THE EFFECTS OF ANXIETY, HOSTILITY, 
AND DEPRESSION ON RESPONSES 
TO THE ROTTER INCOMPLETE 
SENTENCES BLANK

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THE EFFECTS OF ANXIETY, HOSTILITY, AND DEPRESSION ON RESPONSES TO THE ROTTER INCOMPLETE SENTENCES BLANK

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By

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CHAPTER I

INTRODUCTION

In a clinical setting a psychologist attempts to learn as much about his client as he can. He seeks information from the clients' friends, family, employer, work associates, and the client himself. The obtained information is organized in such a manner that a clients' roles, his functioning skills and abilities, his emotional characteristics and control, his intrapsychic conflicts and defense techniques, his self-concept, and values readily appear to the trained mind of the psychologist (9). In essence one may say that a psychologist attempts to get a global picture of his clients, one which includes both strengths and weaknesses.

Tests are one of the tools which a psychologist may use in the formulation of this global picture. The interpretations obtained from a test are influenced by the test's validity, its reliability, its fulfillment of purpose and objectives as stated in the test manual, and in addition in the case of projective techniques—the skill and experience of the psychologist doing the interpretation. Consequently the more information one has concerning a particular test, the easier it is for one to make a decision as to when and under what circumstances to use a test and how much emphasis to place on the results of that particular test.
Sentence Completion Blanks are one method of obtaining a global picture of the client. Generally these tests have been criticized as being too subjective. As a result, the reliability of such tests fluctuates with the training and experience of the psychologist. In an attempt to rectify the situation, Rotter and Rafferty devised a sentence completion blank which utilized an objective scoring system (5). However the research literature has since indicated that Rotter and Rafferty's objective scoring system either was not as objective as it appeared and/or the test responses varied with the amount of anxiety, hostility, and depression felt by the client taking this test (1,8). Hence this experiment seeks to determine the effects of such variables.

The present study is an attempt to determine the effect of anxiety, hostility, and depression on responses to the Rotter Incomplete Sentences Blank when the Incomplete Sentences Blank is scored according to the manual instructions. If the results of this study indicate that the adjustment score obtained from the Rotter Incomplete Sentences Blank fluctuates significantly with the clients' manifested anxiety, hostility, or depression, then the implication is that the psychologist should take this fact into account when using the Rotter Incomplete Sentences Blank as a diagnostic instrument especially in the initial sessions with the client. On the other hand, if the Rotter Incomplete Sentences Blank is not influenced by anxiety, hostility, or depression when scored according to the objective scoring system provided by Rotter and Rafferty in their manual, then the psychologist may rely on the results of the test to a greater extent in his first impression of the client, his personality, and his problems.
A promising method of measuring anxiety, hostility, and depression is the Today form of the Multiple Affect Adjective Check List. The Multiple Affect Adjective Check List "... was designed to fill the need for a self-administered test which would provide valid measures of three of the clinically relevant negative affects: anxiety, depression, and hostility," (13, p. 3). The Multiple Affect Adjective Check List is easily administered, requiring no more than five minutes, and has its own correction formula for checking response set. According to Zuckerman and Lubin (13) the Multiple Affect Adjective Check List is especially useful in stress experiments requiring before and after measures of affect, and for measures of natural stress such as operations and examinations.

The Multiple Affect Adjective Check List has two forms, the General and the Today form; hence, the Multiple Affect Adjective Check List has a different reliability pattern depending on whether a "general" time set or a "today" time set is used. The Multiple Affect Adjective Check List (General form) and the Multiple Affect Adjective Check List (Today form) are identical except for instructions. Both tests show a high internal reliability of .72 and .85 respectively. The difference between the two time sets occurs in test-retest reliability where the "general" time set yields a reliability of .68 and the "today" time set's reliability is .31. The lower reliability of the "today" time set is expected for the following reason: A test which attempts to measure affect should not be statistically reliable from day to day if it is truly sensitive to individual differences in mood (14).

The Multiple Affect Adjective Check List was standardized on 534
subjects obtained from the following populations: (a) seventy-five students obtained from an introductory psychology class at Adelphi College in New York, (b) 133 psychiatric patients from Larue D. Carter Memorial Hospital in Indiana, (c) forty-three patients from Central Islip Hospital in New York, (d) eighty-three patients from the V.A. Hospital in Washington, D.C., and the St. Cloud V.A. Hospital in Minnesota, and 200 job applicants drawn from a population of 1200 job applicants at the Indiana Medical Center personnel office. These latter 200 subjects were stratified by age, sex, and education to match the census distribution of these variables. The mean ages for all subjects ranged from eighteen to forty-two with a mean calculated on each sample of males and females.

The means and standard deviations for the three variables which the test seeks to measure—anxiety, depression, and hostility—are reported in the test manual for each group and sex (13). Only those means and standard deviations pertinent to the college students' population are presented here. Thus the sex variable which was insignificant was disregarded. Means of 6.6, 14.1, 7.7, and standard deviations of 3.3, 7.1, 3.9, were found respectively for the variables of anxiety, depression, and hostility.

Since the origination of the test, numerous studies have been conducted concerning its validity. Zuckerman (11) gave the scale to a class of thirty-two college students on consecutive class meetings a week apart. In each case he found that the anxiety scale showed a significant increase, relative to the baseline, when given on days prior to an examination. A significantly greater rise occurred for
for students who obtained low grades on the exams than those who obtained high grades. Similar results were obtained by Winter, Ferreira, and Ranson (10).

Zuckerman and Biase (12) replicated the study and in addition obtained worry ratings after the Multiple Affect Adjective Check List scale was given and before the exam was taken. These researchers found that students who rated themselves as being worried about the examination showed significantly greater increases than students who rated themselves as less worried about the examination.

Zuckerman, Lubin, Vogel, and Valerius (14) administered the Multiple Affect Adjective Check List on three baseline days, a week apart. On the fourth week the experimenter entered with an unannounced examination threat which was intended to elicit hostility as well as anxiety. The examination was not actually given at that time, but later at a previously scheduled time. Falsified low grades were given prior to taking the Multiple Affect Adjective Check List during the final week. The results showed that on the real examination day Anxiety scale scores were the only ones significantly elevated above the baseline level. The Anxiety, Hostility, and Depression scales were significantly affected by the examination threat and the low grades stress. The Hostility scale showed a significantly greater response to the examination threat than the Depression scale.

Lieberman (4) found that all three Multiple Affect Adjective Check List scores were significantly elevated on days when students were expecting an examination. In addition a comparison between good and poor students disclosed that poor students scored higher on the General
form of the Multiple Affect Adjective Check List and the Today's Hostility scale on non-test days. Consequently, on the basis of Lieberman (4) and other studies previously mentioned, one may conclude that the Multiple Affect Adjective Check List does measure what it purports to measure; that is, the Multiple Affect Adjective Check List is an adequate measure of anxiety, hostility, and depression.

The Rotter Incomplete Sentences Blank is one of the best known and most widely used tests. Like some of the other sentence completion methods used in studying personality, the Rotter Incomplete Sentences Blank is a semi-structured projective technique in which the subject completes partial sentences. Rotter and Rafferty (5) assumed that not only are the subjects' own wishes, desires, fears, and attitudes reflected in the resulting sentences, but in addition tendencies to block and to twist the meaning of the stimulus also occur.

The contemporary Rotter Incomplete Sentences Blank originated from a revised form used by Rotter and Willerman (6) in the Army. This contemporary form in turn originated from a revision of blanks used by Hutt (3), Shor (7), and Holzberg, Teicher, and Taylor (2) in the diagnosis, treatment, and disposition of veterans.

According to Rotter and Rafferty (5), the purpose of the Rotter Incomplete Sentences Blank is "... an attempt to standardize the sentence completion method for use at the college level ..." (p. 3) and also provide a gross screening instrument whose total score would give an index of maladjustment. It is not surprising, therefore, that the following objectives were kept in mind throughout the test's development: (1) to provide an objective technique useful for screening
and experimental purposes, be economical to administer and score, and have some of the advantages of projective methods, (2) the obtaining of specific diagnostic information for treatment purposes. This does not mean the test was constructed to measure or describe "whole personality" or expose the "deep layers" of personality of the fundamental structure. It was designed as a time saving device for the clinician, allowing him to structure his first interview advantageously before he spends a great deal of time with a patient.

The Rotter Incomplete Sentences Blank is available in three forms: College, High School, and Adult. Ages for the various forms are not numerically specified since the criterion is determined by group membership (5).

The Rotter Incomplete Sentences Blank was standardized on 299 entering freshmen (85 females and 214 males) at Ohio State University. The mean scores were 127.4 for the females and 127.5 for the males with a standard deviation of 14.4 and 14.5 respectively. Rotter and Rafferty (5) feel that this sample was typical of the freshman class since it compared favorably with the median percentile ranks on the Ohio State Psychological Examination, showing a difference of approximately two percentile points.

Validation data on the Rotter Incomplete Sentences Blank at the college level was collected on 82 females and 125 male students from Ohio State University who were classified as either adjusted or maladjusted (5). The data was obtained from the two sexes separately since the scoring manuals are different.

The subjects were segregated by sex and each sex divided into two
groups. Group 1 for both sexes consisted of subjects classified as adjusted or maladjusted in a forced classification category by their instructors. The Group 2 females consisted of ten students who had previously been classified as adjusted or maladjusted by advance student clinicians while the Group 2 males consisted of forty-six students who were considered maladjusted either by self-referrals to the psychological clinic for treatment or referred by vocational advisors to the Occupational Service for personal counseling.

The data for Group 1 females showed considerable overlap between those individuals rated "adjusted" and those rated "maladjusted." This was not surprising since the classification by the instructors was probably fallible. Despite the overlap, however, a cutting score of 135 on the Incomplete Sentences Blank correctly identified 78% of the adjusted cases and 59% of the maladjusted cases. This yielded a biserial correlation coefficient of .50.

Similar results occurred with Group 1 males. However, a cutting score of 135 correctly identified 52% of the maladjusted cases, and 89% of the adjusted cases thereby yielding a correlation coefficient of .62 (5).

A corrected split-half reliability of .84 (based on 124 male college students) and .83 (seventy-one female college students) was obtained by dividing the Rotter Incomplete Sentences Blank items into halves of approximate equal difficulty (5).

The test - retest reliability for college students ranged from .38 to .54. These coefficients indicate, according to Churchill and Crandall (1), that no great time elapse between administration and
measurement of experimental variables should occur. Since all correlations were significantly different from zero beyond the .01 level of confidence, Churchill and Crandall felt this indicated that the Rotter Incomplete Sentences Blank measures more than momentary moods or reactive states. However, when test-retest reliability of the Rotter Incomplete Sentences Blank performance in the group of mothers was calculated a correlation of .70 was obtained. (The group of mothers consisted of married adult women between the ages of 35-45 who had at least one child). Although the authors could not state an exact reason, they felt there were two likely explanations for the discrepancy between the test-retest reliability of the two groups: First, the test and retest situations for the mothers were exactly the same; whereas, the college students wrote their original Rotter Incomplete Sentences Blank's as a part of a required series of placement tests given when they arrived on campus while their participation in the retest administration was voluntary. Second, the possibility of a difference in the environments of the two samples exists. It can be assumed that most of the mothers' lives were relatively stable, while the college students were moving from home environments to college and job environments which entailed many new experiences and adjustments.

It seems plausible that there is a third possibility which one may consider. It is possible that the required series of placement tests given to the college students when they arrived on campus and the turmoil of orientation served to create for these college students an emotional state which differed from their normal ones. If one accepts this third possibility, then it seems possible that the Rotter
Incomplete Sentences Blank may be influenced by momentary anxiety, hostility, or depression. Therefore the purpose of this investigation is to determine exactly what effect momentary anxiety, hostility, or depression has on responses to the Rotter Incomplete Sentences Blank items.

A Statement of the Problem

In order to determine the effect of momentary anxiety, hostility, or depression, a baseline is needed. Consequently it seems that if the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank were given two or three times a week apart and then averaged, a baseline could be determined. This Multiple Affect Adjective Check List baseline would indicate how a subject generally felt with respect to anxiety, hostility, and depression. The Rotter Incomplete Sentences Blank, on the other hand, would give a stable indication of a subject's total adjustment score.

On the fourth week if a treatment is administered in the form of an examination threat, the Multiple Affect Adjective Check List should adequately reflect this significant difference between the baseline and the examination threat in the experimental group. However, the control group which does not receive an examination threat should not reflect any significant differences between the mean of the baseline and the mean of the last administration of the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank.

The Purpose of the Study

The primary purpose of this study is to determine the effect of
anxiety, hostility, and depression on responses to the Rotter Incomplete Sentences Blank.

Hypotheses

Based on the previous research concerning the effectiveness of the Multiple Affect Adjective Check List in measuring anxiety, hostility, and depression and the variability of the total adjustment score obtained from the Rotter Incomplete Sentences Blank in the Churchill and Crandall study, the following are hypothesized for the present study:

Hypothesis 1. In the experimental group on the examination threat day all three scales—-anxiety, hostility, and depression—of the Multiple Affect Adjective Check List will be significantly higher than their base lines.

a. The greatest increase will be on the hostility scale.

b. The increase on the hostility scale will be significantly greater than the increase on the depression scale, but not significantly greater than the increase on the anxiety scale.

Hypothesis 2. The control group will not have significant changes between the means of its baseline data and the last administration of the Multiple Affect Adjective Check List.

Hypothesis 3. In the experimental group, the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day will not be significantly different than the total adjustment score of its baseline.

Hypothesis 4. In the control group, the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day will not be significantly different than the total adjustment score of its baseline.
CHAPTER BIBLIOGRAPHY


CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature is presented in three sections: (a) the history of the Sentence Completion Method, (b) studies which utilized the Rotter Incomplete Sentences Blank, and (c) studies which utilized the Multiple Affect Adjective Check List.

The History of the Sentence Completion Method

According to Rotter (46), the first incomplete sentence blank for the study of personality was developed by A. F. Payne in 1928. Two years later, in 1930, A. D. Tendler (55) published his emotional insight test which consisted of twenty items devised to measure trends, fixed attitudes, conflicting desires, satisfactions, and attachments to persons. His test was designed in such a manner as to evoke emotional response, allow freedom of response, and not provoke discrimination or choice.

Wheeler (59) designed an incomplete sentence blank which he referred to as a similies test. Similes of an original nature for a series of adjectives were provided by the subject and analyzed in terms of thematic content following principals of H. A. Murray's theory of personality.

Cameron (7) in 1938 devised a sentence completion blank which was presented orally to subjects. The subjects oral responses were analyzed for logicalness, integration, distortion, and fixed thinking. In analyzing his data qualitatively, Cameron stated that the nature of language and the thinking process in abnormal subjects were different.
from those of normal subjects.

In 1941 Lorge and Thorndike (38) published a timed incomplete sentence test whose responses were interpreted in terms of individual traits and interests. The test in general was not productive for studying individual differences in personality and did not yield the personal attitudes of the subject regarding his problems.

In 1941 Rhode (45) revised Payne's original test and published a sixty-four item test which could be used with high school students. "Rhode's items were short and generally fairly unstructured." The instructions were general and required that the subject only complete the sentence. Responses were then analyzed in terms of Murray's scheme using needs, press, inner states, and cathex objects.

A thirty item incomplete sentences test which was more structured than others used for clinical purposes was described by Sanford (51) in 1943. The Sanford test was adaptable for a variety of purposes and had three types of items; a series stating a press, an action pattern of some need, and ambiguous statements for which the subject supplied the need. The Sanford test was applicable for students from grades three to eight.

During the war the sentence completion method was greatly accelerated. Its use in Army general hospitals was described by Hutt (31), Holzberg (30), and Shor (52). Shor devised a test which in his opinion was an adaptation of the word association method. He described it as a "self idea completion test." His instructions were designed to encourage freedom and spontaneity of responses. Clinical interpretations of the test were based on areas of rejection, areas of resistance,
other methods of evasion, and free clinical interpretation in relation
to the examiners' psychological training.

Rotter and Willerman (50) attempted to develop a sentence
completion method which could be used as a screening test and be
scored by relatively untrained scorers. In developing their test,
Rotter and Willerman re-evaluated items on the tests used by Hutt (31),
Shor (52), and Holzberg (30). Duplications and items which elicited
stereotypes and reduced individual responses were eliminated. In
addition the instructions were changed in order to eliminate the time
set.

Rotter, Rafferty, and Schachtitz (49) adapted the Army test
for college students and developed objective scoring manuals for a
measure of maladjustment. "Separate scoring manuals were developed for
male and for female students." The test became known as the Rotter
Incomplete Sentences Blank.

Studies Which Utilized the Rotter
Incomplete Sentences Blank

For the sake of convenience, Rotter Incomplete Sentences Blank
studies will be presented under the following categories: (a) validity
and reliability studies, (b) adjustment studies, (c) studies with
scoring as a variable, (d) surveys and correlational studies, and
(e) studies with anxiety as a variable.

Validity and Reliability Studies

Berg (3) found that high school protocols revealed students'
needs, attitudes, aspirations, and adjustment. An interpretation made
by a qualified person without knowledge of the students' identity was verified as accurate behavior in a significant number of cases by teachers who had observed the student in the school environment.

Getter and Weiss (19) found that maladjusted subjects utilized the infirmary significantly more often than adjusted subjects and significantly more maladjusted males utilized the clinic than maladjusted females.

Gardner (17) concluded that a cutting score of 135 correctly identified 80% of the heroin using males, 90% of the pill using males and 100% of the heroin using females. Reported interscorer reliability for three judges rating ten protocols was .88.

Kennedy, Cottrell, and Smith (34) found that very superior adolescents tended to have elevated adjustment scores on the Rotter Incomplete Sentences Blank. They suggested that superior individuals should have higher cut-off scores before being considered maladjusted.

Rotter, Rafferty, and Lotsof (48) gave the Rotter Incomplete Sentences Blank to approximately half the population of a small high school. The norms which ensued were able to discriminate with high efficiency selected groups of maladjusted children from those children of a presumable normal population. High inter-scorer reliability for trained scorers, .96 for the boys' manual and .97 for the girls' manual, were found. Boys' and girls' split half reliabilities were .74 and .86 respectively.

Rotter, Rafferty, and Schachtitz (49) reported validity and reliability studies conducted on 82 female and 124 male subjects. Test interscorer reliability for two experienced scorers was .96 for the
female manual and .91 for the male manual. "Split-half reliability was .83 for the female manual and .84 for the male manual." Biserial validity coefficients of .64 for females and .77 for males were reported.

It was concluded that the test appeared promising for use with college students as a screening device when a measure of conflict or maladjustment was required.

Churchill and Crandall (8) obtained high interscorer agreement, above .90, among scorers who had relatively little psychological training and who were trained exclusively on the Rotter Incomplete Sentences Blank manual. Moderate test-retest reliability was found for periods of up to three years, suggesting that the Rotter Incomplete Sentences Blank measured more than momentary mood.

Windle (61) discovered that there was a tendency for test-retest adjustment scores on the Rotter Incomplete Sentences Blank to lean towards better adjustment when the interval between the tests was less than two months. Among the factors he cited as contributing to higher adjustment scores were the following: (a) the pull of social norms plus the gaining of insight into the nature of the test, (b) ageing, (c) arousal and loss of interest, and (d) relaxation or hostility. On the other hand, Bendig and Bruder (2) felt that the tendency for the adjustment scores to regress to normalcy was due to the utilization of the same items or forms at each administration. A third explanation for variance in retest situations was advanced by Stephens (54). He concluded that the variance was due to the instability of test scores, changes in adjustment, and variance accrued to each item.
Adjustment Studies

Goldberg and Stark (22) used the Rotter Incomplete Sentences Blank along with several other tests to measure personality and attitude correlates of political preference in the election of 1964. Johnson supporters were significantly more maladjusted as measured by the Rotter Incomplete Sentences Blank. Nixon supporters, on the other hand, tended to be better adjusted, more authoritarian, more religious, and more orthodox in their views.

Morton (42) used the Rotter Incomplete Sentences Blank to measure maladjustment after psychotherapy emphasizing insight was utilized. His experimental group showed a mean decrease in maladjustment at the .001 level. His control group also showed a mean decrease in maladjustment but at the .05 level. He concluded that adjustment scores obtained from the Rotter Incomplete Sentences Blank regressed toward the mean of the population test score with repeated usage of the Rotter Incomplete Sentences Blank.

Studies with Scoring as a Variable

Walker and Linden (57) had four judges varying in level of psychological sophistication score Rotter Incomplete Sentences Blank protocols. In terms of consistency and accuracy of judgements made, all judges were successful. The following conclusions were drawn: (a) the Rotter Incomplete Sentences Blank was evaluated with consistency by even inexperienced judges although experienced judges did slightly better in terms of exact agreement in ratings, (b) all judges classified protocols with an accuracy better than chance would allow, and (c) marked
individual differences in judging ability appeared among judges of all levels of sophistication.

Guertin (24) examined sentence completion protocols for gross errors. A factor analysis demonstrated that there was consistency in the nature of the errors made and that the type of error made was related to other material of clinical significance. "The four factors obtained were labeled: Word Carelessness, Irrelevance, Poor Spelling, and Telegraphic Phrasing."

Fiske and Buskirk (14) judged sentence completion protocols in terms of a Q sort of need variables. The experimental design was such that it was possible to compare the agreement between interpretations of each subject's three protocols with the agreement between interpretations for different subjects. In one-fourth of the comparisons, the agreement was higher with protocols for different subjects than with other protocols from the same subject. "Thus a single protocol may be an insufficient basis for an interpretation that differentiates one person from other people," (14, p. 180).

Surveys and Correlational Studies

Mills (41) ranked tests used in experimental research according to their frequency of occurrence in the Journal of Projective Techniques. Sentence completion tests ranked fifth for the period from 1960-1964.

Crenshaw (9) extended the survey to include ten journals and an eighteen year time period. He found that the most frequently used projective techniques had changed little over time and sentence completion tests were ranked fifth.

Goldbergs' (21) survey ranked Sentence Completion Tests sixth, but
stated that the Rotter Incomplete Sentences Blank was the test most frequently used of the Sentence Completion Methods. Unanimous agreement held that the method was useful in assessing interpersonal attitudes. In addition, sentence completions are used more as a clinical than a research instrument.

Bieri, Blacharsky, and Reid (4) found the following correlations when the Rotter Incomplete Sentences Blank was used as a criterion of adjustment and the Manifest Anxiety Scale was used as the predicting test: (a) a correlation of .46 between the Rotter Incomplete Sentences Blank and the Taylor Manifest Anxiety Scale, (b) an insignificant positive relationship between maladjustment and the ability to predict differences correctly and, (d) a significant negative correlation between assimilative projection and maladjustment.

Denenberg (13) obtained a correlation of 0.388 between scores on the Rotter Incomplete Sentences Blank and maze performance. After cross-validation the correlation rose to 0.459.

Arnold and Walker (1) found a moderate relationship between scores obtained by the same individuals on the self and other-reference sentence completion blank.

Fitzgerald (15) found that correlations between frequency of response ratings on the Rotter Incomplete Sentences Blank were low but significant. In addition, these ratings correlated significantly with need value and need potential, but not to "conflict" score. After obtaining a near zero correlation between the ratings on the Thermatic Apperception Test and on the Rotter Incomplete Sentences Blank, Fitzgerald (15) concluded that each test measured different facets of
the personality. The Rotter Incomplete Sentences Blank tended to provide information about overt dependent behavior.

Tempone and Lamb (56) found a relationship of .73 between repression sensitization and adjustment scores obtained on the Rotter Incomplete Sentences Blank.

Rotter, Rafferty, and Lotsof (48) found low positive correlations between adjustment scores obtained from the Rotter Incomplete Sentences Blank and interview ratings made by a psychologist.

Siipola (53) found a direct relationship between the amount of ego-alien content elicited by the Rotter Incomplete Sentences Blank and the amount of time pressure imposed. In addition anxious subjects showed a greater degree of incongruence than non-anxious subjects.

Studies in Which Anxiety was a Variable

Renner, Maher, and Campbell (44) constructed a scoring system for the Rotter Incomplete Sentences Blank which assessed anxiety. "Correlations of .24 and .34, respectively, for male and female subjects were reported between their Sentence Completion Test anxiety scores and validation criteria based on self-description and peer ratings of anxiety." (43, p. 197).

Neuringer and Orwick (43) found statistically significant differences between high anxiety subjects when they were compared with middle and low anxious groups. All protocols were scored according to the anxiety criteria found in Rotter and Rafferty (47).

It appears that a great deal of research has been conducted using the Rotter Incomplete Sentences Blank as a variable. However from a
review of the literature some doubt still remains as to its stability.

Studies Which Utilized the Multiple Affect Adjective Check List

For the sake of convenience Multiple Affect Adjective Check List studies will be presented under the following categories: (a) normative data, (b) hypnotically induced emotional states, (c) army basic training, (d) behavioral therapy, (e) psychotherapy, (f) sensitivity training, (g) relaxation training, (h) drugs and alcohol, (i) correlations with other data, and (j) miscellaneous studies.

Normative Data

Giddon (20) gave the Anxiety Affect Adjective Check List to seventy-one female dental hygiene students once a week for fourteen weeks prior to clinical practice periods. Individual subjects' means ranged from 2.5 to 10.7 with an overall group mean of 7.44±1.64.

Harrow, Colbert, Detre, and Bakeman (25) gave the Today form of the Anxiety Affect Adjective Check List to seventeen schizophrenic and forty-three depressive patients. The means and standard deviations of the anxiety scores were 11.95±5.16 for the schizophrenics and 14.93±3.71 for the depressives. The schizophrenics had a significantly lower mean score (p<.02). Zuckerman and Biase (61) concurred and Zuckerman, Lubin, and Robins (62) obtained similar results with respect to the depressive scale.

Hayes (28) administered the Anxiety Affect Adjective Check List twenty-four times to sixty-seven sophomore nursing students during the first trimester of clinical nursing. His results indicated that the
subjects reported themselves as being more anxious from day-to-day than generally. A considerable increase in anxiety was reported before course examinations and after the final.

Knapp, Zimmerman, and Roscoe (35) administered the Multiple Affect Adjective Check List to 306 entering freshmen prior to a five hour admissions test. He noted that the depressive scores and the males anxiety scores were slightly higher than the norms reported in the manual. He attributed this rise in scores to the imminence of the testing session.

Hypnotically Induced Emotional States

Levitt, DenBreeijen, and Persky (36) used the Anxiety Affect Adjective Check List to obtain measures of anxiety prior to and during the induction of anxiety. These researchers noted that twenty-one of the twenty-four adjectives which differentiated anxiety patients from normals also differentiated the hypnotic anxiety state from the control state. Baseline scores under hypnosis, it was also noted, were lower than under normal conditions.

Zuckerman, Persky, and Link (65) attempted to test the hypothesis that affect states just prior to hypnotic induction are related to subsequent hypnotizability. Their results indicated that the Hostility Scale of the Multiple Affect Adjective Check List was significantly and negatively correlated with hypnotizability for subjects tested in small, highly motivated groups, but were unrelated to hypnotizability in a large, less motivated group.
Army Basic Training

Datel, Gieseking, Engle, and Dougher (12) gave the Multiple Affect Adjective Check List once a week for nine weeks to thirty-nine subjects undergoing basic combat training. Their results showed a decline during the week prior to the third testing occasion, but an increase in hostility and depression during the following two weeks. The authors noted that the Multiple Affect Adjective Check List scores corresponded with known stresses. More specifically, depression and hostility were affected by the general stress of basic training while KP elicited a specific hostility reaction.

Datel and Engle (10) replicated the above study from the beginning to the end of basic training. Their results suggested that hostility may replace anxiety over time during basic combat training.

Datel, Engle, and Barba (11) extended the above two studies to include a whole company. The results showed that reliable affect changes occurred in basic combat training.

Bournes, Coli, and Datel (6) found that anxiety was the dominant affect expressed by medics in Viet Nam. Two years later Bourne, Coli, and Datel (5) found that hostility was the predominate affect expressed.

Behavioral Therapy

Folkins, Lawson, Opton, and Lazarus (16) sought to determine if desensitization could serve as a stress reducer and if it did, was the complete procedure necessary or were either or both components just as effective as the full procedure in reducing stress reactions. Subjects in the experimental procedure received one of four training procedures
for three training sessions a week apart before exposure to a stressful film, an analogue of therapeutic desensitization, relaxation, cognitive rehearsal, or no-training control. The subjects completed the Anxiety Affect Adjective Check List questionnaire following each of the first two training sessions and immediately after the stressful movie scene. The experimental results indicated that subjects who had received cognitive-rehearsal in the three training sessions reported the least amount of anxiety on the Affect Adjective Check List Scale. On the other hand, subjects who received complete desensitization reported more anxiety on the Affect Anxiety Check List Scale than everyone else except the control group. As a consequence of the experimental results, Folkins, Lawson, Opton, and Lazarus (16) concluded that cognitive rehearsal was the most effective stress reducer while desensitization, which combined relaxation and cognitive rehearsal, was the least effective.

An interesting by-product of this experiment was the discovery that males who reported high stress to a female experimenter described themselves on the Anxiety Affect Adjective Check List as "highly anxious, with low self-confidence and personal adjustment, low needs for achievement and dominance, and high needs for abasement and deference." Females, on the other hand "who reported high stress to a male experimenter described themselves as highly anxious, with low needs for achievement and dominance and high needs for succorance, abasement, and deference," (16, p. 109).

The authors suggested that the above results may be interpreted as either a combination of sex-role insecurity added to the experi-
mentally induced stress or that males and females found it easier to admit a personality disturbance to a member of the opposite sex.

Greer and Turteltaub (18) assessed the effect of a subject's subsequent reaction after observing the behavior of other subjects in a fear arousing situation. The Multiple Affect Adjective Check List was used to describe the emotional responses to the fear arousing situation. A significant difference in responses to the Multiple Affect Adjective Check List existed between the subjects who saw their model respond fearfully in a feared situation and those subjects whose model was brave in a fearful situation.

Psychotherapy

Goldstein (23) investigated the effects of nonspecific factors in psychotherapy and several characteristics or psychological treatment which contributed to the placebo effect. He administered the Multiple Affect Adjective Check List and several other tests which measured anxiety, moods, and psychological adjustment to 96 neuropsychiatric hospital patients capable of returning to the community. The subjects were divided into pairs and each pair was placed into one of the following four treatment conditions: (a) positive set concerning treatment outcome with an alleged therapist congruent with their expectations, (b) positive set concerning treatment outcome with an alleged therapist incongruent with their expectations, (c) neutral set concerning treatment outcome and an alleged therapist congruent with their expectations, and (d) neutral set concerning treatment outcome and an alleged therapist incongruent with their expectations. One
member of each pair spoke to a therapist in the form of a tape recorder while the other member of the pair waited.

The results indicated that subjects who spoke into the tape recorder reported lowered anxiety and had changed certain moods in "therapeutic directions." Furthermore, subjects who were given a therapist congruent with their expectations responded to treatment with a greater positive placebo effect or measured by the Multiple Affect Adjective Check List and the other dependent variables. Subjects who received a positive set and a therapist congruent with their expectations showed the greatest placebo effect.

Sensitivity Training

Lubin and Zuckerman (40) used the Multiple Affect Adjective Check List to contrast pre and post conference scores of 43 subjects who completed sensitivity training. His results indicated that there was a significant relationship between the affect variable and the degree to which feelings are openly shared in the group. Participants reported experiencing less anxiety, hostility, and depression as feelings were more openly shared. Lubin and Zuckerman (40) concluded that their findings supported a basic tenet of small group training philosophy, that the open showing of feelings tended to have a releasing effect upon group processes and the behavior of individual subjects.

Lubin (39) found a low correlation between pre-conference self-disclosure inventory and the mean of the three scales of the Multiple Affect Adjective Check List administered after each of the eight sensitivity group sessions.
Relaxation Training

Johnson and Spielberger (33) used the Multiple Affect Adjective Check List to investigate the effects of muscle relaxation training procedures and the passage of time on the empirical measurement of state and trait anxiety. After relaxation training procedures state anxiety declined significantly whereas trait anxiety did not significantly decline. In addition, correlations between trait anxiety measures were high and stable over time whereas correlations between state anxiety measures were moderate or negligible. The results of this experiment were interpreted as supporting the view that state and trait anxiety are two separate and distinct constructs.

Drugs and Alcohol

Hankoff and Rudorfer (26) administered pyrbenzindole and a placebo to 37 adults, ambulatory patients, in a randomized double blind design for two weeks. The data collected from these subjects consisted of a psychiatrists' progress notes and scores from the Anxiety Affect Adjective Check List and the Target Symptom Rating Scale. The results indicated that pyrbenzindole had no more effect than the placebo in relieving anxiety and depression or in producing global clinical improvement. However patients who were rated by a psychiatrist as being more anxious or more depressed on the Target Symptom Rating Scale showed higher Affect Adjective Check List scores. Similarly, patients who manifested an attitude of greater denial toward their mental illness showed lower Affect Adjective Check List scores.

Hankoff, Rudorfer, and Paley (27), using the same experimental
design as the Hankoff and Rudorfer study (26), assessed the effectiveness of Ataractics; chlordiazepoxide, chlorpromazine, and meprobamate. These researchers found that the number of words indicative of anxiety as checked by the patients on the Affect Adjective Check List was reduced in all treatment groups, but was statistically significant by t test only with chlordiazepoxide and chlorpromazine. However when the data were subjected to an analysis of co-variance, the results indicated a statistically significant difference between treatment groups for placebo, chlordiazepoxide, and chlorpromazine.

Williams (60) investigated the psychological reasons for normal social drinking and tried to determine why some people drink frequently and excessively. He held five cocktail parties in which 91 students from two colleges participated. The data consisted of a problem-drinking scale, which measured proneness to alcoholism, and anxiety and depression adjective check lists which were given before the party, after 4 ounces of alcohol had been consumed, and at the end of the party. "Pre-party results indicated that problem drinking was positively associated with anxiety, depression, and the amount of alcohol consumed." Anxiety and depression were found to decrease significantly at low levels of alcohol consumption, but to reverse and increase rising to pre-party levels after eight ounces of alcohol had been consumed.

Zuckerman, Kolin, Price and Zoob (64) developed a Sensation Seeking Scale which correlated significantly with the Anxiety Affect Adjective Check List. Correlations with the Depression and Hostility Scales were low, positive, and nonsignificant.
Correlations With Other Data

Giddon (20) noted several correlations between the Anxiety Affect Adjective Check List and other rating devices, personal habits, and physiological measurements. He found that the mean of the Anxiety Affect Adjective Check List was significantly correlated directly with finger temperature, the Anxiety Scale of the Forced Choice Anxiety Scale and the number of cups of coffee consumed in a day. At the same time the mean of the Anxiety Affect Adjective Check List was significantly correlated inversely with first semester grade point average, diastolic blood pressure and almost inversely correlated with the Social Desirability Scale of the Forced Choice Anxiety Scale. The Edwards Preference Scale had no relationship with the Anxiety Affect Adjective Check List.

Hayes (28) reported a significant negative correlation between the Multiple Affect Adjective Test and course grades. Poor grades were frequently associated with hostility. This finding is supported by Lieberman (37) who noted that subjects who do poorly on an examination are more apprehensive when expecting the examination and on the actual day of the examination.

Miscellaneous Studies

Weaver (58) gave Zuckerman's Affect Adjective Check List and Bills' Index of Adjustment of Values to 181 high school seniors. On the basis of the adjustment scores the students were divided into three groups: high, medium and low adjustment groups. One-third of each group received a positive personality evaluation, one-third received a negative
evaluation, and one-third served as the control group and were told that their evaluations would be ready in two days. The results indicated the following: first, subjects who were given negative personality evaluations and who had in reality high self concepts rejected the negative personality information and did not manifest either any significant self-concept change nor any anxiety. Second, female subjects who were given a positive self concept evaluation and who had in reality a low concept raised their self concepts. Male subjects in the same situations showed no significant self concept changes. Both males and females accepted positive evaluations and did not indicate the presence of any anxiety. Third, subjects who were given a positive self concept evaluation and a positive self concept image originally showed no significant self concept change, no significant change in anxiety scores, and accepted the positive self concept evaluation. Fourth, subjects who were given a low self concept image and in reality had a low self concept image rejected the information, raised their self concept scores and remained relatively stable with respect to their anxiety score. Fifth, changes in anxiety scores following treatment were very different for subjects who differed in initial anxiety level. Highly anxious subjects had lower anxiety scores following any treatment whereas low anxious subjects raised their anxiety scores when given a positive evaluation.

In reviewing the research conducted with the Multiple Affect Adjective Check List, one may conclude that for a test so recently developed, a great deal of research has been conducted in the utilization of this instrument. Practically all of the research concerning this
instrument has been favorable. The only exception was Herron (29), who concluded that the major component of each of the Multiple Affect Adjective Check List--Today Scales was a function of the response set. Consequently he stated that the Today form of the Multiple Affect Adjective Check List should be used with caution. Therefore taking all of the research into consideration, it appears that the Multiple Affect Adjective Check List is an adequate instrument designed to measure anxiety, hostility and depression.
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CHAPTER III

METHOD

This chapter presents the method and procedure used to determine the effect of anxiety, hostility, and depression on responses to the Rotter Incomplete Sentences Blank. The Today form of the Multiple Affect Adjective Check List was used to measure anxiety, hostility, and depression.

Description of Subjects and Apparatus

The subjects consisted of thirty-eight students, sixteen females and twenty-two males, who were enrolled in General Psychology I and who met the following criteria: (1) were enrolled in one of the two General Psychology I sections which met from 12:00 - 1:00 PM on Monday, Wednesday, and Friday; (2) completed a minimum of two of the three baseline tests and the final test.

The apparatus consisted of the following two tests: the Rotter Incomplete Sentences Blank and the Today form of the Multiple Affect Adjective Check List. An example of each test is provided in Appendix A and Appendix B.
Procedure

The instructor read the following instructions to his class before administering the Today form of the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank: "The tests which will be passed out are part of an experiment in which the examiner is interested in measuring day to day changes in feelings. You will be given the test every Wednesday at the start of the class hour. There is no time limit, but you are urged to complete them as quickly as possible." The instructor then passed out the stapled tests which had been previously arranged in a counter-balanced order. Following the distribution of the tests, the instructor stated that the instructions for taking each test were printed on the test and he proceeded to read them to the class. The instructions were read aloud by the instructor for only the first administration of the tests in order to make certain everyone understood the directions and to answer any questions concerning procedure. After taking the tests, the students were requested to write down on a separate sheet of paper any comments they had concerning the experiment.

On the second and third administration of the tests, which occurred seven and fourteen days after the initial administration, the subjects were again told that the purpose of the experiment was to measure day to day changes in feelings. In addition, the subjects were reminded to read and follow the instructions which were printed on the tests. An additional sheet was provided for any additional comments the subjects wished to make.

The fourth administration of the tests occurred twenty-eight days
after the administration of the initial tests. The subjects in the control group followed the same procedures which they had followed for the previous three times. The subjects in the experimental group, however, followed a different procedure.

In the experimental group, the instructor entered the class carrying the tests for the experiment as he had done in the previous administrations. In addition, he carried a stack of tests and answer sheets identical to those used for a major course examination.

Before distributing the experimental tests, the instructor told his class that as soon as they had finished filling out the tests for the experiment, they would have their second major course examination. This examination as well as all other examinations for this particular course had been previously scheduled and given in the form of a "handout" to the students. However, one week previously the instructor had told the class that the course examination would be postponed until the Wednesday after Easter, one week later.

The announcement of the unexpected course examination was met with a roar of protest. One student reminded the instructor that the course examination had been rescheduled for the following week. The instructor replied that he had to turn in mid-semester grades to the administration office before Easter break and that he felt that the results of the two course examinations would be a better indication of their actual grade in this particular course.

Another student stated that he was not prepared to take a course examination. The instructor replied that if he had been keeping up with his reading and if his attendance in class had been regular then
he should not have any trouble with the course examination.

The instructor then passed out the tests for the experiment and told the class to finish as quickly as possible. He indicated that as soon as everyone was finished he would pick up all the tests before passing out the course's second examination. Subjects who completed the experimental tests before the rest of the class were permitted to spend the remainder of the time studying their books and notes in preparation for the second course examination.

After all members of the class had completed the experimental test, the class was told to write down their comments on a blank sheet of paper which had been provided with the tests. In addition, each subject indicated whether or not he believed that he was going to receive the course examination which the instructor had in his hand.

The deception regarding the courses' second major examination was eliminated immediately after the collection of the experimental tests.

The Rotter Incomplete Sentences Blanks were hand scored according to instructions in Rotter and Rafferty's manual (1). Ten of the Rotter Incomplete Sentences Blanks were randomly selected and scored by a graduate student who served as an interrater. This graduate student did not know which subjects had received the examination threat and which ones were in the control group.

The Multiple Affect Adjective Check Lists were hand scored according to scoring profiles obtained from the publishing companies (2).
CHAPTER BIBLIOGRAPHY


CHAPTER IV

RESULTS

Evidence relevant to the four hypotheses is provided in the present chapter. The results of the experiment were in the form of a before and after total adjustment score obtained from the Rotter Incomplete Sentences Blank and before and after anxiety, hostility, and depression scores obtained from the Multiple Affect Adjective Check List. The basic purpose was to determine the effect of anxiety, hostility, and depression on responses to the Rotter Incomplete Sentences Blank.

The scores from the first three administrations of the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank were averaged in order to obtain the following baselines or before scores: (a) an anxiety baseline, (b) a hostility baseline, (c) a depression baseline, and (d) a total adjustment baseline. In cases where the subjects were present for only two of the three baseline test administrations, the baseline consisted of an average of those two administrations. A summary of the means and standard deviations for each of the first three administrations of the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank and the resulting baseline is presented in Table 1.

In order to determine if the experimental and the control groups were basically equivalent on the dependent variables -- anxiety,
<table>
<thead>
<tr>
<th>H</th>
<th>Experimental</th>
<th>Control</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>9.94</td>
<td>3.91</td>
<td>7.44</td>
<td>3.14</td>
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<td>9.79</td>
<td>3.25</td>
<td>8.11</td>
<td>2.64</td>
<td>127.54</td>
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</tbody>
</table>
hostility, depression—and the total adjustment score obtained respectively from the Multiple Affect Adjective Check List and the Rotter Incomplete Sentences Blank, t-tests for equal N's (1) were computed between the baseline means of the two groups. A summary of the results is presented in Table II.

**TABLE II**

MAACL AND RISB BASELINE t-TESTS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAACL Anxiety Baseline</td>
<td>38</td>
<td>.9334</td>
<td>n .05 ns</td>
</tr>
<tr>
<td>MAACL Depression Baseline</td>
<td>38</td>
<td>1.9914</td>
<td>n .05 ns</td>
</tr>
<tr>
<td>MAACL Hostility Baseline</td>
<td>38</td>
<td>1.7023</td>
<td>n .05 ns</td>
</tr>
<tr>
<td>RISB Baseline</td>
<td>38</td>
<td>1.0674</td>
<td>n .05 ns</td>
</tr>
</tbody>
</table>

All t's were insignificant (p > .05), thus indicating that there were no significant differences between the experimental and control group before the treatment, in the form of an examination threat, was applied to the experimental group.

The first hypothesis stated that the experimental group, on the examination threat day, would have significantly higher anxiety, hostility, and depression scores than their baselines. The greatest increase was expected on the Hostility scale. This increase on the Hostility scale was hypothesized as being significantly greater than the increase
on the Anxiety scale. In order to determine if the first hypothesis was true, t-tests for equal N's (1) were utilized between the means obtained from the baseline data and those means obtained after the examination threat.

TABLE III

MEAN MAACL SCORES OF EXPERIMENTAL AND CONTROL GROUPS
BEFORE AND AFTER THE EXAMINATION THREAT

<table>
<thead>
<tr>
<th>Condition</th>
<th>Anxiety</th>
<th>Depression</th>
<th>Hostility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td>t</td>
</tr>
<tr>
<td>Experimental</td>
<td>8.53</td>
<td>11.21</td>
<td>2.1407*</td>
</tr>
<tr>
<td>Control</td>
<td>7.63</td>
<td>8.00</td>
<td>.3134</td>
</tr>
</tbody>
</table>

*p < .05.

Table III contains a summary of the mean Multiple Affect Adjective Check List scores of both the experimental and control group during the initial baseline period and immediately after the examination threat. The t-tests indicated that the Anxiety scale and the Hostility scales of the Multiple Affect Adjective Check List were significantly different from its baseline. Visual inspection indicated that the Hostility scale showed the greatest increase from its baseline.

Two additional t-tests were computed in order to determine if the increase on the Hostility scale was significantly greater than the increase on the Depression scale, but not significantly greater than the increase on the Anxiety scale. In order to compute these two
t-tests, it was necessary to first obtain a critical ratio consisting of the differences between the mean baseline and the mean score obtained after the examination threat for all three scales—Anxiety, Hostility, and Depression. The two t's were then computed. The difference on the Depression scale, but not significantly more than the difference increased on the Anxiety scale (t=2.4743, df=38, t=.9157, df=38).

The second hypothesis stated that the control group would not have any significant changes between the means of its baseline data and the last administration of the Multiple Affect Adjective Check List. In utilizing t-tests for equal N's (1) in order to determine if the hypothesis was true, no significant differences were found in the control group between the means of its baseline data and the last administration of the Multiple Affect Adjective Check List. The means of the Multiple Affect Adjective Check List and its t's for the control group were presented in Table III.

The third hypothesis stated that in the experimental group, the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day would be significantly greater than the total adjustment score of its baseline. In order to determine if this hypothesis was true, t-tests for equal N's (1) were completed between the mean baseline and the scores obtained after the examination threat.

Table IV contains a summary of the means of the Rotter Incomplete Sentences Blank for both the experimental and control group during the initial baseline period and immediately after the examination threat. The t-test between the before and after means was not significant, thus
indicating that no significant differences were reflected in the total adjustment score of the Rotter Incomplete Sentences Blank after the examination threat.

TABLE IV

MEAN RISB SCORES OF EXPERIMENTAL AND CONTROL GROUPS BEFORE AND AFTER EXAMINATION THREAT

<table>
<thead>
<tr>
<th>Condition</th>
<th>Before</th>
<th>After</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>127.5</td>
<td>124.1</td>
<td>.9113</td>
<td>p .05 ns</td>
</tr>
<tr>
<td>Control</td>
<td>122.7</td>
<td>117.6</td>
<td>.7324</td>
<td>p .05 ns</td>
</tr>
</tbody>
</table>

The fourth hypothesis stated that in the control group, the mean total adjustment score obtained from the Rotter Incomplete Sentences Blank on the examination day would not be significantly different from its baseline total adjustment score. In order to determine if this hypothesis was true, a t-test for equal N's (1) was utilized between the mean total adjustment baseline and the last obtained mean total adjustment score. No significant difference was found in the control group between the mean of its baseline and the last administration of the Rotter Incomplete Sentences Blank. The means of the Rotter Incomplete Sentences Blank and its t's were presented in Table IV.

In order to determine how accurate the Rotter Incomplete Sentences Blank had been scored, ten of the protocols were randomly drawn and rescored by a graduate student. This graduate student served in the
capacity of an interrater, and he had no knowledge of the previous scores nor of which protocols belonged to the experimental or control group. A Pearson r yielded a correlation of .83 between the experimenters' obtained total adjustment scores and the raters' obtained total adjustment scores.
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CHAPTER V

DISCUSSION

The present chapter consists of a comparison between what was predicted in the form of hypotheses and what was obtained in the form of results. Whenever possible, analogies are drawn to previous research. The following chapter headings are utilized: (a) The Effects of an Examination Threat on Responses to the Multiple Affect Adjective Check List, (b) The Effects of Anxiety and Hostility on Responses to the Rotter Incomplete Sentences Blank, and Implications of this Study.

The Effects of an Examination Threat on Responses to the Multiple Affect Adjective Check List

One of the principal variables investigated was the effects of an examination threat on anxiety, hostility, and depression as measured by the Multiple Affect Adjective Check List. As specified in Hypothesis 1 the experimental group on the examination threat day would have significantly higher anxiety, hostility, and depression scores than their baselines. In addition the greatest increase would be on the hostility scale. This increase on the hostility scale would be significantly greater than the increase on the depression scale, but not significantly greater than the increase on the anxiety scale. Studies cited in Chapter I (3, 9, 10, 11, 12), plus a great many other related studies, provided data and results which supported this hypothesis.
Differences between the base lines and the examination threat indicated that in the experimental group the anxiety scale and the hostility scale were significantly different from their baselines as predicted. The mean differences of the depression scale, while consistent with the hypothesis, was too small to be statistically significant. The hostility scale showed the greatest increase of the three scales. As predicted, this increase on the hostility scale was significantly greater than the increase on the depression scale, but not significantly greater than the increase on the anxiety scale.

From a practical point of view, the statistical analysis of this hypothesis confirmed the reactions of the subjects as observed by the instructor of the class. Each subject used in the experiment indicated on his opinion sheet the belief that he was going to receive the course examination which the instructor held in his hands. In addition, the roar of protest from the students which ensued after the announcement of the unexpected examination indicated first a reaction of hostility towards the instructor for being unfair and unpredictable and second as the realization of unpreparedness occurred, anxiety due to expected failure and the lowering of their previous grade point average.

In order to ascertain that the results predicted in Hypothesis 1 were in effect due to the experimental manipulation and not to an extraneous variable, such as the number of times the Multiple Affect Adjective Check List had been completed, a control group was utilized. As stated in Hypothesis 2 the control group was not expected to differ significantly between its baselines and the last administration of the Multiple Affect Adjective Check List. As predicted, the control group
did not differ significantly between its baselines and the last administration of the *Multiple Affect Adjective Check List*. These results support past studies using the *Multiple Affect Adjective Check List* in which control groups were not utilized. The implication is that control groups were not used then and need not be used in the future when using the *Multiple Affect Adjective Check List* in empirical investigations. Data relevant to this variable in relation to *Hypotheses 1 and 2* can be found in Tables I and III.

**The Effects of Anxiety and Hostility on Responses to the Rotter Incomplete Sentences Blank**

The effect of anxiety and hostility on responses to the Rotter Incomplete Sentences Blank was the second variable investigated. As was stated earlier the experimental group was given an examination threat which significantly raised their scores on the anxiety and hostility scales of the *Multiple Affect Adjective Check List*. The question asked was: Will this increase in anxiety and hostility significantly raise the total adjustment score obtained from the Rotter Incomplete Sentences Blank? As stated in *Hypothesis 3* it was expected that the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day would be significantly greater than its previous baseline. Contrary to what was expected, the total adjustment score of the Rotter Incomplete Sentences Blank did not significantly increase, but showed a trend in the opposite direction. Consequently, one may conclude that temporary anxiety and hostility did not significantly influence responses to the Rotter Incomplete Sentences Blank. These results although contrary to what one would expect from the
results of Churchill and Crandall (1) are in accordance with those results found by other investigators (2, 4, 6, 7, 8).

Windle (8) stated that there was a tendency toward better adjustment on retest of the Rotter Incomplete Sentences Blank when the intervals between the test had been less than two months. Windle (8) suggested that this phenomena of appearing better adjusted on retests was due to the following factors: (a) the pull of social norms plus the gaining of greater insight into the nature of the test, (b) ageing, (c) arousal and loss of interest, and (d) increased relaxation of hostility.

The fact that test-retest may be influenced by the pull toward social norm is supported by Morton (4). His evaluation of brief psychotherapy showed a mean decrease at the .001 level on the Rotter Incomplete Sentences Blank total adjustment score for subjects who had undergone therapy. In addition, subjects in his control group who had not undergone therapy also showed a mean decrease in their total adjustment scores which was significant at the .05 level.

Another investigator, Fisher (2), concluded that projective techniques which included the Rorschach, The Thermatic Apperception Test, a Figure Drawing, and Word Association were not significantly sensitive to the effects of embarrassment and anxiety induced by the experimental subjects. Consequently if generalization occurs, one may question the sensitivity of the Rotter Incomplete Sentences Blank to anxiety and depression. Stephens (6), however, indicated that the probability of the Rotter Incomplete Sentences Blank being sensitive to anxiety and hostility is slight. He stated that the instability of the adjustment
scores for the Rotter Incomplete Sentences Blank was due to certain stems in the blank which varied directly with adjustment and the judges interpretation of adjustment. Consequently, one may conclude that although test-retest changes occur in responses to the Rotter Incomplete Sentences Blank, these changes are restricted to only a few stems which generally do not affect the overall total adjustment score to a significant degree.

In order to ascertain that the results obtained with respect to Hypothesis 3 were not due to an extraneous variable, a control group was utilized. Hypothesis 4 had predicted that no significant changes would occur with respect to the total adjustment score obtained on the last administration of the Rotter Incomplete Sentences Blank and its previous baseline. This hypothesis was confirmed although a trend was noted toward social norms. These results indicated that the control group which did not experience an increase in anxiety and depression obtained similar total adjustment scores to those of their baselines. Data relevant to Hypotheses 3 and 4 are presented in Table 4. Since both the experimental and control groups remained relatively stable with respect to their baselines, one may conclude that the total adjustment score of the Rotter Incomplete Sentences Blank is not significantly influenced by temporary affect states of anxiety and hostility.

Implications of Present Study

There are two primary implications which have been generated from the results of this study. The first concerns the Rotter Incomplete Sentences Blank with regards to therapy, and the second refers to the
necessary training of scorers of the Rotter Incomplete Sentences Blank.

The Rotter Incomplete Sentences Blank is on the whole a stable instrument which is a good indicator of pre and post therapeutic changes when the interval between test and retest is greater than two months. If the blank is used consecutively at weekly intervals, one is likely to obtain adjustment scores which regress to the socially accepted norms. This phenomena may be corrected statistically by adopting a higher significance level when doing experimental research.

With respect to initial interviews, the Rotter Incomplete Sentences Blank is unlikely to be affected by temporary affective states of anxiety or hostility. However, if the states are more permanent or long lasting then the adjustment score will be significantly influenced. Consequently, whatever contributed to the maladjustment score obtained from the Rotter Incomplete Sentences Blank will generally be more than of a temporary nature. Extreme caution must be exercised, however, to determine the primary factors leading to maladjustment and those which are a by-product and of a temporary nature. Consequently, it is wiser if the Rotter Incomplete Sentence Blank be utilized along with other tests in a battery.

The moderately high inter-rater scorer correlations indicated that graduate students in psychology who have trained themselves by following Rotter and Rafferty's Manual (5) may be reasonably successful in the scoring of Rotter Incomplete Sentences Blank protocols. This idea is supported by Walker and Linden (7) who had judges of four levels of psychological sophistication successfully utilize sentence completion data. "Success was defined in terms of consistency and accuracy of judgement."
CHAPTER BIBLIOGRAPHY


CHAPTER VI

SUMMARY AND CONCLUSIONS

The primary purpose of this experiment was to determine the effect of anxiety, hostility, and depression on responses to the Rotter Incomplete Sentences Blank.

The subjects were thirty-eight students, sixteen females and twenty-two males, who were enrolled in General Psychology I. In addition, all subjects were enrolled in one of the two General Psychology I sections which met from 12:00 - 1:00 PM on Monday, Wednesday, and Friday and had completed a minimum of two of the three tests used in computing the baseline and the final test.

The Rotter Incomplete Sentences Blank and the Multiple Affect Adjective Check List were administered four times with an interval of one week elapsing between each administration. The first three administrations were averaged and used as a baseline. The fourth administration occurred after the experimental group was given an examination threat.

The hypotheses were as follows:

Hypothesis 1 stated that the experimental group would show an increase in anxiety, hostility, and depression relative to their baselines. This hypothesis was accepted with respect to anxiety and hostility, but rejected with respect to depression. In addition, as hypothesized hostility showed the greatest increase. This increase was significantly greater than the increase on the Depression Scale, but not significantly greater than the increase on the Anxiety Scale.

Hypothesis 2 predicted that the control group would not differ
significantly from its baselines. This hypothesis was accepted.

Hypothesis 3 stated that, in the experimental group, the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day would be significantly greater than the total adjustment score of its baseline. This hypothesis was rejected.

Hypothesis 4 predicted that in the control group, the total adjustment score of the Rotter Incomplete Sentences Blank on the examination threat day would not be significantly different than the total adjustment score of its' baseline. This hypothesis was accepted.

Hypotheses, results obtained, and their implications with regard to therapy, and the amount of training necessary for the scoring of Rotter Incomplete Sentences Blank protocols were discussed.

This study concluded that the evidence appeared to favor the stability of the Rotter Incomplete Sentences Blank and gave further support to two of the Multiple Affect Adjective Check List scales.
APPENDIX A

INCOMPLETE SENTENCES BLANK – COLLEGE FORM

Name..................................................................... Sex................. Age............... Marital Status.........................

School..................................................................... Class.................. Date........................................

Complete these sentences to express your real feelings. Try to do every one.

Be sure to make a complete sentence.

1. I like .................................................................................................................................

2. The happiest time .............................................................................................................

3. I want to know ................................................................................................................

4. Back home ........................................................................................................................

5. I regret ..............................................................................................................................

6. At bedtime ........................................................................................................................

7. Boys ...................................................................................................................................

8. The best ..............................................................................................................................

9. What annoys me ............................................................................................................... 

10. People ...............................................................................................................................

11. A mother .........................................................................................................................

12. I feel ..................................................................................................................................

13. My greatest fear .................................................................................................................

14. In high school ..................................................................................................................

15. I can’t ............................................................................................................................... 

(TURN PAGE OVER AND CONTINUE)
16. Sports
17. When I was a child
18. My nerves
19. Other people
20. I suffer
21. I failed
22. Reading
23. My mind
24. The future
25. I need
26. Marriage
27. I am best when
28. Sometimes
29. What pains me
30. I hate
31. This school
32. I am very
33. The only trouble
34. I wish
35. My father
36. I secretly
37. I
38. Dancing
39. My greatest worry is
40. Most girls
APPENDIX B

MULTIPLE AFFECT

ADJECTIVE CHECK LIST

TODAY FORM

By Marvin Zuckerman
and
Bernard Lubin

Name................................................. Age........... Sex......

Date......................... Highest grade completed in school.....

DIRECTIONS: On this sheet you will find words which describe different kinds of moods and feelings. Mark an X in the boxes beside the words which describe how you feel now - today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly.

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