5-1963

A Further Study of Perceptual Defense

Alma L. Carlisle
Utah State University

A FURTHER STUDY OF PERCEPTUAL DEFENSE

by

Alma L. Carlisle

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

UTAH STATE UNIVERSITY
Logan, Utah

1963

ACKNOWLEDGMENT

May I take this opportunity to thank those who have contributed notably to the formulation and completion of this study. I am especially grateful to Dr. Heber C. Sharp for his help in formulating the problem and his patience and advice while working through the problem; to Dr. David S. Gorfein for his valuable assistance at the beginning of the problem; to Dr. James J. Tschudy and Professor John M. Beyers for their critical evaluation of the thesis; and especially to my wife JoAnn for helping in the experiment as an experimenter, for typing the thesis, and for her kind encouragement throughout to its completion.

Alma L. Carlisle

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

LIST OF FIGURES (Continued)

INTRODUCTION

The Problem

For many years, psychologists have been trying to find the relationship between perception and different factors of personality. Different experimental techniques were constructed to measure these concepts. One of the tools used to measure personality factors and their effect on perception was the tachistoscope. Through the use of this instrument, words or pictures could be flashed on a screen at varying rates of speed, or illumination. The subject upon watching these flashes, would relate the information which he perceived.

Taboo and neutral words were shown to subjects to determine which of the two types of words were recognized the quickest. According to the Perceptual Defense Theory, the neutral words should be recognized first. The subject, upon pre-awareness visualization of the threatening material would, according to theory, refrain from recognition as long as possible. Other studies, following the same line of approach, found many factors to contribute to this phenomenon.

Two such factors were familiarity and verbal response suppression. The familiarity principle stated that the subjects didn't respond to the taboo words as quickly as neutral words because the neutral material was more familiar, and hence easier to recognize. The verbal response principle

suggested that the subjects obtained a lower threshold because the subject didn't want to report the "nasty" words until they were sure of them or of their defenses.

Another variable that entered into the picture was the principle of set. Theorists argued that subjects didn't recognize threatening material as quickly as neutral material because they were expecting neutral material. They demonstrated that when the subjects were warned of the threatening material, the thresholds of the threatening material were about the same, or lower than the neutral. Other experiments, however, were not consistent with this hypothesis.

Experiments were performed which employed electric shock. Neutral figures that were conditioned to the shock were found to have higher thresholds than neutral figures not conditioned to shock. Other experiments with neutral and threatening pictures were found to demonstrate the principle of defense, even when all known variables were controlled.

On experimentation with personality factors it was found that persons with different personality traits reacted differently to threatening material. Subjects that were prone to display defensive reactions were found to be defensive to threatening material. Intellectualizers were found to be vigilant to threatening material. High anxious persons tended to have higher perceptual thresholds for threatening material than did people with low anxiety. These traits and many others were found to be associated with defensiveness or vigilance.

Studies in the field of conformity have indicated that non-conformists tend to be more defensive than conformists. Other studies have indicated that conformers tend to be shy and more withdrawn in comparison to non-conformers.

It seemingly would be important to test the variables of conformity, anxiety and set in relation to perceptual defense.

The purpose of this study is to determine the influence of anxiety, conformity, set and sex in relation to perceptual defense and the emotional reaction as measured by the GSR to the threat situation.

REVIEW OF LITERATURE

It is not expected that the phenomenon of perceptual defense is a method or device of explaining a principle of perception. It is merely a descriptive term which attempts to describe what is happening, and not why it is happening.

Bruner and Postman (1947) were pioneers in the original postulation of the concepts of perceptual vigilance and perceptual defense. They hypothesized that words which are differentiated by association time are also differentiated by recognition time. Nineteen subjects were given a word association test, using 99 words. The latent associating time was determined for each subject. The six words with the fastest association time and the six words with the slowest association time (calculated for each subject) were later presented to the subjects through a tachistoscope. An ascending limits technique was used. It was found that there was a medium to high correlation (.38 to .90) between the association time and the recognition time. For the subject group as a whole, recognition time increased initially as a function of associative reaction time, rose to a maximum, and then dropped. The drop in recognition time they attributed to a tendency on the part of their subjects to be more alert to words which carried a high degree of threat. This phenomenon was termed perceptual sensitization or vigilance. The perceptual avoidance of moderately anxiety-laden words was termed perceptual

defense. The question was raised as to how the subject could have a raised or lowered threshold prior to full recognition of the words. Bruner and Postman explained it this way:

> It is not necessary either to restrict the definition of recognition to one type of response report, or insist that all systematic responses to the stimuli depend on the prior occurrence of recognition of stimuli. A stimulus can be either truthfully reported or avoided. A hierarchy of response thresholds exists in every situation, and the threshold for an effective avoidance response is frequently lower than the threshold for report. (Bruner and Postman, 1947, p. 26-27)

McGinnies (1949) set out to test this new concept of "perceptual defense." Eight male and eight female subjects were shown eleven neutral and seven critical words through a tachistoscope using the ascending method of limits. The subjects were also connected to a GSR which measured their emotionality to the neutral and taboo words. The results indicated that the subjects had a higher threshold for taboo words in relation to the neutral words, and also had higher GSR readings indicating that the taboo words caused more emotion than the neutral words. A content analysis, dividing the subjects' guesses into four catagories--structurally similar, structurally unlike, nonsense, and part--indicated more "similar" and "part" responses to neutral words and more "unlike" and "nonsense" responses to critical words. McGinnies felt that word familiarity and response suppression were not factors because (1) the critical words were quite common in usage (whore, bitch, filth, etc.); (2) there was no reason why unfamiliarity with critical words should generate a preponderance of nonsense and structurally unlike hypotheses; and (3) if GSR is an accompaniment of increased <u>effort</u> in

experimental recognition of high threshold words, a relationship should appear, but a Pearson r showed a -. 002 and . 077 between mean GSR and threshold for neutral and critical, respectively. He concluded that perceptual defense is based upon conditioned avoidance of unpleasant or dangerous stimulus objects.

Howes and Solomon (1950) took issue with McGinnies' results, reporting that McGinnies hadn't controlled for familiarity or verbal response. The words they indicated hadn't been matched for frequency in the Thorndike-Lorge tables, and the taboo words being less familiar would therefore elicit a higher threshold. A more important factor than this that hadn't been controlled for, they felt, was verbal suppression. A subject may have a high GSR reading for a taboo word, but how do you know that he isn't aware of it? Maybe McGinnies' subjects withheld critical answers but would not tell the experimenter that they were withheld. Set could also cause the subjects to inhibit overt report of the words. The subjects who are expecting neutral words would withhold reporting the "nasty" words until they were sure of or felt they could say them.

McGinnies and Sherman (1952) and McGinnies and Adornetto (1952) produced more studies on perceptual defense. In the first study, eight pairs of words were given to 22 undergraduate male students. Four pairs were preceded by a neutral word and four pairs were preceded by a taboo word. The words were shown through a tachistoscope using the ascending method of limits. Results indicated that there was a carry over in increased threshold between taboo-neutral word pairs, but there was no such carry over in

neutral pairs. The authors concluded that the results could not be caused from verbal suppression, for the subjects had no need to repress the neutral words following the taboo words.

In the second study, McGinnies and Adornetto (1952) found that schizophrenics had a higher threshold for both taboo and neutral in comparison to normal subjects.

Other experimenters felt that methodological controls were not systematically used.

Solomon and Howes (1951) administered the Allport-Vernon Study of Values to a group of 19 subjects. Words representing the different areas of value were then flashed through a tachistoscope to the subjects individually and the thresholds were obtained. They found (p. 261) "no indication of systematic variation of visual duration threshold with rank." They did find a difference in threshold between the frequent and infrequent words categories. (Examples of frequent words: churches, heavenly, spiritual; infrequent words: chancels, psychical, beatifict.) The frequent words had lower thresholds.

Postman and Schneider (1951) replicated the study, but the difference being that the infrequent words that they used were not as infrequent as the ones that Solomon and Howes used. (Frequent: faith, religious, spirit; infrequent: confession, blessing, divine.) The words were presented to 18 subjects through a tachistoscope using the ascending method of limits. The Allport-Verenon scale of values was administered following the testing period instead of in the beginning as in the aforementioned study. The high-frequency

words (those of the highest familiarity) were recognized more rapidly than low-frequency words. There was a systematic relationship between value rank and duration threshold for the low-frequency words, but not for the high-frequency words. The authors hypothesized that the low-frequency words slow down the recognition process and thereby afford an opportunity for such directive factors as personal values to influence response. They felt that,

> An empirical correlation between response probability and duration thresholds for verbal stimuli . . . do not explain the duration thresholds at all. It merely poses the question as to the general psychological principles under which both the general and the specific response probabilities can be subsumed. (Postman and Schneider, 1951, p. 283)

Postman and Schneider concluded that thresholds vary significantly as a function of frequency and value rank.

Bitterman and Kniffin (1953) did a study on high and low anxiety in relation to perceptual defense. The Taylor Manifest Anxiety Scale was given to 348 subjects from which 40 high anxious and 40 low anxious subjects were chosen. Two practice words, four neutral and four taboo words were shown to the subjects through a tachistoscope using the ascending method of limits. Thresholds were compared between the high anxious and low anxious subjects. Results indicated that the general mean threshold was higher for taboo words than for neutral words, but there was no significant difference between the anxious and non-anxious groups. The threshold dropped from 12 on the first taboo word to 7 on the fourth taboo word, while the threshold of the neutral words stayed about the same. Bitterman and Kniffin explained that the subjects withheld their verbal report to get another look at the stimuli. The

MMPI was also given to the subjects and it was found that the subjects who had higher Pd scores (Psychopathic deviant) had a greater tendency to be affected by the taboo words.

Chodorkoff (1955) in a critique of the above study posed the argument that if the subjects developed insight into the situation and hence lowered their threshold for taboo words, why didn't this follow for neutral words also. The general level of anxiety was measured, but what is most important, is the anxiety elicited by each word. Words were not equated for similiarity nor for relevancy for the subjects.

Freeman (1954) posed two experiments on perceptual defense in relation to set. In the second experiment, an experimental and control group were used with 20 subjects in each. The first letter of the two taboo words were changed giving "hiss" and "muck." The experimental group were told that taboo words would be present, while the control group were given general instructions. Results indicated that the "taboo" words did not have higher thresholds than the neutral words in the experimental group. They did, however, elicit more taboo pre-recognition responses.

It is interesting to note that these results are in conflict with the competing hypotheses theory. This theory says that when a subject sees part of a word but can't recognize it, different words will come to mind which are structurally similar to the experimental word. The most familiar words would come to mind first. Freeman predicted that "hiss" and "muck" should have higher thresholds because they are similar to taboo words. Freeman's second experiment met the conditions required by the competing hypotheses

theory for the occurrence of the perceptual defense phenomenon, but the phenomenon did not occur.

In a later experiment Freeman (1955) used three groups with 10 female subjects in each and three groups with 10 male subjects in each. Experimental groups one and two (10 male and 10 female) were told of the taboo words present. Experimental groups three and four were not told that taboo words were present, but were told that the perceptual task was related to academic success and aptitude and that the subjects were to identify the words as quickly as possible. Control groups one and two were given general instructions. Six neutral and four taboo words were shown through a tachistoscope. The male subjects who knew of the taboo words had a lower threshold for the taboo words in relation to the neutral words. All the other groups were defensive with the control being the most defensive. Set lowered the threshold for male subjects (informed group) but not for the female subjects (informed group).

Fulkerson (1957) used three classes of taboo words--non-taboo, medium taboo, and high taboo. The words were then assigned a frequency according to the Thorndike-Lorge tables and were shown to 120 subjects. Results indicated that higher frequency words had a higher threshold, but no significant difference between levels of tabooness. High-frequency words that were high in tabooness had a high threshold, but low-frequency words that were high in tabooness had a low threshold. Perceptual vigilance occurred with low-frequency words but not with high-frequency words. This is in conflict with the familiarity theory which says that the more familiar

words would have lower thresholds. With the words in general, he did find this type of results, but the results were different when tabooness was combined with frequency.[1]

One seemingly well controlled study dealing with the methodological aspects of perceptual defense was conducted by Zigler and Yospi (1960). A more comprehensive index of word familiarity than the Thorndike-Lorge word count was used and the words employed were pretested for emotionality in order to provide an independent criterian of their affectivity. Sixteen subjects were employed in the checking condition and 11 subjects in the verbal report condition. Each subject was to rate the word as to its familiarity to him, frequency of use, and emotionality. Pleasant, neutral, and taboo words were used. In the verbal report, the subjects were to verbalize the word, whereas in the checking condition, subjects were only to check the emotionality that the word held for them. Results indicated that the general mean threshold in both the verbal report and checking condition was higher than the general mean threshold of the neutral words. The mean threshold of the pleasant words was lower than for the neutral words. Results also indicated

---

[1]Comment: In the above studies that have been quoted, the familiarity of the words has been determined by its categorical listing in the Thorndike-Lorge tables. These tables list 30,000 words in accordance with the number of times they appear in print per million words. The utilization of these words is based upon the assumption that since a group of words have the same categorical listing they are equal in familiarity. This experimenter and other authors, also Weiner (1955) and Postman, Bronson, and Gropper (1953), have questioned this assumption and have found it not always true. Just because two different words are equated for frequency in print this does not necessarily mean an equality in familiarity.

that the unpleasant words were more familiar than the Thorndike-Lorge tables indicated.

Summary of the Methodological Studies

In many of the first studies on perceptual defense, the words weren't equated for familiarity. Experimenters such as Solomon and Howes (1951) felt that because of this the results of some perceptual defense experiments could be accounted for by this method. They felt that many of the taboo words aren't used as much in society as some of the more familiar words, hence, when flashed through the tachistoscope, they would be harder to recognize, which would cause the perceptual threshold to be higher for emotional laden material than for neutral material. The verbal report suppression theory was also put forth. This theory claims that the taboo words have a higher threshold because the subjects don't want to verbalize the words in front of the experimenters. In many subsequent experiments, verbal suppression was controlled by having male and female experimenters work with both male and female subjects, and then comparing the responses of the two groups. Other methods of control of verbal report is to have both written, verbal and check list responses. Experiments that have controlled for these variables have found that subjects still tend to see emotional laden words later than emotionally neutral words.

One more theory which shall be discussed in more detail later is the theory of hypotheses. Briefly, it says this: when a person gets a brief view of a word but cannot recognize it, he usually can see parts of the word.

These small bits of information call forth words that would fit the information that has been perceived. The most familiar words come to mind first. These words are based upon antecedent and consequent events. Studies using this type of theory have found that hypotheses play an important role in perceptual defense, but cannot account for all the facts. Perloe (1959) found that both the inhibition theory and the hypotheses theory could account for the data, but the hypotheses theory could not account for all the data.

Personality and Perceptual Defense

Many authors have tried to find an association between different personality factors and the phenomenon of perceptual defense and perceptual vigilance.

Eriksen (1951) presented pictures tachistoscopically which represented aggression, succorance, and homosexual needs as well as pictures with neutral content as controls. His subjects, Veterans Administration psychiatric patients selected from diagnostic categories in which the three needs were assumed to be especially strong, were first given a word association test to assess ego tolerance of the need areas. Significant positive relationships were obtained between disturbance scores of the word association test and the degree of perceptual threshold elevation for the corresponding scores. Eriksen concluded that the concept of perceptual defense was supported, that the subjects defended perceptually against unacceptable needs.

Lazarus, Eriksen, and Fonda (1950-51) in performing an experiment to test the association between sexual and aggressive needs using the method

of auditory perceptual recognition presented 48 sentences to 35 psychoneurotic patients. The patients were given a word association test and were classified as intellectuals or repressers. The sentences were aggressive, neutral, and sexually connotated. A positive correlation (.46 to .74) was found between the sentence completion test and the auditory perceptual recognition method indicating a consistency of P.V. or P.D. Intellectualizers showed greater accuracy in perception of threatening material than repressers. High intercorrelations were found between sexual and aggressive scores and neutral scores. Lazarus et al. concluded that patients who are vigilant on one test tend to be vigilant on another and patients who are defensive on one test tend to be defensive on another.

Working along the same line, Blum (1955) investigated the relationship between perceptual defense and a specific defense mechanism, that of repression, when in conjunction with psychosexual conflict. He hypothesized that,

> Subjects predisposed to use the mechanism of repression in conjunction with a given conflict will, when confronted subliminally with a conflict-relevant stimulus, show defensive behavior directly traceable to the perceptual process itself. (Blum, 1955, p. 25)

Seventeen subjects (students in clinical psychology) were asked to evaluate themselves by the Blacky pictures. A personal interview with each subject was held to assure their knowledge of the pictures. The experimental procedure consisted of subjects guessing which of 11 Blacky pictures were being flashed subliminally through the tachistoscope. Only four pictures were used, I (Oral Eroticism), II (Oral Sadism), V (Masturbation Guilt), and VII

(Identification Process), rotating the pictures each series. Therefore, all 11 pictures were called. This provided an effective control on the possibility of selective verbal report.

Four experimental conditions were used: a conflict plus repression group which were presented pictures, a neutral group which were presented pictures, a conflict plus repression group with pictures absent, and a neutral group with pictures absent. If selective verbal report were the significant factor, undercall tendencies could be expected for the conflict plus repression group on both present and absent picture call comparisons. As predicted, those with conflict plus repression on a given psychosexual dimension significantly undercalled pictures associated with that dimension when the pictures were actually shown, but not when the pictures were absent. Blum held the position that the Bruner and Postman hypotheses theory of perceptual defense was incompatable with his results, unless it were to be held that the conflict plus repression group had a strong hypothesis not to perceive the threatening stimulus. If this were true, he asks, "Why does the individual develop a hypothesis not to perceive?" and points to psychoanalytic theory and perceptual defense as a source of best answer.

Nelson (1955) performed much the same experiment testing two similar hypotheses: (1) perceptual vigilance will be evoked when stimuli associated with high psychosexual conflict are presented below full recognition threshold, under conditions at which ego defense mechanisms are not likely to operate; and (2) perceptual defense will be evoked in subjects predisposed to avoid or repress certain psychosexual stimuli when the stimuli are below threshold,

under conditions at which ego defense mechanisms are likely to operate. Psychosexual conflicts and defense preferences of each of 44 undergraduate men were measured by the Blacky Picture Test, Defense Preference Inquiry, and other techniques related to the Blacky Picture Test. Four of the Blacky pictures were presented simultaneously and the vigilant subjects were asked to designate after the flash the position in the viewing field of the picture that stood out the most. In the defensive series, the subject was asked to name the Blacky pictures occupying various positions in the viewing field. To bring the various pictures into mind would bring into play defense mechanisms. Picture-present and picture-absent conditions were used for the defense series. The vigilance hypothesis was confirmed and it was found that high conflict people were more vigilant than low conflict people. In the defensive series, the second hypothesis was confirmed. Avoidance defenders and forgetters undercalled pictures. Where the pictures were absent, there was no difference.

> Subjects who prefer one or the other of the two measures of repression--avoidance or forgetting--on a psychosexual conflict dimension show a significant tendency to undercall Blacky pictures associated with that dimension. The undercall is shown only to present pictures, however, and is not found on absent pictures, which supports a perceptual defense rather than a selective verbal report interpretation. (Nelson, 1955, p. 60)

He concluded:

> Individual dynamics are manifested in perceptual vigilance and defense in a highly complex way. The individual does not perceive in an undifferentiated, unitary manner, but differentially, in accordance with his areas of high and low conflict and his various defense preferences on a variety of psychosexual dimensions. (Nelson, 1955, p. 86)

Stott (1957) performed much the same study using 20 neurotic males for experimental group and 20 married males for controls. The patients were classified as anxiety and conversion hysterics, evidencing repression and sexual conflict. The stimuli consisted of four pictures--three neutral and one sexual--which were flashed through a tachistoscope simultaneously below limen threshold. In the vigilance series, the subjects were asked to indicate the picture in the visual field which stood out the most. In the defense procedure, the subjects were asked to indicate which pictures occupied the different positions in the pattern after each picture flashed. Structural quality of the pictures, stimulus familiarity and selective verbal report were controlled. In the vigilance series, the patient group showed a higher mean choice for the sexual picture, whereas in the defense procedure the patient group showed a lower mean accuracy in location of the sexual picture. The patient group showed higher accuracy in location of neutral picture three to which the author attributed to weakness in method in selecting the pictures.

Carpenter, Weiner, and Carpenter (1956) used six groups of subjects--sex repressers, sex sensitizers, hostility repressers, hostility sensitizers, adequacy sensitizers, and adequacy nonsensitizers--picked from 140 subjects who took a sentence completion test to appraise the predictability of perceptual defense. Subjects were shown words related to their areas of conflict by means of the carbon-copy method. In this method, a number of carbon copies of one word are arranged from most diffused to most clear. The number of pages to recognition are recorded for each person for each word, and this is his threshold. The method is further described (Beier and

Cowan, 1953, and Cowan and Beier, 1950-51, 1954). The sex sensitizers tended to see the sex words quicker than control words, whereas the sex repressers tended to see the sex words later than control words. The difference in threshold between the sex sensitizers and sex repressers was significant as was the difference between the hostility sensitizers and the hostility repressers. The difference between the adequacy sensitizers and non-sensitizers was not significant. The authors concluded that perceptual defense can be predicted.

Eriksen and Lazarus (1952) gave an association test to a group of subjects using 89 words which contained 10 aggressive, 10 succorance, and 10 homosexual words. Thirty-five subjects (college students and psychoneurotic outpatients) which had taken the association test were given the McReynolds Concept Choice Test which contained 10 aggressive, 9 succorant, and 9 homosexual concepts. A disturbance score and a rejection score were calculated for each subject.

Results indicated that there is an association between the word association disturbance score and the rejection score on the McReynolds. A correlation of .40 on aggression, .41 on succorance, and .07 on homosexual was found. Eriksen and Lazarus concluded that the tendency to reject (or avoid seeing) Rorscharch concepts is significantly related to emotional disturbance in the content area with which that concept communicates.

Beier and Cowan (1953) on the other hand obtained different findings in relation to perceptual defense. Eight threat and eight neutral words were administered to 16 subjects using the carbon-copy method of presentation.

Before presentation, the subjects listened to 50 recorded words within which were contained the experimental words. The Rorscharch and Differential Aptitude Abstract Reasoning Test were also administered to the subjects. Results indicated that even though the subjects had been alerted to the threat words, they require more trials and time to report threat words. The Rorscharch and D. A. A. R. T. results were not significant.

Chodorkoff (1954) in a classical study on self-perception, perceptual defense, and adjustment administered the TAT, Rorscharch, Word Association and Biographical Inventory Test, and a Q-Sort Self Description Test to a group of 30 male students. Neutral and threatening words (taken from the Thorndike-Lorge list) were administered by means of a tachistoscope following the tests. The following results were found: The more accurately the individual described himself, the less perceptual defense he showed. The better the adjustment of the individual the more accurate his self description. The more adequate the individuals personal adjustment, the less perceptual defense he showed.

Summary and Analysis of Personality Data

Eriksen (1951) found that subjects will perceptually defend against unacceptable needs. A person whose thoughts, etc. on sex are suppressed would tend to be defensive in this area. A person who suppresses hostility would tend to have a higher perceptual threshold in this area than in a more neutral area. Even when the subjects are familiar with the stimuli that they are perceiving, they still show a defense or vigilance for that part of the

stimuli that is emotionally loaded for them. For the defense subjects, they will distort, forget, or just not see the material that they are in conflict with. The vigilant subjects, on the other hand, tend to see the emotional material quicker than neutral material of the same type. Experiments have indicated that the defense subjects tend to be of a suppressive type, a represser or forgetter. The vigilant subjects tend to be intellectualizers. Blum found that conflict repression tended to be associated with defense. Nelson found that in conditions where the defense mechanisms do not operate, the subjects are vigilant, but when the defense mechanisms are operating, the subjects are defensive. This would not mean, though, that every subject in the first group was vigilant, nor every subject in the second group was defensive but that the group as a whole tended to be that way. Carpenter et al. found that subjects diagnosed as sex repressers were defensive toward sexual connotated words while subjects diagnosed as sex sensitizers were vigilant toward sexual connotated words. The same was true with hostility repressers and hostility sensitizers.

Chodorkoff found that in a group of subjects who show varying degrees of adjustment and defensiveness, the more inaccurate and faulty the individual's perception of his environment, the more inaccurate and faulty the perception of himself, which provides for a more inaccurate personal adjustment. A person who has an inaccurate picture of himself and his environment tends to show more perceptual defense in comparison to a person who is well adjusted.

Perceptual defense and perceptual vigilance then, seem to be associated with different personality variables as well as methodological variables.

Theories of Perceptual Defense and Vigilance

There are three general explanations of the perceptual defense phenomenon:

1. Response Suppression. This position holds that perceptual defense is a function of the conscious suppression of the verbal responses which are used to identify threatening stimuli. This theory has already been covered in a previous section.

2. Hypothesis Competition. This theory holds that perceptual defense is a genuine perceptual phenomenon. It postulates that the perceptual recognition of threatening stimuli occurs relatively infrequently because of the frequent, inappropriate conformation of stronger, competing hypotheses. Postman (1953) sums it up in this way:

> An hypothesis is defined as a predisposition of the perceiver to organize stimulus cues in specific ways. Such hypotheses are anchored on the antecedent side in conditions of stimulus input and specified conditions of the organism (including drives and motives) and on the consequent side in systematic perceptual responses (discriminations, verbal report, etc.). Hypotheses vary in strength, i.e., they vary in the amount of stimulation necessary to arouse, confirm or deny them. . . . In the pres- of partial information, strong hypotheses incompatable with the threatening stimulus may be evoked. . . . If this is the case, the subject will appear to be defending himself against perception. If, however, hypotheses related to the negative stimuli are strong, the opposite of defense will appear to operate. (Postman, 1953, p. 300)

3. Inhibition. This point of view holds that the perceptual recognition of threatening stimuli occurs relatively infrequently because of the effects of an inhibitory process which directly interfers with the activation of perceptual recognition responses.

Eriksen (1951) in testing an association of unacceptable needs in relation to perceptual defense found that patients tended to distort the pictorial stimuli in such a way as to remove the threat. In a threat scene the subjects would not see the main action, but would see incidental details. Some type of mechanism within the subject may have caused him to overlook the main details in the picture that were threatening to him, but to be able to see the details. The drawings were shown through a tachistoscope which would be a greater indication for such a mechanism.

Many studies have been done in relation to subliminal stimuli. The argument has never seemingly been settled whether a person is unaware of the stimuli that is being shown (subliminal), or if he perceives cues which cause him to distort the emotional-laden stimuli. Nonetheless, most studies do indicate that subjects turn away from, or toward emotional stimuli before complete recognition of the stimuli.

Mangan (1962) used eight contour drawings of common objects which were given to a defensive, vigilant, and control group. The vigilant group was given a conditioning series of shock to a figure of a bottle. The shock was at the pain threshold level. The defensive group was given the same series, but the shock was administered at the tolerance threshold level. The contour drawings which were presented tachistoscopically had the figure of

the bottle embedded in them. Results indicated that the vigilant subjects show quicker recognition of the drawings after training than the defense subjects (but both groups recognized them quicker than the control group). Mangan (1962, p. 176) concluded, "The results obtained--that recognition of these figures under defense conditions is less efficient than under vigilant conditions--can be explained only in terms of some delay mechanism."

Dulany (1957) in a study on the avoidance learning of perceptual defense and vigilance tested the following hypotheses: (1) when one response is punished and others are not, the punished one will become weaker; and (2) when one response is accepted while others are not, this one will become stronger. Thirty-two subjects were divided into two groups and shown four emotionally neutral figures (circle, diamond, square, and triangle) simultaneously by means of a tachistoscope. Group one was shocked on one critical figure. Group two was shocked on all the figures which seemed to be "most recognizable" or "clearest" by pressing one of four buttons. The figures were rotated to control for position fixation. Following the training period, the subjects were again shown the figures, but with no shock. Results indicated that 14 out of 16 subjects of the defensive group shifted in the predicted direction in accordance to hypothesis one. Thirteen out of 16 subjects in the vigilant group changed in the direction predicted by hypothesis two. The author indicated that the subjects couldn't have taken a good look at the figures and then decided to press one because they said that they couldn't recognize any of the figures. The figures were flashed below the level of awareness. The author agreed with Postman that general principles can account

for results but this does not say that perceptual defense and vigilance can be explained away. Dulany (1957, p. 338) said, "Though the mechanisms appear to follow more general principles of learning, they nevertheless retain some identity as mechanisms."

He concluded:

> Perceptual defense is learned when the perceptual response to a threatening stimulus is punished and competing perceptual responses are instrumental to anxiety reduction. Perceptual vigilance is learned when the perceptual responses to a threatening stimulus is reinforced by anxiety reduction and competing perceptual responses are punished. (Dulany, 1957, p. 338)

Pustell (1957) performed much the same experiment as Dulany and found about the same results. He concluded:

> Given conditions, everyone will defend perceptually against stimuli which elicit anxiety. These limiting conditions are (a) intense enough anxiety, (b) no easy way to escape from the situation, and (c) a sufficiently ambiguous or unclear reality. (Pustell, 1957, p. 437)

Summary and Analysis

Perceptual defense and perceptual vigilance are learned phenomenon which an individual applies to his environment to reduce anxiety. Starting from a very early age, the child learns to approach or avoid certain things to reduce anxiety. A young child, for example, may be taught not to use different taboo words or taboo subjects because they are classified as "dirty" or "nasty" by his parents or society, and therefore he learns to stay away from these subjects because when he mentions them or says any of these "dirty" words he is punished by his parents and is made to feel that he is

wicked or "evil" for thinking of such things. In the future, he may be either an abstinant from those types of words altogether, or he may use and think them when he is around other company that uses and thinks the same things. He will always be careful, though, what type of company he reacts this way around.

As a person suddenly meets a threat situation that has an emotional connotation to him, he will automatically do one of two things: (1) he will psychologically "leave" the field of threat so that he doesn't have to face it, or even know that it exists; or (2) face the situation and react to it in such a way that he will remain in the psychological field but still have a reduction in anxiety. Hamby (1960-61, p. 17) theorized that "such a person could very early discover to his advantage that by learning to orient himself towards and act in regards to objects which cause him discomfort, he can avoid the more painful discomfort of being taken by surprise." Whereas, the represser acts on the assumption that what he does not know does not hurt him, the vigilant person feels that what he does know may hurt him and what he does know he can do something about. Hamby found, though, that the vigilant person hesitates to act until he is sure he is right. It may be asked then, what is the difference in this case between a vigilant person and a defensive person?

It seems reasonable, according to the studies presented, that both a vigilant person and a defensive person have a need in certain areas but both have learned different ways to approach these needs. A defensive person will repress the need in order to avoid it while the vigilant person, who seems most characteristic of the obsessive-compulsive defenses of

intellectualization (Hamby, 1960-61), will automatically face the situation. Not only will he react to it when it comes, but he seems to "reach out" for it. This is evidenced by the fact that a vigilant person will see the emotional words quicker than neutral words. He reacts quickly to the situation hoping that this will help meet his need and therefore reduce anxiety, whereas a defensive person will keep from reacting as long as possible in order to avoid the anxiety it arouses.

Anxiety

Different experimenters have tried to find if high anxious persons will react differently to emotional-laden stimuli than low anxious subjects.

Bitterman and Kniffin (1953) found that anxiety could not differentiate how a subject would react to emotional words. Smock (1961) found that high anxiety subjects had a higher accuracy for threatening material in comparison to low anxiety subjects.

In another study (Smock, 1956-57), 40 subjects chosen from Sarason's Text Anxiety Scale scores were tachistoscopically presented two sets of five words each. Set one was made up of four neutral words preceded by a neutral word and set two was made up of four neutral words preceded by an emotional word. Results indicated that anxiety level was positively associated with delayed recognition of words. The set of words preceded by the emotional word had a higher general mean level of threshold than the set preceded by a neutral word.

Anxiety, then, seems to be positively associated with how a person reacts to emotional words. It would be reasonable to hypothesize that a high anxious person would react differently to emotional material than a low anxious person. This will be discussed in more detail in a later section.

Conformity

Conformity generally comes under two classifications:

1. Cognitive conformity. This is conforming to pressure in an Asch-like situation. This type of conformity could be defined as occurring in a social situation in which an individual accepts the incorrect judgments and perceptions of others as correct, or, in which he expresses an opinion in agreement with a group norm but different from that previously expressed.

2. Motivational conformity. This type of conformity comes from early childhood and is related to anxiety (as the other may be also). Motivational conformity will determine to a degree how a person will react under general situations.

Children are taught to conform. If individuals are constantly subjected to conformity pressures and learn via previous experience that being different typically produces unpleasant consequences, being different comes to invoke anxiety. Conformity, then, is a means of reduction of anxiety. Conformity can be a function of both situational factors that are present and inner needs or motives on the part of the individual to conform. Children are punished for using various taboo words, and hence, refraining from these would bring a reduction in anxiety.

Janis (1953-54) obtained three groups of conformers (high conformers, medium conformers, and low conformers) based upon a social pressure technique and compared them on a personality basis. Conformers seemed to show feelings of personal inadequacy (can't tolerate disapproval), shyness, and social inhibition. The non-conformers had psychoneurotic symptoms (obsessional thoughts about diseases, fears, insomnia and worry, speech defects when tense, uncontrollable rage, hysteria, etc.). Depression correlated significantly with conformity as did social inadequacy with conformity. Those with acute neurotic anxiety tended to be less influenced than others. The author concluded that defensiveness of psychoneurotic personalities can keep a person from changing his opinions.

Holder (1958) found that "normals" were significantly more conformers while "non-normals" as based upon the MMPI are significantly more non-conformers. He also found a correlation of .34 between anxiety and conformity. Hoffman (1957) found that conforming in a pressure type situation produced less anxiety than non-conforming. He indicated that when the high-need conformers did conform, they were less aware that they were doing so than the low-need conformers. Results also indicated that besides avoiding anxiety, conformity can function as a form of resistance against being permanently influenced by the group.

Not all results on conformity versus personality are positive. Endler (1958) found no relation between conformity and personality measures as based upon the Edwards Personal Preference Schedule and the Public Opinion Survey.

Summary of Conformity and Anxiety

High anxious persons tend to be more of a non-conformist nature. The child learns early that by conforming to a social standard, a reduction of anxiety is brought about. By not conforming, or by being different, a higher level of anxiety is instigated. As a person meets different situations, all his past learning and experiences are called forth from which the organism reacts to the situation. Where the individual approaches emotionally-laden material, his conforming motivation will prompt him to conform, or to react in accordance to the way he has been taught which brings a reduction to anxiety.

Theoretical Implications

A child is generally taught from an early age that he is supposed to react in certain defined ways to certain stimuli. Reacting contrary to social customs produces anxiety. To reduce anxiety, and thereby receive a degree of homeostasis, the child learns to conform. As he matures, certain needs have to be met. Whether these needs are met or not will determine how he will react in the future to a similar need-area situation. If these needs are not met, defense mechanisms come into play. Depending to an extent on the predisposition of the individual he may suppress the needs or intellectualize them. A high anxious person who uses the ego defense mechanism of repression will have a higher threshold for taboo or emotional material as compared to neutral words. A high anxious person who uses the ego defense

mechanism of intellectualization will have a lower threshold for emotional-laden material than for emotionally neutral material. A low anxious individual who is a conformist would be expected to react differently than a high anxious person who is a non-conformist. Studies reported indicate that high anxiety and non-conformity are more characteristic of defensiveness and vigilance while low anxiety and conformity are characteristic of non-defensiveness. The question may be asked, how would a high anxious conformist or a low anxious non-conformist react to emotional material?

Mandler and Sarason (1952) found that a high anxious person did less well under a threat type situation than a low anxious person. It would be reasonable to suppose that under a threat type situation, a high anxious person would have a higher perceptual threshold for emotional material than a low anxious person, and that a conformist may have a lower or higher perceptual threshold for emotional material under such conditions than a non-conformist. A high anxious person would elicit a higher emotional threshold as measured by the GSR than a low anxious person and a non-conformist higher than a conformist. It is also reasonable that a high anxious conformist would have conflicting motivational forces which would elicit higher situational anxiety as measured by the GSR as compared to the high anxious non-conformist and the low anxious conformist. The high anxious conformist would elicit more situational anxiety to a threat situation than a low anxious non-conformist, but both would have higher situational anxiety than the high anxious non-conformist or the low anxious conformist because of the conflicting motivational forces within them. The low anxious conformity group

should have less situational anxiety than any of the above groups because of less conflicting motivational force. The low anxiety group would also have a lower mean perceptual threshold than any of the above groups.

Set

It is difficult to predict how a person would react in a situation where the subject is warned as to the nature of the threat material before meeting the situation.

Marlow (1959) found a correlation of -. 32 between conformity and need achievement. A non-conformist has a greater need to achieve than a conformist.

Raphelson and Moulton (1958) hypothesized that when a high anxious subject approached a situation that was threatening, the fear of failure caused him to avoid the threat by leaving the psychological field. The GSR conductance readings supported this hypothesis. They found that in high need achievement (low anxious) subjects the conductance went down while the low need achievement (high anxious) subjects showed an increase in conductance. It would be reasonable, then, to hypothesize from the above two studies that high anxious conformists when approaching a threat situation would show an increase in anxiety and would tend to leave the psychological field which would cause an increased perceptual threshold, whereas a low anxious nonconformist would show a decreased level of anxiety and a decreased perceptual threshold for emotional and neutral material. A high anxious nonconformist and a low anxious conformist could have a raised anxiety level

and a raised perceptual threshold or a lowered anxiety level and a lowered perceptual threshold when faced with a threat situation as compared to a non-threat situation depending on which motivation was the stronger, the anxiety or the need to achieve.

In general, it may be said that the motivations of a person when confronted with a threat situation are very complex. How he will react will depend on whether he is a conformist or a non-conformist, high or low anxious, how threatening the situation is to him, if he uses suppression or intellectualizing type ego defenses, his degree of need for achievement, and/or any combination of these variables.

HYPOTHESES

Introduction

The GSR is used as an indication of the emotional disturbance felt by the subject. For this study the purposes of the GSR are as follows:

1. To determine whether or not taboo words elicit higher mean emotional level as compared to neutral words.

2. To determine whether or not "perceptual defense" as manifested by raised GSR activity correlates with raised thresholds.

3. To determine whether or not one group of subjects shows a higher or lower mean GSR activity level than another group.

3. To determine whether or not the set group produces more or less emotion than the non-set group.

Hypotheses

1. There will be a difference in thresholds and in GSR readings between neutral and taboo words under the condition in which subjects are not informed of the taboo words.

2. The difference in threshold and in GSR readings will not be as great under the condition where the subjects are informed of the taboo words as under the condition where the subjects are not informed of the taboo words.

3. There will be a difference in threshold and in GSR readings for neutral and taboo words between conformists and non-conformists as measured by the Bernberg Human Relations Inventory.

4. There will be a difference in threshold and GSR readings for neutral and taboo words between high and low anxiety subjects as measured by the Taylor Manifest Anxiety Scale.

ASSESSMENT MEASURES

Bernberg's Human Relations Inventory

Purpose

A pencil and paper type test was desired to measure motivational-type conformity. The Bernberg Human Relations Inventory was obtained which consisted of six measured determinants:

1. Moral values as manifested in attitudes of responsibility toward groups, through typical sexual attitudes, through attitudes toward law, government, etc.

2. Positive goals as manifested through attitudes toward long range planning, time perspective, through consistant attitudes toward shifting goals.

3. Reality testing as manifested in awareness of others' attitudes toward him, learning by experience, the projection of reality to any life role.

4. Ability to give affection as manifested in attitudes toward marriage, family, children, attitudes toward perserverative relationships, attitude toward women and sexual relationships.

5. Tension level as manifested in attitude about concern with intimates, empathy and identification, attitude toward personal threat, degree of self-satisfaction.

6. Impulsivity as manifested in lack of inhibition attitude patterns.

The measure consists of 37 questions based on the "direction of perception" technique to which the subject answers in relation to his need-value system. The items met the "J" type distribution and were picked from 68 original questions. The test, in the validation procedures, differentiated ($P > .001$) between police personnel and prison inmates. It also differentiated between certain other groups and hence was classified as a valid instrument. The proported reliability of .77 was obtained with the Spearman-Brown prophecy formula using the youth prison group.

The HRI was administered to 82 General Psychology students at Utah State University and a performed item analysis revealed that five of the items (Nos. 1, 3, 6, 11, and 15) did not meet the "J" curve distribution and hence were eliminated. Professor David Gorfein administered the revised HRI to 21 female subjects who participated in an Asch-type experiment and found that it differentiated between the subjects ($p < .05$). It did not, however, differentiate between the original 80 subjects who were tested on an attitude change study.

The HRI was administered to 160 male and 68 female students at Utah State University. The male students had a mean of 9.55 with a SD of 7.55. The female students had a mean of 8.4 with a SD of 6.4. The differences were not found to be significant (t-1.17) between male and female students. For a group of 234 general psychology students, the mean was found to be 9.20 with a SD of 7.00. The first and third quartile was 4.79 and 13.16, respectively. The quartile cutoff points were used in the experiments. A test re-test reliability based upon 58 students in a general psychology class

at Utah State University was .60. The lowered correlation in comparison to that found by Bernberg may have been due in part to the items taken out.

Anxiety

The modified version (50 items) of the Taylor Manifest Anxiety Scale was used in this experiment to evaluate chronic anxiety level. Taylor (1953) using a norm group of 1,971 students found a general mean of 14.56. The test re-test reliability after a three week period was found to be .89 and after 9 to 17 months, .81. A test re-test reliability taken at Utah State University based on 59 students was .82.

The Taylor MAS was administered to 396 general psychology students at the university and a mean of 16.63 was obtained with a SD of 3.39. The male students had a mean of 15.47 (N = 240) with a SD of 5.15 and the female students had a mean of 18.54 (N = 156) with a SD of 8.10. The difference between the male and female means is significant at the .01 level. The first and third quartiles were 10.04 and 21.30, respectively. The quartile cutoff points were used for this study. (For a more extensive evaluation of the Taylor Manifest Anxiety Scale see Hayes, 1962.)

Word Familiarity

An independent measure of word familiarity was obtained for the school population. Seventy-five words with the frequency in print of one-per-million-words were taken out of the Thorndike-Lorge tables (Thorndike and Lorge, 1944) and added with three taboo words not listed and nine words

which McGinnies (1949) had in his list. The words were then presented to 92 students in a general psychology class. The students were asked to check one of three columns to indicate the familiarity the words held for them. Column A was to be checked if the words were quite familiar to them, column B if about average, and column C if the word is unfamiliar to them. The papers of 21 boys and 3 girls were eliminated because they did not follow directions correctly. From the 68 papers used, the words taken from the Thorndike-Lorge list were compared. According to general assumption, if the words are equated for frequency in print, they would therefore be equated for familiarity.

A word was marked familiar if 50 or more of the 68 students checked it familiar; unfamiliar if 40 or more checked it unfamiliar; and "split" if it could not be classified familiar or unfamiliar. Results indicated that 33 of the words met the criterion and could be classed as familiar, 16 unfamiliar, and 27 "split." For a statistical check, column A was given a score of 1, column B, 2, and column C, 3. The group of words were split in half using the odd-even technique giving comparable halves. The odd half had a mean of 2.11 with a SD of .71. The even half had a mean of 1.66 with a SD of .80. The difference between means is significant at the .01 level indicating that the words are not equated for familiarity due to equality of frequency in print.

Three of McGinnies' words (stoke, tripe, bison) were eliminated from consideration for the experiment because they didn't meet the criteria for familiarity. Three words (kodak, uncut, ulcer) that were classified by the students as familiar were substituted for the words taken out. The following

words, shown in Table 1, were used in the experiments.

Table 1. Percentage of familiar responses for experimental words

Words	Percent of students checking "Familiar"
Eater	81
Kodak	90
Raped	87
Fatty	99
Belly	91
Needy	93
Anvil	81
Whore	84
Zebra	94
Kotex	85
Mumps	92
Uncut	85
Penis	88
Ulcer	82
Filth	91
Decay	91
Bitch	91

Galvanic Skin Response

Evidence indicated that subjects usually show a greater autonomic activation as shown by the GSR for taboo as compared to neutral words. McGinnies (1949) found that as subjects perceived the taboo words, the GSR showed a higher elevation than when they perceived neutral words. Tjossem

(1960) found that defensive perceptual tactics occur on responses prior to correct discrimination of taboo pictures as evidenced by raised GSR level. When the subjects were told to verbalize material of pictures after a tachistoscopic flash, the GSR indicated no autonomic arousal prior to verbal recognition. When subjects were not told to report, GSR indicated arousal prior to full recognition stop on tachistoscope. A rank-difference correlation of .96 was found by Rachman (1960) using a test re-test method on latent period with 18 subjects.

Woodworth and Schloshberg (1954) describes the word emotion as indicating a person who is highly energized, active, tense, etc. A loud sudden noise will cause a jump with a return to basic level in about one-half minute. An embarrassing or threatening situation will cause a significant increase in "emotional" level of the subject. The authors conclude that the GSR may not be measuring traditional emotion, but it is measuring a much more fundamental dimension of behavior.

PROCEDURE

Pilot Study

Students

Three hundred and ninety-six general psychology and 40 social psychology students were given the Bernberg HRI and the Taylor MAS. The first and third quartiles were cutoff points for selection of the students. Those students who were either high or low anxious and either conformists or non-conformists were separated into groups. From each group, 10 boys and 10 girls were chosen. The groups were listed ranging from the maximum set of scores for that group to the minimum set of scores for that group. The top 10 boys and the top 10 girls were picked and five boys and five girls were randomly selected for a set group and five boys and five girls for a non-set group. Each subject was tested individually for approximately one-half hour. The subject met with the experimenter at a pre-arranged time and was conducted into a small room. The subject was brought to a card table with a chair and a standard classroom desk with a writing board. The subject was instructed to sit at the desk. Finger electrodes were attached to the first and third finger of one hand using one piece of scotch tape. The subject was then instructed to rest his hand on some pieces of paper napkins on the writing arm of the desk.

Carbon-copy booklets

Twenty-five pieces of copy paper were used with a piece of carbon paper between each one. Four words were typed on a page (8 inch by 10 inch paper) in capital letters using an IBM electric typewriter. (Table 2 gives a word list tested for familiarity.) Each page was cut into four equal pieces leaving four sets of 25 pages with the word in the middle. Each page was taped in the middle of an 8 inch by 10 inch plain white bond paper. The pages were arranged with the most diffused page on top and the clear page on the bottom. The number of pages it took to recognize the word was their threshold for that word. The GSR was connected to a graphic recorder which recorded the S's autonomic responses. A doorbell button tacked to the floor by the foot of E was connected to a battery and to a magnetic arm-type pen. When the S recognized the word, the button was pushed which activated the pen and an ink mark was recorded on the paper next to his GSR recordings.

Experiment

In this experiment a shutter-type tachistoscope was used. The shutter had a maximum opening of f. 4.7 and a minimum opening of f. 32. The maximum speed was .04 second. Equal intervals of opening were found as follows: The area of the smallest opening was found by the formula $A = \pi r^2$. The second opening was five times the original opening, the next opening was five times the original opening plus the area of the last opening, and so on. There were 13 equal interval openings in all. A set speed of .02 second

Table 2. Word list tested for familiarity

DITTY	BAGGY	OCHER
CHARD	FOCAL	THRUM
FLUM	WANLY	RABBI
QUIRK	WHORE	PENIS
BELLY	UNCUT	QUASI
TIARA	OATEN	ELFIN
BANDY	OPINE	QUIRE
BASAL	HATER	PITHY
DONNA	ULTRA	EGRET
HEADY	JETTY	RACER
EASEL	MULCH	ULCER
MOLAR	LAPEL	KODAK
LAITY	PHIAL	CLACK
KELCH	VIOLE	GAMUT
INURE	RABID	GNOME
VISOR	KOTEX	GENIE
BELCH	PETIT	SWARD
TORSO	VIAND	DECAY
AGAPE	DOILY	FILTH
NATAL	FORAY	BISON
SWARD	JERKY	TRIPE
IONIC	OFFAL	STOKE
JAUNT	ADEPT	MUMPS
KHAKI	JIFFY	ZEBRA
RAPED	HARPY	NEEDY
CAVIL	STROP	FATTY
LANKY	WEEDY	EATER
WHELK	YUCCA	ANVIL
ADAGE	MOVER	BITCH

was used and the aperature openings were changed to vary the amount of illumination.

An Argus slide projector with a 300 watt bulb was placed inside of a cardboard box with the top open. An opening was cut in the front of the box to which the shutter was mounted. The piece that was cut from the top of

the box was fastened on the side of the box nearest to the subject and extended upward in a vertical position. This apparatus allowed enough light into the room for the subject to see and yet it kept the room dark enough for the slides to be shown.

Each word was typed on a 3 inch by 5 inch card using an IBM electric typewriter. This time the words were typed in lower case letters. It was felt that since the Ss usually see these words in lower case letters instead of capital letters, word familiarity might be better tested if the words were in lower case letters.

Assessment measures

The same assessment measures were used in this experiment as in the pilot study. Approximately 425 students were tested and the students who met the criteria were separated into groups as before. Eighty students were picked as subjects using first and third quartiles as cutoff points. Two subjects were used who had scores slightly beyond the quartile range in order to fill the cells necessary to balance the S's. One S was substituted because he did not meet the experimental criterion. The Ss were grouped as listed in Table 3.

Only a male experimenter was used for this experiment. To control for verbal suppression, a checking condition was employed instead of verbal report. Each subject was tested individually. They were brought into a small room and seated in front of a desk. Nine pages with two checking forms on a page were shown and explained to the subject who was to check different

Table 3. Anxiety and conformity means for experimental groups

Group	Anxiety mean	Conformity mean
Set high anxious non-conformist females (SHANCG)	27.0	17.0
Set high anxious non-conformist males (SHANCB)	27.0	23.0
Non-set high anxious non-conformist females (NSHANCG)	27.0	20.0
Non-set high anxious non-conformist males (NSHANCB)	27.0	18.0
Set high anxious conformist females (SHACG)	30.0	1.4
Set high anxious conformist males (SHACB)	27.0	4.0
Non-set high anxious conformist females (NSHACG)	32.0	2.2
Non-set high anxious conformist males (NSHACB)	24.0	4.2
Set low anxious conformist females (SLACG)	9.4	2.6
Set low anxious conformist males (SLACB)	3.2	2.6
Non-set low anxious conformist females (NSLACG)	9.0	4.0
Non-set low anxious conformist males (NSLACB)	3.2	2.8
Set low anxious non-conformist females (SLANCG)	6.6	22.0
Set low anxious non-conformist males (SLANCB)	9.0	25.0
Non-set low anxious non-conformist females (NSLANCG)	7.8	15.0
Non-set low anxious non-conformist males (NSLANCB)	5.2	18.0

columns in accordance to what they perceived. The projector was on the desk next to them. Approximately 2 feet in front of the projector, on the wall, was a 3 inch by 4 inch piece of white paper upon which the words were shown. The words were approximately 1 inch long when flashed upon the paper.

The subject was brought into the room, seated at the desk, the finger electrodes of the GSR were attached to his fingers, and the following instructions were read to him:

> This experiment is to test a new technique to determine the ability of students to achieve academic success. It is a word recognition technique. There are 17 words used; each word will be flashed 13 times at .01 of a second. The word will be very dim on the first flash and generally not recognizable. I will increase the light each stop until at the last stop all the light will be coming through and you can generally see the word. Your task is to recognize the word as quickly as possible. (Pointing to the first column) If on the first flash you don't see anything at all check this "Saw nothing" column. When you see a little bit of light but can't recognize anything there, check this second column. When you can recognize any letters at all in the word, write the letters that you see in this third column and then make a guess at what the word might be in this fourth column. It is quite beneficial to guess because quite often you may be right. Remember, the object is to recognize the words as quickly as possible. Do you have any questions? Let me give you a couple of minutes to get accustomed to the semi-darkness. (Upon which E projected a slide of scenery on the wall as a "relaxer" while E left the room to adjust the GSR.)

To the set group was added:

> But first read over this list of words. This will give you an idea of the type of words that are used in this experiment. (The experimental words were taken out of this list.)

E left the room, adjusted the GSR in the next room, returned, turned off the light and said, "Let me give you a couple of minutes to get accustomed to the dark." The slide of scenery was shown for about one minute. The

dark adaptation time was about the same for all subjects.

Each slide was shown 13 times. Time was given between each flash for the subject to write or make a check in the columns. Upon finishing the experiment, the subject was informed as to the purpose of the experiment and was asked not to reveal the information about the experiment to any other student. Each subject was given credit in class for participation in the experiment.

RESULTS

Pilot Study

The pilot study data were not extensively analyzed because of the missing cells. The primary purpose was to check methods, instructions, procedures, etc. On inspection of the recognition thresholds it was found that on many of the words there was a small amount of deviation between groups, indicating a problem with the method of presentation.

A second problem was found with the method of obtaining GSR readings. When the subject recognized the word, a button was pushed which in turn produced a mark on the GSR paper along side the subject's emotionality reading. The subject was unaware of this action. At the same time, the booklet was replaced by another one. It was found when analyzing the data that the highest GSR reading came at the same time the button was pushed, or just after it was pushed. The question was then raised: Was the anxiety peak produced from recognition of the word, verbalization of the word, or changing of the booklets? The method was changed in the main experiment so the question could be answered.

Threshold

A five-way analysis of variance was performed on the data. In an analysis such as this, many factors could be found and discussed which would

merely be repetitious of other factors already stated. Due to this, factors previously discussed will not be repeated. Also, due to the large standard deviations in the GSR analysis, factors not pertinent to the hypothesis or study in general, will not be discussed. General principles rather than small details will receive the greatest emphasis. The following results were obtained.

Word type (W)

Results indicated that taboo words had a lower general perceptual threshold in comparison to the neutral words ($P > .01$).

W x Set (St)

As expected for both neutral and taboo words, set elicited lower perceptual thresholds (see Table 4) than did non-set ($P > .01$).

Table 4. Means of word type by set variables

	St	N-St	t	P
Neutral	5.658	6.253	2.97	.01
Taboo	5.096	5.835	3.69	.01
t	2.81	2.09		
P	.01	.05		

W x Anxiety (An)

In comparison of low anxiety versus high anxiety, significant differences between groups were not found for taboo or for neutral words. In comparison of neutral versus taboo words, in the low anxious category, neutral was found significantly higher ($P \geq .01$) than taboo words (see Table 5); in the high anxious category neutral words were higher than taboo, but not significantly so ($P \geq .10$).

Table 5. Means of word type by anxiety variables

	L An	H An	t	P
Neutral	6.119	5.791	1.64	N. Sig.
Taboo	5.506	5.424		N. Sig.
t	3.06	1.83		
P	.01	.10		

W x Conformity (Co)

There were no significant differences between conformists and non-conformists for taboo or neutral words (see Table 6). For conformists, however, the taboo threshold was significantly lower ($P \geq .01$) than the neutral threshold. Significant results were not found for the non-conformists between taboo and neutral words.

Table 6. Means of word type by conformity variables

	Co	N-Co	t	P
Neutral	5.908	6.003		N. Sig.
Taboo	5.321	5.610		
t	2.94	1.96		
P	.01	.10		

W x Co x St

Results indicated that under the conformity variable, set by taboo elicited lower thresholds than set by neutral ($P \geq .01$). Under the non-conformity variable, non-set elicited higher thresholds than set for both taboo and neutral words ($P \geq .01$). Other comparisons were not significant (see Table 7).

Table 7. Means of word type by conformity by set variables

				a	b	c	d	e	f	g
N	SC	5.852	a							
	NSC	5.963	b	.39						
	SNC	5.463	c	1.38						
	NSNC	6.542	d		2.07	.01				
T	SC	5.032	e	2.93**						
	NSC	5.610	f		1.26			1.61		
	SNC	5.160	g			1.08		.48		
	NSNC	6.060	h				1.72		1.60	3.21**

** = Significant at .01.

W x Co x An

High anxious non-conformists had higher thresholds for taboo words in relationship to high anxious conformists ($P > .01$), but significant results were not found with the same comparisons for neutral words (see Table 8). High anxious conformists elicited higher thresholds than low anxious conformists on taboo words ($P > .01$) and on neutral words ($P > .02$). High anxious conformists obtained higher thresholds on neutral words than taboo ($P > .05$). Low anxious non-conformists also obtained higher threholds on neutral words than taboo ($P > .02$).

Table 8. Means of word type by conformity by anxiety variables

				a	b	c	d	e	f	g
N	LAC	6.202	a							
	HAC	5.614	b	2.10*						
	LANC	6.037	c	.58						
	HANC	5.969	d		1.26	.24				
T	LAC	5.732	e	1.68						
	HAC	4.910	f		2.51*			2.94**		
	LANC	5.281	g			2.70		1.61		
	HANC	5.937	h				.11		3.67**	2.34*

* = Significant at .05.
** = Significant at .01.

W x Sex

Males had a higher threshold for neutral words in comparison with taboo words ($P > .01$). Results were not significant for females.

W x Co x An x St

Non-set low anxious conformists obtained significantly higher thresholds than non-set high anxious conformists for neutral ($P > .01$) and taboo ($P > .05$) thresholds. Set low anxious non-conformist taboo obtained lower thresholds than for neutral words ($P > .05$). Also, set high anxious conformist taboo obtained lower thresholds than for neutral ($P > .05$). These results, shown in Table 9, indicate that the interaction between conformity and anxiety is a determining factor in perception.

GSR Results

On each GSR data sheet, a line of best fit was drawn along the base level for anxiety. Lines were drawn perpendicular from the slide-change mark to where they intercepted the emotionality reading. By this method it could be determined which emotionality change fit which word. The two highest peaks were measured in millimeters in a word space and the average of the two was taken as the emotionality reading for that word. This was done for each word. The average of the neutral words, excluding the practice word, and the average of the taboo words were calculated for each subject.

A five-way analysis of variance yielded the following results.

Word type (W)

Results indicated no general significant differences between the emotional levels elicited by neutral words as compared to the emotional level elicited by taboo words.

Table 9. Means of word type by conformity by anxiety by set variables

					a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
N	NC	LA	S	5.750 a															
			NS	6.653 b	2.20														
		HA	S	5.954 c	.49														
			NS	5.273 d		3.36**	1.70												
	C	LA	S	5.763 e	.03														
			NS	6.310 f		.84			1.33										
		HA	S	5.163 g			1.92		1.46										
			NS	6.774 h				3.66**		1.13	3.93**								
T	NC	LA	S	5.339 i	1.00														
			NS	6.125 j		1.29							1.91						
		HA	S	4.724 k			3.00*						1.50						
			NS	5.095 l				.43						2.51*	.90				
	C	LA	S	4.752 m					2.47*				1.43						
			NS	5.809 n						1.22				.77		1.25	2.57*		
		HA	S	5.567 o							.99				2.06		1.99		
			NS	6.310 p								1.13				2.96*		1.22	1.81

* = Significant at .05.
** = Significant at .01.

W x St

Results indicate that set elicits significantly higher ($P > .01$) GSR levels than does non-set, as shown in Table 10.

Table 10. Means of word type by set variables

	St	N-St	t	P
Neutral	6.702	5.353	9.63	.01
Taboo	6.816	5.496	9.42	.01
t	.81	1.01		
P	N. Sig.	N. Sig.		

W x An

Anxiety did not play a significant general factor in the emotional levels of neutral versus taboo words.

W x An x St

The high anxious subjects obtained a significantly higher GSR level for set as compared with non-set on neutral and taboo words ($P > .01$). The mean differences between set and non-set for the low anxious Ss were not significant. Low anxious set Ss have significantly lower GSR levels ($P > .01$) than high anxious set Ss. Low anxious non-set Ss, on the other hand, had a significantly higher GSR level ($P > .01$) than high anxious non-set Ss.

Results were the same for neutral and taboo words (see Table 11).

Table 11. Means of word type by anxiety by set variables

				a	b	c	d	e	f	g
N	SLA	6.146	a							
	NSLA	5.736	b	1.84						
	SHA	7.259	c	5.08**						
	NSHA	4.971	d		3.48**	10.40**				
T	SLA	6.132	e	.61						
	NSLA	5.935	f		.94			.91		
	SHA	7.501	g			1.41		6.22**		
	NSHA	5.057	h				.32		4.01**	11.09**

** = Significant at .01.

W x Co

Conformists obtained significantly higher GSR levels than non-conformists on the neutral ($P > .05$) and taboo ($P > .01$) words, see Table 12.

Table 12. Means of word type by conformity variables

	Co	N-Co	t	P
Neutral	6.170	5.885	2.03	.05
Taboo	6.412	5.899	3.66	.01

W x Co x St

Non-conformists elicited significantly higher GSR levels for the set category in comparison with the non-set group ($P > .01$). This was true for neutral and taboo words (see Table 13). Non-set conformists had higher means than non-set non-conformists ($P > .01$). This was true for neutral and taboo words. Set conformists, on the other hand, had lower GSR levels than set non-conformists, neutral ($P > .02$), taboo ($P > .01$).

Table 13. Means of word type by conformity by set variables

				a	b	c	d	e	f	g
N	SC	6.416	a							
	NSC	5.925	b	2.23*						
	SNC	6.989	c	2.60*						
	NSNC	4.781	d		5.21**	10.03**				
T	SC	6.429	e	1.50						
	NSC	6.396	f		2.14*			.15		
	SNC	7.203	g			.97		3.51**		
	NSNC	4.596	h				.84		8.18**	11.85**

* = Significant at .05.
** = Significant at .01.

W x Co x An

Low anxious non-conformists have significantly higher GSR levels ($P > .01$) in comparison to high anxious conformists. No significant differences were found for low anxious non-conformists and high anxious. High anxious conformist Ss had lower thresholds for taboo words ($P > .01$) and

for neutral words ($P > .05$) in comparison to high anxious non-conformist Ss.

High anxious conformists obtained higher GSR levels for taboo words ($P > .05$) than low anxious conformists (see Table 14). The trend was in the same direction for neutral words, but the results were not significant.

Table 14. Means of word type by conformity by anxiety variables

				a	b	c	d	e	f	g
N	LAC	5.965	a							
	HAC	6.376	b	1.86						
	LANC	5.917	c	.21						
	HANC	5.854	d		2.37*	.28				
T	LAC	6.152	e	.85						
	LANC	6.673	f		1.35			2.36*		
	HAC	5.914	g			.03		1.08		
	HANC	5.885	h				.14		3.94**	.13

* = Significant at .05.
** = Significant at .01.

W x Co x An x St

In comparing set with non-set under one category the following results were found: Under high anxious by conformity, set obtained higher GSR thresholds than did non-set ($P > .05$ for neutral words, $P > .02$ for taboo words). Under low anxiety by conformity, non-set had higher thresholds than set ($P > .02$ for taboo, not significant for neutral). Under the low anxiety, non-conformist group set had higher thresholds than did non-set ($P > .10$ for neutral words and $P > .01$ for taboo words). Under the high

anxious non-conformist group, set had higher levels than did non-set ($P > .01$ for neutral and taboo words).

Upon comparing the terminal categories, the following results were obtained: Non-set high anxious non-conformists had lower thresholds than did non-set low anxious non-conformists, both neutral and taboo ($P > .01$). On the other hand, set high anxious non-conformists had higher GSR levels than did set low anxious non-conformists, both neutral and taboo ($P > .01$). Non-set high anxious non-conformists had lower GSR levels than did non-set high anxious conformists, both neutral and taboo ($P > .01$). The reverse trend was indicated for the set means. Set high anxious non-conformists had higher levels for neutral words ($P > .05$) than set high anxious conformists. Comparisons were not significant for taboo comparisons. Non-set low anxious conformists had higher GSR levels than did non-set high anxious non-conformists for both taboo and neutral words ($P > .01$). Non-set high anxious conformist Ss obtained higher thresholds for taboo words ($P > .05$) than non-set low anxious non-conformists, but neutral word results were not significant. Set results between these groups were not significant. For taboo words non-set low anxious non-conformists had significantly lower GSR levels ($P > .01$) than non-set low anxious conformists. The trend was in the same direction for neutral word GSR levels, but they were not significant. Set high anxious conformists had higher GSR levels than did set low anxious conformists ($P > .01$ for taboo, $P > .10$ for neutral). Results were not significant for the non-set group (see Table 15).

Table 15. Means of word type by conformity by anxiety by set variables

			a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
N	SLAC	6.053 a															
	NSLAC	5.877 b	.53														
	SHAC	6.778 c	2.19														
	NSHAC	5.973 d		.29	2.43*												
N	SLANC	6.239 e	.56														
	NSLANC	5.594 f		.85		1.14	1.95										
	SHANC	7.739 g			2.91*		4.54**										
	NSHANC	3.968 h		5.78**		6.07**		4.92**	11.42**								
T	SLAC	5.652 i	1.21														
	NSLAC	6.652 j		2.34*							3.03*						
	SHAC	7.206 k			1.29						4.70**						
	NSHAC	6.139 l				.50						1.67	3.23*				
T	SLANC	6.611 m					1.12				2.90*						
	NSLANC	5.217 n						1.14				4.34**		2.79*	4.22**		
	SHANC	7.795 o							.16				1.78		3.58**		
	NSHANC	3.974 p								.01		8.11**		6.56**		3.76**	11.57**

* = Significant at .05.

** = Significant at .01.

W x Sex

Female Ss elicited significantly higher GSR levels than did male Ss. Female Ss also had higher GSR levels for taboo words in comparison to neutral words (see Table 16). There were no significant results for the male Ss.

Table 16. Means of word type by sex variables

	Male	Female	t	P
Neutral	4.601	7.455	28.45	.01
Taboo	4.601	7.710	31.00	.01
t		2.55		
P		.02		

W x Sx x St

Female Ss had significantly higher GSR levels between all comparisons than male Ss ($P \geq .01$). Female Ss had higher levels for set in comparison to non-set for taboo and neutral words ($P \geq .01$). There was no significant difference for male Ss in comparisons of set and non-set, as shown in Table 17.

Table 17. Means of word type by sex by set variables

					a	b	c	d	e	f	g
N	Male	S	4.591	a							
		NS	4.611	b	.90						
	Female	S	8.814	c	19.19**						
		NS	6.096	d		6.75**	12.35**				
T	Male	S	4.683	e	.41						
		NS	4.520	f		.41			.74		
	Female	S	8.950	g			.61		19.39**		
		NS	6.471	h				1.70		8.86**	11.26**

** = Significant at .01.

W x Sx x An

Again, female Ss had higher GSR levels than male Ss in all comparisons ($P > .01$). High anxious males elicited higher levels than low anxious males ($P > .01$) for neutral and taboo words (see Table 18). The opposite was true for the female Ss, where low anxious Ss elicited higher GSR levels than high anxious ($P > .01$).

W x Sx x Co

Results indicated that male conformists had significantly higher GSR levels than male non-conformists for taboo and neutral words ($P > .01$). The female Ss, however, showed the opposite trend. Female non-conformists had higher thresholds for neutral words ($P > .05$) but on taboo words the conformists obtained the higher thresholds ($P > .05$). Female conformists

showed higher GSR levels for taboo words in relation to neutral words (see Table 19).

Table 18. Means of word type by sex by anxiety variables

					a	b	c	d	e	f	g
N	Male	LA	4.053	a							
		HA	5.148	b	4.97**						
	Female	LA	7.829	c	17.16**						
		HA	7.081	d		8.78**	3.40*				
T	Male	LA	4.028	e	.11						
		HA	5.175	f		.12			5.21**		
	Female	LA	8.039	g			.95		18.23**		
		HA	7.382	h				1.36		10.03**	2.98**

* = Significant at .05.
** = Significant at .01.

Table 19. Means of word type by sex by conformity variables

					a	b	c	d	e	f	g
N	Male	C	5.109	a							
		NC	4.093	b	4.61**						
	Female	C	7.232	c	9.65**						
		NC	7.678	d		16.29**	2.03*				
T	Male	C	5.086	e	.10						
		NC	4.117	f		.10			4.40**		
	Female	C	7.739	g			2.30*		12.05**		
		NC	7.682	h				.01		16.20**	2.50*

* = Significant at .05.
** = Significant at .01.

Other Experimental Data

To test the reliability of the experimental measures, a split half correlation was applied to the raw GSR data and also the the raw perceptual threshold data using the odd-even split technique. The Spearman-Brown prophecy formula was then applied to each correlation to estimate the whole-test reliability. The correlation on the neutral words uncorrected was .87; corrected was .93. For the taboo words the uncorrected correlation was .68; corrected was .81. The total GSR corrected and uncorrected correlation was .98. Results indicated that the measures ranged from fairly high to very high for the correlation. It is interesting to note that the correlation for neutral words was higher than the correlation for taboo words, for the perceptual threshold data. Little difference was found between the split-half correlation for taboo GSR levels and neutral GSR levels.

The perceptual threshold means of the 16 major groups were then ranked in order from the highest to the lowest. The GSR means of the same groups were also ranked in order. This was done to test for a relationship between the threshold and GSR level of the groups. A rank correlation of -.16 was obtained which was not significant. These results give little support of such a relationship.

The experimental words were next ranked in accordance to the familiarity rating given by the students. These ranks were compared to the total perceptual threshold combined from all the groups. A rank correlation was applied to the two ranks. A ρ of .014 was obtained. These data are

contrary to the familiarity theory which states that the familiarity of the words will determine the perceptual threshold.

It was mentioned before, that in the pilot study the highest emotional peak came after the student had verbalized the taboo or neutral words. Since the booklets were changed at the same approximate time, it was questioned whether the peak was due to the verbalization of the word or due to the change in booklets. In the experiment, even though the word may have been recognized near the beginning of the series of flashes, the word was still presented until all 13 flashes had been shown. Almost invariably, the results indicated that the highest emotional peak did not come at the time of recognition of the word, but at the change of slides. This may not have been due to the slide change, however. On the final word (bitch) the same type of emotional peak, or peak series, came after the word had been shown through the 13 series. A possible hypothesis may be given to account for the results: The emotion caused by the situation built up within the individual to the extent that it triggered (possibly by the slide change) all at once. There were other peaks besides the ones at the end, but these were generally not the highest ones. A common example of this is when a person is watching a suspenseful type movie and someone pops a bag. The emotional situation in the experiment was caused by the thought of how the S should react to these words, is he seeing them as quickly as others, etc.

One might argue that the results were caused by a delay on the part of the experimenter to trigger the needle, or that the needle for marking the words was not synchronized with the GSR needle. If such was the case, it

would be expected that the results would be different for different students, but this was not the case. Almost every student reacted in the same manner.

DISCUSSION

Hypothesis one stated that there would be a difference in thresholds and in GSR readings between neutral and taboo words under the condition in which subjects are not informed of the taboo words. This hypothesis was partly supported, but not in the expected direction. The subjects who were not set for the taboo words had significantly lower thresholds for taboo words in comparison to the neutral words. There are five possible explanations for these results. (1) Due to the type of tachistoscope used, the sensitivity of the measuring instrument may not have been as good as desired. (2) Due to the combination of words used in the experiment, the taboo words may have been more familiar than some of the neutral words. (3) The students in this locality may be more vigilant than in other localities. (4) The taboo words may not be sufficiently threatening to provoke a defense reaction. (5) The subjects may have been more aware of the words due to it being an experiment, whereas they might react differently in a non-experimental situation. Most likely, the phenomenon occurred due to a combination of the above reasons.

The familiarity of the words was determined by a three-choice scale questionnaire. If a five- or seven-choice questionnaire had been used, a more accurate measure of familiarity may have been obtained. The combination of letters in a word may have been an important factor. Words like

"fatty" and "belly" were easily recognized while "mumps" or "uncut" were hard to recognize. Bricker and Chapanis (1953) found in their study that Ss exhibited preferences for certain words and for certain letters in their paralogs.

Due to the general direction of movement from word to word by most groups (see graphs in appendix) the hypothesis on word structure seems reasonable.

Some of the taboo words such as "belly" or "raped" may not have been sufficiently threatening to the students to cause the defense mechanism to come into play. Pustell (1957) hypothesized that moderately anxious producing stimulus would elicit perceptual vigilance while strong anxious producing stimulus would produce perceptual defense. It is possible that the combination of instructions and taboo words did not pose too great a threatening situation to the students, and hence the students displayed vigilance instead of defense.

Results indicated no significant difference in GSR levels between taboo and neutral words. There are three possible explanations for this. (1) Taboo words did not cause sufficiently more emotion for the subjects than neutral words. (2) Taboo words could have elicited more emotion, but delayed response or generalization to the following neutral word "masked" the taboo word emotionality. (3) Being in an experimental situation, reactions may not have been the same as if they had been in a normal situation. Out of six taboo words which have neutral words following them, four of them have higher thresholds for the neutral word than the taboo word. These results

may be explained by a delayed mechanism or generalization of emotionality from the taboo word to the neutral word. Further research is needed to determine which is correct.

Hypothesis number two stated that the difference in threshold and in GSR readings would not be as great under conditions where the subjects are informed of the taboo words as under the conditions where the subjects are not informed of the taboo words. This hypothesis was confirmed in part. Both male and female set groups had lower thresholds than non-set. The mode of operation by which the set condition helped the students is not clear. The hypothesis theory would argue that by knowing some of the words used these words would be some of the first hypotheses entering the subjects mind which in turn would lower the thresholds for these words. This could possibly be an explanation for the data. However, many of the students remarked that they didn't remember seeing the word on the sheet until after they had recognized the word. This would indicate a possibility of a mechanism operating below the level of awareness.

Contrary to what was expected, the set condition elicited higher GSR levels than the non-set condition. There are many factors which could contribute to the explanation of these results. Such factors as conformity, anxiety, and need achievement have a bearing on the anxiety that is produced under a threat situation. This topic will be discussed in more detail in the following sections.

Hypothesis three stated that there will be a difference in threshold and in GSR readings for neutral and taboo words, between conformists and

non-conformists as measured by the Bernberg Human Relations Inventory. This hypothesis was confirmed only in part. A significant difference in perceptual thresholds was not found between conformists and non-conformists for neutral or taboo words. It is interesting to note, however, that for conformists, taboo words were significantly lower than neutral words, but the same was not so for non-conformists. It would appear then, that the conformists were more vigilant than the non-conformists. It was also interesting to note that the conformists had significantly higher GSR levels for both neutral and taboo words than the non-conformists. It may be hypothesized (ad hoc) that in the act of conforming, a conformist tends to inhibit or repress his needs. An experiment of this type, acting as a projective technique brings out the suppressed needs (lower threshold). On the other hand, the presentation of these types of words in the presence of an adult poses a threatening situation to the student. He wants to conform, but he is not sure of how to do it. This causes an increase in emotion.

Hypothesis four states that there will be a difference in threshold and GSR readings for neutral and taboo words between high and low anxiety Ss as measured by the Taylor Manifest Anxiety Scale. This hypothesis was only in part fulfilled. A lack of significant difference in thresholds or GSR levels between high and low anxious subjects for taboo or neutral words indicates that anxiety levels of the students as measured by the Taylor Manifest Anxiety Scale was not a significant factor by itself in this study. Low anxious Ss did have a significant difference between neutral and taboo words while high anxious Ss did not. This may indicate a vigilance for taboo words in

comparison to the neutral words, as in the case of the conformists, but their thresholds were still higher than high anxious Ss.

Interaction of Anxiety and Conformity

Since little relationship was found between the perceptual thresholds and anxiety levels, each shall be discussed separately.

Contrary to expectations, low anxious conformists had higher thresholds than high anxious conformists for taboo and neutral words. Such was not the case between low and high anxious non-conformists, however. It was felt that the high anxious conformist would have higher thresholds than the low anxious conformist because the high anxious conformist would have more anxiety about conforming and hence would be more confused in this type of a threat situation. Also, the high anxious subject elicits more emotion in a threat type situation than the low anxious subject. This would elicit higher perceptual thresholds. The opposite was true in this experiment. Again, the situation may not have been sufficiently threatening to the subjects.

As expected, the non-set high anxious non-conformist students had significantly higher thresholds than the non-set high anxious conformist student. The non-conformist being more of a distrustful type of person and being high anxious at the same time is more suspicious of the situation and hence more defensive than the conformist who is also high anxious.

GSR data

Results indicated that non-set high anxious non-conformists had lower GSR levels than non-set low anxious non-conformists. When the high anxious non-conformist meets a threat situation and he doesn't know what is coming, he reacts to the situation "as it comes." The low anxious non-conformist on the other hand has a higher need to achieve and desires to know how to meet the situation before he begins. This need for achieving, but not knowing "how" he can achieve, causes greater emotion. On the other hand, when the Ss are told what type of material is coming, the low anxious non-conformists feel more sure of themselves, whereas the high anxious non-conformists view this as more of a threatening situation. Now they are told how to react. Mandler and Sarason (1952) found that a high anxious person did less well under a threat type situation than a low anxious person. The high anxious non-conformist who knows what is coming experiences more of a structured situation and feels that he is to act in a certain way. This is a threat to him.

As was expected, non-set high anxious non-conformists had lower GSR levels than did non-set high anxious conformists. The non-set high anxious non-conformist reacts "as he would like to," while the conformist who is also high anxious wants to react "as he is supposed to," but doesn't know just how to do it. This creates higher situational emotion than in the case of the non-conformist. The reverse trend was indicated for the set means but they were not highly significant. In this case, the conformist knows how he is supposed to conform (at least he knows what is coming and can prepare himself) and feels more comfortable than the non-conformist who knows what

he is supposed to do, but would rather not be told what to do. Possibly more important than this, the non-conformist who knows the type of material that is coming is more suspicious than if he did not know because of the partial threatening nature of the material. More research is needed to test these hypotheses.

Results indicated that non-set high anxious non-conformists have significantly lower GSR levels than non-set low anxious conformists. These results are reasonable in the light of the above results. The conformist wants to conform, but doesn't know how he is supposed to conform. The non-conformist feels free to do as he pleases. In the set group, the high anxious non-conformists were higher in emotion than the low anxious conformists. Here again, the high anxious non-conformist is faced with a structured situation, whereas he would rather do "as he wishes." Not only is he told that he is to recognize the words as quickly as possible and that it is to be a measure of his academic ability, but he is shown a list of words from which the experimental words have been taken. The conflict between his need to achieve, high anxiety and suspicion creates a high GSR level. Also, in the set condition, the high anxious person knows how he is to react (knows which words are coming) and is afraid that he will fail.

Raphelson and Moulton (1958) found that a high anxious person will leave the psychological field when faced with a threat situation. In lieu of these results, it would be assumed that the non-set condition was not as threatening as the set condition. It may also be hypothesized that the conformist doesn't want to be taken by surprise and hence feels insecure when

he does not know what is coming. This would cause an increase in anxiety in comparison to the situation where he does know what is coming. The non-conformist, on the other hand, would rather be taken by surprise. He likes "new and exciting" situations where he can be an "individual." He is still suspicious of the situation, but not so much as in the set situation where he knows the nature of the threat material.

These ideas are in contradiction to one common sense hypothesis which states that set would elicit lower GSR levels than non-set because the subject is not held in suspense. More research is needed to validate these results.

Sex

Male and female Ss tended to react the same to the tachistoscopic situation. There were no significant differences between their means for taboo or neutral words. In the GSR situation, however, female Ss had much higher GSR levels than did the male Ss. This may be due to the male experimenter. The lack of verbalization of the threatening material and lack of difference between male and female thresholds would tend to discount this hypothesis. It could be hypothesized that females in general tend to see this as more of a threat situation than males. Males are generally seen as more of a rugged and individualistic sex, whereas females are seen as the more tender sex who prefers stable situations. Under these conditions, female Ss would tend to view a threatening situation as more threatening than a male.

Implications for a Theory

The results of this study did not add nor detract from the theory of perceptual defense. Rather, it indicated other variables which need to be taken into account before a complete theory can be conceptualized. How a person will react to a threat situation will depend on the following:

1. How threatening the situation is to him. If the situation poses only a mild threat, he may be vigilant toward it. If the situation is very threatening, he may be defensive toward it.

2. If he is a conformist or a non-conformist. If the individual is a conformist he will react in ways which he feels society would want him to react. If he is a non-conformist, he will react in accordance to "his way" of wanting to react.

3. If he is high or low anxious. If he is a highly anxious person and the situation poses a great threat, he may leave the psychological field to keep from facing the situation. If he is a low anxious person, his need to achieve may cause him to be vigilant.

4. If he is set for what is coming. If a person is set, he may be vigilant toward the situation. Yet, depending on whether he is a conformist or non-conformist, high or low anxious, he may feel more or less threatened by the situation.

5. The combination and extent of his personality characteristics and the combination and extent of elements in the situation.

As a person meets a situation of any kind, his whole personality reacts to the stimuli which confront him. If certain personality characteristics are predominant, these characteristics will be a major influence on the person. Each of his defense mechanisms and needs will influence him separately--the strongest mechanism or need producing the most influence. These mechanisms will produce a distortion in the visual field which will best satisfy the individual's needs. Just as there are many traits in an individual's personality, there are many factors involved when discussing why a certain individual perceives a stimulus as he does. One cannot say and be completely correct that one trait or another trait is the cause of the reaction. It may be said though that this trait may be part of the cause. A dominant trait when standing by itself may be a major cause of the distorted stimulus but when combined with another dominant trait may not produce this same affect.

The individual reacts as a whole unit with dominant defenses or needs inter-reacting with each other to bring about a change of the individual's environment to best fit his needs.

SUMMARY AND CONCLUSIONS

Many studies have been performed in the past 10 years on perceptual defense and perceptual vigilance. Some of the studies have been concerned with different personality traits in relation to the phenomenon. The purpose of this study was to investigate the influence of conformity, anxiety, set, and sex on perceptual defense.

The Taylor Manifest Anxiety Scale and a revised version of the Bernberg Human Relations Inventory were used as the anxiety and conformity evaluating instruments.

Thirty-five males and 35 females who fit the test criteria were used in a pilot study. The carbon-copy tachistoscopic method was used to measure perceptual thresholds and a psychogalvanoscope with a graphic recorder was used to measure the emotion elicited by the words. Nine neutral words, seven taboo words, and one practice word were used as the stimuli.

For the main experiment, 40 males and 40 females who were within the first or fourth quartile on one test and the first or fourth quartile on the other test were used as subjects. This time, a shutter type tachistoscope was used to measure the perceptual thresholds. The GSR with the graphic recorder were again used to measure the emotion level. Five way analyses of variance were used as the statistical evaluators. Due to the large N used

in the analysis of variance technique, many results were found. The following are the most important.

Threshold Data

1. Taboo words obtained significantly lower general thresholds ($P > .01$) than neutral words.

2. Set elicited significantly lower perceptual thresholds ($P > .01$) than non-set.

3. There is a significant interaction between anxiety, word type, and conformity in relation to perception.

4. A significant interaction was found between word type, conformity, anxiety, and set in relation to the thresholds.

GSR Data

1. Set elicited significantly higher GSR levels ($P > .01$) than did non-set.

2. Females elicited significantly higher GSR levels ($P > .01$) than did the male subjects.

3. Conformists obtained significantly higher GSR levels ($P > .01$) than non-conformists.

4. There were significant interactions between conformity, anxiety, sex, and set for both neutral and taboo words.

Conclusions

From the results, it may be concluded that sex, conformity, anxiety, and set when combined with the amount of threat in which the situation holds for the individual obviously contributes significantly how he will perceive the situation and how much emotion will be generated within him by the situation.

BIBLIOGRAPHY

Aronfreed, J. M., and S. A. Messick. 1952-53. Re-examining emotionality and perceptual defense. J. Pers. 21: 517-528.

Beier, E. G., and E. L. Cowen. 1953. A further investigation of the influence of "threat-expectancy" on perception. J. Pers. 22: 254-257.

Belmont, L., and H. G. Birch. 1951. Re-individualizing the repression hypotheses. J. Abnorm. Soc. Psychol. 46: 226-235.

Bendig, A. W. 1957. Manifest anxiety and projective and objective measures of need achievement. J. Consult. Psychol. 21: 354.

Bernberg, Raymond E. 1955. A measure of social conformity. J. Psychol. 39: 89-96.

Bernberg, Raymond E. 1956. Personality correlates of social conformity. J. Soc. Psychol. 43: 309-312.

Bernberg, Raymond E. 1959. Human relations inventory. Manual of Instructions. (Mimeographed)

Bitterman, M. E., and C. W. Kniffin. 1953. Manifest anxiety and "perceptual defense." J. Abnorm. Soc. Psychol. 48: 248-252.

Blum, G. S. 1955. Perceptual defense revisited. J. Abnorm. Soc. Psychol. 51: 24-29.

Bricker, Peter D., and A. Chapanis. 1953. Do incorrectly perceived tachistoscopic stimuli convey some information? Psychol. Review 60: 181-188.

Bruner, J. S., and L. Postman. 1947-48. Emotional selectivity in perception and reaction. J. Pers. 16: 69-77.

Carpenter, B., M. Weiner, and J. Carpenter. 1956. Predictability of perceptual defense behavior. J. Abnorm. Soc. Psychol. 52: 380-383.

Cason, H., and N. Katcher. 1933. An attempt to condition breathing and eyelid responses to a subliminal electric stimulus. J. Exp. Psychol. 16: 831-842.

Chodorkoff, B. 1954. Self-perception, perceptual defense, and adjustment. J. Abnorm. Soc. Psychol. 49: 508-512.

Chodorkoff, B. 1955. A note on Bitterman and Kniffin's "Manifest anxiety and perceptual defense." J. Abnorm. Soc. Psychol. 50: 144.

Cowen, E. L., and E. G. Beier. 1950-51. The influence of "threat-expectancy" on perception. J. Pers. 19: 85-94.

Cowen, E. L., and E. G. Beier. 1954. Threat-expectancy, word frequencies, and perceptual prerecognition hypotheses. J. Abnorm. Soc. Psychol. 49: 178-182.

Dixon, N. F. 1958. The effect of subliminal stimulation upon autonomic and verbal behavior. J. Abnorm. Soc. Psychol. 57: 29-36.

Dulany, D. E., Jr. 1957. Avoidance learning of perceptual defense and vigilance. J. Abnorm. Soc. Psychol. 55: 333-338.

Endler, N. S. 1958. Conformity analyzed and related to personality. Ann Arbor, Michigan, Micro. 58-5411.

Eriksen, C. W. 1951. Perceptual defense as a function of unacceptable need. J. Abnorm. Soc. Psychol. 46: 557-564.

Eriksen, C. W. 1952. Defense against ego-threat in memory and perception. J. Abnorm. Soc. Psychol. 47: 230-236.

Eriksen, C. W. 1952. Individual differences in defensive forgetting. J. Exp. Psychol. 44: 442-446.

Eriksen, C. W. 1954. The case for perceptual defense. Psychol. Review 61: 175-182.

Eriksen, C. W. 1960. Discrimination and learning without awareness. Psychol. Review 67: 279-300.

Eriksen, C. W., and C. T. Brown. 1956. An experimental and theoretical analysis of perceptual defense. J. Abnorm. Soc. Psychol. 52: 224-230.

Eriksen, Charles W., and R. S. Lazarus. 1952. Perceptual defense and projection tests. J. Abnorm. Soc. Psychol. 47: 302-308.

Freeman, J. T. 1954. Set or perceptual defense? J. Exp. Psychol. 48: 283-288.

Freeman, J. T. 1955. Set versus perceptual defense: A confirmation. J. Abnorm. Soc. Psychol. 51: 710-712.

Fuhrer, Marcus J., and C. W. Eriksen. 1960. The unconscious perception of the meaning of verbal stimuli. J. Abnorm. Soc. Psychol. 61: 432-439.

Fulkerson, S. C. 1957. The interaction of frequency, emotional tone and set in visual recognition. J. Exp. Psychol. 54: 188-194.

Goodstein, Leonard D. 1954. Inter-relationships among several measures of anxiety and hostility. J. Consult. Psychol. 18: 35-39.

Goldstein, M. J., and S. Z. Himmelfarb. 1962. The effects of providing knowledge of results upon the perceptual defense effect. J. Abnorm. Soc. Psychol. 64: 143-147.

Goldstein, M. J., and J. Ratleff. 1961. Relationship between frequency of usage and ease of recognition with response bias controlled. Percept. Motiv. Skills 13: 171-177.

Hamby, R. 1960-61. Tachistoscopic identification of words as a function of category set, selective verbal report, mode of psychological defense, and generalization of threat. Ann Arbor, Michigan, Micro. 60-4326.

Hoffman, Martin L. 1957. Conformity as a defense mechanism and a form of resistance to genuine group influence. J. Pers. 25: 412-424.

Holder, Wayne B. 1958. Value conformity in normal and non-normal groups. J. Soc. Psychol. 48: 147-154.

Hollander, H. E. 1960. The effect of subliminal stimuli upon perceptual discrimination. Ann Arbor, Michigan, Micro. 60-1332.

Howes, D. H., and R. L. Solomon. 1950. A note on McGinnies' "Emotionality and perceptual defense." Psychol. Review 57: 229-235.

Howes, D. H., and R. L. Solomon. 1951. Visual duration threshold as a function of word-probability. J. Exp. Psychol. 41: 401-410.

Hoyt, D. P., and T. M. Magoon. 1954. A validation study of a Taylor Manifest Anxiety Scale. J. Clinical Psychol. 10: 357-361.

Janis, I. L. 1953-54. Personality correlates of susceptability to persuasion. J. Pers. 22: 504-518.

Janis, I. L. 1955. Anxiety indices related to susceptability to persuasion. J. Abnorm. Soc. Psychol. 51: 663-667.

Kendall, E. 1954. The validity of Taylor's Anxiety Scale. J. Consult. Psychol. 18: 429-432.

Kurland, S. H. 1954. The lack of generality in defense mechanisms as indicated in auditory perception. J. Abnorm. Soc. Psychol. 49: 173-177.

Lacy, O. W., N. Lewinger, and J. F. Adamson. 1953. Foreknowledge as a factor affecting perceptual defense and alertness. J. Exp. Psychol. 45: 169-174.

Lazarus, R. S. 1954. Is there a mechanism of perceptual defense? A reply to Postman, Bronson, and Gropper. J. Abnorm. Soc. Psychol. 49: 396-398.

Lazarus, R. S., C. W. Eriksen, and C. P. Fonda. 1950-51. Personality dynamics and auditory perceptual recognition. J. Pers. 19: 471-482.

Lazarus, R. S., and N. Longo. 1953. The consistancy of psychological defenses against threat. J. Abnorm. Soc. Psychol. 48: 495-499.

Mandler, G., and S. B. Sarason. 1952. A study of anxiety and learning. J. Abnorm. Soc. Psychol. 47: 166-173.

Mandl, H. J. 1957. The relationship of perceptual defense to variation in task requirements and emotional content. Ann Arbor, Michigan, Micro. 57-661.

Mangan, G. L. 1962. Generalization of perceptual vigilance and defense. Percept. Motiv. Skills 14: 171-178.

Mangan, G. L., and C. J. Adcock. 1962. EEG correlates of perceptual vigilance and defense. Percept. Motiv. Skills 14: 197-198.

Mangan, G. L., D. Quartermain, and G. Vaughan. 1959. Relationship between Taylor MAS scores and group conformity. Percept. Motiv. Skills 9: 207-209.

Marlow, D. 1959. Some personality and behavioral correlates of conformity. Dissert. Abstr. 20: 2388-2389.

Matthews, Anne, and M. Wertheimer. 1958. A "pure" measure of perceptual defense uncontaminated by response suppression. J. Abnorm. Soc. Psychol. 57: 373-376.

McCleary, J. B., and A. W. Bendig. 1954. Comparison of two forms of the Manifest Anxiety Scale. J. Consult. Psychol. 18: 206.

McCleary, R. A., and R. S. Lazarus. 1949. Autonomic discrimination without awareness: An interim report. J. Pers. 18: 171-179.

McGinnies, E. 1949. Emotionality and perceptual defense. Psychol. Review 56: 244-251.

McGinnies, E. 1950. Discussion of Howes and Solomon's note on "Emotionality and perceptual defense." Psychol. Review 47: 235-240.

McGinnies, E., and J. Adornetto. 1952. Perceptual defense in normal and in schizophrenic observers. J. Abnorm. Soc. Psychol. 47: 833-837.

McGinnies, E., and H. Sherman. 1952. Generalization of perceptual defense. J. Abnorm. Soc. Psychol. 47: 81-85.

Mednick, S., A. Harwood, and J. Wertheim. 1957. Perception of disturbing and neutral words through the autokinetic word technique. J. Abnorm. Soc. Psychol. 55: 267-268.

Moody, Helaine L. 1957. Perceptual defense as revealed by normal and clinically referred subjects in response to three classes of pictorial stimuli. Dissert. Abstr. 17: 1394.

Nelson, S. E. 1955. Psychosexual conflicts and defenses in visual perception. Ann Arbor, Michigan, Micro. 55-828.

Newton, K. R. 1955. A note on visual recognition thresholds. J. Abnorm. Soc. Psychol. 51: 709-710.

Nothman, S. H. 1960. The influence of response conditions on recognition thresholds for taboo words. Dissert. Abstr. 20: 4177.

Perloe, S. I. 1959. An experimental test of two theories of perceptual defense. Ann Arbor, Michigan, Micro. 59-2164.

Postman, L. 1953. On the problem of perceptual defense. Psychol. Review 60: 298-306.

Postman, L., W. C. Bronson, and G. L. Gropper. 1953. Is there a mechanism of perceptual defense? J. Abnorm. Soc. Psychol. 48: 215-224.

Postman, L., and B. H. Schneider. 1951. Personal values, visual recognition, and recall. Psychol. Review 58: 271-284.

Pustell, T. 1957. The experimental induction of perceptual vigilance and defense. J. Pers. 25: 425-438.

Rachman, S. 1960. Reliability of galvanic skin response measures. Psychol. Reports 6: 326.

Raphelson, A. C., and R. W. Moulton. 1958. The relationship between imaginative and direct verbal measures of test anxiety under two conditions of uncertainty. J. Pers. 26: 556-557.

Sampson, E. E. 1962. Birth order, need achievement, and conformity. J. Abnorm. Soc. Psychol. 64: 155-159.

Sarason, I. G. 1961. The effects of anxiety and threat on the solution of a difficult task. J. Abnorm. Soc. Psychol. 62: 165-168.

Smith, G. J. W., D. P. Spence, and G. Klein. 1959. Subliminal effects of verbal stimuli. J. Abnorm. Soc. Psychol. 59: 167-176.

Smock, C. D. 1956-57. The relationship between test-anxiety, "threat-expectancy," and recognition thresholds for words. J. Pers. 25: 191-201.

Smock, C. D. 1961. Manifest anxiety and perceptual sensitization to threat objects. Percept. Motiv. Skills 13: 200.

Solomon, R. L., and D. H. Howes. 1951. Word frequency, personal values, and visual duration thresholds. Psychol. Review 58: 256-270.

Solomon, R. L., and L. Postman. 1952. Frequency of usage as a determinant of recognition thresholds for words. J. Exp. Psychol. 43: 195-201.

Stein, K. B. 1952-53. Perceptual defense and perceptual sensitization under neutral and involved conditions. J. Pers. 21: 467-478.

Stricker, G. 1961. Word values, word frequency, and visual duration thresholds: A comment. Psychol. Review 68: 420-422.

Stott, R. L. 1957. Sexual conflict, perceptual vigilance, and perceptual defense in visual perception. Ann Arbor, Michigan, Micro. 57-2923.

Taylor, J. A. 1953. A personality scale of manifest anxiety. J. Abnorm. Soc. Psychol. 48: 285-290.

Taylor, J. A. 1956. Drive theory and manifest anxiety. Psychol. Bull. 53: 303-320.

Thorndike, E. L., and I. Lorge. 1944. The teachers word book of 30,000 words. Teachers College, New York.

Tjossem, T. D. 1960. An experimental study of perceptual defense. Ann Arbor, Michigan, Micro. 60-875.

Urban, H. B. 1956. A study of perceptual defense as a paradigm for repression. Ann Arbor, Michigan, Micro. 56-2346.

Vanderplas, J. M., and R. R. Blake. 1949. Selective sensitization in auditory perception. J. Pers. 18: 252-266.

Weiner, H. I., and S. Ross. 1956. Manifest anxiety and perceptual judgment. J. Soc. Psychol. 44: 83-87.

Weiner, M. 1955. Word frequency or motivation in perceptual defense. J. Abnorm. Soc. Psychol. 51: 214-208.

Whitaker, E. M., J. C. Gilchrist, and J. W. Fischer. 1952. Perceptual defense or response suppression? J. Abnorm. Soc. Psychol. 47: 732-733.

Woodworth, R. S., and H. Schloshberg. 1954. Experimental psychology. Henry Holt and Co., New York.

Zigler, E., and L. Yospi. 1960. Perceptual defense and the problem of response suppression. J. Pers. 28: 220-239.

APPENDIXES

APPENDIX A

KEY

An ---------- Anxiety

Co ---------- Conformity

Nu ---------- Neutral

Ta ---------- Taboo

Table 20. Means of the set low anxious non-conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	9	13	6.77	5.42	6.88	8.42
2.	11	14	3.77	3.71	25.77	26.07
3.	11	14	4.44	4.42	3.66	4.50
4.	6	16	5.11	4.28	5.16	5.00
5.	2	19	6.00	5.14	7.94	8.21
M	8	15	5.21	4.59	9.88	10.44
SD			1.10	.64	8.06	7.94

Table 21. Means of the set low anxious non-conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	0	23	7.11	4.00	1.44	1.71
2.	6	14	7.22	6.28	4.11	3.85
3.	4	15	6.44	5.57	4.94	5.00
4.	8	19	6.33	4.42	1.55	2.14
5.	8	20	4.44	4.28	.94	1.21
M	5	18	6.30	4.91	2.59	2.83
SD			1.04	.86	1.64	1.32

Table 22. Means of the non-set low anxious non-conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	4	30	6.77	5.42	6.88	3.50
2.	8	14	4.55	4.85	3.00	4.85
3.	5	28	6.22	5.00	17.16	17.64
4.	11	19	13.88	12.42	7.38	6.35
5.	5	19	4.55	6.28	3.16	3.78
M	6	22	7.19	6.79	7.51	7.22
SD			3.46	2.85	5.10	5.27

Table 23. Means of the non-set low anxious non-conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	10	32	3.55	3.42	3.66	3.35
2.	6	16	4.88	3.71	1.77	1.71
3.	10	19	5.00	4.28	3.33	3.07
4.	10	39	5.15	4.71	4.38	3.78
5.	9	19	8.55	8.00	5.22	4.14
M	9	25	5.42	4.82	3.67	3.21
SD			1.68	1.65	1.14	.83

Table 24. Means of the non-set low anxious conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	8	6	8.00	7.14	10.00	11.00
2.	10	2	7.00	7.42	3.00	3.21
3.	9	6	6.00	6.14	3.77	6.85
4.	8	4	5.00	5.00	7.83	8.42
5.	10	2	6.22	4.85	7.50	8.64
M	9	4	6.44	6.11	6.42	7.62
SD			1.12	1.05	2.63	2.58

Table 25. Means of the non-set low anxious conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	1	3	4.33	3.85	6.68	6.85
2.	4	5	11.66	9.71	7.61	9.28
3.	2	2	8.44	6.24	4.44	4.85
4.	2	3	6.11	7.28	4.94	4.35
5.	5	1	3.77	3.44	3.00	3.07
M	3	3	6.86	6.14	5.33	5.68
SD			2.90	2.05	1.62	2.17

Table 26. Means of the set low anxious conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	10	4	3.88	3.71	12.22	13.00
2.	10	2	7.33	5.14	11.83	7.92
3.	10	5	5.66	4.42	3.55	3.42
4.	6	0	5.33	6.00	7.77	7.64
5.	11	2	6.88	7.14	2.11	2.35
M	9	2	5.81	5.28	7.49	6.86
SD			1.24	1.20	4.12	3.74

Table 27. Means of the set low anxious conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	3	2	3.88	3.85	6.00	6.00
2.	1	2	4.33	7.14	2.61	2.42
3.	3	3	12.77	9.00	5.50	5.14
4.	5	4	4.00	3.71	2.44	2.21
5.	4	2	3.44	3.28	6.50	6.42
M	3	2	5.68	5.39	4.61	4.43
SD			3.50	2.26	1.73	1.80

Table 28. Means of the non-set high anxious conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	23	2	6.60	5.42	10.27	11.64
2.	28	2	4.66	5.00	9.33	9.78
3.	32	4	3.55	4.28	3.77	4.85
4.	39	2	4.33	4.28	2.00	2.50
5.	36	1	6.66	6.71	8.88	8.07
M	32	2	5.17	5.13	6.85	7.36
SD			1.37	1.92	3.31	3.31

Table 29. Means of the non-set high anxious conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	25	3	4.88	4.14	3.72	3.92
2.	26	4	4.00	2.71	4.66	4.64
3.	22	6	5.55	6.28	2.50	1.71
4.	27	2	8.33	7.85	3.22	3.71
5.	22	6	4.11	4.28	11.38	10.57
M	24	4	5.37	5.05	5.09	4.91
SD			1.59	1.80	4.47	2.83

Table 30. Means of the set high anxious conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	24	2	8.44	6.57	9.55	12.85
2.	30	0	3.11	2.42	14.27	15.50
3.	28	4	5.11	4.71	3.50	3.57
4.	30	1	4.44	4.14	9.22	9.42
5.	38	0	9.88	7.71	4.27	4.14
M	30	1	6.19	4.56	8.16	9.09
SD			2.55	2.43	3.92	3.90

Table 31. Means of the set high anxious conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	23	4	8.22	5.85	5.38	5.28
2.	33	6	5.77	4.00	7.77	7.85
3.	30	2	5.00	3.42	3.27	2.88
4.	24	4	4.57	4.28	3.55	3.57
5.	26	4	5.00	4.14	7.00	7.00
M	27	4	5.71	4.33	5.39	5.31
SD			1.31	.84	1.77	1.92

Table 32. Means of the non-set high anxious non-conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	26	17	5.00	4.42	4.11	4.28
2.	25	13	8.33	7.42	3.16	3.00
3.	25	20	6.00	6.14	2.83	2.57
4.	31	28	4.00	5.00	3.00	3.14
5.	27	21	5.55	5.57	4.88	5.35
M	27	20	5.77	5.71	3.59	3.64
SD			1.53	1.02	.80	1.10

Table 33. Means of the non-set high anxious non-conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	22	14	5.88	7.42	6.50	6.28
2.	27	13	13.33	12.28	2.77	2.35
3.	34	29	4.44	3.57	3.00	2.92
4.	21	13	10.44	7.14	5.55	6.07
5.	31	19	4.77	4.14	3.88	3.78
M	27	18	7.77	6.91	4.34	4.28
SD			3.46	3.11	1.45	1.61

Table 34. Means of the set high anxious non-conformist females

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	36	18	4.78	5.71	8.66	10.51
2.	29	14	6.00	6.28	8.66	8.78
3.	28	17	6.44	7.42	11.16	11.57
4.	22	19	4.33	5.28	8.77	8.42
5.	22	17	6.66	7.71	10.88	7.71
M	27	17	5.64	6.48	9.71	9.39
SD			.93	.75	1.31	1.44

Table 35. Means of the set high anxious non-conformist males

S	An	Co	Threshold		GSR	
			Nu	Ta	Nu	Ta
1.	21	34	4.44	3.85	8.77	8.35
2.	31	20	3.55	4.00	8.00	8.78
3.	25	18	4.11	5.14	6.05	7.35
4.	31	21	7.44	6.57	4.33	4.28
5.	27	21	3.88	3.71	1.66	2.21
M	25	23	4.68	4.65	5.76	6.19
SD			1.42	1.10	2.57	2.54

APPENDIX B

KEY

A. ---------- Eater
1. ---------- Kodak
2. ---------- Raped
3. ---------- Fatty
4. ---------- Belly
5. ---------- Needy
6. ---------- Anvil
7. ---------- Whore
8. ---------- Zebra
9. ---------- Kotex
10. ---------- Mumps
11. ---------- Uncut
12. ---------- Penis
13. ---------- Ulcer
14. ---------- Filth
15. ---------- Decay
16. ---------- Bitch

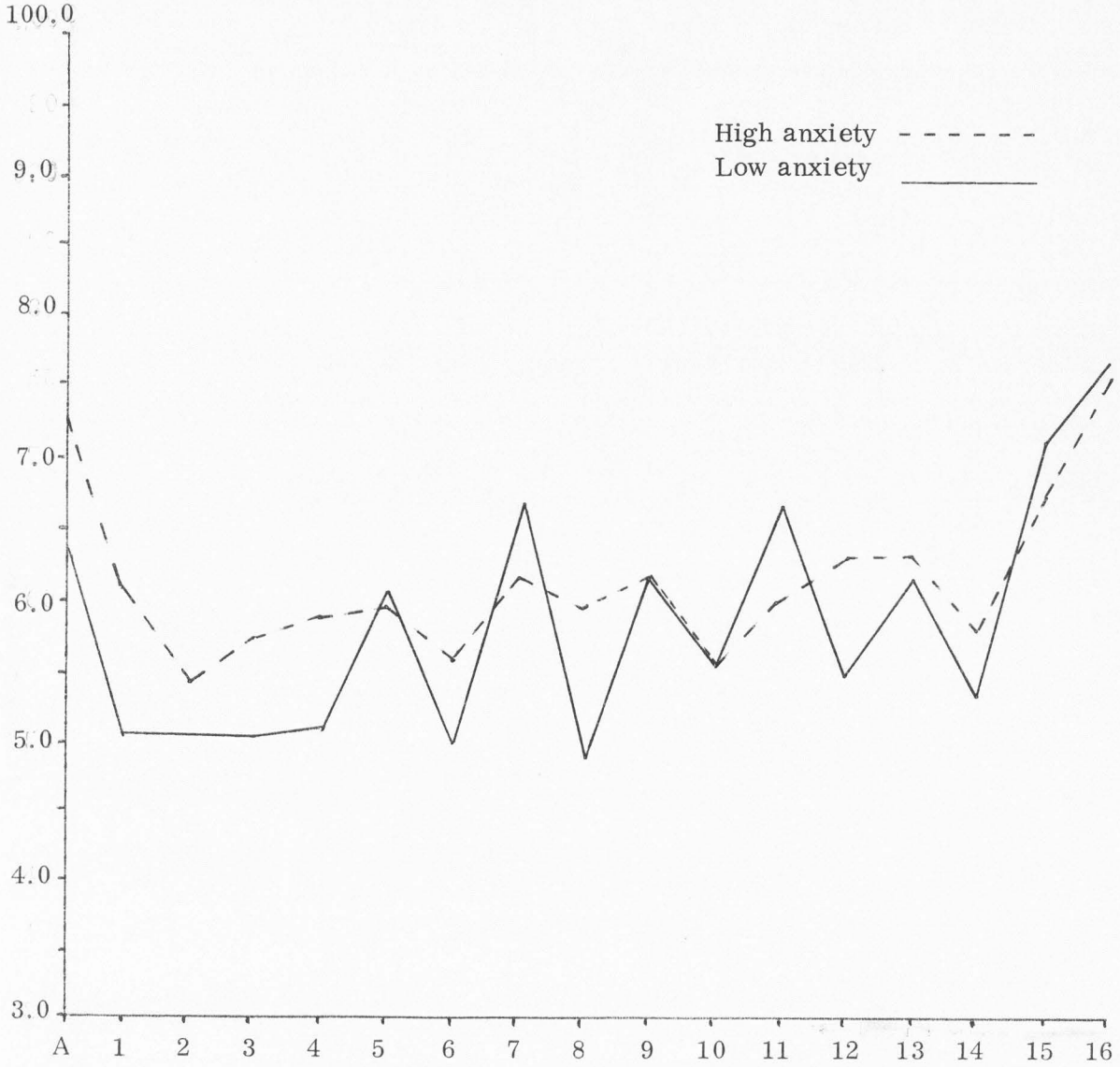

Figure 1. GSR thresholds for low anxiety and high anxiety subjects.

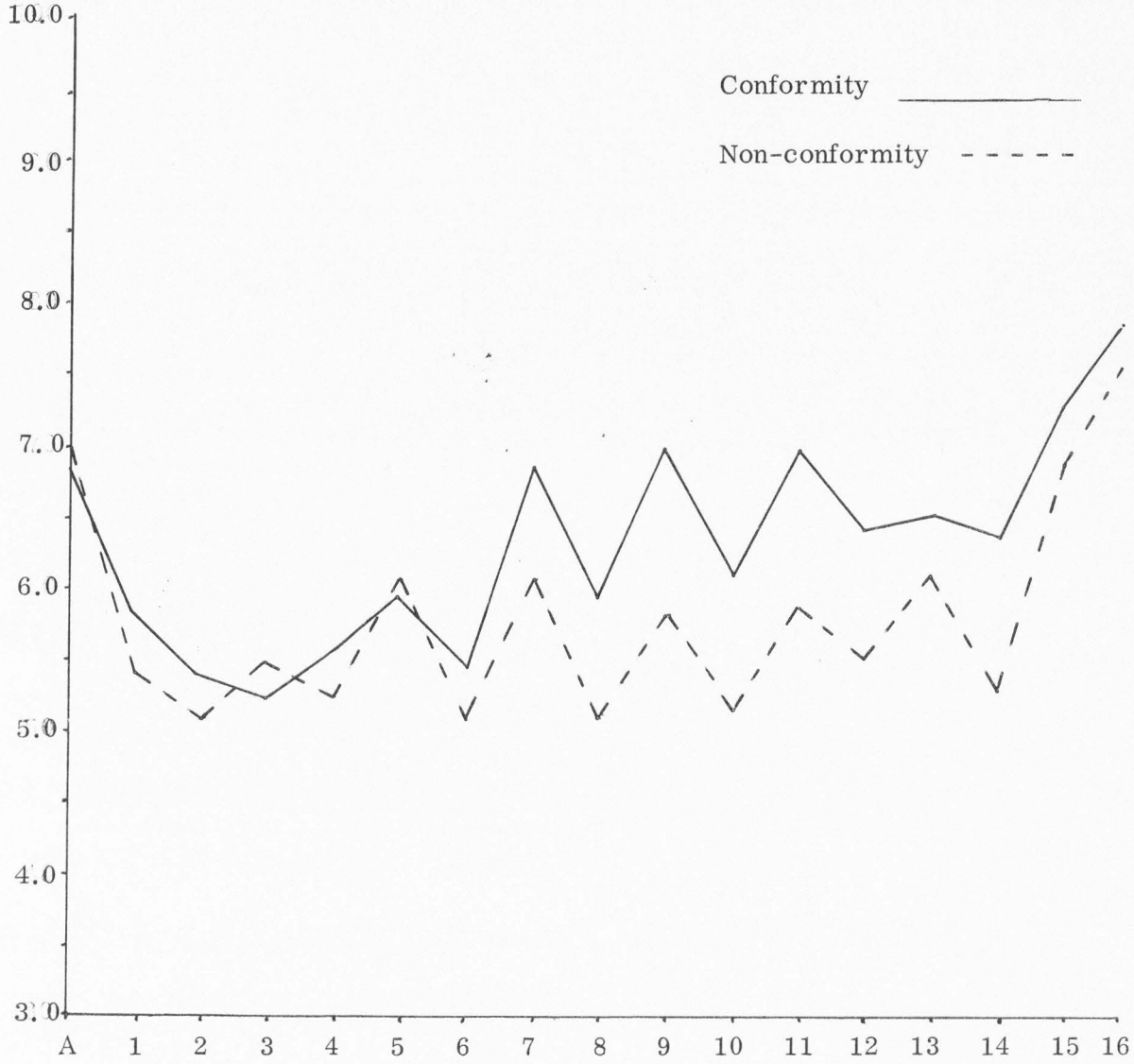

Figure 2. GSR thresholds for conformity and non-conformity subjects.

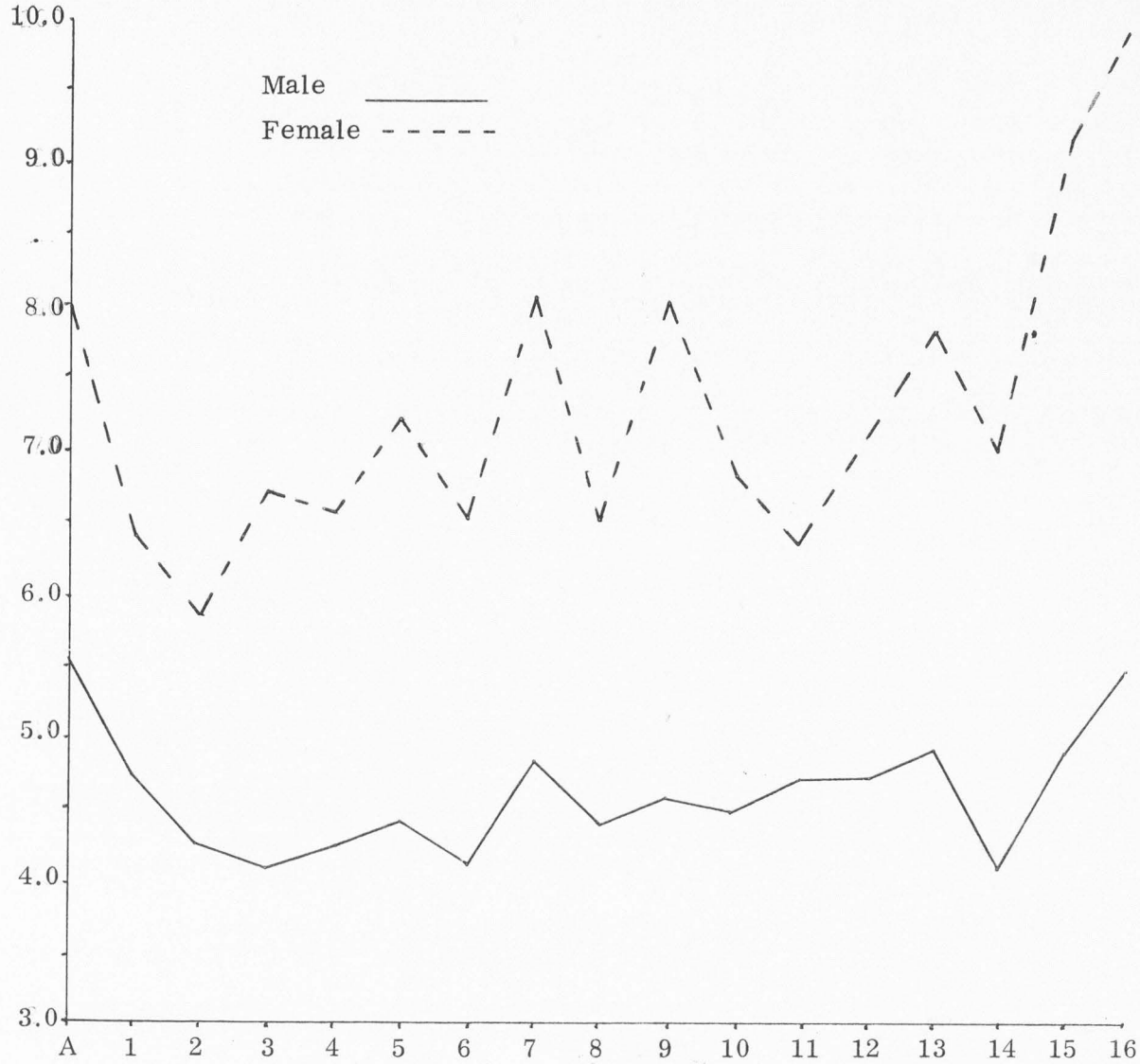

Figure 3. GSR thresholds for male and female subjects.

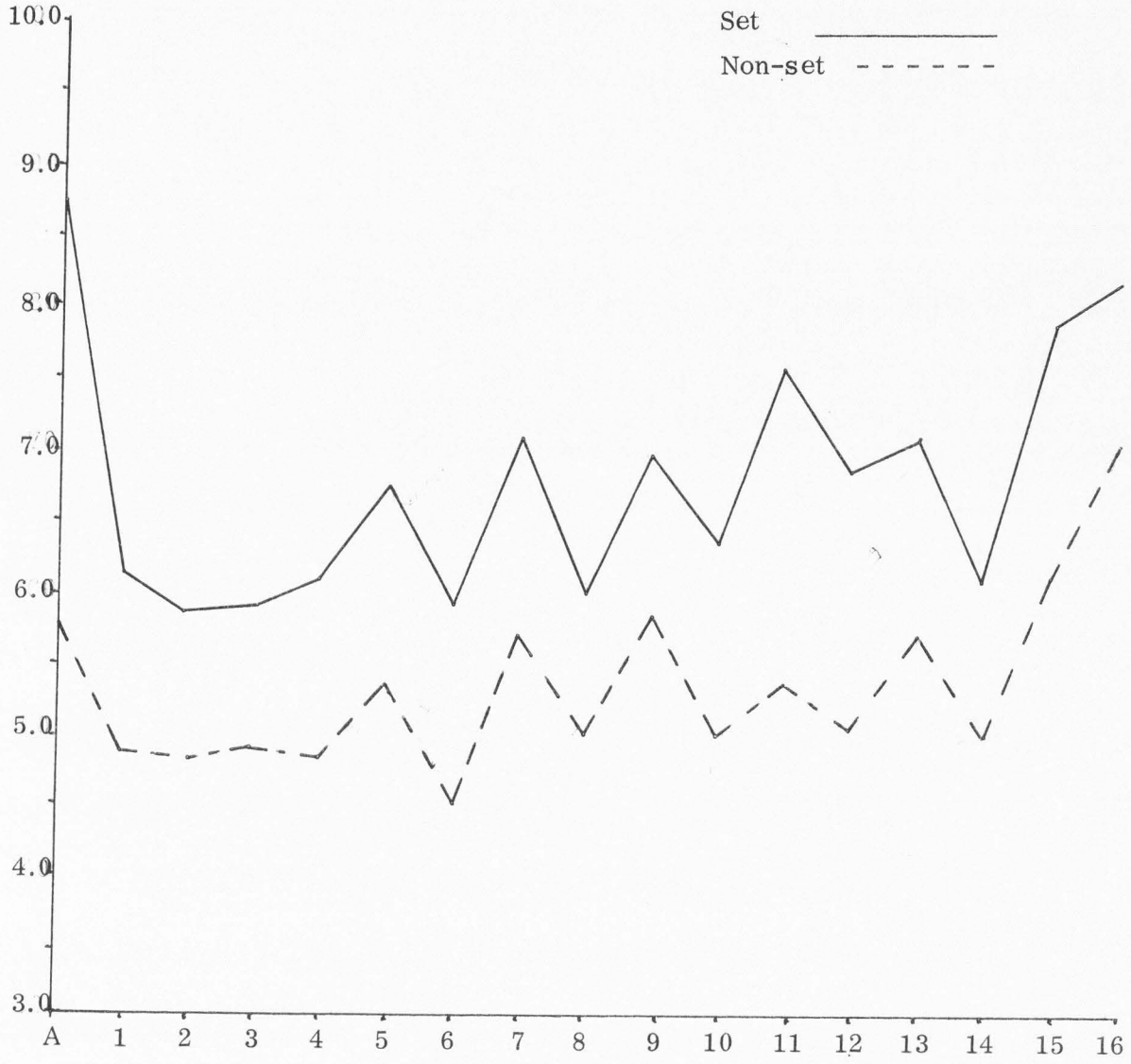

Figure 4. GSR thresholds for set and non-set subjects.

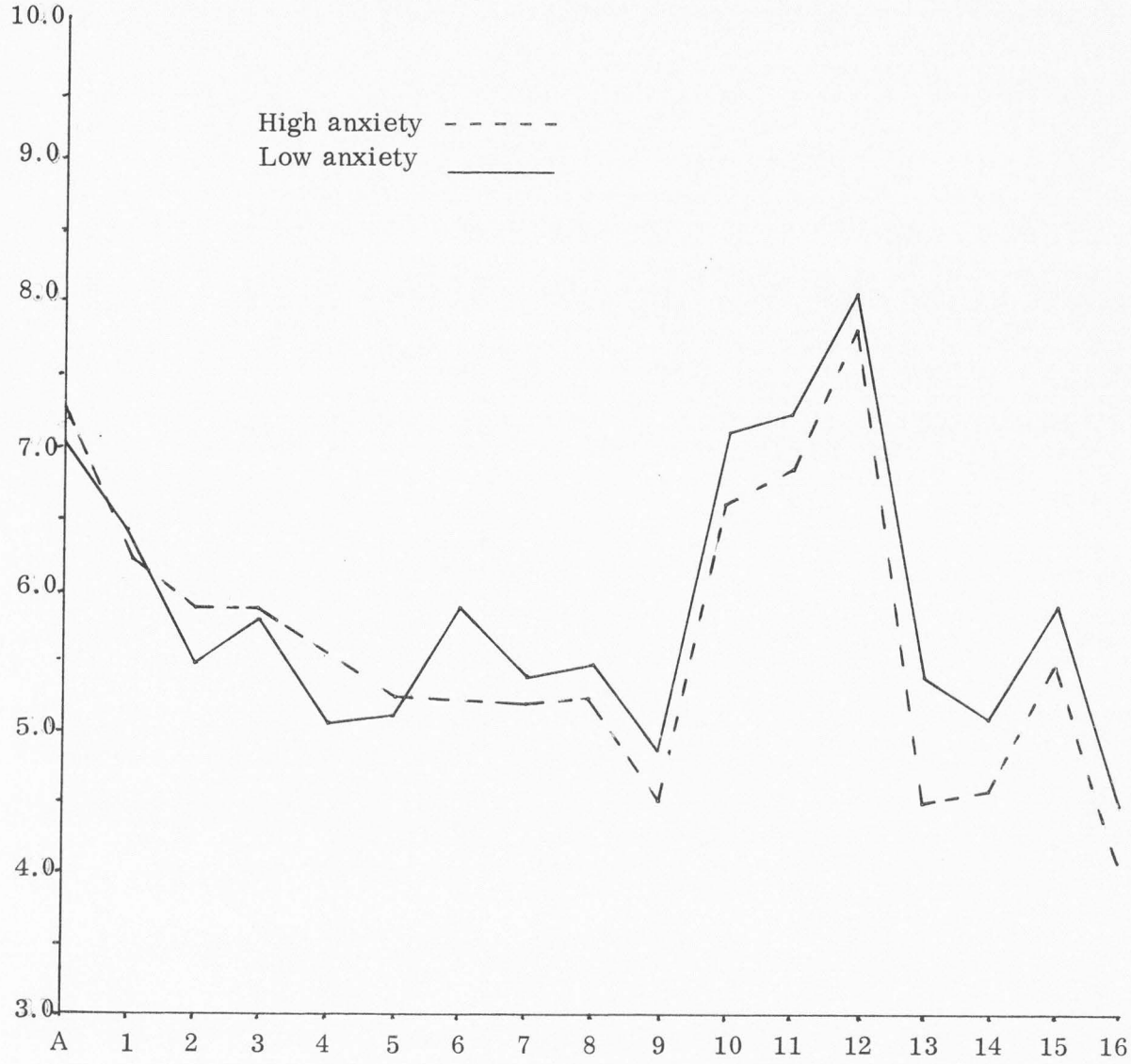

Figure 5. Word perceptual thresholds of high and low anxious subjects.

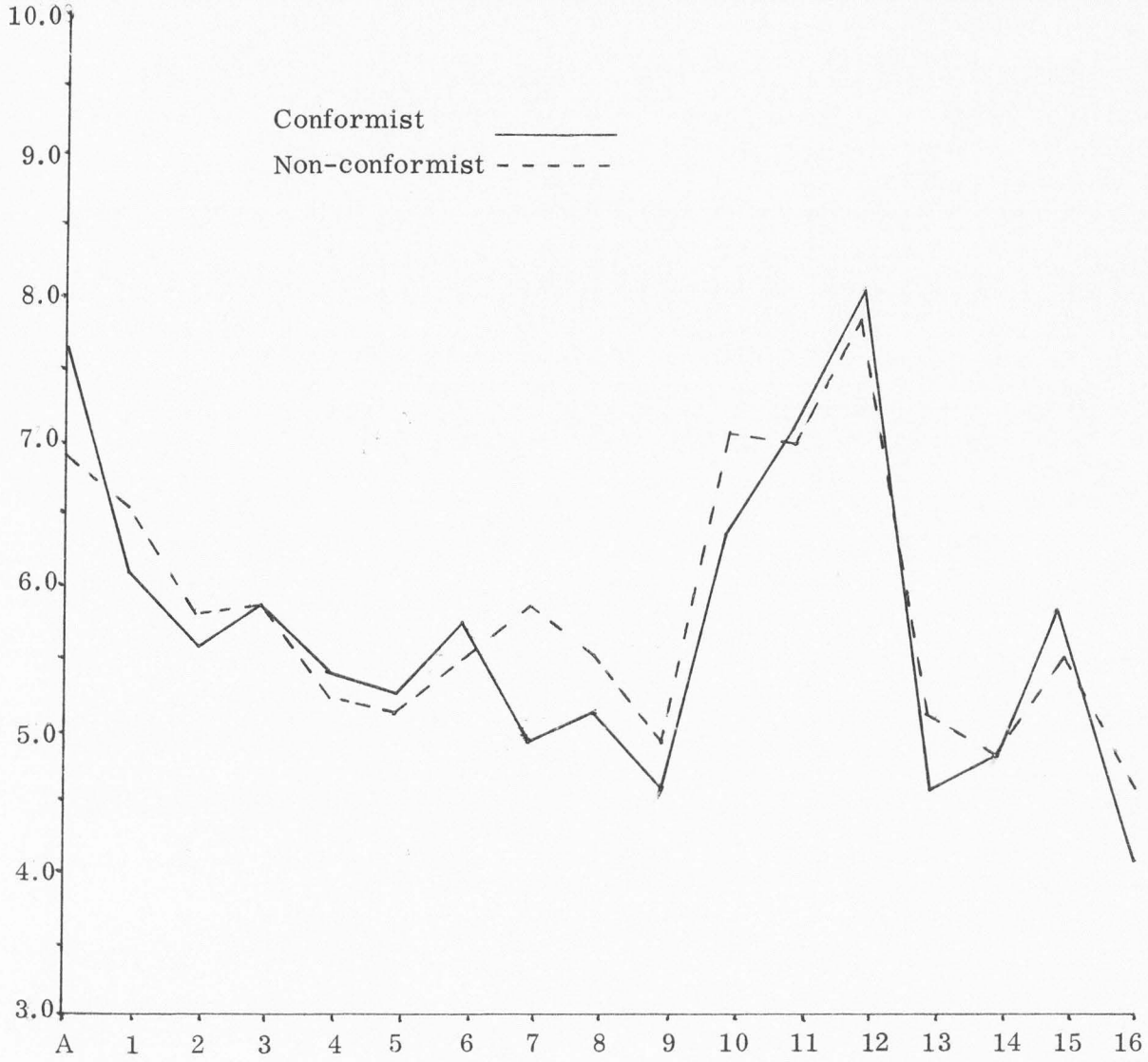

Figure 6. Word perceptual thresholds of conformity and non-conformity subjects.

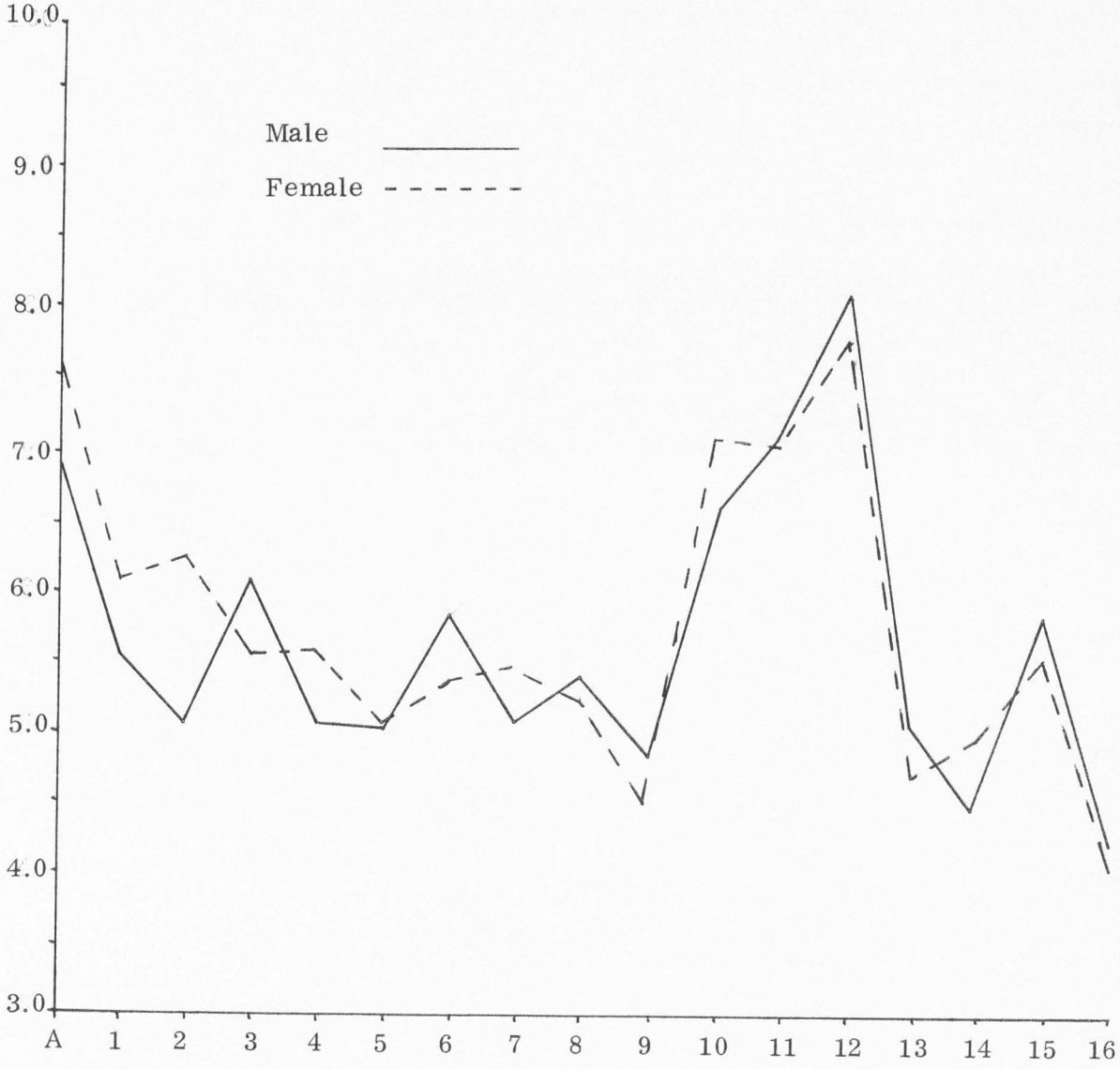

Figure 7. Word perceptual thresholds of male and female subjects.

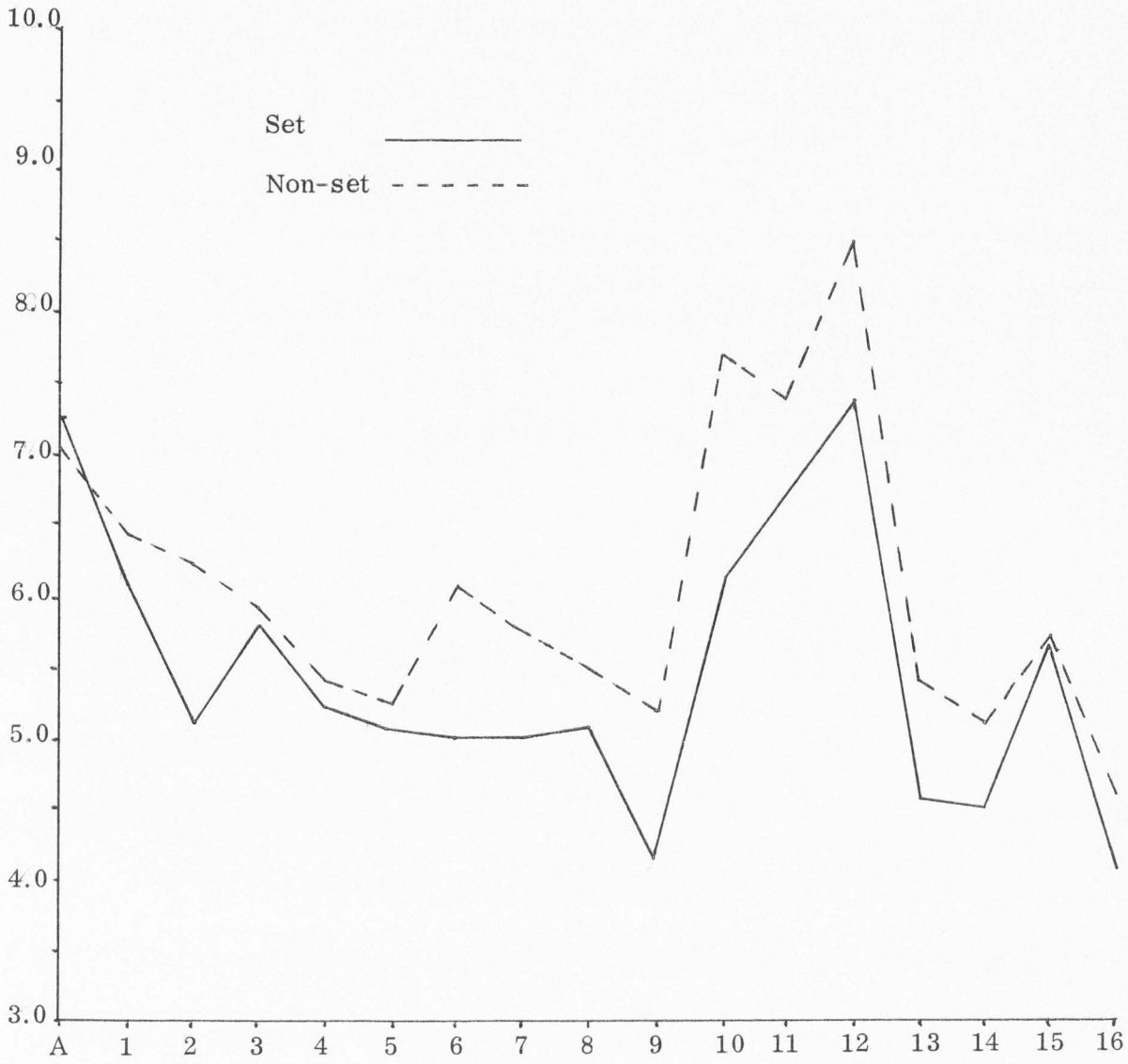

Figure 8. Word perceptual thresholds of set and non-set subjects.

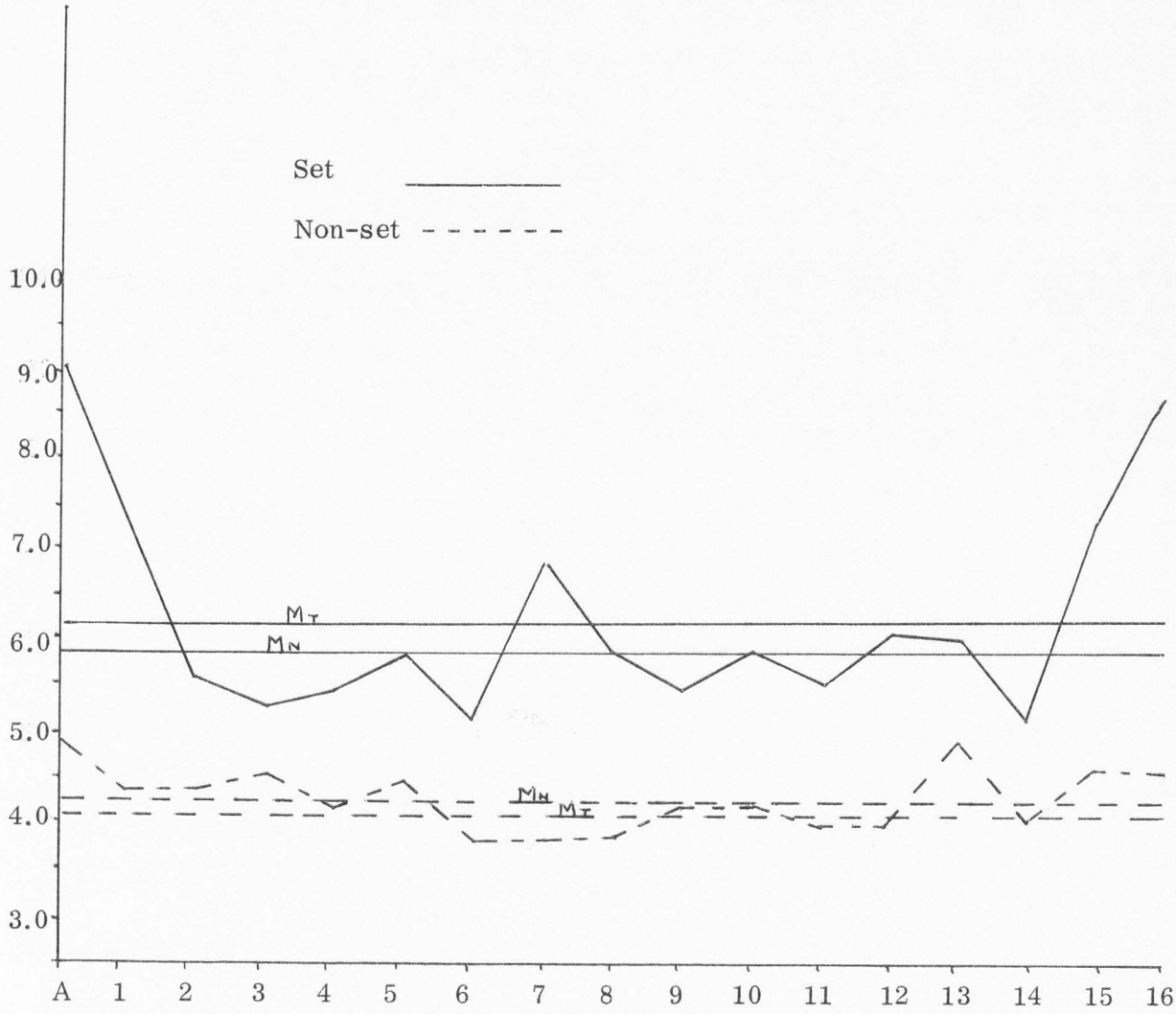

Figure 9. Word GSR means for high anxious non-conformist males.

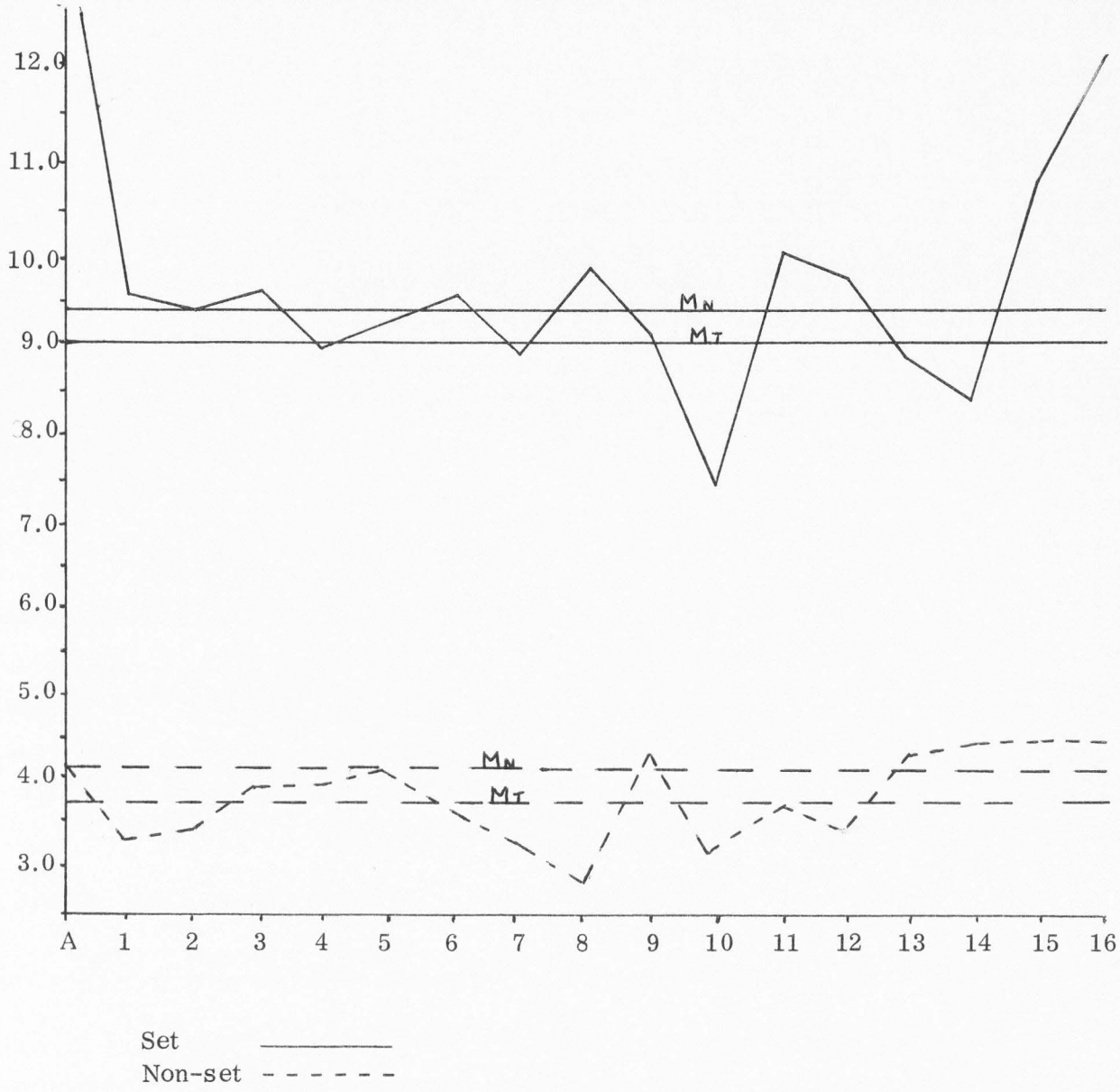

Figure 10. Word GSR means for high anxious non-conformist females.

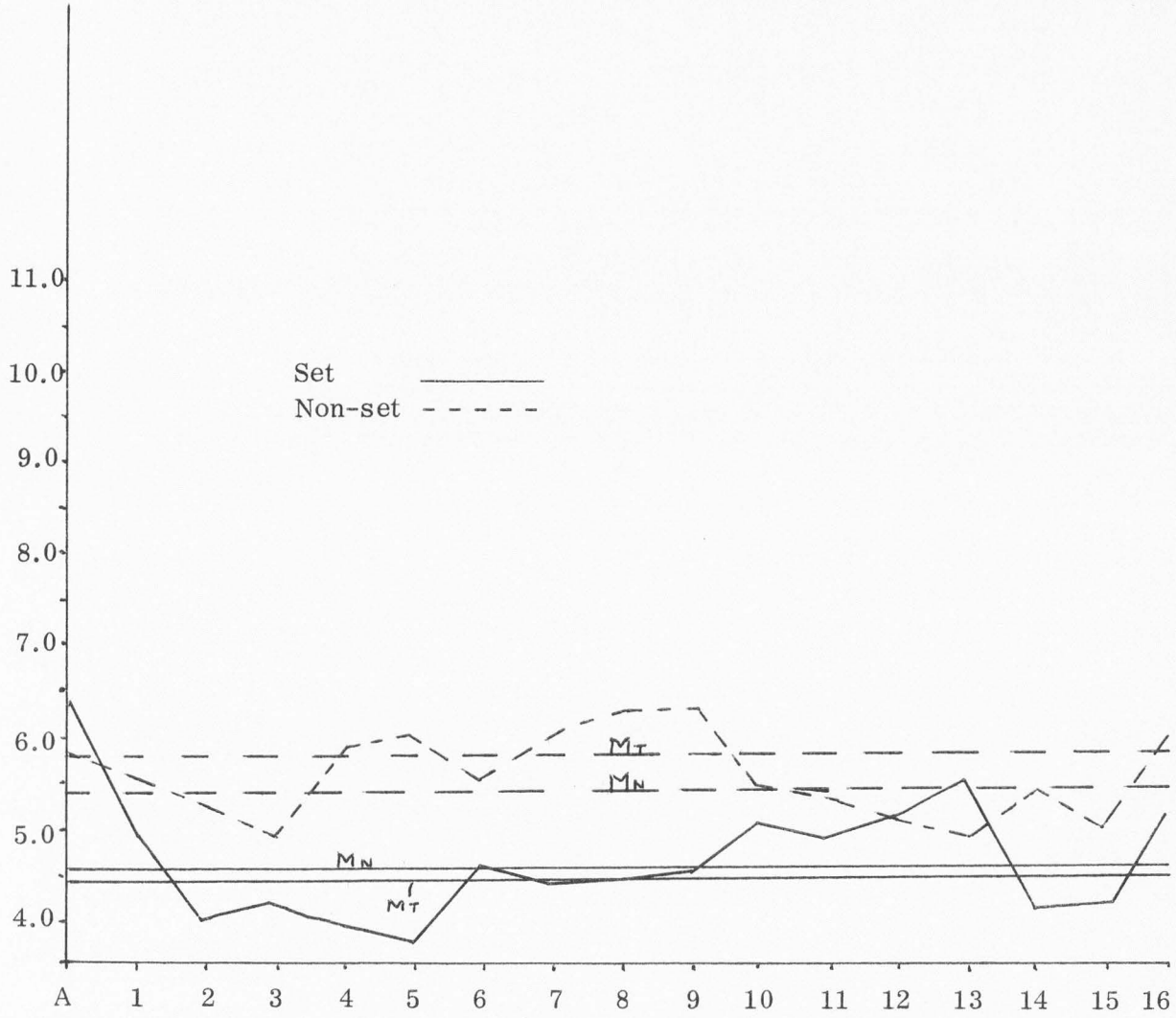

Figure 11. Word GSR means for low anxious conformist males.

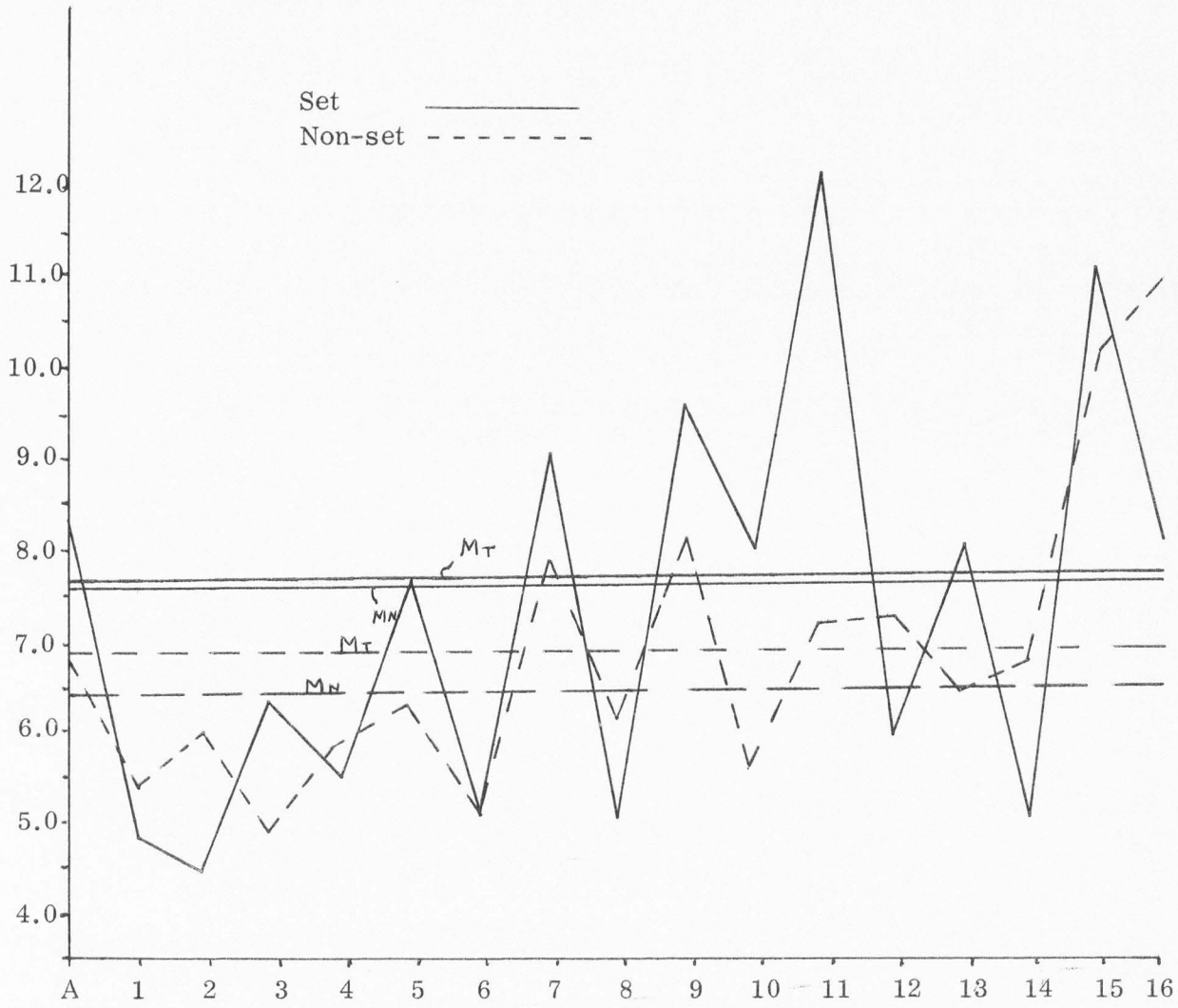

Figure 12. Word GSR means for low anxious conformist females.

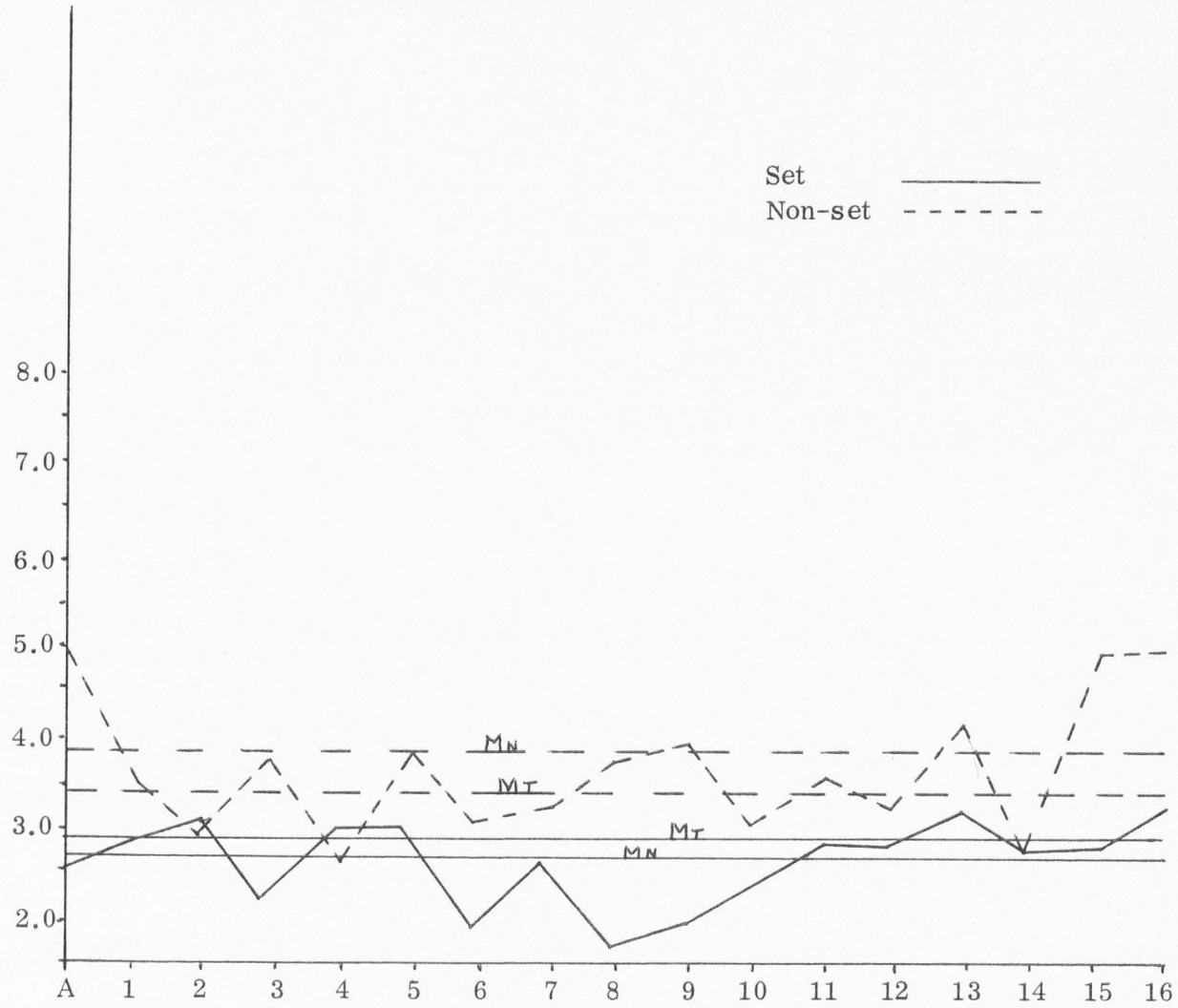

Figure 13. Word GSR means for low anxious non-conformist males.

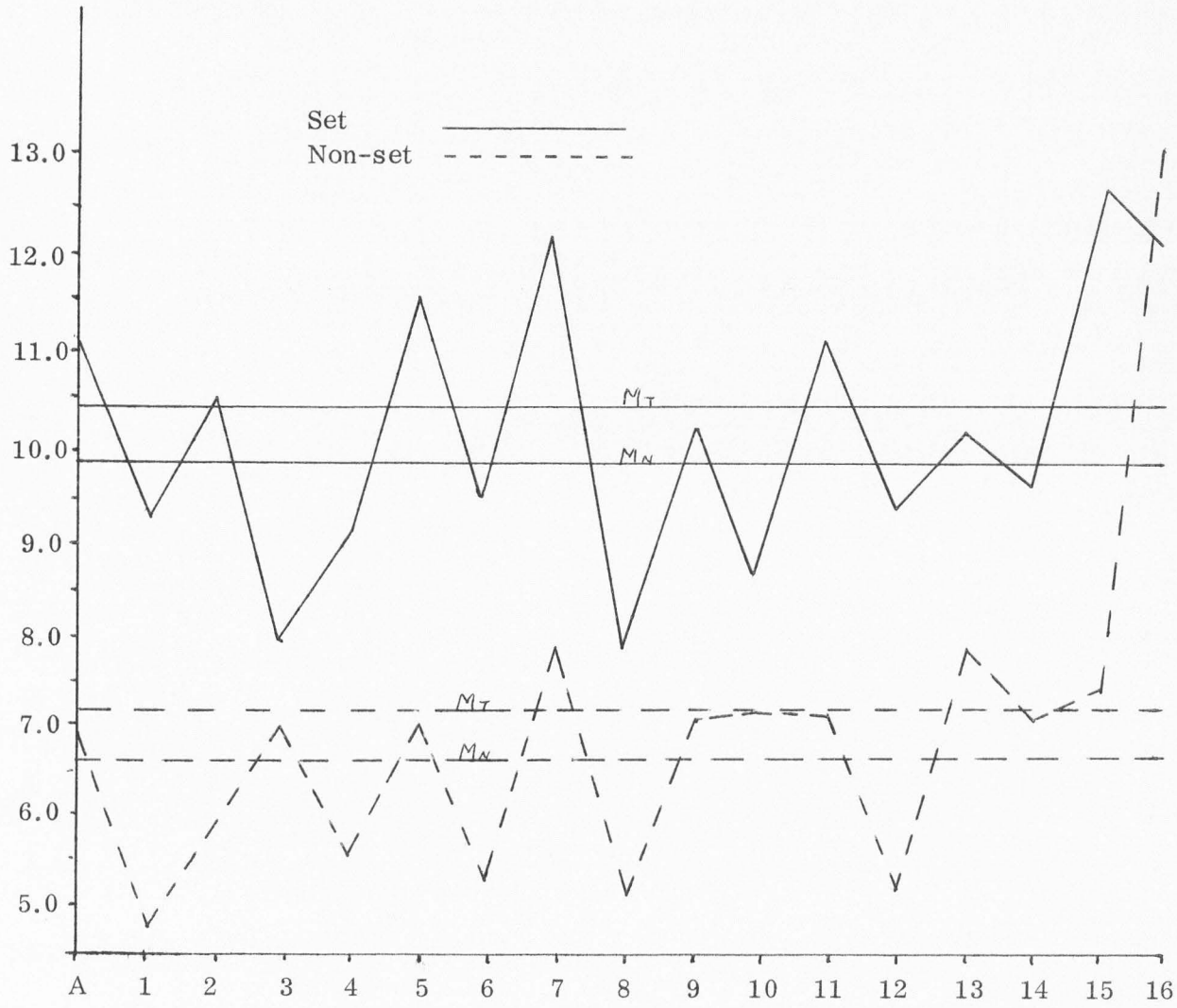

Figure 14. Word GSR means for low anxious non-conformist females.

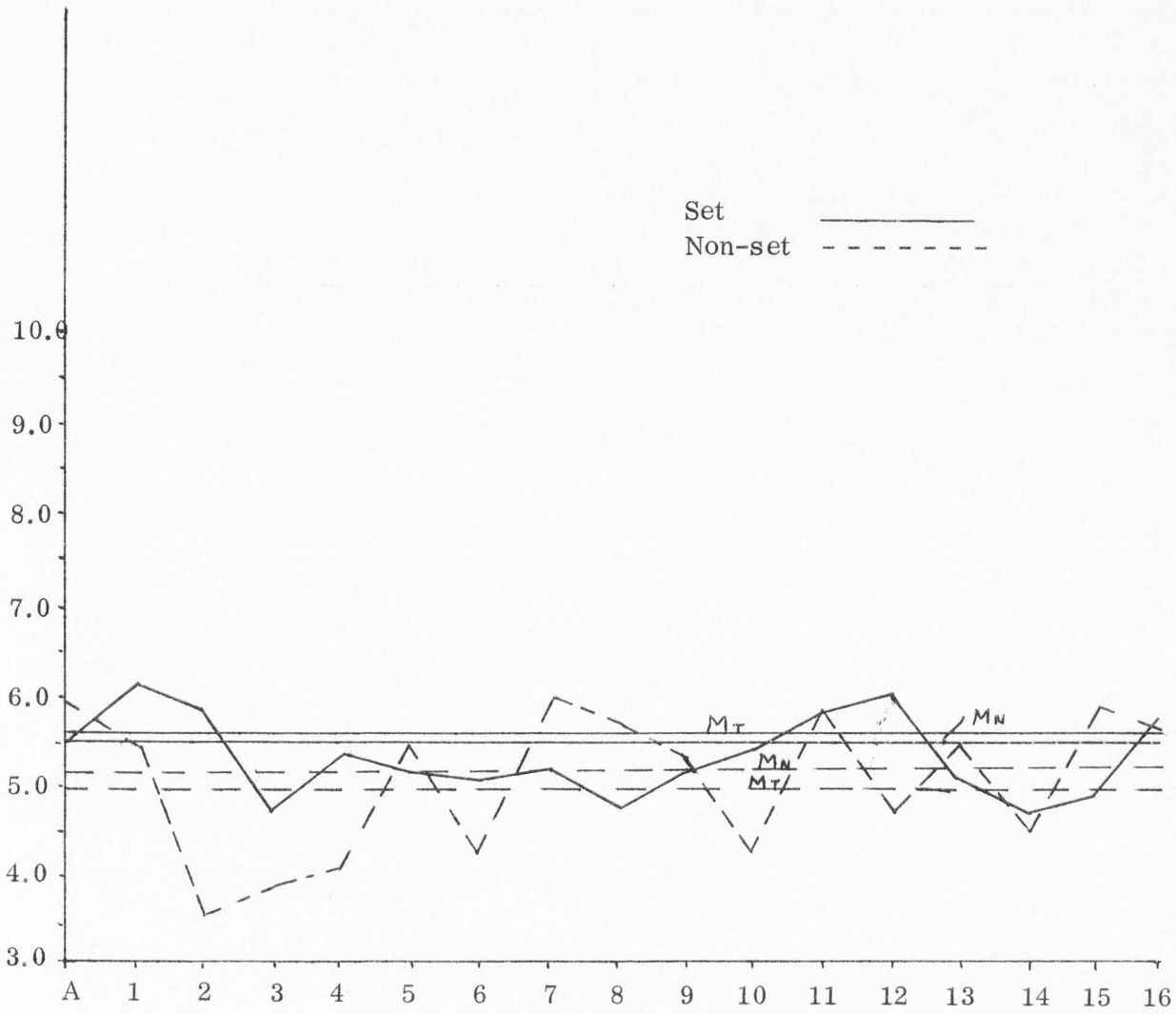

Figure 15. Word GSR means for high anxious conformist males.

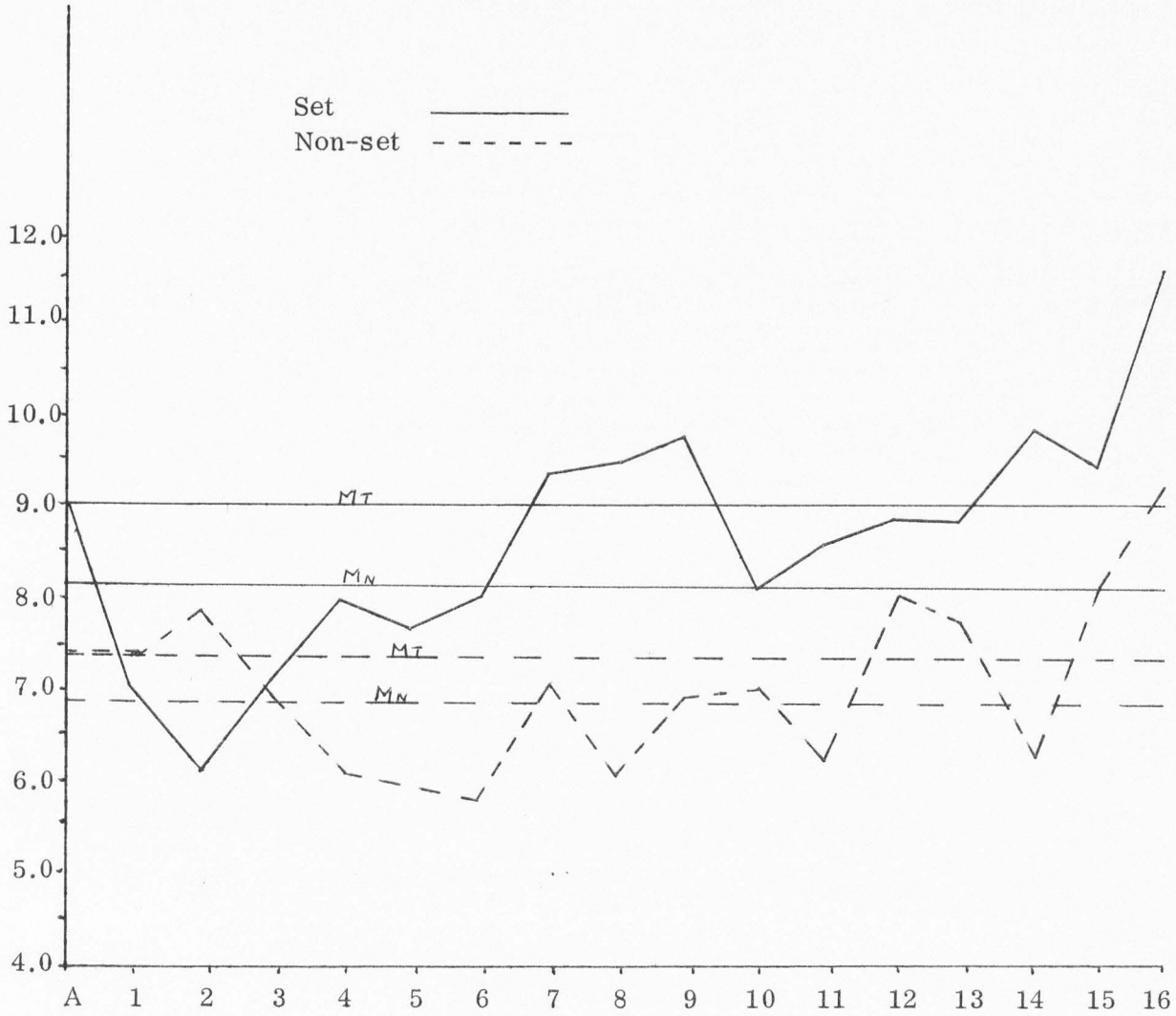

Figure 16. Word GSR means for high anxious conformist females.

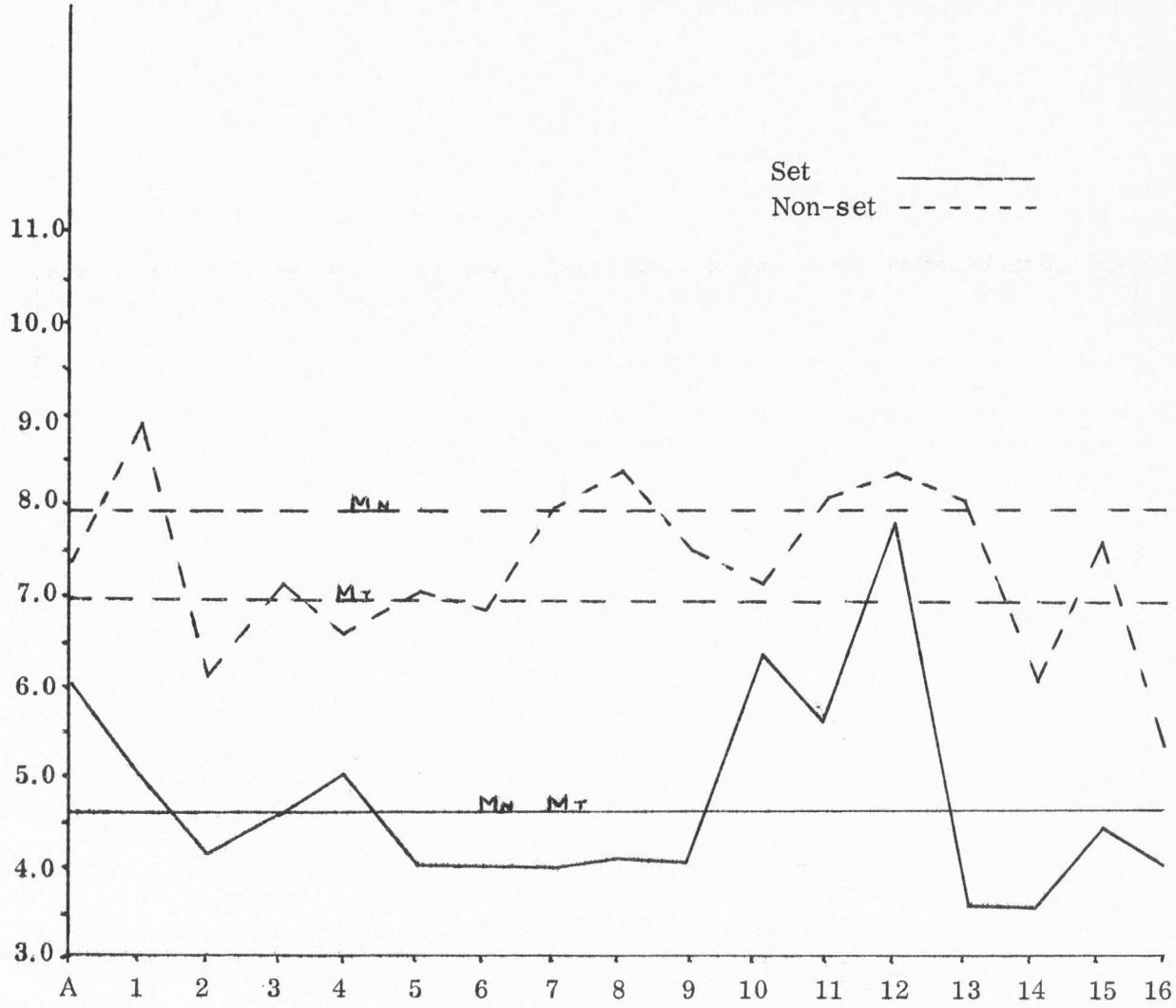

Figure 17. Word threshold means for high anxious non-conformist males.

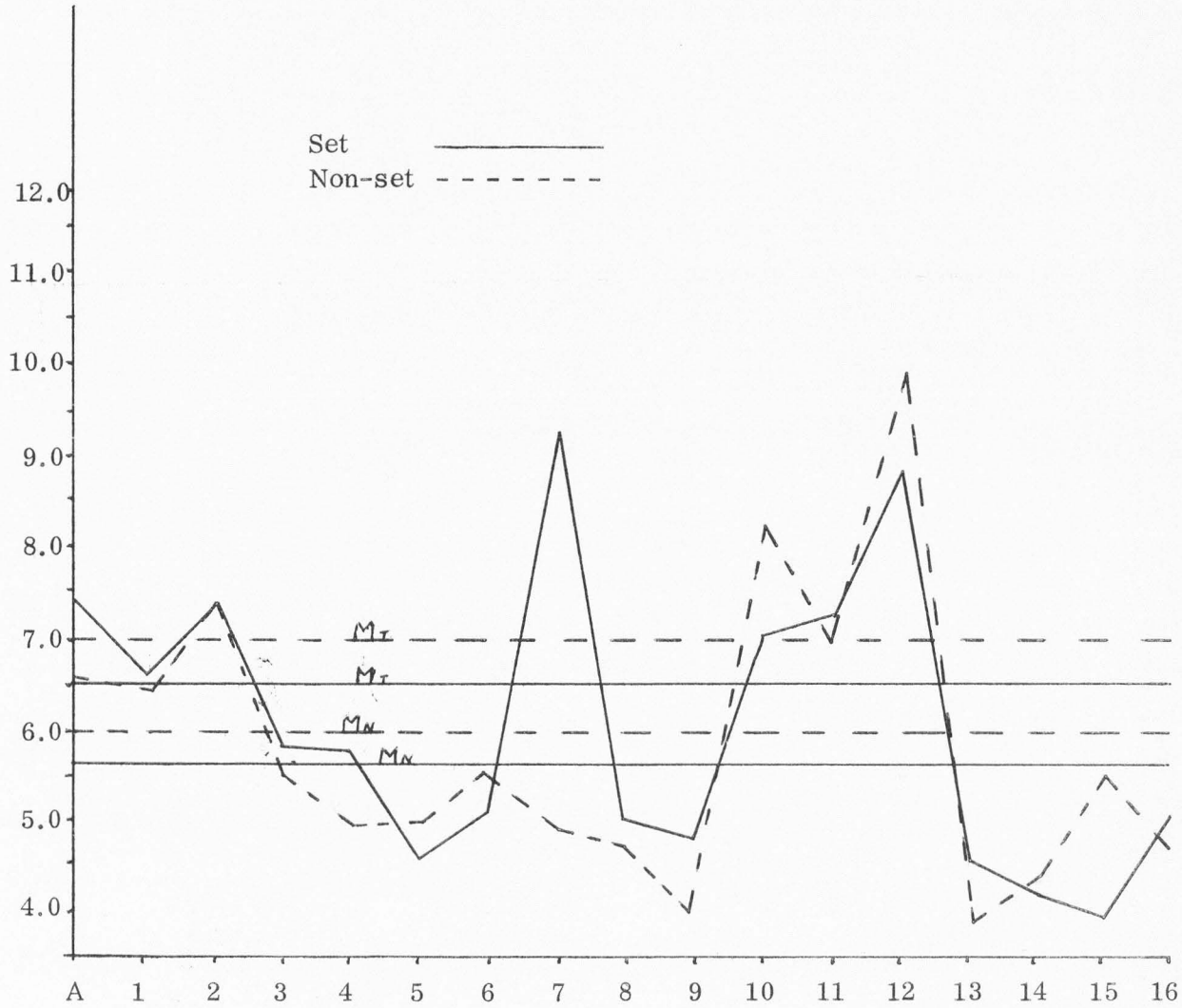

Figure 18. Word threshold means for high anxious non-conformist females.

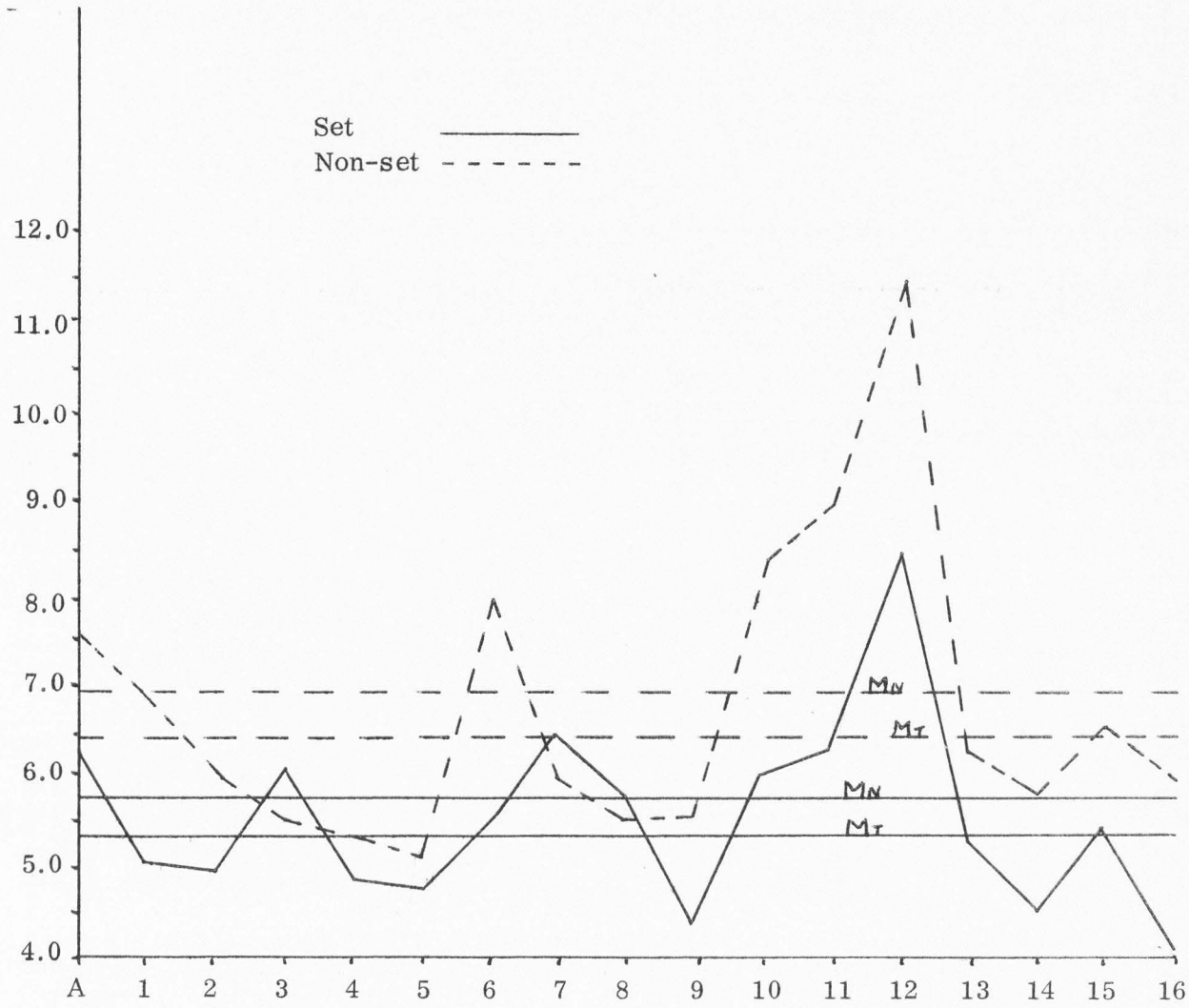

Figure 19. Word threshold means for low anxious conformist males.

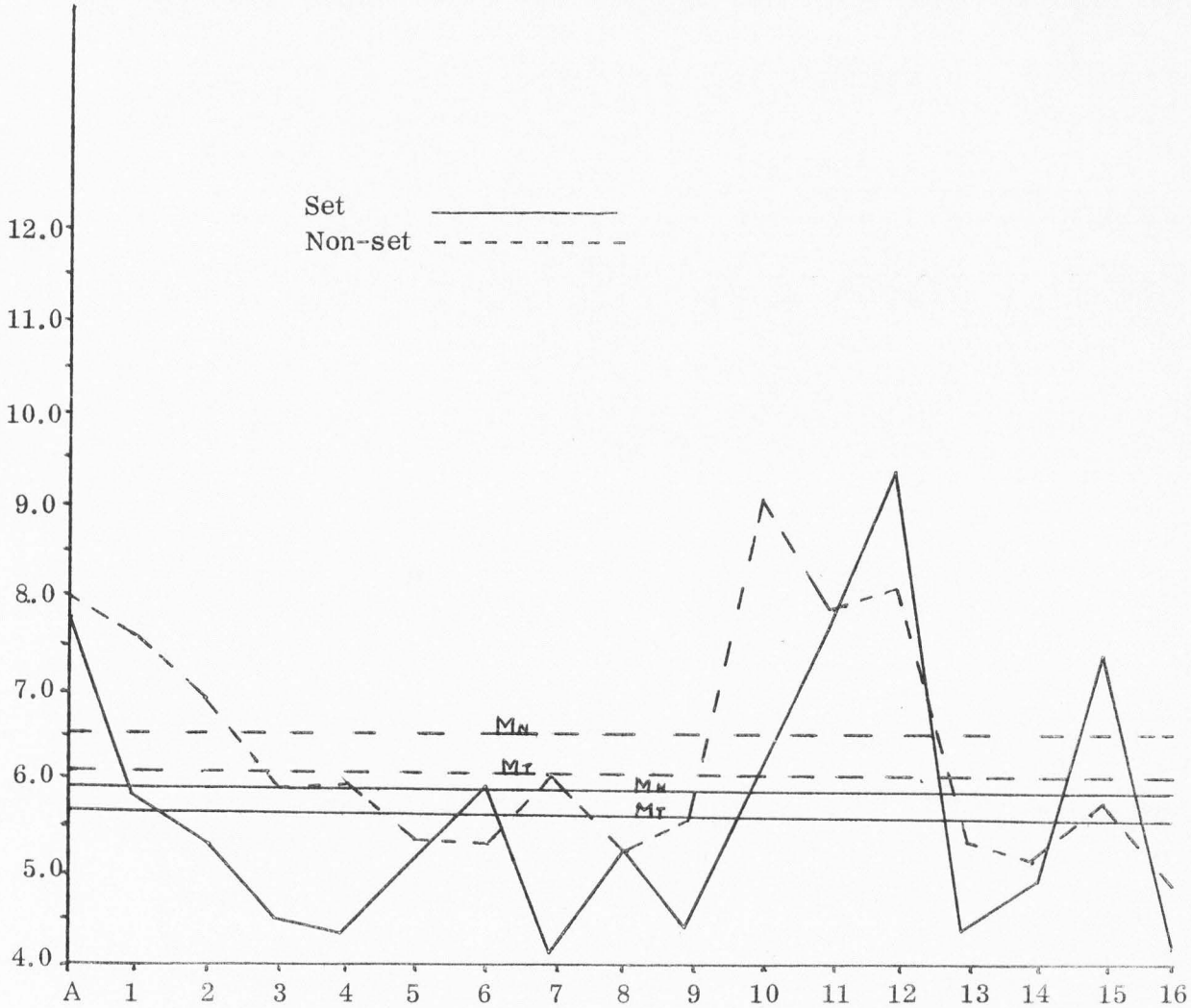

Figure 20. Word threshold means for low anxious conformist females.

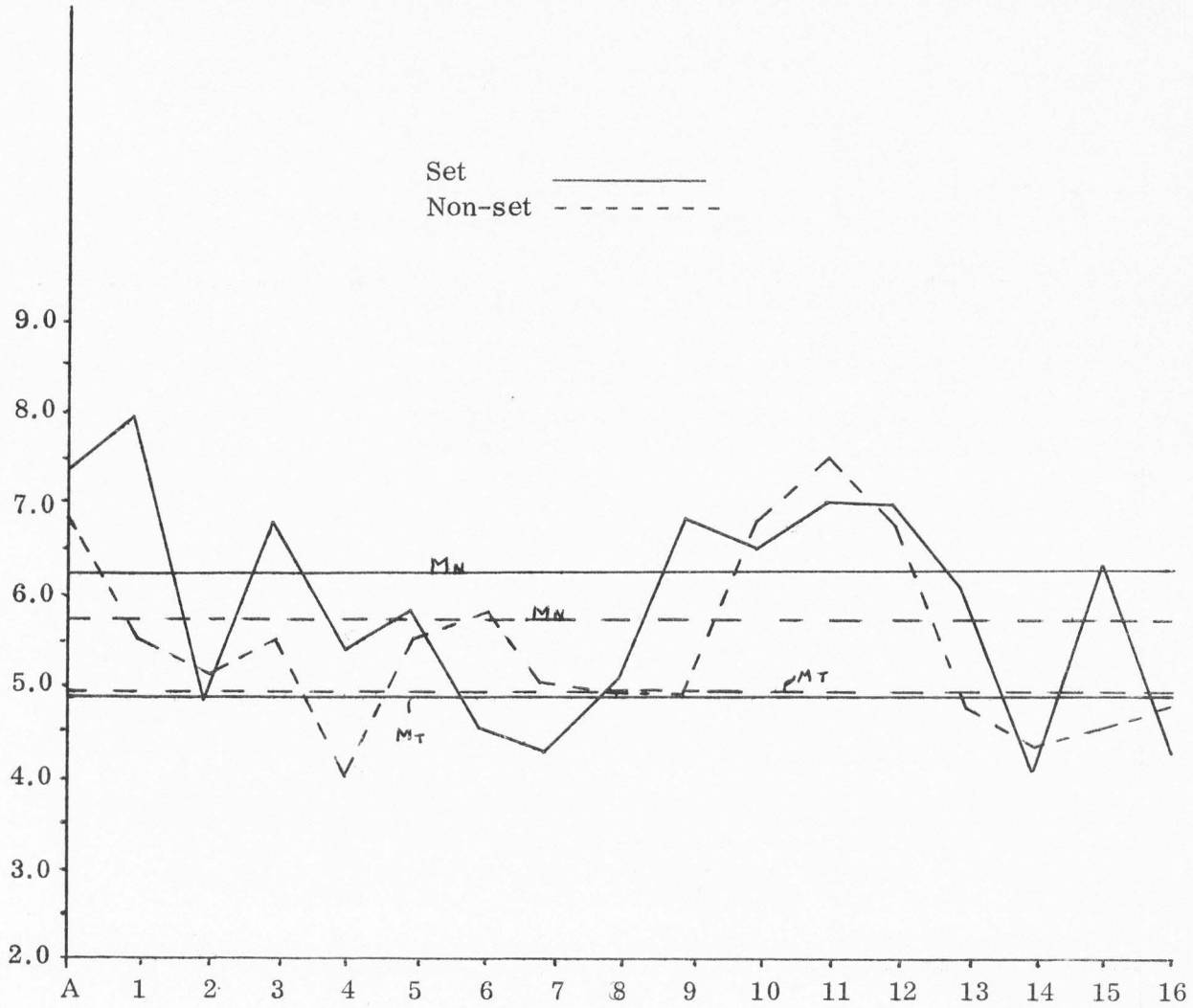

Figure 21. Word threshold means for low anxious non-conformist males.

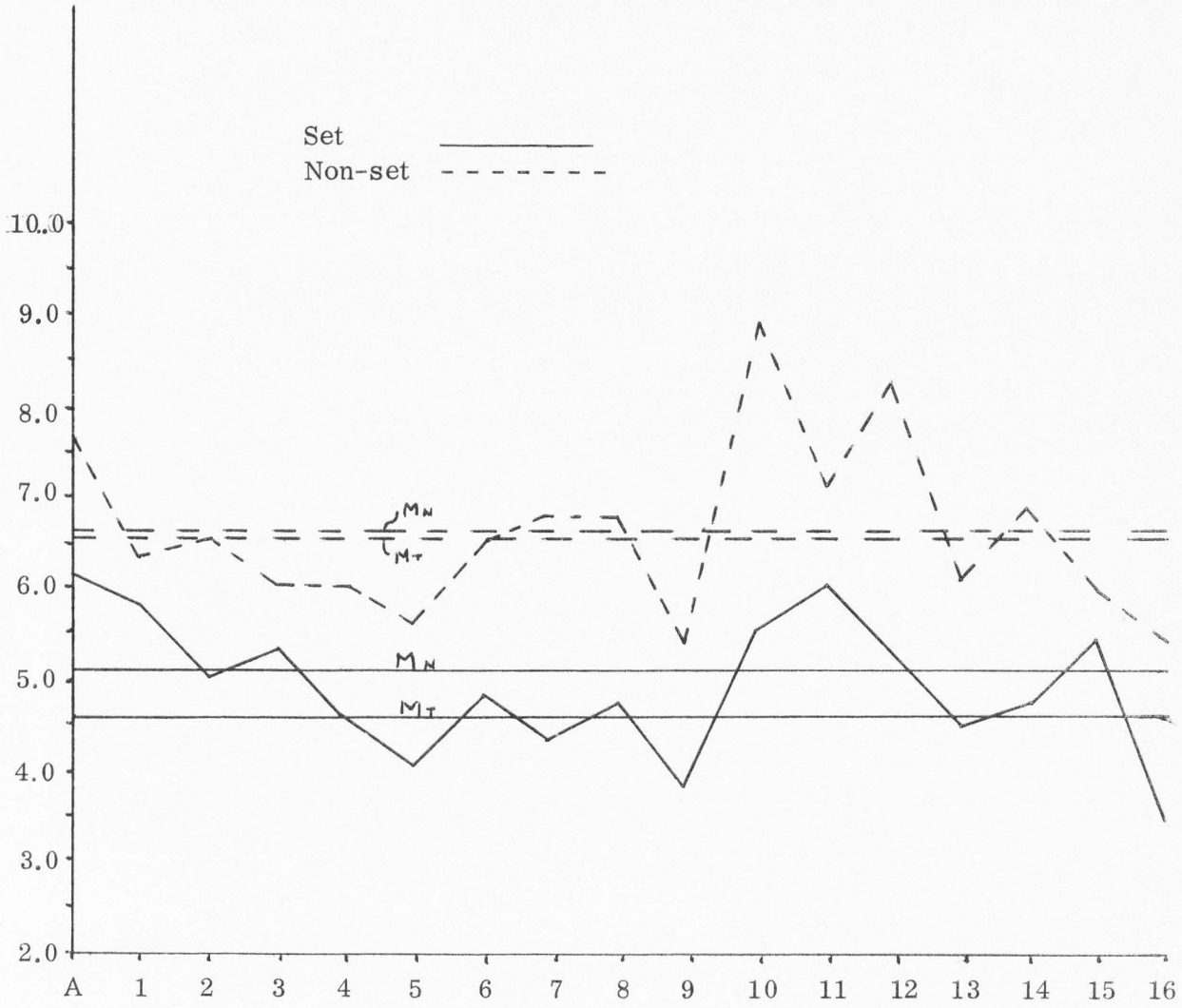

Figure 22. Word threshold means for low anxious non-conformist females.

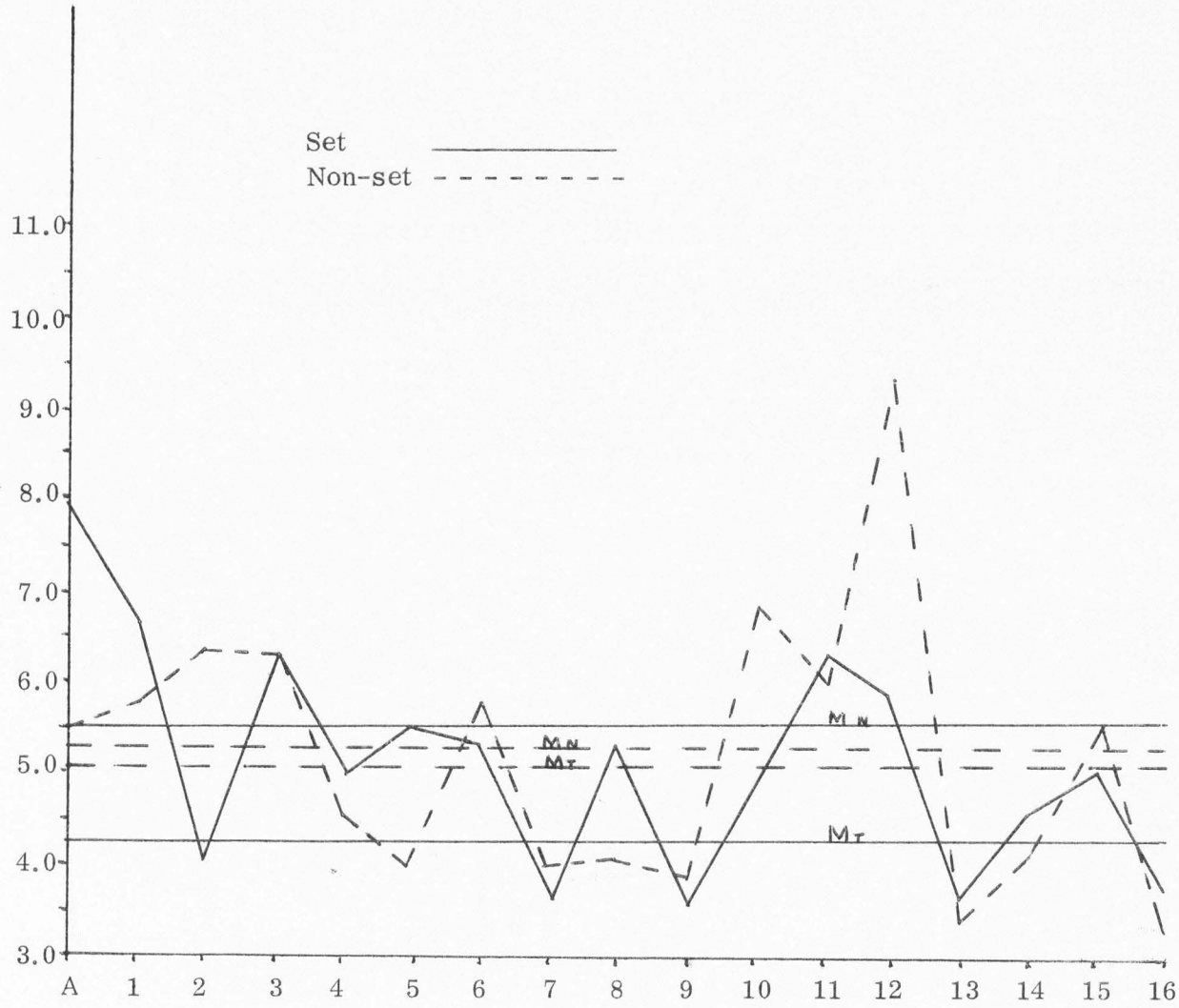

Figure 23. Word threshold means for high anxious conformist males.

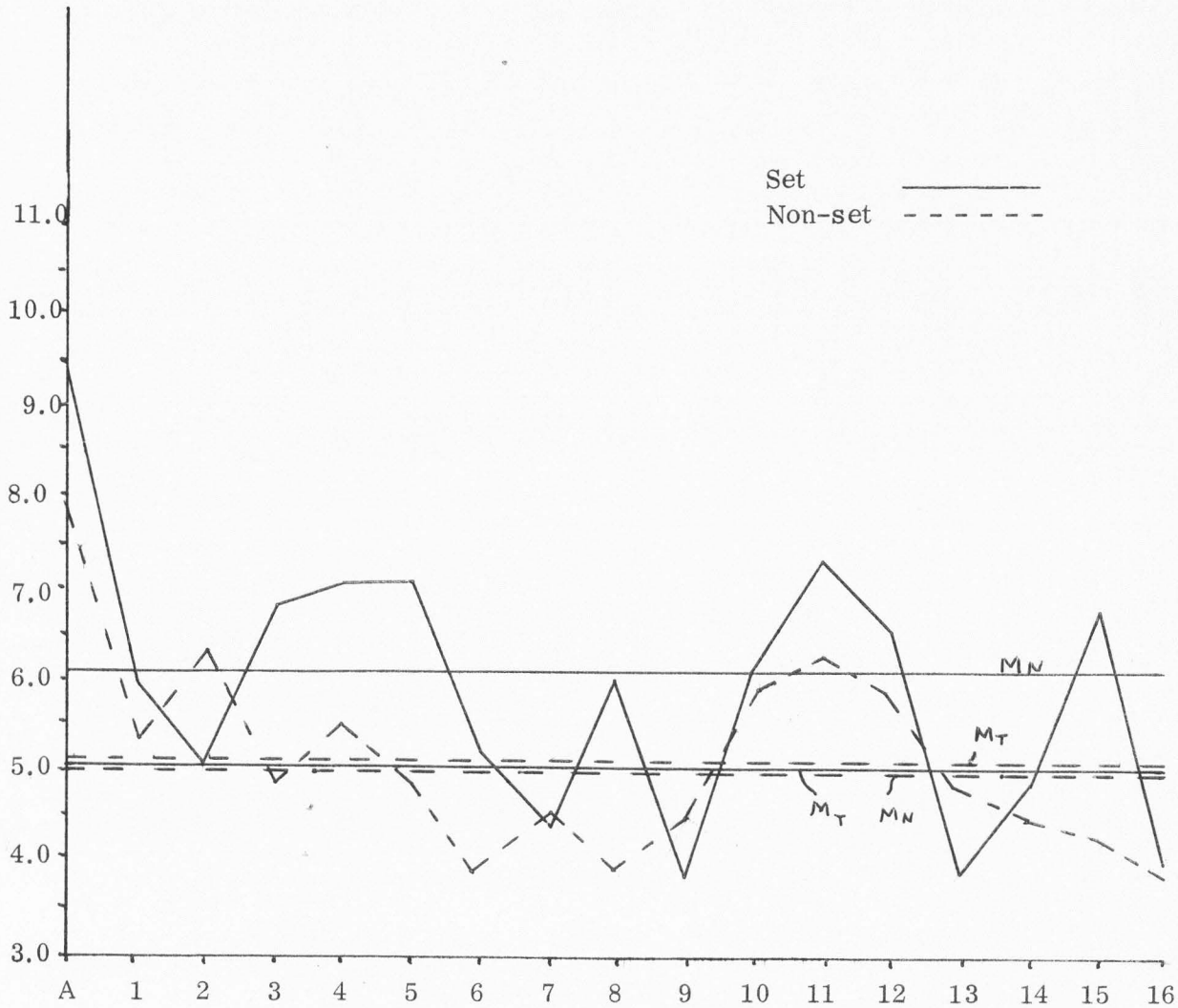

Figure 24. Word threshold means for high anxious conformist females.