from Werner's (1948) theory of development. In still other Rorschach approaches that which is being measured is defined behaviorally. Thus, if one scores the Rorschach for suicide indicators the question of what is being measured is less likely to involve problems of definition.

## The Holtzman Inkblot Technique

Since the present study used the Holtzman Inkblot Technique as its primary measurement, a brief description of the evolution and use of the technique will be given.

An extensive program for research was begun in 1954 at the University of Texas to overcome the psychometric limitations in the Rorschach by constructing completely new sets of inkblots. "The objective was to develop an inkblot test comprised of two alternate, interchangeable forms, each of which would contain many more inkblots than the Rorschach (Holtzman, et al., 1962).

A professional artist helped to construct thousands of inkblots varying in symmetry, form, color, and shading. Experimental test forms were assembled and standardized responses to 135 of the more promising blots were obtained from both psychotic patients in mental hospitals and normal adults. Unlike the Rorschach where the person is free to give as few or as many responses to each blot as he wishes, the instruction encouraged the subject to give only one response per blot, thereby reducing variation in the number of responses to a minimum. The subjects were asked to look at each inkblot and tell what it might look like, what it might represent, or what it could be. After three years of developmental research, the final forms of the Holtzman Inkblot Technique were constructed by taking the best inkblots and arranging them in two sets each containing 45 blots. The resulting Form A and Form B are strikingly similar, assuring their interchangeability as parallel forms of the same test.

Standardized inkblot records were obtained for over fourteen hundred cases in populations ranging from five-year-old normal children

to superior adults, from mentally retarded individuals, to chronic schizophrenic patients. Psychologists in universities and hospitals throughout the United States participated in the project by collecting protocols and other relevant information from carefully defined populations of individuals. In some instances, it was possible to administer the technique twice, using the alternate form for the second administration. The time between test and retest sessions varied from one week to one year, permitting rather broad generalizations about the equivalence of the two forms and the stability of inkblot scores over time.

The scoring system developed for the Holtzman Inkblot Technique includes twenty-two different variables that cover many aspects of an individual's response to an inkblot. The more important scoring systems for scoring the Rorschach were carefully taken into account in defining these variables so that most Rorschach scores could be easily derived from the basic elements in them. Several criteria played a prominent role in the formulation of variables for the scoring system. First, the variable had to be one which could be scored for any legitimate response, making it at least theoretically possible for a score to range from zero to 45 when given unitary weight. Second, the variable had to be sufficiently objective to permit high scoring agreement among trained scorers. Third, the variable had to show some 'a priori' promise of being pertinent to the study of personality through perception. And fourth, each variable had to be logically independent of the others whenever possible in order to code the maximum amount of information in the most flexible, efficient manner. The twenty-two variables are summarized in the Appendix H.

Inter-scorer consistency for "highly trained scorers is usually high, characteristically varying between high .80's to .98." The best estimates of reliability in the traditional sense of internal consistency are those based on the split-half method. Regardless of the population studied, Reaction Time, Rejection, Location, and Form Definiteness have uniformly high reliability (.88 - .97). The reliability of measurement within the abnormal populations is likewise high for Form Appropriateness, Color, Shading, Movement, Pathognomic Verbalization, Human, and Animal (.78 - .88). Only seven variables—Space, Sex, Abstract, Balance, Anxiety, Penetration, and Popular—yield estimates of reliability that are generally low (.51 - .66). In most cases, these latter variables are too skewed and truncated in distribution to permit adequate estimates.

The third kind of reliability estimate routinely obtained is the test-retest stability of scores over a specified period of time, using alternate forms of the inkblot technique for the two sessions. Most of the correlations for an interval of one week are moderately high, ranging from .39 to .88 (typically .60's and .70's). Similar results were obtained in other samples with intervals up to one year between testing sessions, indicating sufficient stability through time for most of the inkblot variables to justify their use in prediction studies.

Three general methods have been employed in answering the question of validity of the Holtzman Technique. First, inter-correlations have been carried out for all standardization groups to determine the common dimensions underlying inkblot perception and how they may differ in patterning from one population to another. Second, some of the external correlates of inkblot variables have been determined and used as a basis

for testing earlier hypothesis taken from the Rorschach, as well as providing data bearing upon interpretation of personality. And third, numerous significant differences among well-defined samples were extracted which shed further light on the meaning of inkblot variables while also providing a basis for psychodiagnosis of the individual. For a further discussion of the question of inkblot technique validity, refer to Section I of this review.

Of particular interest in the current study are the Holtzman variables of Barrier, Hostility, and Anxiety scores. The Barrier score will be discussed in the next section.

Included in the Holtzman scoring system is a method of measuring an individual's level of hostility which is a four-point scale. Scores may range from zero for no hostility to three for direct, violent, interpersonal destruction. This scale was developed after consideration of the existing scales for hostility on the Rorschach, notably those of Elizur (1949) and Murstein (1956). The scoring of Hostility on the Holtzman Inkblot Technique is based on symbolic, implicit, or explicit signs of hostility in the response. As with some of the other scales, a certain amount of clinical sensitivity on the part of the scorer is probably essential for satisfactory results. Holtzman, Thorpe, Swartz, and Herron (1961) report a range of split-half reliabilities of the scoring of Hostility of college student samples as .65 to .78, with an average value of .70. A number of investigations have focused on the relationship between aggressive content on the Rorschach and Holtzman Inkblots and various types of overt aggressive behavior. Most investigators have not been content with the scales devised by other investigators and consequently have devised their own adaptations of these



scales. Most of the scales are based on the original hostility scale devised by Elizur (1949) and most of these scales are closely related. Megargee and Cook (1967) scored the HIT records of a sample of 76 male juvenile delinquents of five inkblot scales devised by Elizur (1949), Hafner and Kaplan (1960), Holtzman, Thorpe, Swartz, and Herron (1961), Murstein (1956), and Finney (1955). They found that the correlations between the different scales ranged from .55 to .94, with a median value of .72. The Hafner and Kaplan, Holtzman et al., and Murstein scales were so alike as to be virtually interchangeable. A factor analysis showed them all loading on the same factor with loadings ranging from .81 to .92.

In a broad study, Megargee and Cook (1967) scored the HIT protocols of 75 juvenile delinquents on five aggressive content scales which included the Elizur scale, the Murstein scale, the Hafner and Kaplan scale, the Holtzman et al. scale and the Palo Alto Aggressive Content scale. These inkblot scales were then related to 11 different criteria of overt aggressive behavior. While a positive relationship was obtained between these scales and self-confessed aggression, a significant negative relationship was obtained between several scales and observations of the overt physical aggression in detention. The Elizur scale, the Holtzman et al. scale and the Murstein scale all had an inverse relationship to the amount of overt physical aggression the boys engaged in while in detention. In investigating the relationship of the Barrier scores of inkblot responses to violence, Megargee (1965) found a moderate but significant negative correlation ( $r = -.23$ ) between Barrier and ratings of aggressiveness while in detention. He also found the less delinquent juveniles had significantly higher Barrier scores.

In short, while the scales mentioned above are not identical, most of the inkblot scales have been devised and are sufficiently similar that the scales can be treated as a unit. Also, one must bear in mind the negative relationship between inkblot measures of hostility and actual aggressive behavior when making interpretations from protocols.

The scoring of anxiety in the HIT is patterned after the original work of Elizur (1949) and is based on a direct relationship between the amount of conscious awareness of anxiety and the anxiety content in the percept. Elizur defines anxiety as an inner state of insecurity, which may take the form of fears, phobias, lack of self-confidence, extreme shyness, ideas of reference, or marked sensitivity. The anxiety score reflects the level of anxiety and implies a long-term personality characteristic of the individual rather than a transitory reaction to stress. Ax reflects the degree of anxiety, not the way in which the individual expresses or attempts to reduce it. In order to assess how the individual copes with anxiety, his defensive style must be derived from other scoring variables. Anxiety is scored on the basis of symbolic content, which is strictly at the fantasy level. Neither the presence nor absence of anxiety is a sign of ego weakness; how the anxiety is handled indicates whether the personality is healthy or disturbed.

#### Body Image, Boundary, and Barrier Response

One construct that has been tested through the use of the Rorschach and the and the Holtzman inkblot techniques is that of body-image and body boundaries. The concept of body-image has found a significant place in the formulation about personality both by theorists who emphasize the importance of early experience and by those who stress the impact of the

current situation. Whether the discussion centers about the infant trying to separate himself from the external world and learning what is part of him and what belongs to others, or whether it is concerned with the existential immediacy of current situations, body-image is of crucial importance.

Fisher and Cleveland (1958) have devised a system for scoring the Rorschach in a manner they feel sheds light on the individual's body image. Particularly, the system attempts to describe the body boundaries according to whether they are "firm" and "substantial" or, on the other hand, "weak" and easily "penetrable."

Fisher and Cleveland's interest in the body-image boundary dimension began with their study of the personality of patients with rheumatoid arthritis (Fisher and Cleveland, 1955). At that time, they noted that the Rorschach responses of these patients were characterized by a number of unusual references to the boundary qualities of the percepts. From these observations Fisher and Cleveland developed a scoring system for the "Barrier" quality of Rorschach responses. (Fisher and Cleveland's scoring system was later adopted by Holtzman in the development of the Holtzman Inkblot Technique.) Initially, this Barrier quality seemed to have been somewhat negative, in that the implication was that these patients were rigid both in their personality and their conceptions of their body. However, this negative implication very quickly dropped out and theorizing about the high Barrier person has become quite positive. The theoretical system sees an individual's body image as being a reflection of the type of object relations he has been able to establish. That is, people with high Barrier scores are seen as having formed substantial images of their own bodies and as being capable of dealing with others

from this locus of a firm, well-integrated self-image. Being secure within their own homebase, so to speak, they are able to deal with people and situations in a commanding, well-integrated, effective manner (Cleveland and Mortin, 1962; Frede, Gautney, and Baxter, 1968; Ramer, 1963). Conversely, those individuals with lowered Barrier scores are seen as having unfirm, easily penetrable body images, and, as a result, deal with others from this weakened position.

This physical referent for an individual's conception of his body-image is not clearly specified, but it is seen as usually being identified with his body wall. However, exceptions to this location at the body wall can be cited in the case of individuals in early stages of development or acting under a variety of pathological syndromes (Fisher, S., 1964; Fisher and Fisher, R., 1964). Since the individual's body-image corresponds only roughly to the body wall, and since it includes a number of explicit and implicit attitudes, it is not seen as being consistently related to any physical characteristics of the individual. It is relatively stable after it has become developed and is not easily changeable despite changes in the physical appearance of the individual (Ware, Fisher, Cleveland, 1957; Fisher, 1959).

Although the concept is developed in body terms, it seems more clearly to be a theory of personality development rather than a theory of body development, in that the role of the body is seen as important only in the way it mirrors significant developmental experiences. Thus, although the concept arose from the study of psychosomatic individuals and physically ill patients, a number of hypotheses were tested with patients with psychosomatic disorders (Fisher and Cleveland, 1960; Cleveland and Fisher, 1960; Shipman, et al., 1964), and a number of

studies have concerned body images of the subjects directly (Fisher and Fisher, 1964; Fisher and Mirin, 1966; Rogers and Walsh, 1959). The later developments in the theorizing have served to take the "body" out of body-image; at some points, it is difficult to distinguish between body boundaries and ego boundaries, or between body-image and self-concept (Fisher and Cleveland, 1958, p. 367).

Although the theorizing about the individual has left the body far in the background, there also has been a tendency to integrate data on physiological reactivity to the body-image concept (Fisher and Cleveland, 1958). A rather elaborate theory of physiological reactivity has been stated by Fisher and Cleveland (1957). They hypothesize that individuals with clear and definite body-image boundaries are predominantly reactive to the outer body layers and less reactive within the body interiors; on the other hand, those individuals who are characterized by more weak and indefinite boundaries exhibit the converse pattern. The body exterior in this theory includes the skin, the striate musculature, and the vascular components of these two systems; the body interior includes all of the interior viscera. Although this division is not one of a common or easily recognizable differentiation of the nervous system, it does serve to distinguish roughly between those areas which are normally under voluntary responses. Hence, individuals who have more firm and definite body-image boundaries are capable of responding voluntarily and mastering a situation, whereas those of more indefinite boundaries are more passive recipients of stimulation, with their predominant responses being involuntary and interior. There have been a number of studies which have largely confirmed this particular hypothesis, and there also have been a number of studies with a variety of psychosomatic patients

which have stemmed from the hypothesis that excitation is centered in the body exterior for the person with firm body boundaries and in the body interior for persons with weak body boundaries (Fisher and Cleveland, 1958; Fisher, S., 1970).

Aside from the physical and physiological characteristics of the person with well-developed body boundaries, there is also a personality constellation which Fisher and Cleveland have identified with such an individual. This model sees the person with well-developed boundaries as being "self-sterring"; that is, the definiteness of his boundaries is presumed to be directly related to his ability to function as an independent person, with clear and definite standards and goals. He approaches tasks in a forceful manner, is not easily frustrated, and expresses himself through actively dealing with the environment in an attempt to make it conform to his own wishes. The person of less clearly defined body boundaries is seen as possessing the opposite of these characteristics in that he is more passive, more easily frustrated, and more suggestible. Rather than attacking the environment and making it conform to his wishes, he is more likely to allow the environment to shape him and to be passive in the face of external stimulation (Nichols and Tursky, 1967; Fisher and Cleveland, 1958; Cleveland and Morton, 1962).

The concepts which have been defined above are related principally to a single score--the Barrier score--in the Fisher and Cleveland scoring system. The scoring is identical for both the Rorschach and Holtzman inkblot techniques. There is also a second score, the Penetration of Boundary score, a dimension that was initially conceptualized as reflecting the personal vulnerability the individual might feel. Theoretically, this dimension was seen as being opposite of the Barrier

dimension and predictably should have been highly negatively correlated with the Barrier dimension. This has not proven to be so, and most of the research and theorizing have centered upon the Barrier concept, with the Penetration score showing a less consistent utility in research. The scoring system of the Barrier index may be found in Appendix H.

In evaluating the body-image boundary scoring system and subsequent research Goldstein, Stricker, and Weiner (1971, pp. 186-187) have pointed to some of the problems involved with Barrier research. Among these is the fact that all relationships mentioned above which have been investigated have been based on dichotomization at a median, which has varied between three and six. The use of this high vs. low dichotomy, as well as the large amount of overlap obtained in the research would suggest that, except in extreme cases, the Barrier score has little clinical value for idiographic decisions. Equal problems are posed for research scores, resulting in the failure of the high-Barrier groups to be constituted of individuals with similar scores.

Another major problem involved in research with the body-image boundary scoring system has been the liberty which various investigators have taken with the types of stimuli, administration, and response total employed. Rorschach and Holtzman plates, group and individual administrations, and prescribed and free response totals have been used in the several validation studies. There has been no adequate demonstration of equivalence across these various methods. There is a notation in a dissertation by Conquest (1963) that Fisher, in a personal communication, has recommended the use of the Holtzman blots rather than the Rorschach blots because one response per card makes response total comparable, under easy control, and allows the presentation of a wider range of

stimuli. The present study has followed Fisher's lead.

#### Perls' Theory of Ego Boundaries

The use of the concept "Boundary" has not been restricted to the work of Fisher and Cleveland and their associates. Perls has used Federn's conception of Ego-boundary as a starting point from which he expands. To Perls (1947),

. . . only the boundaries, the places of contact, constitute the Ego. Only where and when the Self meets the 'foreign' does the Ego start functioning, come into existence, determine the boundary between the personal and impersonal 'field' (p. 143).

In other words, the Ego and its boundary is delimited through a simultaneous process of identification (what the individual perceives as belonging to his "Self") and alienation (attributes "foreign" or not belonging to the "Self").

#### Recent Ego-Analytic Research on Aggressive Drive

In a series of papers (Silverman, 1965, 1966; Silverman and Goldweber, 1966; Silverman and Silverman, 1964, 1967; Silverman and Spiro, 1966, 1967), an experimental method was described for studying the effects that the activation of drive derivatives has on ego functioning. Drive-related and neutral pictorial stimuli have been presented tachistoscopically at a subliminal level, and the reaction to each have been sought immediately afterward through the Rorschach and other measures. The overall finding has been that after presentation of drive-related stimuli, various kinds of pathological reactions and defensive processes appeared which were not in evidence after the neutral pictures. It has been reasoned that the occurrence of this phenomena was enhanced by, if



not dependent on, the presentation of the drive stimuli in subliminal form. Data from two experiments (Silverman and Goldweber, 1966; Silverman and Spiro, 1966) support this contention. It is felt the subliminal presentation creates a situation where the direct discharge of the drive derivatives elicited is more apt to be blocked, a condition which increases the likelihood of a pathological outcome (Silverman, 1965; Silverman, Spiro, Weisberg, and Candell, 1969).

In one of the earlier studies (Silverman, 1966), the effects of aggressive stimuli had on the thinking of schizophrenics as revealed in a Rorschach task were examined. The main dependent variable under consideration was the amount of pathological thinking manifested, that is thinking that is illogical, unrealistic, and loose—primary process thinking. Each of 32 hospitalized patients was seen on separate days for an experimental and control session. First, a "baseline" measure of the schizophrenic's propensity for this kind of thinking was obtained much as it would be in a psychodiagnostic situation. Then after subliminal exposure to an aggressive stimulus on one occasion and a neutral stimulus on the other, another measure of pathological thinking was taken. In line with what had been predicted, pathological thinking was found to increase significantly under the aggressive condition. This finding was seen as consistent with theoretical formulations that have been offered by a number of writers to the effect that much of the ego disturbance in schizophrenia is a result of an inability to successfully cope with aggressive impulses (Bak, 1954; Cohen, 1954; Hartman, 1953; Pious, 1949). The more recent studies have supported this finding and further found that regressive thinking does not occur in reaction to the triggering of non-aggressive libidinal impulses (Silverman and Silverman,

1967; Silverman, S. E., 1969) except in the case of undifferentiated schizophrenics who respond paradoxically to subliminal "merging" stimuli pathologically (Silverman et al., 1969).

#### Gottschalk's System of Affective Analysis

Gottschalk and Auerbach (1966) describe a technique of content analyzing the psychiatric interview for the variables of Anxiety, Hostility Directed Outward, Hostility Directed Inward, and Ambivalent Hostility. To go from verbal behavior by an individual to an estimate of the relative intensity of certain affects experienced by an individual during brief units of time has required a series of assumptions that should be noted here. First, the relative magnitude of an affect can be validly estimated from the typescript of the speech of an individual using solely content variables and not including any paralanguage variables. In other words, the major part of the variance in the immediate affective state of an individual can be accounted for by variations in the content of the verbal communications (Gottschalk et al., 1958, 1961, 1962; Gleser et al., 1961). Secondly, on the basis of verbal content alone, the magnitude of any one affect at any one period of time is directly proportional to three primary indices: A) the frequency of occurrence of categories of verbal themata listed in Gottschalk's affect scales as compared to the occurrence of all types of thematic statements in a language sample; B) the degree to which the verbal expression represents directly or is pertinent to the psychological activation of the specific affect; and C) the degree of personal involvement attributed by the speaker to the emotionally relevant idea, feeling, action, or event. Third, the occurrence of suppressed and repressed affects may be inferred

from the content of verbal behavior by the appearance of a variety of defensive and adaptive mechanisms. Fourth, the product of the frequency of use of relevant categories of verbal statements and the numerical weights assigned to each thematic category provides an ordinal measure of the magnitude of the affect. (For Gottschalk scoring system, see Appendix I.)

In work by Gottschalk et al., verbal samples are usually obtained by asking the subject to speak for five minutes, with as little interruption as possible, about any interesting or dramatic personal life experiences (Gleser et al., 1961; Gottschalk et al., 1955, 1961, 1963). In some studies the subjects have simply been asked to talk for five minutes about anything that comes to their mind (Gottschalk et al., 1962) or to write for ten minutes about how they are feeling (Gottschalk et al., 1963). The score for any particular category is obtained by summing the weights of all the verbal references made within that category during some time period. The total raw score affect is the sum of scores over all categories. As to the reliability of such a scoring system, Gottschalk et al., have set the goal of achieving at least a reliability of .85 for the average total scale score. It has been reported that the scoring reliability of the anxiety scale (Gleser, 1961) and of the three hostility scales (Gottschalk et al., 1963) meets this standard. Validation of the scales have typically involved the comparison of various psychiatric groups with normal groups. Criterion measures have included self-report and personal inventories, as well as assessment procedures made by someone other than the subject.

APPENDIX B

INKBLOT RESPONSE FORM

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Inkblot Response:

Wait for signal to turn page

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(Note: the Free Resolution subjects had blank sheets between the tapes and the inkblot presentation)

APPENDIX C

SAMPLE: DIGIT-SYMBOL TASK

1	2	3	4	5	6	7	8	9
L	J	0	U	X	^	-	=	⊥

2	4	8	1	5	4	2	1	3	2	1	4	2	9	5	2	6

7	6	3	5	7	2	8	5	4	6	3	7	2	8	1	9	5

1	2	3	4	5	6	7	8	9
=	⊥	L	J	0	U	X	^	-

1	2	3	4	5	6	7	8	9
-	=	⊥	L	J	0	U	X	^

1	2	3	4	5	6	7	8	9
^	-	=	⊥	L	J	0	U	X

## VARIATIONS: DIGIT-SYMBOL CODE (Continued)

1	2	3	4	5	6	7	8	9
X	∧	—	=	⊥	L	∩	0	U
1	2	3	4	5	6	7	8	9
U	X	∧	—	=	⊥	L	∩	0
1	2	3	4	5	6	7	8	9
0	U	X	∧	—	=	⊥	L	∩
1	2	3	4	5	6	7	8	9
∩	0	U	X	∧	—	=	⊥	L
1	2	3	4	5	6	7	8	9
L	∩	0	U	X	∧	—	=	⊥
1	2	3	4	5	6	7	8	9
⊥	L	∩	0	U	X	∧	—	=

APPENDIX D

POST-EXPERIMENTAL QUESTIONNAIRE

What were you thinking and feeling during the taped recordings?

Wait for signal to turn page

---

What were you thinking and feeling during the number-coding task?  
(for the Non-resolution condition)

What were you thinking and feeling during the time between the taped recordings and the inkblot slides? (for the free resolution condition)

Wait for signal to turn page

## APPENDIX E

### INSTRUCTIONS

#### Holtzman Inkblot Instructions

"I'd like you to look at each inkblot and write down what it might look like, what it might represent, or what it could be. Since these are only inkblots, there are no right or wrong answers and each blot looks like different things to different people. It is possible for a person to see several things in each inkblot but I want you to give only one response for each slide."

#### Wechsler Instructions for Digit-Symbol Tasks

"Look at the boxes (pointing to the key). Notice that each has a number in the upper part and a mark in the lower part. Every number has a different mark. Now look below where the upper boxes have numbers but the squares beneath have no marks. You are to put in each of these squares the mark that should go with each number. (At my signal), you are to begin and fill in as many squares as you can without skipping any."



APPENDIX F

RESPONSES TO POST-EXPERIMENTAL QUESTIONNAIRE

TABLE X

RESPONSES TO POST-EXPERIMENTAL QUESTIONNAIRE

Response	Group Percentages of Subjects' Responses		
	High	Medium	Low
<u>Question # One: Non-Resolution Condition</u>			
Anxiety	10	10	0
Hostility Directed Outward	50	30	50
Hostility Directed Inward	0	0	10
Ambivalent Hostility	20	20	30
Repression or Denial	30	20	10
Intellectualizing	10	20	10
Reminded of Events in Life	20	30	20
<u>Question # One: Free Resolution Condition</u>			
Anxiety	20	0	20
Hostility Directed Outward	40	30	20
Hostility Directed Inward	0	0	0
Ambivalent Hostility	0	0	0
Repression or Denial	70	30	0
Intellectualizing	30	10	10
Reminded of Events in Life	30	30	40
<u>Question # Two: Non-Resolution Condition</u>			
Anxiety	0	0	0
Hostility Directed Outward	10	10	10
Hostility Directed Inward	0	0	0
Ambivalent Hostility	0	0	0
"Get as many as could"	70	70	80
Intellectualizing	0	30	20

TABLE X (Continued)

Response	Group Percentages of Subjects' Responses		
	High	Medium	Low
<u>Question # Two: Free Resolution Condition</u>			
Anxiety	10	0	0
Hostility Directed Outward	10	10	20
Hostility Directed Inward	0	0	0
Ambivalent Hostility	0	0	0
Imagery or Fantasy	70	40	40
Drawings: (Hostile)	30	30	10
(Doodles)	10	0	20

NOTE: The first four categories are from the Gottschalk and Auerbach scoring system. The remaining categories are from anecdotal records.

APPENDIX G

CHI-SQUARE ANALYSES ON THE GOTTSCHALK  
CATEGORY OF AMBIVALENT HOSTILITY

TABLE XI

CHI-SQUARE ANALYSES ON THE GOTTSCHALK  
CATEGORY OF AMBIVALENT HOSTILITY

Ambivalent Hostility During the Tapes			
	<u>Expressed</u>	<u>Not Expressed</u>	
Non-resolution	7	23	30
Free Resolution	0	30	30

$\chi^2 = 5.82, p < .05$

Non-Resolution			
	<u>Ambivalent Hostility</u>	<u>No Ambivalent Hostility</u>	
Question #1	7	23	30
Question #2	0	30	30

$\chi^2 = 5.82, p < .05$

## APPENDIX H

### HOLTZMAN SCORING SYSTEM

The name, abbreviation, brief definition, and scoring for each of the 22 variables of the Holtzman Inkblot Technique are given below.

Reaction Time (RT). The time, in seconds, from the presentation of the inkblot to the beginning of the primary response.

Rejection (R). Score 1 when S returns inkblot to E without giving scorable response; otherwise score 0.

Location (L). Tendency to break down blot into smaller fragments. Score 0 for use of whole blot, 1 for large area, and 2 for smaller area.

Space (S). Score 1 for true figure-ground reversals; otherwise score 0.

Form Definiteness (FD). The definiteness of the form of the concept reported, regardless of the goodness of fit to the inkblot. A five-point scale with 0 for very vague to 4 for highly specific.

Form Appropriateness (FA). The goodness of fit of the form of the percept to the form of the inkblot. Score 0 for poor, 1 for fair, and 2 for good.

Color (C). The apparent primacy of color as a response-determinant. Score 0 for no use of color, 1 for use secondary to form, 2 when used as primary determinant but some form present, and 3 when used as a primary determinant with no form present.

Shading (Sh). The apparent primacy of shading as a response-determinant. Score 0 for no use of shading, 1 when used in secondary manner, and 2 when used as primary determinant with little or no form present.

Movement (M). The energy level of movement or potential movement ascribed to the percept, regardless of content. Score 0 for none, 1 for static potential, 2 for causal, 3 for dynamic, and 4 for violent movement.

Pathognomic Verbalization (V). Degree of autistic, bizarre thinking evident in the response as rated on a five-point scale.

Integration (I). Score 1 for the organization of two or more adequately perceived blot elements into a larger whole; otherwise, score 0.

Human (H). Degree of human quality in the content of response. Score 0 for none; 1 for parts of humans, distortions, cartoons; and 2 for whole human beings or elaborated human faces.

Anatomy (At). Degree of "gutlike" quality in the content. Score 0 for none; 1 for bones, x-rays, or medical drawings; and 2 for visceral and crude anatomy.

Sex (Sx). Degree of sexual quality in the content. Score 0 for no sexual reference; 1 for socially accepted sexual activity or expressions (buttocks, bust, kissing); and 2 for blatant sexual content (penis, vagina).

Abstract (Ab). Degree of abstract quality in the content. Score 0 for none; 1 for abstract elements along with other elements having form; and 2 for purely abstract content (bright colors remind me of gaiety).

Anxiety (Ax). Signs of anxiety in the fantasy content as indicated by emotions and attitudes, expressive behavior, symbolism, or cultural stereotypes of fear. Score 0 for none; 1 for questionable or indirect signs; and 2 for overt or clearcut evidence.

Hostility (Hs). Signs of hostility in the fantasy content. Scored on a four-point scale ranging from 0 for none to 3 for direct, violent, interpersonal destruction.

Barrier (Br). Score 1 for reference to any protective covering, membrane, shell, or skin that might be symbolically related to the perception of body-image boundaries.

Penetration (Pn). Score 1 for concepts which might be symbolic of an individual's feeling that his body exterior is of little protective value and can be easily penetrated.

Balance (B). Score 1 for instances where there is overt concern for the symmetry-asymmetry feature of the inkblot; otherwise, score 0.

Popular (P). Each form contains 25 inkblots in which one or more popular percepts occur. To be classified as popular in the standardization studies, a percept had to occur at least 14% of the time among normal subjects. Score 1 for popular core concepts as listed in the scoring manual; otherwise, score 0.

APPENDIX I

GOTTSCHALK SCORING SYSTEM

Anxiety Scale

<u>Score</u>	<u>Category</u>
	<u>Death Anxiety:</u> references to death, dying threat of death, or anxiety about death experienced by or occurring to:
3	self
2	animate others
1	inanimate objects destroyed
1	denial of death anxiety
	<u>Mutilation Anxiety:</u> references to injury, tissue of physical damage, or anxiety about injury, or threat of such experienced by or occurring to:
3	self
2	animate others
1	inanimate objects
1	denial
	<u>Separation Anxiety:</u> references to desertion, abandonment, ostracism, loss of support, falling, loss of love object, or threat of such experienced by or occurring to:
3	self
2	animate others
1	inanimate objects
1	denial
	<u>Guilt Anxiety:</u> references to adverse criticism, abuse, condemnation, moral disapproval, guilt, or threat of such experienced by:
3	self
2	animate others
1	denial
	<u>Shame Anxiety:</u> references to ridicule, inadequacy, shame, embarrassment, humiliation, over-exposure of deficiencies or private details, or threat of such experienced by:
3	self
2	animate others
1	denial

<u>Score</u>	<u>Category</u>
	<u>Diffuse of nonspecific anxiety:</u> references by word or in phrases to anxiety and/or fear without distinguishing type or source of anxiety:
3	self
2	animate others
1	denial

#### Hostility Directed Outward Scale

<u>Score</u>	<u>Category</u>
3	Self (or others, human) killing, fighting, injuring other individuals, or threatening to do so.
3	Self (others) robbing or abandoning other individuals, causing suffering or anguish to others, or threatening to do so.
3	Self (others) adversely criticizing, depreciating, blaming, expressing anger, dislike of other human beings.
2	Self (others) killing, injuring, or destroying domestic animals, pets, or threatening to do so.
2	Self (others) abandoning, robbing domestic animals, pets, or threatening to do so.
2	Self (others) depriving or disappointing other human beings.
2	Others (human or domestic animals) dying or killed violently in death-dealing situation, or threatened with such.
2	Bodies (human or domestic animals) mutilated, depreciated, defiled.
1	Killing, injuring, destroying, robbing, wild life, flora, inanimate objects, or threatening to do so.
1	Self (others) adversely criticizing, depreciating, expressing anger or dislike of subhuman, inanimate objects, places, or situations.
1	Self (others) using hostile words, cursing, mention of anger or rage without referent.
1	Others (human, domestic animals) injured, robbed, dead, abandoned or threatened with such from any source including subhuman and inanimate objects, situations (storms, floods, etc.).
1	Subhumans killing, fighting, injuring, robbing, destroying each other, or threatening to do so.

<u>Score</u>	<u>Category</u>
1	Denial of anger, dislike, hatred, cruelty, and intent to harm.

#### Hostility Directed Inward Scale

<u>Score</u>	<u>Category</u>
4	References to self attempting or threatening to kill self, with or without conscious intent.
4	References to self wanting to die, needing, or deserving to die.
3	References to self injuring, mutilating, disfiguring, self, or threatening to do so, with or without conscious intent.
3	Self blaming, expressing anger or hatred to self considering self worthless or of no value, causing oneself grief or trouble, or threatening to do so.
3	References to feelings of discouragement, giving up hope, despairing, feeling grieved or depressed, having no purpose in life.
2	References to self needing or deserving punishment, paying for one's sins, needing to atone or do penance.
2	Self adversely criticizing, depreciating self; references to regretting, being sorry or ashamed for what one says or does; references to self mistaken or in error.
2	References to feelings of deprivation, disappointment, lonesomeness.
1	References to feeling disappointed in self; unable to meet expectations of self or others.
1	Denial of anger, dislike, hatred, blame, destructive impulses from self to self.
1	References to feeling painfully driven or obliged to meet one's own expectations and standards.



## Ambivalent Hostility Scale

<u>Score</u>	<u>Category</u>
3	Others (human) killing or threatening to kill self.
3	Others (human) physically injuring, mutilating, disfiguring self, or threatening to do so.
3	Others (human) adversely criticizing, blaming, expressing anger or dislike toward self or threatening to do so.
3	Others (human) abandoning, robbing self, causing suffering, anguish, or threatening to do so.
2	Others (human) depriving, disappointing, misunderstanding self, or threatening to do so.
2	Self threatened with death from subhuman or inanimate object, or death-dealing situation.
1	Others (subhuman, inanimate, or situation) injuring, abandoning, robbing self, causing suffering, anguish.
1	Denial of blame.

VITA

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