

REPRESSION-SENSITIZATION AND
PSYCHOLOGICAL ADJUSTMENT

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CHAPTER I

INTRODUCTION

The Concepts of Repression and Sensitization

These concepts which have been widely employed in recent research have their experimental origins in the perceptual defense studies of the late forties and early fifties. Postman, Bruner, and McGinnies (1948) introduced the term "perceptual defense" as "a principle to account for variations in the recognition thresholds for tachistoscopically presented value words." They used the term "perceptual defense" to account for their finding of high recognition thresholds for low value words and employed the term "perceptual sensitization" to account for the existence of low recognition thresholds for high value words.

In the following decade the research which focused on this topic was primarily of three types: the demonstration of differential recognition thresholds for matched pairs of neutral and emotionally toned stimuli, attempts to

explain these data, and the investigation of the correlates of individual differences in responding to tachistoscopic and recall tasks. While articles of the first two types have been the focus of a great deal of controversy, the third has involved a consistently growing body of evidence. The significance of these findings for personality theory and their freedom from many of the criticisms of the early work on perceptual defense has been stressed by Eriksen (1954), Weiner (1955), and Bruner (1957).

Although terminology has differed somewhat across experiments, results with many different response measures suggest that individuals fall along a continuum with respect to the characteristic way in which they respond to threatening stimuli.

Byrne (1961) described one end of this continuum as "behavior mechanisms of a predominantly avoiding (denying, repressing) type" and the other extreme of the continuum as "predominantly approaching (intellectualizing, obsessional) behaviors." In research employing differential recognition thresholds for emotionally toned vs. neutral stimuli the terms "represser" and "sensitizer" have been used to describe the extremes of this dimension. Individuals in the former category are defined as those

having a relatively elevated threshold for emotionally toned material and in the latter as those having a relatively lower threshold for such material.

The Relation of Mode of Defensive Behavior
to Adjustment

Much of the research done on perceptual defense as well as most current theories of personality and defensive behavior would suggest that repression-sensitization is related to adjustment in a curvilinear manner. Neither obsessional concern with conflicts nor total selective denial of them should result in optimal adjustment.

New Techniques and Findings: The Minnesota
Multiphasic Personality Inventory (MMPI)
Repression-Sensitization (R-S) Scales

In order to study more economically the personality correlates of the repression-sensitization dimension, Altrocchi, Parsons, and Dickoff (1960) used a combination of six MMPI scales to create an MMPI scale of defensive behavior ($D + Pt + \text{Welsh Anxiety scores subtracted from the total of } L + K + \text{Hy denial}$). Byrne (1961) statistically refined this scale and titled it "The

Repression-Sensitization Scale." Byrne's scale has been extensively used in the last five years and is now by far the most frequently employed measure of repression-sensitization.

Attempts to use Byrne's MMPI R-S Scale in exploring the relation between type of defensive behavior and adjustment have led to some results which are surprising in relation to our most widely accepted theories of defensive behavior and personality development. In attempting to study the childrearing antecedents of R-S, Byrne (1964) found that repressers tended to have experienced a home atmosphere characterized by acceptance, confidence, and consistency while sensitizers had a less favorable early home environment.

In a more recent study focused on the relation between R-S and adjustment (Byrne, Colightly, and Sheffield, in press), the California Psychological Inventory (CPI) was given to groups of repressers, neutrals, and sensitizers formed on the basis of their scores on the MMPI R-S Scale. The results indicated that repression-sensitization is related to adjustment in a linear manner. Repressers were found to be significantly better adjusted than either neutrals or sensitizers, and neutrals were found to be better adjusted than sensitizers.

The present study is an attempt to separate more clearly the variables of repression-sensitization and psychological adjustment which have been seriously confounded in recent research. The relationship between style of defensive behavior and level of psychological adjustment will be examined. Research findings which bear on the relationship between repression-sensitization and psychological adjustment and which are of significance to the present investigation are reviewed in the next chapter.

CHAPTER II

A REVIEW OF THE RESEARCH LITERATURE ON REPRESSION-SENSITIZATION AND ITS RELATION TO ADJUSTMENT

Research Suggesting a Linear Relationship to Adjustment

Research suggesting a linear relationship between repression-sensitization and adjustment will be presented first because of the recent focus that has been placed upon these findings in the psychological literature.

During the last five years much of the research on methods of defensive behavior has involved the MMPI. Research employing the MMPI scales of R-S has usually indicated that repression-sensitization is related to adjustment in a linear manner. Repressors have been found to be significantly better adjusted than neutrals, and neutrals have been found to be significantly better adjusted than sensitizers.

Byrne, Barry, and Nelson (1963) found P-S scores (high scores indicate sensitization, low scores indicate repression) to be positively related to self-ideal discrepancy on Worchel's Self Activity Inventory. They also

found R-S to be positively related to a measure of value-feeling incongruency. Self-ideal discrepancy has been used as a measure of psychological adjustment (Rogers and Dymond, 1954). McReynolds (1956, 1958) found anxiety, as measured by the Taylor Manifest Anxiety Scale (MAS) and other indicators, to have a high positive correlation with measures of value-feeling incongruency. Thus, the Byrne, Barry, and Nelson results were offered as providing some support for the hypothesis that repression-sensitization is related to adjustment in a linear manner.

Another area of research interest has been that of the developmental conditions which lead to different defensive patterns. Byrne (1964) attempted to determine the childrearing antecedents of R-S. Three attitude surveys were given to groups of extreme repressors and of extreme sensitizers and to their mothers. In this way Byrne sought to obtain measures of mothers' attitudes, the subjects' own childrearing attitudes, and finally the subjects' perception of maternal attitudes. In summarizing the results of this study, Byrne concludes:

Contrary to the general hypotheses advanced earlier, the repressors appear to have experienced a home atmosphere characterized by permissiveness, acceptance, and confidence

in which the mother was consistent and high in self-esteem and in which the parents had a positive affective relationship with one another. The home of the sensitizers, on the contrary, was restrictive and rejecting, the offspring lack confidence in taking on the role of the parent, the mother was inconsistent and low in self-esteem, and the parents had a negative affective relationship with one another.

Byrne further stated that:

If these findings were to be supported by further research, present conceptualizations about the antecedents of repression-sensitization . . . would need to be altered considerably.

The CPI (Gough, 1957) was used as a criterion of adjustment in perhaps the most surprising and provocative research to date (Byrne, Golightly, and Sheffield, in press). In contrast to the psychodiagnostic orientation of the MMPI, the CPI focuses on areas of behavior equally relevant to the normal population. The CPI is scored in such a way that high scores indicate better adjustment than low scores. Because there are norms available for the CPI, it is possible to plot mean profiles for sensitizers and repressors in order to compare them directly with Gough's standardization sample.

The results indicated that repressors are the best adjusted of the three, the sensitizers the most maladjusted,

while neutrals fall between the two defensive groups. Also, "The repressors were found to fall at or above the mean on most variables. Once again the data fail to support the curvilinearity hypothesis."

Byrne, Colightly, and Sheffield (in press) state that most of the research to date suggests that the R-S Scale relates to adjustment in a linear fashion. In addition to the above studies, sensitizers have been found to respond more deviantly to Gough's adjective check list than do repressors (Byrne, 1961), sensitizers are more anxious than repressors with anxiety measured by the Taylor Manifest Anxiety Scale (MAS) (Joy, 1963), and sensitizers appear less well adjusted than repressors on four of the MMPI clinical scales (D, Mf, Pt, Si) (Joy, 1963).

Much of this evidence appears to be of a circular nature when we recall that sensitizers are defined by Byrne as those individuals who have high scores on the MMPI scales of D, Pt, and the Welsh Anxiety Scale.

Recent Attempts to Use the MMPI to Define
and Measure Repression-Sensitization:
A Closer Look

Gordon (1957) was one of the first to use the MMPI to form groups of sensitizers and repressors. He defined

repressors as having "high defensiveness and little manifest anxiety" and sensitizers as having "little defensiveness and a great deal of anxiety." He later defined a sensitizer as a person who is anxious and has relatively few defenses. On the basis of these questionable definitions he justified the use of an MMPI anxiety-defensiveness measure (roughly the relation of K and L scale scores to MAS scores) to form repression-sensitization groups. (High positive scores were defined as indicative of repressive behavior while high negative scores were defined as sensitization.) As an additional measure he used differential recall of threatening and nonthreatening material but reported: "We found little relationship between the anxiety-defensiveness ratio and differential recall ($r = -.12, p > .10$)."

Altrocchi, Parsons, and Dickoff (1960) used six MMPI scales to form a scale of repression-sensitization. Their measure was an index in which the total of the D + Pt + Welsh Anxiety Scores was subtracted from the L + K + Hy denial total. They offered little support for their selection of scales beyond that of face validity. They stated that the L and K scales were used "to be consistent

with Gordon (1957)." The D and Welsh Anxiety scales were used "to lessen the likelihood of measurement error" and the Pt scale "has traditionally been used."

Dyrne (1961) in refining and naming the Altrocchi scale cited twelve previous studies showing correlations between "sensitizing and repressive behavior" and individual scales of the MMPI. Often what was described as sensitizing and repressive behavior could only loosely be defined as such and frequently the correlation with individual scales was not of a great magnitude. With regard to the use of the D scale no empirical evidence was cited whatsoever. At any rate, a series of individual correlations of varying magnitude with loosely defined behaviors seems insufficient support for the use of the MMPI R-S index as an operational definition of repression-sensitization.

The strongest support for the R-S Scale is that of face validity. The R-S Scale can be questioned in this area also from a number of different points of view. Christie (1963) describes the R-S Scale as "a reliable but ambiguous personality dimension." In discussing the scale he states:

The rationale for this identification is again based on the face content of the items. On the L, K and Dn (Hy denial) Scales high scores

do indeed indicate denial of ordinary foibles, shortcomings, inconsistencies, or personal problems, while high scores on the D, Pt, and A Scales indicate admission of such problems.

Despite the above mentioned difficulties Byrne's scale did represent an improvement over the Altrocchi scale. Byrne eliminated the multiple weighting of some of the items scored on two or more of the originally used MMPI scales, eliminated altogether items keyed inconsistently in the original scale combination, and keyed all of the items so that high scores indicate sensitization and low scores indicate repression.

Christie (1963) suggests further possible difficulties involved in the Byrne scale. He points out that in the 155-item scale, 115 of the items are keyed "true." Thus consistent "naysaying" on both sets of scales would result in the label "represser," while consistent "yea-saying" would result in the label "sensitizer." In addition to this interpretation in terms of response bias the scores might equally be explained in terms of "social desirability."

Therefore, despite the widespread acceptance and use of this scale there seems only weak and indirect evidence that it is a valid measure of repression-sensitization.

A Summary of the Problems and Questions
Raised by This New Line of Research

Although the MMPI has been used to measure repression-sensitization in a number of different ways, the Byrne R-S Scale is the most refined MMPI measure and has been the most widely used.

The R-S Scale has had a strong attraction as a research instrument for many psychologists in the area of personality. This appears to be the result of a number of possible advantages involved in the research use of this scale:

1. It yields a reliable, quantitative measure of a hopefully significant personality variable.
2. It is derived from the MMPI, a widely used test in colleges and universities. This allows relatively economical procedures in the acquisition and handling of data.
3. The repression-sensitization dimension appears to be a basic and central one with regard to defensive behavior.
4. A significant amount of research has already been carried out in the area of perceptual defense and sensitization which is said to be the experimental basis

of present repression-sensitization research and theorizing.

The central problems involved in the construction of the R-S Scale and its use in research in the area of adjustment appear to be the following:

1. There is conflicting and weak evidence with regard to the validity of the R-S Scale.
2. Considerable circularity is involved in using the R-S Scale to study the relation of type of defensive behavior to psychological adjustment.
3. The scale might perhaps as validly be interpreted as a measure of response set or as a measure of social desirability.

Research and Theory Suggesting a Curvilinear Relationship to Adjustment

Evidence from perceptual defense research

Research involving perceptual and learning tasks has suggested that neither repression nor sensitization is related to optimal adjustment.

Eriksen (1951) tachistoscopically presented aggressive and nonaggressive scenes and correlated these results with performance on the Thematic Apperception Test (TAT).

He found that for subjects who employed perceptual defense for aggressive stimuli there were few stories with aggressive themes on the TAT (and the opposite trend for sensitizers). However, the TAT protocols of the repressive subjects evidenced "blocking, inaccurate interpretation, and incoherent, unelaborated stories."

Lazarus, Eriksen, and Fonda (1951) report similar findings using sexual and hostile sentences presented to subjects on a tape with a white noise background. The subjects were classified as intellectualizers or repressers by interview and case history data. They found those classified as intellectualizers to have "high perceptual accuracy and ready verbalization" and those classified as repressers to have "low perceptual accuracy and minimal verbalizations with blocking."

Chodoroff (1954) tested the hypothesis that "the more adequate the personal adjustment of the individual (as defined by judges' ratings of projective tests and a check list) the less perceptual defense he will show." He used 100 words, all of which were five-letter words and all were equated for word frequency as determined by the Thorndike-Lorge Word List (1944). Some of the words had been judged "emotional" and some judged "neutral." He

obtained the word association reaction times for each individual. He then tachistoscopically presented to each subject ten emotional words for which he had had long reaction times and ten neutral words for which he had had short reaction times. Chodorkoff believed that this adequately represented "personally relevant threatening and neutral stimuli." His results demonstrated that less perceptual defense was shown by individuals judged to have a more adequate personal adjustment. As Byrne's measure of repression is supposedly analogous to perceptual defense, this study forces one to question seriously Byrne's recent finding that repressers are optimally adjusted.

Evidence directly pertaining
to the MMPI R-S Scale

There is some research to suggest that the MMPI R-S Scale (ignoring for the moment the question of the validity of the scale and its confounding with adjustment) is not itself related to adjustment in a linear manner.

Byrne, Barry, and Nelson (1963) suggest that the positive correlations between R-S (the R-S Scale) and self-ideal discrepancy may be support for a linear relationship between R-S and adjustment. A study carried out by Block and Thomas (1955) suggests, however, that self-ideal

discrepancy may itself be related to adjustment in a curvilinear manner. Further evidence of this was given by Friedman (1955) who reported positive correlations between self and ideal ratings of normals, neurotics, and paranoid schizophrenics as follows:

Normals	.63
Neurotics	.03
Paranoid Schizophrenics	.43

Recent research has also suggested that Byrne's linear results may be partially due to the nature of the adjustment measure. Davison (1963), using Byrne's R-S Scale, obtained verbal and physiological measures from subjects who watched a stressful movie depicting a primitive ritual. He found that sensitizers (N.B., the sensitizer is partially defined by Byrne as one who scores high on Welsh Anxiety Scale) indicated greater anxiety than the repressers on the verbal measures but the repressers showed greater upset than the sensitizers on the physiological indices (measures of skin conductance, heart rate, and bodily movement).

Thus the linear results obtained with the R-S Scale, as Byrne (in press) has acknowledged, may be partially due to the fact that repressers will use repressive

defenses when giving a verbal report of their level of adjustment. Sensitizers, on the other hand, are likely to focus upon and overemphasize their problems in a direct verbal report. The relationship of perceptual defense to performance on projective tests has been explored by Eriksen and Lazarus (1952).

There appear to be two possible ways to deal with and explore this problem:

1. The use of adjustment measures which would correspond to different degrees of awareness of personal threat.
2. The use of adjustment measures other than direct, conscious verbal report.

Stein (1953) measured perceptual defense and sensitization (as defined by recognition thresholds for aggressive pictures) under neutral and involved presentations. His finding of "an accentuation of the preferred defense under the involved condition" suggests that the use of the CPI to measure adjustment (because it is a conscious self-evaluation type of instrument) may be leading to an extreme self-description for both groups. That is, both the sensitizers and the repressers are likely to be personally involved when taking the CPI, and their tendency to maximize and minimize their verbalized problems will be at the extreme also.

Personality theory and
repression-sensitization

The relationships between mode and degree of defensiveness, awareness of personal threat, and level of adjustment is a complex one. Repression-sensitization can be seen as a continuum with respect to the characteristic way in which individuals respond to threatening stimuli.

The extremes of this dimension have been characterized by Eriksen (1952) as:

1. Denial and repression producing avoidance. An attempt to keep the stimulus from awareness and to deny external reality.
2. An attempt to rationalize or explain away the threat, or project outward. Not a denial of external reality but a denial that this reality applies to the individual.

Thus when either of these modes of defense is carried to an extreme the individual is unable to face directly and deal with his conflicts and problems.

From many theoretical points of view (e.g., Freudian psychoanalytic, Rogerian awareness and acceptance, McReynold's value-feeling incongruency theory) it follows that an extreme use of repression or sensitization will lead to the denial to awareness of a wide range of experiences and this, in turn, will lead to poor psychological

adjustment. Neither massive denial nor obsessional concern with one's conflicts is likely to lead to optimal adjustment.

Both previous research (e.g., Stein, 1953) and the psychoanalytic theory of defensive behavior would further suggest that an individual's preferred mode of defense will be accentuated under conditions of increased personal threat. That is, as the individual's perceived personal threat is increased he will use his defenses in a more extreme and rigid manner. The represser will repress to a greater degree and the sensitizer will sensitize to a greater degree when under increased stress. If this is the case, we must take into account the operation of psychological defenses when we attempt to measure adjustment via verbal report. If the distorting effect of defensive behavior is not controlled or measured in some manner we will obtain a misleading picture of the level of psychological adjustment of groups differing in mode of defensive behavior.

From the above theoretical position it would follow, for example, that repressers in taking the CPI would "fake good" and that the sensitizers would "fake bad."

In summary, our most widely accepted theories of personality suggest that:

1. Repression-sensitization is related to adjustment in a curvilinear manner.

2. An individual's preferred mode of defense will be accentuated under conditions of increased personal threat. This, in turn, will affect his measured level of adjustment.

CHAPTER III

PURPOSE OF THE PRESENT EXPERIMENT

The present experiment represents an attempt to separate more clearly two variables that have been seriously confounded in recent personality research: mode of defensive behavior and level of psychological adjustment.

The purpose of the experiment is to re-examine the relationship between repression-sensitization and adjustment by operationally defining repression-sensitization in such a way as to avoid the circularities and confounded variables involved in recent research in this area.

The second part of the investigation focuses upon the problems involved in using a personality inventory to measure the adjustment of groups differing in style of defensive behavior. The relationship between style of defensive behavior and the degree of personal threat and subject awareness involved in measures of adjustment will be examined as an indirect way of determining the effect

of defensive behavior upon performance on a personality inventory. The condition representing increased awareness of personal threat has been constructed so as to make it similar to the threat experienced by a subject taking a personality inventory.

The study proposes to test the following hypotheses:

Hypothesis I: The relationship between a controlled perceptual measure of repression-sensitization and the MMPI R-S Scale is not of a sufficient magnitude to justify the use of the R-S Scale as an operational definition of perceptual repression-sensitization.

Hypothesis II: Perceptual repression-sensitization is related to psychological adjustment in a curvilinear manner.

Hypothesis III: Repression-sensitization as measured by the MMPI R-S Scale is related to psychological adjustment in a linear manner.

Hypothesis IV: An individual's preferred mode of defense will be accentuated under conditions of increased awareness of personal threat.

CHAPTER IV

METHOD

Subjects

The subjects were 27 male and 36 female students enrolled in undergraduate introductory psychology courses at the University of Florida. Their participation in the experiment fulfilled one of the requirements of the psychology courses.

For the purpose of statistical analysis the 63 subjects were divided into groups of 21 repressors, 21 neutrals, and 21 sensitizers on the basis of their performance on a perceptual task. The subjects were also divided into equal groups of repressors, neutrals, and sensitizers on the basis of their MMPI R-S Scores. The detailed selection criteria and procedures are presented below.

Test Materials and Experimental Apparatus

The test materials and apparatus employed in the experiment consisted of the following:

1. A word list containing 37 words previously judged to be "neutral" and 37 words previously judged to be "emotional" (adapted from Chodorkoff, 1954). This word list is composed of five-letter words selected on the basis of (1) equivalent frequency of usage as determined by the Thorndike-Lorge Word Lists and (2) agreement among four judges as to the classification of each word.

The original list used by Chodorkoff contained 50 neutral and 50 emotional words. Upon inspection it appeared that a significant number of the emotional words could be described as having a "social taboo" connected with their spoken use. It seemed likely that subjects, particularly female subjects, would be likely to suppress their response on the tachistoscopic task because of the social taboo. If this were the case, the measure of perceptual defense would be contaminated by the subject's response to the social situation. Much of the controversy in the 1940's and 1950's about perceptual defense focused on the effect of word frequency and the so-called "dirty word" effect.

An attempt was made to control the possible contaminating effect of suppression by eliminating the more extreme socially taboo words. Four judges (two male psychologists and two female psychiatric social workers) were presented the original word list and instructed to select "the fifteen emotional words that you think would most likely cause a subject [University of Florida undergraduate student] to withhold his response when that word was presented tachistoscopically because of the 'social taboo' associated with speaking that word."

The words most frequently selected by the judges were dropped from the word list. Words were also dropped when there was judges' agreement that the word was no longer in frequent use or was likely to be misunderstood when read aloud in the reaction time procedure. Chodoroff's word list and the revised word list which was employed in this experiment are presented in Appendix A.

2. A tape recorder, voice-key, and electric timer.

These devices were employed to obtain accurate association-reaction times for the emotional and neutral words.

3. A Harvard Tachistoscope. This instrument was used in the perceptual task involving the emotional and neutral words.

4. The Revised MMPI R-S Scale (Byrne, 1963).

The scale is composed of 127 items drawn from the MMPI and 55 buffer items also taken from the MMPI. The scale is labeled "A Health and Opinion Survey." High scores indicate sensitization and low scores indicate repression. (See Chapter II for a description of the development of this scale.)

5. The California Psychological Inventory (Gough, 1957). The CPI is a personality inventory consisting of 480 True-False items. Approximately 200 of the items were drawn from the MMPI, which further confounds the study carried out by Byrne, Golightly and Sheffield (in press). The inventory yields 18 individual scales, each of which is scored so that high scores indicate better adjustment than low scores.

The test is well constructed and, given the limitations of personality inventories, appears to be a valid measure of general level of adjustment. Cronbach (1959) in describing the CPI, writes:

The development and technical work on this scale are of a high order. The reliabilities were carefully determined by retesting. Validity of each scale was determined by comparing groups which the scale presumably

ought to discriminate; dozens of cross validities on sizable samples are reported. The manual is in some respects a model for personality inventories.

There are problems, however, involved with the use of the CPI to measure adjustment of groups differing in style of defensive behavior. The adjustment scores on the inventory are likely to be affected by the differing defensive behavior of the represser and the sensitizer. Cronbach (1959) states: "The CPI is not appreciably less direct than other questionnaires on adjustment and character. Twelve of the original scales were much affected by a desire to fake good or bad." Cronbach concludes that, "Despite the complex manner in which keys were developed, the test must be regarded as no more than a tabulation of overt self descriptions."

6. Value-feeling incongruency rating forms and a value-feeling rating box. Incongruencies between values and feelings have been found to be related to anxiety. McReynolds (1958) carried out a study in which subjects were asked to indicate for a series of items (56 statements were selected which referred to kinds of experiences, events, and relationships about which incongruencies might exist, e.g., "to fight," "myself,"

etc.) what their evaluations (good-bad) and what their feelings (like-dislike) were. A discrepancy score was defined as the extent of the differences between these two ratings. Each subject thus received a global rating of value-feeling incongruency. Anxiety was estimated by means of self-ratings, interviewer ratings, and the Taylor Manifest Anxiety Scale. Significant positive correlations between the measures of anxiety and the measure of value-feeling incongruency were found.

Thirty-five items were selected from McReynolds' value-feeling incongruency forms to be used in the present experiment.

Procedure

Each of the 63 subjects was seen individually for three one-hour sessions. The experimental sessions were scheduled exactly one week apart.

The procedure will be described according to the different measures obtained for each subject and the different experimental conditions. The following is the order of presentation within the sessions and the average time that each procedure required:

Session One

1. California Psychological Inventory - 45 minutes
2. Value Rating Form - 7 minutes

Session Two (one week later)

1. MMPI Repression-Sensitization Scale - 20 minutes
2. Reaction Time Procedure - 15 minutes
3. Feeling Rating Form - 7 minutes

Session Three (one week after Session Two)

1. Tachistoscopic Presentation - 30 minutes
2. Value-Feeling Rating Procedure - 15 minutes

Four different types of measures were obtained for each subject. Each of these measures and the conditions under which they were obtained will be separately described.

1. A measure of perceptual defense and sensitization was obtained for each subject. A modification of a perceptual defense procedure first used by Chodoroff (1954) was employed.

The first part of this procedure involved a word association reaction time measure. A randomized 74-word list of emotional and neutral words was presented vocally by the experimenter to each subject (see p. 25 for a description of the formation of this word list). Both the experimenter's presentation of the word and the subject's word association were recorded on tape. The tape recording allowed

the words to be presented without stopping to record the reaction times. Each subject was instructed as follows:

I am now going to read a list of 74 words. The words will be ten seconds apart and after each word I would like you to say the first word that comes to mind. Please speak directly into the microphone and in your normal volume of voice. If you do not think of a word in ten seconds I will say the next word. If you do not know the meaning of a word, just say so and we will go on to the next one. Do you have any questions?

A voice key and an electric timer were later used in conjunction with the tape recordings to obtain association reaction times for each subject to each word. On the basis of these reaction times two groups of ten words were selected for each subject to be presented as the stimuli for the perceptual defense procedure. One group consisted of the ten emotional words for which the individual subject had the longest reaction times. The other group consisted of ten neutral words for which the subject had neither long nor short reaction times. Thus each emotional word selected for use in the perceptual procedure had not only been unanimously judged to be "emotional" but had produced a delayed reaction in the word association task. In this way words were selected which represent relevant threatening and neutral stimuli for each subject.

The use of word association reaction time as an indicator of areas of conflict or emotionality was first employed by Jung (1918) and later by Carlson (1954).

Three practice words were presented tachistoscopically to each subject and these were followed by the 20 individually selected words presented in a random order. Each word was presented in the tachistoscope beginning at the .01 second exposure level, and the exposure time was increased consecutively by .01 second until the subject was able to give two consecutive, correct reports of the stimulus word. The exposure time at which the subject correctly reported the word for the second time was used as the recognition score for that word.

Each subject was instructed as follows:

I am going to flash a series of 23 words on the screen before you. Each word will be flashed a number of times in succession and each time at a slightly slower speed. As soon as you have any idea as to what the word might be I would like you to guess. If it looks like the same word the next time, then say that word again. When you have correctly identified the word twice in a row, I will let you know that you are correct and we will go on to the next word. Do you have any questions at this time? There will be three practice words.

The perceptual defense-sensitization score for each subject

was defined as the difference between the total trials to recognition for neutral words and the total trials to recognition for emotional words. Thus, a larger number of trials for emotional words would indicate perceptual defense (repression) and a larger number of trials for neutral words would indicate perceptual sensitization.

On the basis of their ranked performance on the perceptual task the 63 subjects were divided into equal groups of 21 repressers (R), 21 neutrals (N), and 21 sensitizers (S).

2. The Revised MMPI R-S Scale was administered to each subject in order to obtain a current MMPI measure of repression-sensitization. On the basis of their R-S scores the subjects were again divided into groups of 21 repressers (R'), 21 neutrals (N'), and 21 sensitizers (S').

3. The California Psychological Inventory (CPI) was administered. The raw scores for each subject on the 18 CPI scales were converted to standard scores. A mean standard score was obtained for each subject which represented his general level of adjustment. The mean standard scores were then used to rank the subjects from highest to lowest level of general adjustment.

4. A value-feeling incongruency procedure adapted from McReynolds (1958) was administered to each subject under two different experimental conditions. The two conditions differed in the degree to which the subjects were allowed to know that (1) value-feeling incongruencies were being measured and (2) that the total number and degree of his incongruencies is thought to be related to level of psychological adjustment. In condition (1) the ratings were spatially and temporally distant and the instructions were neutral. The subjects were given an "Evaluations Form" in which they were asked to rate 48 items on a five-point scale from "Good" to "Bad." One week later a "Survey of Likes and Dislikes" was administered in which they were asked to rate 50 items on a five-point scale from "Like" to "Dislike." Thirty-five items were common to the two forms but the ordering of the items was different and different buffer items were used in each form.

In condition (2) the ratings were spatially and temporarily proximate and the instructions were such as to make the crucial dimensions clear and involving to the subjects. The subjects were asked to rate simultaneously each of the 35 statements on the value (Good-Bad) and feeling (Like-Dislike) dimensions. Each statement was

typed on two separate cards and the subject placed the cards in the row and column of a value-feeling box (see Appendix B) which represented his value and feeling ratings. In condition (2) the subjects were instructed as follows:

This is a rating test something like the ones you did before but with some different items and a different procedure. Each item is typed on two successive cards like this practice item (Going to the dentist). I would like you to rate each item first on the value dimension from good to bad and then on the feeling dimension from like to dislike. Would you please do the practice item first and for this one just put the cards flat on top of the rating slots that you select rather than into the slots. (Subject selects ratings for the practice item.) The degree of conflict between your values and feelings with regard to this item can roughly be measured by the vertical distance between your two ratings. The rating box has been set up so that values and feelings that go together without conflict are on the same level. The practice item was selected because it is one about which most people have some conflict. Do you have any questions so far? Some past psychological research in which subjects have been asked to rate a series of items and were able to compare their ratings as they did so has indicated that the degree of conflict between an individual's values and feelings is related to his psychological adjustment. I have some questions about the measures of adjustment used in this past research but the general finding I believe makes sense. In other words, if you were to rate each item

in a conflicting way you would probably experience much of your life as either wanting to do the things that you thought were bad or disliking the things that you thought were good. And you would probably be poorly adjusted as a result.

You do not need to spend a long time deciding on your ratings as long as you are able to compare your ratings as you go along. I want you to be able to see where you have conflicts and where you don't. Do you have any questions? You may begin.

An incongruency score was calculated for each subject under condition (1) and again under condition (2) by totaling the incongruency scores that he received for each statement. (See Appendix B for the value-feeling table which illustrates the way in which incongruency scores were calculated.)

Experimental Hypotheses

The following are operational statements of the central experimental hypotheses. Each hypothesis will be accepted if the null hypothesis can be rejected at the .05 level of confidence.

1. The correlation between the perceptual measure of repression-sensitization (Groups R, N, and S) and the MMPI measure of repression-sensitization (Groups R', N',

and S') will not be of sufficient magnitude to justify the use of the MMPI R-S Scale as an operational definition of repression-sensitization.

2. Groups R, N, and S will be related to the CPI measure of adjustment in a curvilinear manner. The mean CPI standard scores for Group N will fall significantly above the mean standard scores of both Group R and Group S.

3. Groups R', N', and S' will be related to the CPI measure of adjustment in a linear manner. The mean CPI standard scores for Group R' will fall significantly above the mean CPI standard scores of Group N'. The mean CPI standard scores for Group N' will fall significantly above the mean CPI standard scores of Group S'.

4. Value-feeling incongruency scores for Group R will decrease from condition (1) to condition (2). Value-feeling incongruency scores for group S will decrease to a significantly less degree than Group R.

CHAPTER V

RESULTS

The results pertaining to the perceptual measure of repression-sensitization and its relation to adjustment are the most central to this research and will be presented first.

A brief review of the way in which subjects were scored on the perceptual variable seems worthwhile at this point. The total number of trials to recognition for each subject on the ten neutral words was subtracted from the total number of trials to recognition on the ten emotional words. Thus a high positive score is indicative of extreme repression and a high negative score is indicative of extreme sensitization.

A frequency distribution of the tachistoscopic repression-sensitization scores (see Fig. 1) indicates a significantly larger number of repressors. Of the 63 subjects, 44 had higher recognition thresholds for the emotional words than for the neutral words (Signs Test, $z = 3.17$, $p < .001$). This significantly greater proportion

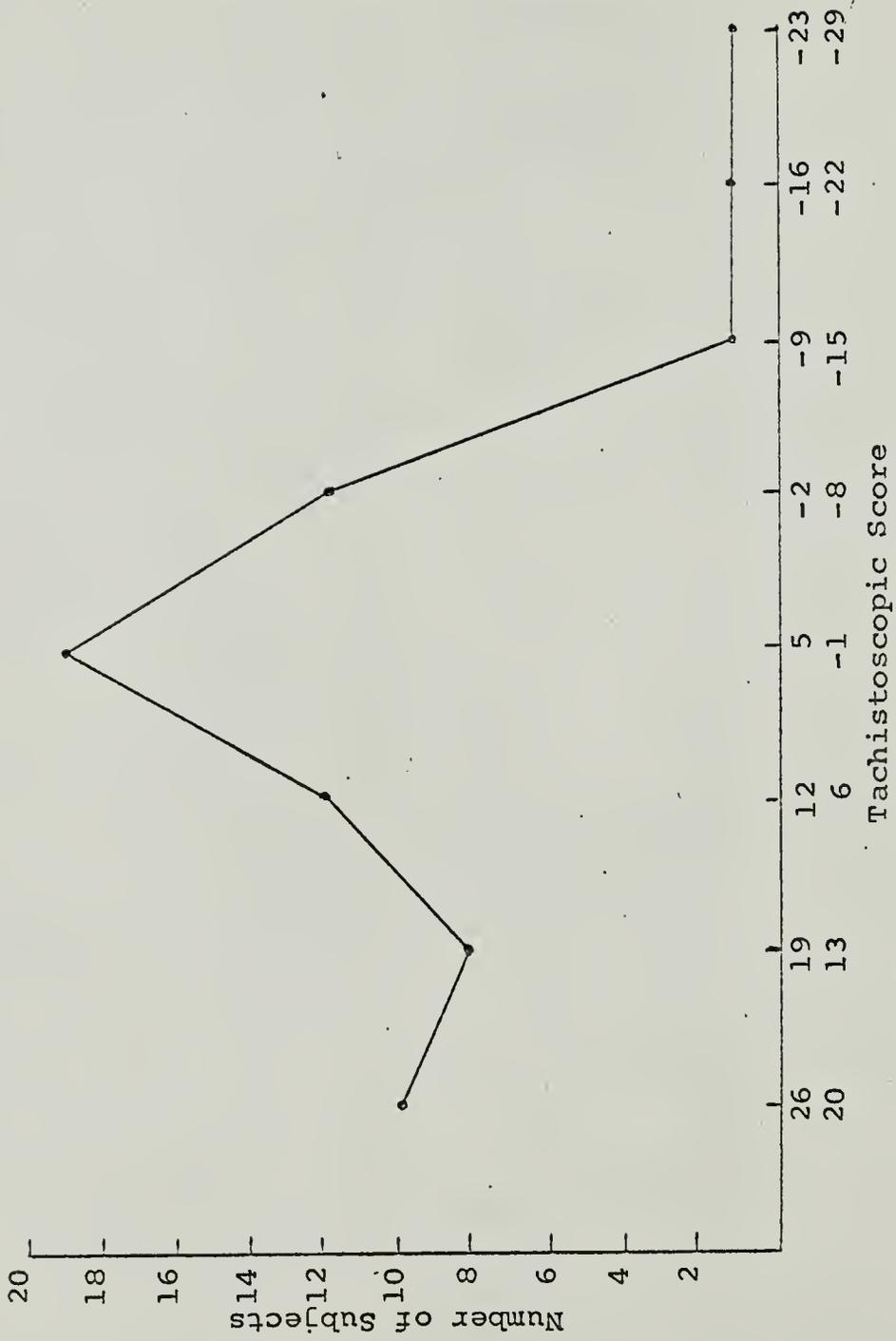


Fig. 1.--Frequency distribution of the tachistoscopic scores.

of perceptual repressers is in agreement with previous research in this area (Eriksen, 1952; Chodoroff, 1954).

The tachistoscopic scores of male and female subjects were compared as a possible indirect check of the effect of suppression. If a social taboo associated with some of the emotional words was a significant variable, it would be predicted that female subjects would hold back or suppress their responses with a male experimenter to a greater extent than male subjects. A Mann-Whitney U test of the difference between the tachistoscopic ranks of the female subjects ($N = 36$) and the male subjects ($N = 27$) indicates that there is no significant difference between the two groups in tachistoscopic performance ($U = 435, z = .07$). This finding provides additional support for the validity of this experimental procedure as a measure of repression-sensitization.

On the basis of their tachistoscopic scores the subjects were divided into equal groups of 21 repressers (R), 21 neutrals (N), and 21 sensitizers (S). The range of tachistoscopic scores for repressers was 26 to 11, for neutrals 9 to 2, and for sensitizers 1 to -26.

Mann Whitney U tests of the differences between

the ranks of adjustment scores for the three perceptual groups were carried out. Three statistical comparisons were made: R with S, R with N, and N with S. The results of these analyses have been summarized in Table 1.

TABLE 1

MANN-WHITNEY U TESTS OF DIFFERENCES AMONG THE RANKS OF ADJUSTMENT SCORES FOR THE THREE PERCEPTUAL GROUPS (R, N, AND S)^a

	Represser and Sensitizer Groups	Represser and Neutral Groups	Neutral and Sensitizer Groups
R ₁	458.5	437	430
R ₂	444.5	466	473
U	214	206	199
z	.02	.04	.05

^aN of each group = 21.

Contrary to the hypothesized curvilinear relationship, no significant relationship was found between the perceptual measure of repression-sensitization and adjustment as measured by the CPI.

This lack of relationship and the possible factors leading to it will be discussed later in this paper but one post hoc attempt to discover a possibly confounding

variable will be presented at this point. In examining the total trials to recognition for emotional and neutral words (see Appendix C) it is clear that there is a large amount of between subject variability in general recognition level. Because general recognition level for each subject is largely determined by visual acuity the resulting scores do not approximate a normal distribution. Furthermore it may not make sense to say that two subjects who have the same emotional-neutral difference score are repressing to the same degree if the scores for one subject are 210-205 and for the other subject are 40-35. For this reason an additional analysis and division of the subjects was carried out on the basis of a ratio score. A ratio of total emotional trials to total neutral trials was used to form a distribution of subjects from extreme repression to extreme sensitization. This has the effect of ranking the subjects according to the proportion and direction of their difference score relative to their total score. The tachistoscopic ratio scores have been presented in Appendix C.

When groups of repressers, neutrals, and sensitizers were formed on the basis of the ratio scores there was no significant relationship to CPI adjustment scores. A

Mann-Whitney U test indicated that there were no significant differences in the group comparisons of R with S ($U = 220, z = .01$), R with N ($U = 201, z = .49$) or N with S ($U = 195, z = .64$).

The mean CPI standard scores for the tachistoscopic groups R, N, and S formed on the basis of ratio scores have been plotted in Fig. 2. The three defensive groups have each been divided into three subgroups, each of which contains seven subjects. It can be observed that there is no consistent trend within the subgroups and also that the most extreme defensive groups show a slight insignificant trend in the opposite of the direction that has been predicted.

On the basis of the MMPI measure of repression-sensitization the subjects were again divided into equal groups of 21 repressors (R'), 21 neutrals (N'), and 21 sensitizers (S'). The range of MMPI R-S scores for repressors was 4 to 20, for neutrals was 21 to 32, and for sensitizers was 33 to 81.

Mann-Whitney U tests of the differences between the ranks of adjustment scores for the three MMPI groups were carried out. Three statistical comparisons were

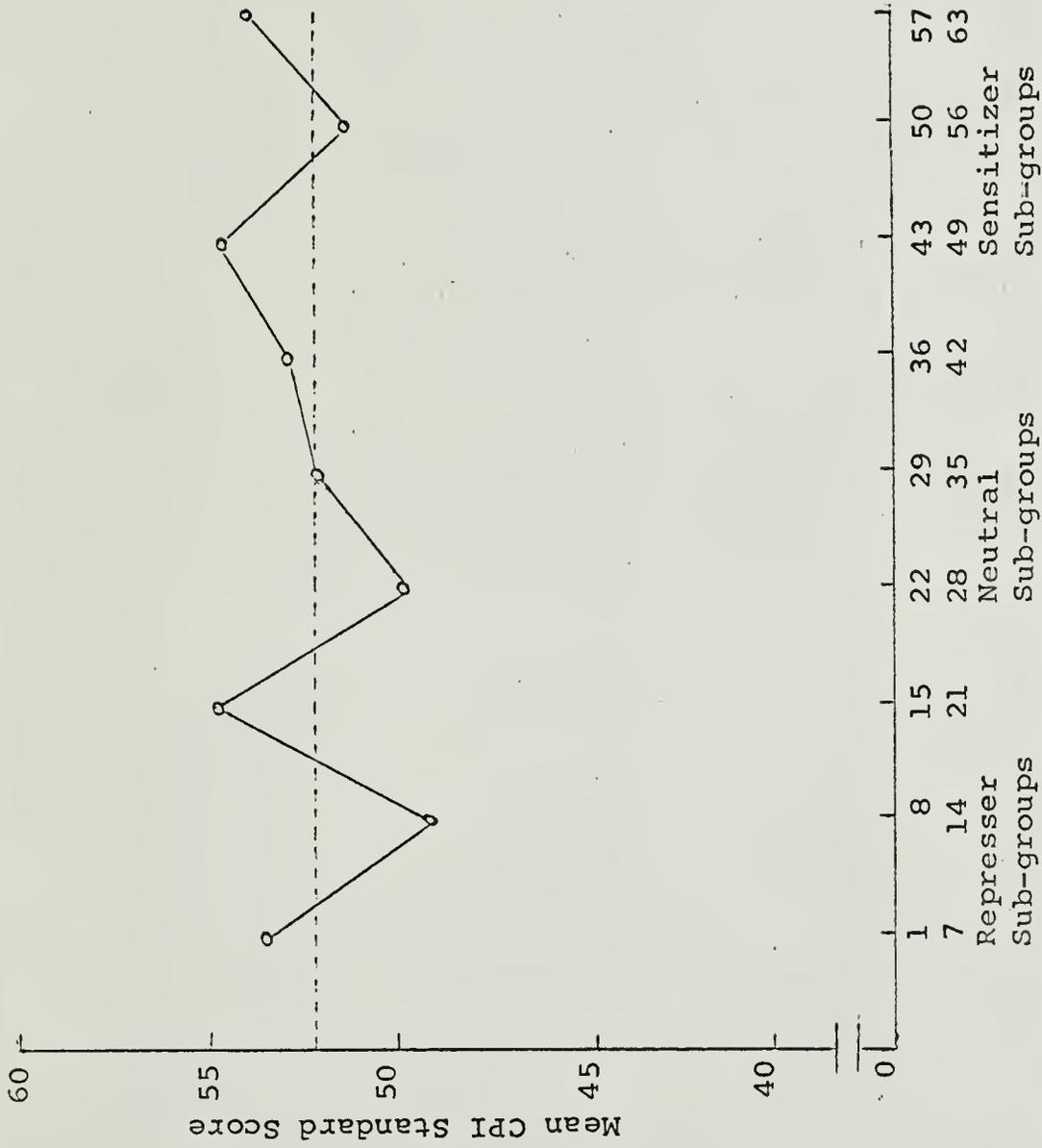


Fig. 2.--Graphic presentation of the mean CPI standard scores of tachistoscopic represser, neutral and sensitizer subgroups. (N for each group = 7.)

made: R' with S', R' with N', and N' with S'. The results of these analyses have been summarized in Table 2.

TABLE 2

MANN-WHITNEY U TESTS OF DIFFERENCES AMONG
THE RANKS OF ADJUSTMENT SCORES FOR THE
THREE MMPI GROUPS^a

	Represser and Sensitizer Groups	Represser and Neutral Groups	Neutral and Sensitizer Groups
R ₁	640	560	594
R ₂	263	343	309
U	32	112	78
z	4.74 ^b	2.73 ^c	3.59 ^b

^aN of each group = 21.

^bp < .001.

^cp < .05.

In accordance with the hypothesized linear relationship R' subjects were found to be significantly better adjusted on the CPI than either N' or S' subjects, and N' subjects were found to be significantly better adjusted than S' subjects.

One of the central hypotheses involved in this

research study was that the correlation between the MMPI measure of repression-sensitization and the perceptual measure would not be of a sufficient magnitude to justify the use of the MMPI R-S Scale as an operational definition of repression-sensitization. A Spearman rank correlation of the perceptual and MMPI measures was calculated ($r_s = -.03$, $t = .02$). This low negative correlation is not significantly different from chance.

This finding forces one to question seriously the use of the MMPI R-S Scale as an operational definition of perceptual repression-sensitization.

The mean CPI standard scores for the tachistoscopic groups and the MMPI groups have been plotted in Fig. 3. The relationship of each group to the population mean of 50 and the sample mean (dotted line) of 52.25 can be seen. As previously presented in Table 1, the differences between the tachistoscopic groups are not significant and the MMPI groups are significantly related to adjustment in a linear manner. The significant clustering of poorly adjusted subjects in the MMPI S' group is one of the most striking findings, and this will be explored later in the paper.

The second part of the research involved the sub-

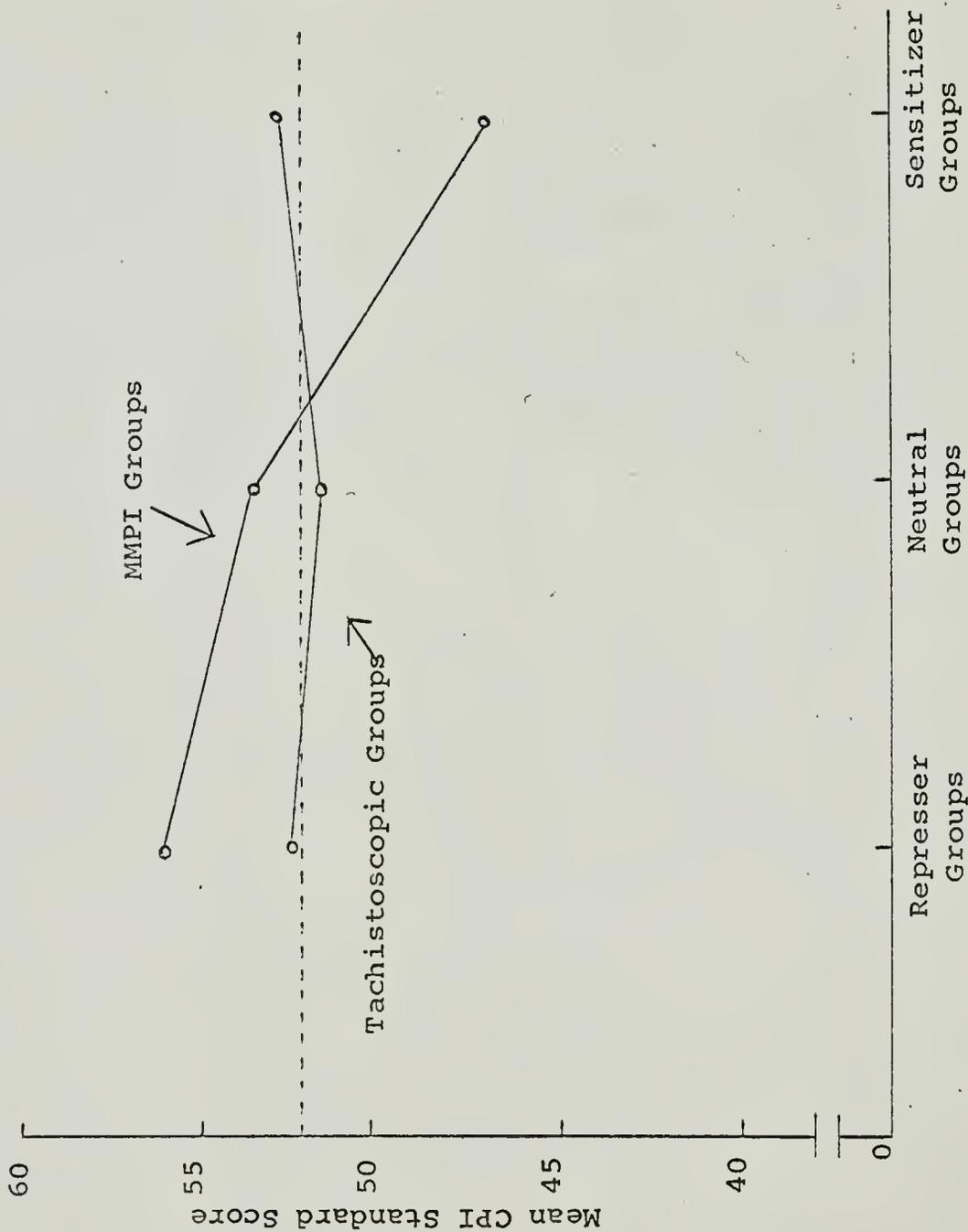


Fig. 3.--Graphic presentation of the mean CPI standard scores of tachistoscopic and MMPI represser, neutral and sensitizer groups. (N for each group = 21.)

jects' performance on a Value-Feeling Incongruency Test that was given under two conditions. In condition (1) the instructions were neutral and the fact that the subjects were rating the same items on two dimensions was disguised. Condition (2) represented an undisguised, relatively threatening situation in which the subjects were aware that they were in effect rating themselves on their own psychological adjustment.

It was hypothesized that all groups would show a decrease in total incongruency scores from condition (1) to condition (2) and that the represser groups would show a significantly greater shift. There were two subjects who did not change their incongruency scores from condition (1) to condition (2). Of the remaining subjects ($N = 61$) 43 decreased their total incongruency score in condition (2) (Sign Test, $z = 3.08$, $p < .01$).

Value-feeling incongruency difference scores (condition [1] - condition [2]) were calculated for each subject. The mean value-feeling incongruency scores for the tachistoscopic and MMPI groups have been plotted in Fig. 4.

Mann-Whitney U tests of the difference between the ranks of value-feeling incongruency difference scores of the represser and sensitizer groups were carried out. Two

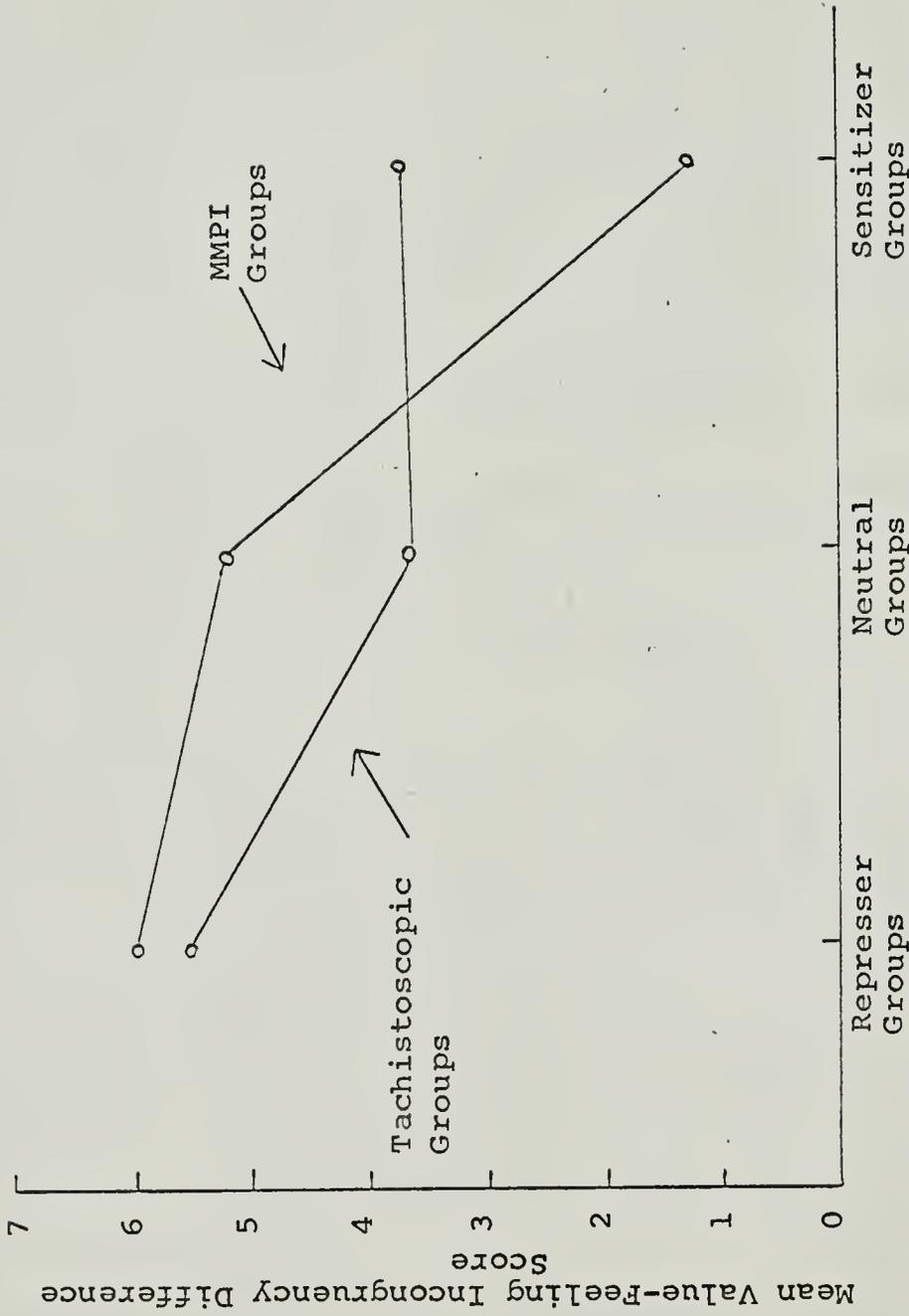


Fig. 4.--Graphic presentation of the mean value-feeling incongruency difference scores of the tachistoscopic and MMPI represser, neutral and sensitizer groups. (N for each group = 21.)

statistical comparisons were made: R with S and R' with S'. The results of these analyses are summarized in Table 3.

TABLE 3

MANN-WHITNEY U TESTS OF DIFFERENCES AMONG THE RANKS
OF VALUE-FEELING DIFFERENCE SCORES FOR GROUPS
R AND S AND GROUPS R' AND S'^a

	Groups R and S	Groups R' and S'
R ₁	415.5	395.5
R ₂	487.5	507.5
U	184.5	164.5
z	.91	1.41

^aN of each group = 21.

Although the differences between the represser groups and the sensitizer groups are in the predicted direction for both sets of groups, these differences are not significant. Almost a third of the subjects received negative scores by increasing their incongruency score in condition (2) and the range of scores is quite large (-32 to 26).

Some of the preceding results may be more easily

understood if we take a closer look at the distribution of adjustment scores. A frequency distribution of the CPI standard scores has been plotted (see Fig. 5). This sample ($N = 63$) can be described as being composed of a large proportion of subjects who are above average in adjustment and a small number of subjects who are poorly adjusted. One of the problems involved in attempting to relate style of defensive behavior to adjustment with college subjects is that the range of adjustment is considerably less than is found in the general population. The above-average adjustment level of this particular sample may have increased this problem.

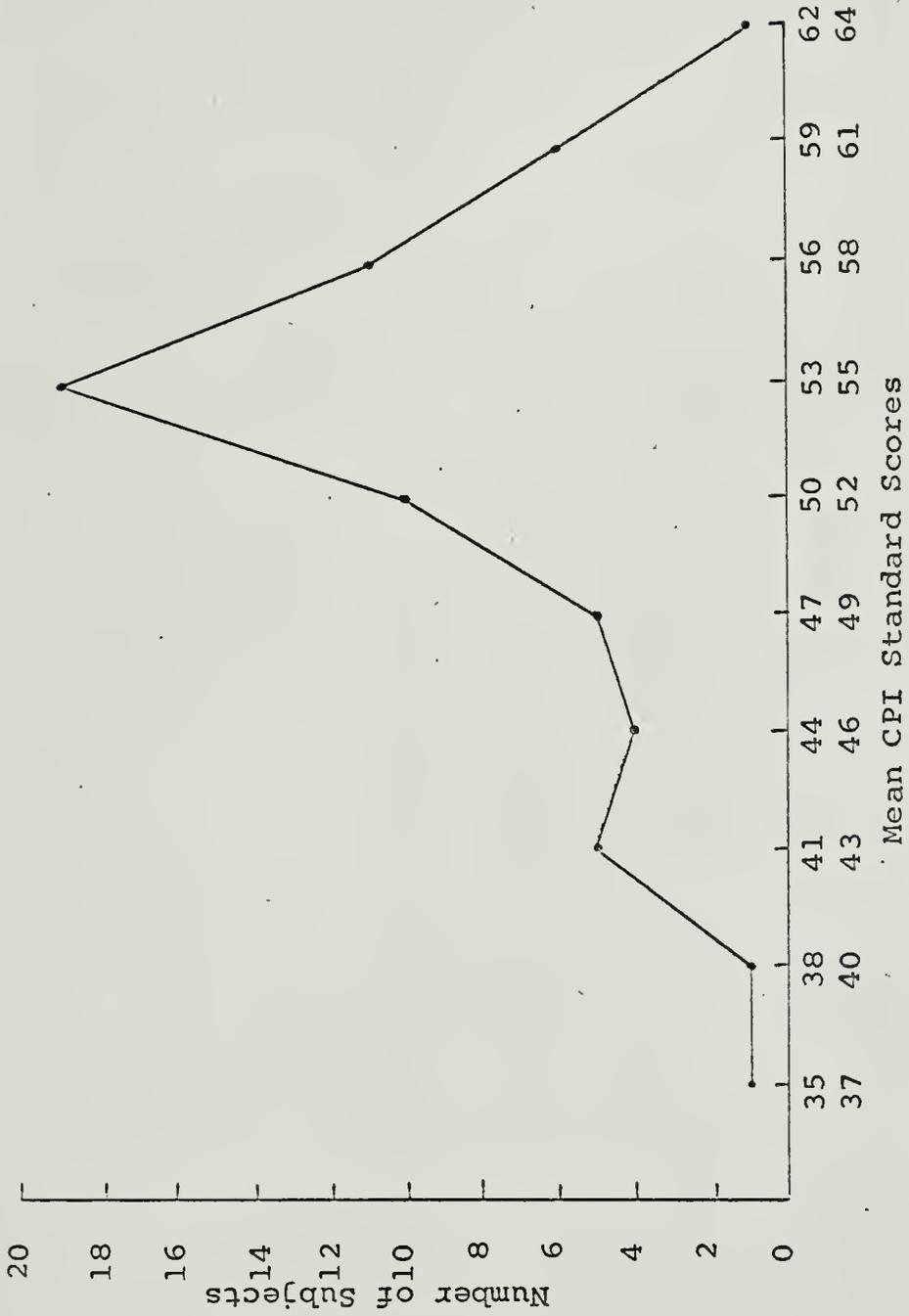


Fig. 5.---Frequency distribution of the mean CPI standard scores.

CHAPTER VI

DISCUSSION

The results will be discussed first in relation to the specific hypotheses involved in the present study, and then the future research suggested by these results will be explored.

Hypothesis I: The first hypothesis was confirmed by the nonsignificant correlation found between the MMPI measure of repression-sensitization and the perceptual measure. As a result of this finding, the validity of the MMPI R-S Scale must seriously be questioned.

Byrne (1961) gives as support for the validity of the MMPI R-S Scale the fact that some of the MMPI scales used to make up the scale have been found to be correlated with "sensitizing and repressive behaviors." In the majority of these studies what was described as sensitizing and repressing behavior could only loosely be defined as such, and frequently the correlation with individual scales was not of a great magnitude.

The comparison of the perceptual measure with the R-S Scale can be viewed as a test of the validity of the R-S Scale. The concepts of repression and sensitization as employed in recent research are said by Byrne (1961) and others to have their experimental origins in the perceptual defense studies of the forties and fifties. If we are willing to accept the perceptual measure as a valid one, the data then indicate that the MMPI R-S Scale has little or no validity. Thus, although the R-S Scale may be a measure of repression-sensitization in some sense, it cannot validly be used as an operational definition of perceptual repression-sensitization.

It is interesting to compare the insignificant low correlation obtained in this study with a perhaps related finding that was presented but then ignored by Gordon (1957). Gordon was one of the first to use the MMPI to form groups of repressors and sensitizers. He used an MMPI anxiety-defensiveness measure (roughly the relation of K and L scale scores to MAS scores) to form repression and sensitization groups. Gordon mentions in the description of his procedure that he obtained an additional measure of repression-sensitization based upon differential recall of threatening and nonthreatening material. He

reported: "We find little relationship between the anxiety-defensiveness ratio and differential recall ($r = -.12, p > .10$)."

The present study forces one to question whether the MMPI R-S Scale is an effective research instrument. The widespread use of this apparently confounded and unclearly defined scale seems unlikely to lead to any significant knowledge about defensive behavior and its relationship to psychological adjustment.

The results pertaining to the third hypothesis will now be presented because of their relationship to Hypothesis I.

Hypothesis III: As was hypothesized, the MMPI R-S Scale was found to be related to adjustment as measured by the CPI in a linear manner. Because of the highly questionable validity of the R-S Scale it is difficult to do more than speculate on the possible meaning of this finding.

One factor that apparently contributes to this result is the likely contamination between the independent and dependent variables. A large number of identical items appear on both the MMPI and the CPI. Gough (1957) states that approximately 200 CPI items appeared originally

in the MMPI. Byrne would have been on sounder experimental ground had he taken the precaution to measure his independent and dependent variables with different sets of data.

Further confounding of the independent and dependent variables is suggested when one examines Byrne's operational definitions of repression and sensitization. The R-S Scale is operationally defined as the sum of the D + Pt + Welsh Anxiety scores subtracted from the total of the L + K + Hy denial scores. This combination of scales appears almost by definition to be measuring adjustment to some degree. It is neither surprising nor illuminating to find that a sensitizer (a compulsive, depressed, anxious individual) appears less well adjusted on a personality inventory than an individual with high scores on L, K, and Hy denial.

Hypothesis IV: The fourth hypothesis was concerned with the differential performance of represser and sensitizer groups on the value-feeling incongruency test. Although both the perceptual represser group (R) and the MMPI represser group (R') reduced their value-feeling incongruencies in the more threatening condition to a greater degree than the sensitizer groups, this difference was not large enough to achieve statistical significance.

It should be pointed out that the difference between the MMPI R' and S groups did closely approach significance ($p. < .08$). This result suggests that the MMPI R-S Scale is measuring defensive style to some degree.

The less clear separation of the perceptual R and S groups must be explored. If we were to accept the value-feeling incongruency scores as a criterion for validity, we might conclude that the MMPI R-S Scale was the more valid of the two measures. The value-feeling incongruency scores, however, do not appear to be a reasonable standard upon which to gauge the validity of other measures of defensive behavior. McReynolds (1958) found that subjects sometimes confused the two rating dimensions and, for example, rated ice cream as good because they liked it and not because they valued it. Another problem with this measure is that it depends to some extent upon a deception of the subjects. Such personality characteristics as gullibility vs. suspiciousness and conformity vs. rebelliousness likely affect responses to some extent. For these reasons it seems to make little sense to view these data as a test of comparative validity.

The fact that both represser groups when compared with sensitizer groups showed a greater, although not

statistically significant, shift toward decreased incongruency gives some support for the view that style of defense will affect performance on a self-rating adjustment inventory. This finding if supported by future research suggests that the level of awareness at which adjustment is measured is of crucial importance when groups differing in style of defensive behavior are being studied.

These results also provide moderate but inconclusive support for Stein's findings with regard to defensive behavior in neutral and threatening conditions. Stein (1953) measured perceptual defense and sensitization (as defined by recognition thresholds for aggressive and nonaggressive pictures) under neutral and involved presentations. He concluded that there was "an accentuation of the preferred defense under the involved condition."

Hypothesis II: The discussion of the second hypothesis has been held until this point because of its importance and complexity. It was hypothesized that the perceptual measure of repression-sensitization would be related to adjustment, as measured by the CPI, in a curvilinear manner. The finding of no significant relationship between these two variables led to the rejection of the hypothesis. The following discussion will explore

some of the possible interpretations of this result and the factors that may have contributed to it.

One interpretation of this finding would be that defensive style is unrelated to psychological adjustment. Unless this finding was replicated with different measures of defensive behavior, different measures of psychological adjustment, and across different sample populations, such a sweeping conclusion would be entirely unjustified.

The present finding does suggest, however, that within a relatively well-adjusted and homogeneous student population, defensive style as measured by recognition thresholds for tachistoscopically presented emotional and neutral words has no relationship to adjustment as measured by a personality inventory.

Our most widely accepted theories of personality and adjustment (e.g., Freudian psychoanalytic and Rogerian awareness and acceptance) suggest that a consistent and extreme use of either repressive or sensitizing defenses should lead to the denial to awareness of a wide range of experiences and thus to poor psychological adjustment.

When a subject's performance on a tachistoscopic task is used as a measure of defensive behavior, we are making the assumption that individuals are consistent in

their style of psychological defense. The following studies support the assumption that defensive style can be measured by subjects' performance on a perceptual task. Eriksen (1951) used a tachistoscopic presentation of aggressive and nonaggressive scenes to form groups of repressers and sensitizers and then administered the Thematic Apperception Test (TAT). He found that subjects who sensitized in the perceptual task expressed more open aggression on the TAT, while repressive subjects evidenced blocking and unelaborated stories. In a more recent study by Carpenter (1956) a sentence completion test was used to form groups of sensitizers and repressers for different content areas. He found that subjects classified as sensitizers on certain content areas on the sentence completion test more rapidly perceived words associated with these content areas than did the repressive subjects.

The above results support the validity of the perceptual performance as a measure of style of defensive behavior.

The measurement of the dependent variable, level of psychological adjustment, appears to be open to greater question. Any operational definition of psychological

adjustment is likely to be a somewhat arbitrary one. Particular problems are involved when ascertaining the adjustment of groups differing in style of defensive behavior. The possibility that the results in the present study were somewhat distorted by the differing defensive behavior of the subjects must be considered. It seems unlikely, however, that this distortion in itself would lead to the lack of relationship that was observed.

Another factor that might have served to disguise a general relationship between defensive style and adjustment is the fact that the sample studied in the present experiment was a relatively homogeneous and well adjusted one. One hypothesis which could be explored in future research is that only in poorly adjusted groups do styles of defensive behavior become rigid and inflexible. This view is given tentative support by a study carried out by Ullmann (1962). Ullmann formed groups of facilitators and inhibitors (a dimension similar to repression-sensitization) by means of judges' ratings of case history material. He used these groups to develop an empirically derived MMPI Facilitation-Inhibition Scale. This scale was then administered to a student population and a hospital patient population. He found a significantly lower

variance for the Facilitation-Inhibition Scale on the student population as compared with the hospital population.

The complete lack of relationship found in the present study suggests to this author, however, that style of defensive behavior in itself may not be significantly related to adjustment. It seems likely that such factors as the flexibility and appropriateness of defensive behavior rather than style, per se, determine the degree to which defensive behavior is adaptive for the individual. One might hypothesize that individuals on either extreme of a repression-sensitization continuum would be rigid in the use of defensive behavior.

A study carried out by Apler (1946) bears on this question. Apler used an estimate of ego strength arrived at from clinical judgments and found that individuals characterized as having "strong egos" favored incomplete tasks in recall under task oriented conditions and completed tasks in their recall under conditions of threat to self-esteem. Individuals characterized as having "weak egos" showed a reversal of this trend. If this study is viewed in terms of style of defense, it suggests the importance

of flexibility and appropriateness of defensive behavior. Other studies have also indicated that subjects are able to shift their mode of defense relative to the nature of the threatening stimulus (Dulany, 1957; Abrams, 1962).

The relationship of style, flexibility, and appropriateness of defensive behavior will have to be studied over groups representative of different levels of adjustment before the relationship of repression-sensitization to adjustment can be further clarified.

Turning now to the present condition of research in this area, it seems clear that the widely used MMPI R-S Scale is a far too ambiguous and confounded measure of defense to be of much help in clarifying these questions.

What is most needed is research which carefully separates the crucial variables related to defensive behavior so that their interaction can be studied.

CHAPTER VII

SUMMARY

The present study was concerned with the relationship of repression-sensitization to psychological adjustment.

The concepts of repression and sensitization which have been widely employed in recent research have their experimental origins in the perceptual defense studies of the forties and fifties. In research employing differential recognition thresholds for emotionally toned vs. neutral stimuli the terms "represser" and "sensitizer" have been used to describe the extremes of this dimension. Individuals in the former category are defined as those having a relatively elevated threshold for emotionally toned material and in the latter as those having a relatively lower threshold for such material.

During the last five years much of the research on methods of defensive behavior has involved the Minnesota Multiphasic Personality Inventory (MMPI). Research

employing the MMPI Repression-Sensitization (R-S) Scale has indicated that repression-sensitization is related to adjustment in a linear manner. Repressors have been found to be significantly better adjusted than neutrals, and neutrals significantly better adjusted than sensitizers. Despite the fact that the MMPI R-S Scale is thought to be an operational measure of perceptual repression-sensitization, there is only weak and conflicting evidence with regard to the validity of the scale.

The present experiment represented an attempt to separate more clearly two variables that have been severely confounded in recent personality research: style of defensive behavior and level of psychological adjustment. The purpose of the experiment was to re-examine the relationship between defensive style and adjustment by defining defensive behavior in such a way as to avoid the circularities and confounded variables involved in the recent research in this area.

The present investigation also focused on the problems involved in the use of a personality inventory to measure the adjustment of groups differing in style of defensive behavior. The relationship between style of defensive behavior and the degree of personal threat and

subject awareness involved in measures of psychological adjustment was examined as an indirect way of determining the effect of defensive behavior upon performance on a personality inventory. The condition representing increased awareness of personal threat was constructed to be similar to the degree and nature of threat experienced by a subject taking a personality inventory.

The study was designed to test the following hypotheses:

1. The relationship between a controlled perceptual measure of repression-sensitization and the MMPI R-S Scale is not of a sufficient magnitude to justify the use of the R-S Scale as an operational definition of perceptual repression-sensitization.
2. Perceptual repression-sensitization is related to adjustment in a curvilinear manner.
3. Repression-sensitization as measured by the MMPI R-S Scale is related to adjustment in a linear manner.
4. An individual's preferred mode of defense will be accentuated under conditions of increased awareness of personal threat.

The subjects were 63 male and female University of Florida undergraduates. Equal groups of 21 repressors,

21 neutrals, and 21 sensitizers were formed on the basis of differential recognition threshold for tachistoscopically presented neutral and emotionally toned words. The MMPI R-S Scale was administered to each subject, and the California Psychological Inventory (CPI) was employed as a measure of psychological adjustment. A Value-Feeling Incongruency Test was given under conditions of differing awareness and personal threat.

In accordance with the first hypothesis, the MMPI R-S Scale was not found to be significantly correlated with the perceptual measure of repression-sensitization. The importance of this finding relative to the widespread use of this scale was emphasized.

Repression-sensitization as defined by the MMPI R-S Scale was found, as hypothesized, to be related to the CPI measure of adjustment in a linear manner. In view of the apparent lack of validity of this scale these results were discussed primarily in terms of a confounding of level of adjustment and defense.

Although it was found that both the perceptual and MMPI represser groups did employ repression to a greater degree than the sensitizers in the value-feeling

incongruency measurement under stressful conditions, this difference was not large enough to achieve statistical significance. Problems relating to the measurement of value-feeling incongruencies were explored along with the possibility of a confounding resulting from the dependence of this measure upon a deception of the subjects. These findings give only tentative support for the view that style of defense will significantly affect performance on a self-rating adjustment inventory.

Finally, no significant relationship was found in the present study between repression-sensitization as measured by differential recognition thresholds for neutral and emotionally toned words and psychological adjustment as measured by the CPI. This finding was discussed in relation to the relatively homogeneous and well-adjusted nature of the present sample. The need to examine this relationship in groups having more extreme differences in level of adjustment was stressed. The possibility of somewhat misleading results stemming from the use of a personality inventory as the measure of adjustment was also mentioned.

It was concluded that the relationship of such variables as the style, flexibility, and appropriateness

of defensive behavior will have to be studied over groups representative of different levels of adjustment before the relationship of repression-sensitization to psychological adjustment can be further clarified.

The continued use of the MMPI R-S Scale clearly will not meet the need for a careful separation and examination of the crucial variables related to defensive behavior and its relationship to adjustment.



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Section - 1733

APPENDICES

Appendix A

APPENDIX A

WORD ASSOCIATION LIST EMPLOYED BY CHODORKOFF (1954)

Emotional Words		Neutral Words	
1. BELLY	26. SMEAR	1. MURAL	26. CHESS
2. SEWER ^a	27. FREAK	2. DERRYA	27. FLINT
3. ARYAN	28. VOMIT	3. NASAL	28. BANJO
4. HAREN	29. SPERM ^a	4. FLASK	29. SEDAN
5. RAPED ^a	30. KOTEX ^a	5. ANNUL	30. VIGIL
6. RADEI	31. LEPER	6. ERASE	31. FOGGY
7. KINKY	32. TEATS ^a	7. CADET	32. WINDY
8. SISSY	33. FILTH	8. TALLY ^a	33. SNACK
9. LYNCH	34. POWEL ^a	9. ONSET	34. LEVER
10. ROACH	35. PANSY	10. OPTIC	35. VOCAL
11. WHORE ^a	36. LEECH	11. OASIS	36. SQUAD
12. BUDDY	37. STINK	12. TREND	37. HUMID
13. BELCH	38. BUXOM	13. RINSE	38. JOKER ^a
14. MAMMY	39. WENCH	14. DIARY	39. SLEET
15. BRAWL	40. BITCH ^a	15. FURRY ^a	40. BOOST
16. PENIS ^a	41. AMOUR ^a	16. TUNICA	41. PECAN ^a
17. LUSTY	42. BOOBY	17. PEDAL	42. CADDY ^a
18. FLIRT	43. SCALD	18. SYRUP	43. IDIOM ^a
19. COCKY	44. LOUSE	19. URBAN	44. JUNOR
20. FANNY	45. HYENA ^a	20. FUDGE	45. LATCH
21. CHINK	46. FLUNK	21. ENVOYA	46. HUNCH
22. SCURF ^a	47. ABORT ^a	22. DIVANA	47. LYRIC
23. OVARY	48. GREED	23. NOOSE	48. VOGUE ^a
24. THEFT	49. HAVEN	24. VOWEL ^a	49. PLAID
25. SLASH	50. FIEND	25. CIDER	50. DEBUT ^a

^aWords eliminated by the four clinical judges.

APPENDIX B

VALUE-FEELING RATING BOX EMPLOYED IN CONDITION (2)

<u>HOW I EVALUATE</u>			<u>HOW I FEEL ABOUT</u>	
GOOD	<input type="text"/>	↔	<input type="text"/>	LIKE
SOMEWHAT GOOD	<input type="text"/>	↔	<input type="text"/>	LIKE SOMEWHAT
NEUTRAL VALUE	<input type="text"/>	↔	<input type="text"/>	NEUTRAL FEELING TOWARD
SOMEWHAT BAD	<input type="text"/>	↔	<input type="text"/>	DISLIKE SOMEWHAT
BAD	<input type="text"/>	↔	<input type="text"/>	DISLIKE

APPENDIX C

TOTAL TABULATED DATA FOR EACH SUBJECT

S#	CPI Standard Score	Value-Feeling Incongruency Difference Score	Trials on Emotional Words	Trials on Neutral Words	Tachistoscopic Difference Score	Tachistoscopic Ratio Score	MMPI R-S Score
1	903	-13	150	128	22	.8533	38
2	781	-5	50	41	9	.8200	81
3	1006	12	34	29	5	.8529	20
4	954	7	35	40	-5	1.1428	12
5	754	4	56	53	3	.9464	55
6	1055	5	28	29	-1	1.0357	17
7	1069	5	238	214	24	.8992	10
8	969	7	68	76	-8	1.1176	30
9	1000	-11	55	37	18	.6727	22
10	811	5	41	47	-6	1.1463	59
11	849	13	84	64	20	.7619	42
12	1023	14	31	29	2	.9355	12
13	986	5	49	67	-18	1.3673	13
14	956	3	213	187	26	.8779	28
15	1034	-15	124	138	-14	1.1129	14
16	783	5	104	90	14	.8654	61
17	932	-5	27	28	-1	1.0370	23
18	928	-2	38	33	5	.8684	51
19	757	7	30	32	-2	1.0666	73
20	1068	8	39	45	-6	1.1538	4
21	791	-3	59	51	8	.8644	50
22	1011	-2	138	122	16	.8840	33
23	1050	15	25	28	-2	1.1200	20

24	944	12	88	64	24	.7272	18
25	981	-12	51	30	21	.5882	24
26	904	17	29	27	2	.9310	22
27	975	9	47	29	18	.6170	35
28	811	15	82	66	16	.8049	60
29	650	-32	24	22	2	.9167	65
30	939	-1	32	34	-2	1.0625	22
31	1011	9	71	50	21	.7042	10
32	766	12	116	124	-8	1.0690	64
33	862	15	58	41	17	.7069	19
34	994	11	232	208	24	.8966	31
35	951	11	44	31	13	.7045	21
36	1083	2	34	35	-1	1.0294	17
37	952	-14	208	168	20	.9038	20
38	966	6	214	196	18	.9159	24
39	1072	6	174	150	24	.8621	22
40	1032	1	55	47	8	.8545	18
41	984	14	98	124	-26	1.2653	13
42	1120	-1	76	65	11	.8553	17
43	984	21	41	32	9	.7805	35
44	987	13	55	56	-1	1.0182	22
45	914	8	87	78	9	.8966	22
46	867	7	53	44	9	.8302	51
47	1045	7	50	52	-2	1.0400	26
48	677	6	64	56	3	.8750	72
49	834	5	43	50	-7	1.1628	31
50	976	0	44	40	4	.9091	23
51	997	-2	78	67	11	.8590	34
52	985	16	53	41	12	.7736	8
53	843	-3	60	57	3	.9500	64
54	943	6	51	50	1	.9804	36
55	948	5	68	63	5	.9265	22
56	1002	-10	63	62	1	.9841	17
57	1044	26	122	116	6	.9506	5
58	1066	19	42	40	2	.9524	21
59	895	18	45	37	8	.8222	23
60	998	-2	45	42	3	.9333	32
61	908	11	41	43	-2	1.0488	32
62	876	-21	52	52	0	1.0000	49
63	993	0	50	47	3	.9400	15

APPENDIX D

MEAN STANDARD SCORES FOR THE PERCEPTUAL

Perceptual Groups

	<u>Do</u>	<u>Cs</u>	<u>Sy</u>	<u>Sp</u>	<u>Sa</u>	<u>Wb</u>	<u>Re</u>	<u>So</u>	<u>Sc</u>
R	56.3	55.5	52.0	56.8	60.0	46.5	51.4	52.1	43.6
N	54.3	56.2	54.9	58.7	60.3	43.1	46.9	40.9	43.3
S	53.9	57.2	56.3	61.0	60.8	49.0	49.0	46.0	42.5

MMPI Groups

	<u>Do</u>	<u>Cs</u>	<u>Sy</u>	<u>Sp</u>	<u>Sa</u>	<u>Wb</u>	<u>Re</u>	<u>So</u>	<u>Sc</u>
R'	58.5	59.6	60.4	62.6	63.0	53.3	54.5	49.5	49.9
N'	58.9	57.0	58.0	62.1	63.1	47.8	40.8	43.6	43.0
S'	47.1	52.3	45.9	51.9	54.9	38.0	43.2	45.9	30.5

APPENDIX D.-- Extended

AND MMPI GROUPS ON THE 18 CPI SCALES

<u>To</u>	<u>Gi</u>	<u>Cm</u>	<u>Ac</u>	<u>Ai</u>	<u>Ie</u>	<u>Py</u>	<u>Fx</u>	<u>Fe</u>
52.2	42.8	52.9	51.0	57.0	55.0	48.8	55.8	52.9
53.5	45.2	47.6	50.0	58.9	51.3	54.7	59.7	47.2
54.0	43.3	51.4	48.1	58.7	56.2	52.9	61.2	50.0

<u>To</u>	<u>Gi</u>	<u>Cm</u>	<u>Ac</u>	<u>Ai</u>	<u>Ie</u>	<u>Py</u>	<u>Fx</u>	<u>Fe</u>
58.8	49.7	49.1	55.0	62.9	61.3	57.3	61.8	60.9
55.2	44.3	50.6	52.8	59.9	55.8	54.8	58.9	48.3
48.6	37.1	52.1	41.4	51.8	45.6	44.3	56.9	55.8

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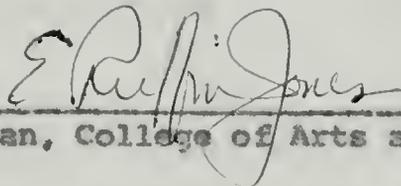
BIOGRAPHICAL SKETCH

John William Pehle was born in Torrington, Connecticut, on July 20, 1939. He was graduated from Georgetown Preparatory School. In 1957 he enrolled in Cornell University where he received the B.A. degree, with a major in philosophy, in June, 1961. In September of that year he entered the University of Florida and in December, 1962, received the M.A. degree with a major in psychology. From September, 1964, until September, 1965, he was an intern in clinical psychology at the Langley Porter Neuropsychiatric Institute in San Francisco. Since that time he has been engaged in fulfilling the requirements for the degree of Doctor of Philosophy. He has also been employed on a part-time basis as a staff psychologist at the Alachua County Health Department since September, 1965.

John William Pehle is married to the former Cecilia Hobbie and they have a son, Mark, two years of age.

This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

April 23, 1966



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