An Investigation of High Anxiety Verbal Behavior

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AN INVESTIGATION OF HIGH ANXIETY
VERBAL BEHAVIOR

BY

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B.A., Florida Technological University, 1971

THESIS
Submitted in partial fulfillment of the requirements
for the degree of Master of Communication
in the Graduate Studies Program of
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Social scientists concerned with the study of interpersonal behavior have attempted to ascertain and conceptualize the conditions and variables related to man's desire for group affiliation. Numerous studies have examined such aspects of group behavior as pressure for uniformity, cohesiveness, leadership, power, group attractiveness, and reference group theory through a variety of research techniques. Most of this research, however, has dealt with the end-product or the results of group behavior, and not the reasons for man's affiliative nature or the actual process of human interaction.

Empirical findings before the nineteen-fifties revealed little more than the obvious fact that people do associate. An examination of relevant research on human interaction up until that time indicates only that people do seem to mediate goals for one another, and that people, in and of themselves, serve as representatives of goals for one another. Rather than answer any of the critical questions concerning affiliation, these findings
conclude only that people have needs that can be satisfied only through interpersonal relations.¹

But what are these needs and how do group affiliations satisfy them? Since the early research by Bettelheim and others,² numerous studies have attempted to identify the critical variables of man's affiliative desires, and determine how group interaction serves to satisfy these needs. Several plausible explanations for the affiliative tendency have emerged.

BACKGROUND AND RELATED RESEARCH

Restinger, Repitone, and Newcomb were the first to examine the nature of the specific needs which group interaction fulfills. They hypothesized the existence of two incompatible classes of satisfactions which make group affiliation desirable. First are those desires which necessitate individuation in the group. These desires, such as prestige and status, can be fulfilled only if the person remains singled out as an individual. The second class of desires are those which necessitate a state of de-individuation, where the individual is submerged in the group, and is no longer perceived by himself or the group as an individual.³ Results of their
investigations indicated that this de-individuation not only occurred, but also resulted in a reduction of the group members' inner restraints, which allowed a greater freedom of behavior. It was also shown that this uninhibited state of mind was desirable and the attractiveness of the group was increased, probably because the individuals were able to fulfill more affiliative desires while in this state of de-individuation. Festinger concluded that the need for self evaluation may be an important source of affiliative desire. Schachter and Burdick found that a drive for cognitive clarity exists in individuals which may also lead people to associate with others.

Of particular importance to the present study is the discovery made during the nineteen-fifties that persons, when they are troubled, distressed, threatened, or disturbed generally reveal a greater desire for interpersonal affiliation. In other words, a high, positive correlation was found between a person's level of anxiety and his affiliative tendency.

Social scientists have for some time studied the behavior of persons who were in a state of high anxiety in efforts to make valid generalizations concerning their behavior. Early work in research of this subject consisted
of experimental investigations with animals, to test their reactions to anxiety. Research by Gantt, Masserman, Mower, Miller, and Liddell gave early empirical evidence that high anxiety will affect and change behavior in animals. Research with human subjects began developing around 1950, and these early studies investigated anxiety as a determinant of behavior to determine whether it would affect human behavior as it did animals.

Charles K. Raymond discovered that subjects with the most anxiety tended to be the most drive oriented, and were more energetic than the low anxiety subjects. Hilgard found that when the tasks that subjects were to perform remained simple, high anxiety subjects learned quicker than low anxiety subjects and demonstrated more desire to respond to a wide variety of stimuli. Follow-up studies, such as the one done by Taylor and Spence, however, found that high anxiety subjects learned verbal maze quizzes slower because the strength of all responses was increased, even the incorrect ones. Subsequently, studies by Montague and Lucas demonstrated that complex tasks will be performed better by low anxiety groups, and that high anxiety can definitely lead to task failure.

Using experimentally produced anxiety, Bindra and
Cameron found that over a short period of time, anxiety will increase if subjects are given a period of rest, free from anxiety stimulations. In this study, after high anxiety was manipulated through the use of electrical shock, the subjects rested for ten minutes and then were given a second anxiety test. No conversation was allowed during the rest and after this period anxiety had increased.17

Deese, Lazarus, and Keenan conducted an early study exploring the relationships between certain reactions to anxiety and personality factors. First, they attempted to discover if anxiety could change behavior. Secondly, they examined the possibility that differences in personality would constitute an important variable in the area of stress behavior, and finally, they investigated the possibility that some kind of interaction must exist between the type of stress and the individual differences.18 Anxiety was used not only as the experimental manipulation in the form of electrical shock, but also as the personality variable. Subjects were divided into three groups on the basis of their scores on the Taylor anxiety scale.19 One group, the avoidance learning one, was given nonsense syllables to learn, and shocked when they gave an incorrect
response. Another group, the non-avoidance one, was shocked irrespective of the correctness of their response, but in essentially the same frequency as the avoidance learning group. The third group served as a control, with each of the three groups subdivided into high and low anxiety as determined by the scale.

The results indicated that anxiety does affect behavior, whether comparing high anxiety to low anxiety or shock-avoidance to non-avoidance. There was also a definite interaction between the experimental conditions. High and low anxiety scores were more different in the avoidance situation, and personality did prove to be an important variable of stress as in each of the three groups the low anxiety subjects exhibited a lower score.

Early research by Fritz and Marks and Shils and Janowitz indicated that another type of influence high anxiety exerted on individuals was to increase desire for affiliation and group identification. An increased dependency on the group had also been observed by Glover in the early forties.

Stanley Schachter examined this research and conducted a series of studies designed to investigate the relationship between the affiliative tendency and high
anxiety. It had been indicated that anxiety was to a reasonable extent a concommitant of isolation. Intuitively therefore, Schachter concluded that if conditions of isolation produce anxiety, anxiety might also produce a drive for affiliation. Schachter tested this hypothesis.

In the initial study each subject was led to believe that he was involved in an experiment designed to test the effect of electro-shock treatment. Two levels of anxiety were created, and the high anxiety subjects received the following experimental instructions:

Allow me to introduce myself, I am Dr. Gregor Zilstein of the Medical School's Departments of Neurology and Psychiatry. I have asked you all to come today in order to serve as subjects in an experiment concerned with the effects of electrical shock. What we will ask each of you to do is very simple. We would like to give each of you a series of electric shocks. Now, I feel I must be completely honest with you and tell you exactly what you are in for. These shocks will hurt, they will be painful. As you can guess, if, in research of this sort, we're to learn anything at all that will really help humanity, it is necessary that our shocks be intense. What we will do is put an electrode on your hand, hook you into apparatus and give you a series of electric shocks, and take various measures such as your pulse rate, blood pressure, and so on. Again, I do want to be honest with you and tell you that these shocks will be quite painful but, of course, they will do no permanent damage.

In the high anxiety condition various electrical devices were placed in view of the subjects during the
instructions. The low anxiety subjects were not exposed to any electrical devices, and were told that the shocks would be quite mild and even pleasant. As an independent check on the anxiety manipulation, each subject was asked to indicate on a five point scale how ill-at-ease he felt about participating in the experiment.

After the instructions, the subjects were asked to indicate how they wished to wait for the administering of the shock, whether alone, or together with the group. In addition, they were informed that since not everyone would be allowed his preference, they should indicate how strong their feelings were on another five point scale ranging from a strong preference to be alone to a strong preference to be with others.26 In order to obtain a final measure of the effectiveness of the anxiety manipulation, the experimenter allowed the subjects to indicate whether they desired to continue with the experiment.

Results showed that not only was the manipulation effective but also there was a significant difference in desire for affiliation between the two groups. A strong, positive relationship was found between anxiety and the measure of affiliation, or the proportion of subjects who
chose the together situation. 27

Schachter concluded that one type of behavior which might be the result of high anxiety is a drive for affiliation. But what kind of affiliation drive is produced? Why do people want to wait together in such circumstances? How can we define this affiliative tendency and within what limits does this principle operate? If the choice of together indicates a desire to affiliate, is this affiliative tendency discriminating? The previous experiment tested whether those subjects desiring to affiliate wanted to be with just anyone or a particular type of person. Schachter investigated the affiliative tendency in a second experiment to determine the generalizability of this desire.

There were two experimental conditions differing from the previous study in that this time each subject was given the anxiety manipulation individually instead of in a group setting. Both of the two groups of individual subjects were given the high anxiety manipulation exactly as the high anxiety group in the first Schachter experiment. He used the same measuring instruments for the degree of manipulated anxiety and to determine the desire to be with others.
The difference between the two experimental conditions was that one group was told that if they wished to wait in a together situation, the persons waiting with them would be unrelated to the experiment. The other group of individuals was informed that their wait would be with others in the experiment. The terms different state and same state were then used to describe the two conditions respectively. Schachter proceeded to test the hypothesis that subjects would show a greater affiliative tendency in the same state condition.

The independent check of the anxiety manipulation revealed an interesting finding. Although anxiety was evident in the two groups, it was a significantly lower level than the high anxiety group in the previous study. Schachter attributes this to the casual atmosphere in the individual presentation. Still, the measure reveals that anxiety was present.

Affiliative choice appeared to be highly directional as the difference between the two conditions was immense. In fact, the minus score for overall intensity among the different state subjects indicated that the subjects may have preferred being alone over being with people who had nothing to do with the experiment.
Schachter made the general conclusion from the ambiguous misery loves company to misery doesn't love just any company, it loves only miserable company. The results indicated that satisfaction demands the presence of others in a similar situation.28

Lawrence Wrightsman conducted a study to help determine why an increase in a person's level of anxiety causes him to more likely want to affiliate, and also to determine if this affiliation would serve to actually reduce their anxiety. Each subject was led to a room by a nurse, the room filled with hypodermic needles and accessories. The subjects were informed of an impending injection of glucose which would cause physical discomfort. This was the manipulation of anxiety.

At this point the procedure was varied for the three treatment groups. One group was told to wait for the shot alone, another condition was to wait in a group with communication allowed, and the other group of subjects was told to wait in a group in which no conversation would be permitted.

Before being placed in the group but after the anxiety manipulation, each subject was given an anxiety test which asked them to indicate on a scale of 100 how
at-ease or ill-at-ease they felt. Then, after a five minute waiting period according to the conditions above, another anxiety measure was taken.

None of the changes in the anxiety level of the three experimental groups was significantly different, when considered separately. When all conditions were combined, the mean level of anxiety after the wait was significantly less than the same measure before the wait. The number who wished to withdraw was also similar for each group. These non-significant differences pertaining to the first hypothesis give no support for the belief that being with others directly reduces anxiety. The second hypothesis would indicate that persons waiting together should reduce the inter-individual variability in the level of anxiety while waiting. The ratio of the range after the waiting divided by the range before the waiting gave what Wrightsman termed a measure of homogenization, which should be less after the wait than before. The results confirmed the expectation. The mean homogenization ratios in both the together conditions were significantly less than the mean ratio for the alone condition. The alone condition showed a level of homogenization that did not differ significantly from the
expected ratio of 1.0, while in the together conditions the ratios were significantly smaller. Results of the Wrightsman study then concluded that while being with others does not appear to help reduce anxiety, affiliation with other high anxiety persons can serve to reduce the inter-individual variability of anxiety level.²⁹

Schachter, accepting the results obtained in his first two studies, attempted to answer some of the more complex questions of anxiety and affiliative behavior. It is most important to find out why people in high anxiety states desire to affiliate and under what circumstances the misery loves miserable company theory operates. He, therefore, designed the study "The Affiliation Tendency - Communication" to test the anxiety-affiliation behavior when conditions of communication are varied.³⁰ He offered what he termed a reasonable list of alternatives as a reason why anxious subjects would show a greater affiliative tendency.³¹

1. Escape.—Subjects may have wanted to be together as way of getting out of the experiment. It is possible that subjects may have chosen together in the hope of talking others out of taking part in the experiment and, better still, allowing themselves to be talked
out of participating.

2. Cognitive Clarity.--Forces arise that impel people to associate with other people as a means of achieving some degree of clarity about an otherwise in-comprehensible event. It is conceivable that subjects, especially in this higher than average anxiety situation, chose to be together in the hope of being able to talk about the experiment and get a better idea as to what the whole thing was about.

3. Direct Anxiety Reduction.--People comfort, support, and reassure one another and attempt to bolster courage. It is possible that highly anxious subjects chose together as a means toward this sort of social reassurance and toward reducing anxiety.

4. Indirect Anxiety Reduction.--One of the most effective devices for anxiety reduction is simply to get one's mind off one's troubles. Subjects chose together conceivably in the hope that being with others might distract them more effectively than being alone with their worries and a few magazines would.

5. Self Evaluation.--People often use other people to evaluate their emotions and feelings. In a novel, emotion-producing situation, the feelings one
experiences or feels he should experience may not be easily interpretable, and it may require some degree of social interaction and comparison to appropriately label and identify a feeling.

Schachter further reasoned that the results of the directionality experiment would tend to rule out indirect reduction as an appropriate explanation for the affiliation tendency, since it would be far easier to get the problem off their minds by talking to persons not involved in the experiment. Since cognitive clarity and escape require verbal communication, if subjects choose to affiliate just as often when conversation is restricted, then these two alternatives can also be eliminated. Anxiety reduction and self evaluation may be facilitated by conversation but communication is not a necessary condition for these two alternatives.

The procedure in this experiment was similar to the first one. Anxiety was manipulated on two levels, but this time the ability to communicate was also changed. In one condition subjects were informed that if they chose to wait together no discussion would be allowed. In the other, they were told that conversation was permitted but that there was to be no discussion of the experiment.
The results of the investigation revealed that in the irrelevant talk situations, the manipulation of high anxiety was only partially effective, with a non-significant difference in the number of students refusing to continue with the experiment. On the anxiety scales the difference between the two groups was significant. However, the two groups did not exhibit a significant difference in affiliative behavior.

The results do not support any relationship between anxiety and affiliation when communication is restricted. Schachter, through an internal analysis, provided an alternate explanation for the findings. He included as truly anxious only those subjects who refused to continue with the experiment or checked the two extreme dislike points on the anxiety scale. Using the data obtained from these subjects, affiliative behavior is exhibited even when communication is restricted.

The manipulation of anxiety in the no talk conditions was successful, but again no significant differences were found in the affiliative behavior. Schachter, therefore, reorganized the data as in the irrelevant condition, and found significant differences in the affiliative behavior between the truly high and low anxiety subjects.
With the data reorganized, the relationship between anxiety and affiliation, according to Schachter, is further strengthened.  

An examination of relevant research on high anxiety behavior reveals no evidence that males and females react differently to this state of mind. Considerable evidence, however, does indicate that males and females differ somewhat in their communicative behavior.  

Timmons investigated female and male roles in influencing the outcome of a problem-solving discussion. After the verbal interaction, women were non-significantly more accurate at ranking possible solutions to the problem in the correct order chosen by experts. Robinson also examined post-discussion behavior, and found that women generally were influenced to make a small change while men a much larger change in attitude toward the discussion topic. Sikkink found that women perceived speeches to be more persuasive than men, but were more or less influenced by the message. However, Pross and Wegrocki found that females tended to be more suggestible and that they reacted more strongly to persuasive messages. While Paulson also found that women tended to react more strongly to persuasive messages, he further concluded that
they retained less of the information. Gouran analyzed verbal statements related to group consensus and found females less informative, objective, and goal oriented than males, and Taylor found in his study that male statements were more hostile, unreasonable, and dominant than females toward deviant group members.

An increasing amount of empirical evidence indicates that males and females differ in their communicative behavior. Taylor and Gouran actually examined the interaction process, and found verbal statements to be significantly different between sexes. These findings suggest that sex may be an important variable to the study of human communicative behavior.

Unfortunately, the effects of high anxiety on the communication behavior of males and females has not been investigated. The research conducted by Schachter and others indicates that high anxiety individuals do reveal an increased desire for affiliation, and this increased desire was demonstrated as long as communication was not restricted. Aside from the Wrightsman study, which suggested that talking does not facilitate anxiety reduction, no research has been conducted into the actual verbal behavior of high anxiety individuals. If a high anxiety
level results in a strong desire to be with others, what do these persons say to each other when they do affiliate? What types of statements are indicative of a high level of anxiety? Do individuals perceive this verbal interaction to be anxiety reducing? Although the actual verbal interaction of high anxiety persons is the aspect of affiliative behavior significant to communication research, this interaction has not been investigated.

Whereas previous research yields valuable information concerning the results of the affiliative desire and the verbal interaction, what about the actual process of communication? The importance of examining the communication process is stressed by Taylor (1969):

If significant advances are to be made in the formulation of a viable communication theory, researchers must focus their attention upon the communication process rather than upon ex post facto outcomes in the form of sociometric rankings, solutions to hypothetical problems, or frequency counts of group members who succumb to the will of others.

Simply outcomes to the exclusion of communication processes, however, will leave communication scholars with little interest or importance in the development of communication theory.41

Other social scientists, such as Schramm, contend that communication is the fundamental process and should be considered as a major variable affecting human behavior.42
PURPOSE OF THE STUDY

The present study is designed to observe the effects of high anxiety on the verbal behavior of individuals in a group. Moreover, it is designed to identify the characteristics of high anxiety verbal behavior and to determine if it differs from low anxiety verbal behavior.
FOOTNOTES


4 Ibid., p. 389.

5 Schachter, op. cit., p. 5.

6 Ibid., pp. 12-19.


16 J. D. Lucas, "The Interactive Effects of Anxiety, Failure, and Intraserial Duplication," American Journal of Psychology, LXV (1952), 64.

17 Dalbir Bindra and Lois Cameron, "Changes in Experimentally Produced Anxiety with the Passage of Time: Incubation Effect," American Journal of Psychology, XLV (1953), 201.


19 Taylor and Spence, op. cit., pp. 183-188.

20 Deese, Lazarus, and Keenan, loc. cit.


24 Schachter, op. cit., p. 11.


27 Ibid., p. 18.

28 Ibid., p. 24.


30 Schachter, op. cit., p. 25.

31 Ibid., pp. 25-27.

32 Ibid., p. 27.

33 Ibid., pp. 38-39.

34 William M. Timmons, "Sex Differences in Discussion," Speech Monographs, VIII (1941), 68-75.


38 Ibid.


41 Ibid., p. 15.

Chapter 2

METHODOLOGY

The purpose of the present study is to examine communication as a process rather than as an end result or determinant of behavior. Communication theorists, such as Sereno and Mortensen, stress the importance of this approach:

The term "communication" may be defined as a process by which senders and receivers of messages interact in given social contexts. Implicit in this definition are a number of assumptions about the nature of communication. The very notion of "process" suggests that the components of interaction are dynamic rather than static in nature and that they cannot be properly regarded as unchanging elements in time and space.¹

Studies which examine communication as being static do not sufficiently approximate reality and therefore cannot yield results which are generalizable outside of the laboratory. This point is emphasized by Taylor:

The artificial nature of many previous studies is further cause for more realistic research concerned with actual group processes. Too often, researchers have resorted to note passing or tape recorded voices to simulate and control group communication. If findings based on such techniques are to be of any practical value, they require verification in settings that approach realism.²

Although this approach to the study of communications
is a relatively new one, there are several recent studies which yield valuable procedural information. Dennis S. Gouran's investigation of the variables related to consensus and non-consensus suggests a procedure for examining the communication process. Group members' discussion statements were audio tape recorded, then submitted to judges who rated the statements according to their orientation to eight categories. These categories represented his content variables of interest.

Taylor refined this technique somewhat, and had the judges rate each group discussion statement on a semantic differential according to the amount of perceived dominance, reasonableness and hostility. These content variables were selected in order to investigate majority group members' statements directed toward deviant group members.

Robert F. Bales was perhaps the first to investigate the group behavior as a process. He classified group member behavior into one of twelve social-emotional or task oriented categories. The procedure used in the present study incorporates principles used by both Bales and Taylor. Though studies of this type are new and limited, their importance was stressed by Taylor, who
asserted:

These and other process oriented approaches to small group research hopefully constitute the beginning of what will become increasingly sophisticated and sensitive means for providing essential information to communication scholars interested in small group research.6

A. Statement of Hypotheses

The research discussed in the previous chapter demonstrates that anxiety does affect and change behavior. The importance of sex as a variable of human communication was also revealed. The present investigation will therefore test the following hypotheses:

1. The verbal behavior of high anxiety group members will differ significantly from the verbal behavior of low anxiety group members.

2. High anxiety male verbal behavior will differ significantly from high anxiety female verbal behavior.

B. Independent Variables

1. Anxiety

Several experimental studies and many essays have dealt with anxiety, and each leaves possible definitions for the term. Many varied definitions of anxiety have been offered by behavioral scientists to relate the effects of anxiety to human behavior. Perhaps it was Freud who first attempted to explicate the meaning of
anxiety within the context of psychological theory. He stated that anxiety was something felt, an unpleasant state or condition. This state, according to Freud, is characterized by all that is covered in the word nervousness, apprehension, or anxious expectation. Freud emphasized the word dread in his definition. Lazarus and Erickson wrote that we should define stress in terms of transactions between individuals and situations, and not either one in isolation. Basowitz referred to stimulus conditions which are assumed to arouse an affective response of anxiety in an individual. Funkenstein, King, and Bruette pointed out that this same stimulus situation may arouse anger towards others or towards the self. Janis and Leven referred to a state of anxiety as "any change in the environment which typically - i.e., in the average person - induces a high degree of emotional tension and interferes with the normal patterns or response," and Scott described this state as a situation where adjustment is difficult but motivation is very strong. Slotkim says that two commonalities of high anxiety situations are frustration, in which the external situation prevents achieving a goal, and trauma, real or anticipated, in which the situation provides stimuli which
are intense enough to disrupt the performance of ongoing activities. From these varied interpretations it is evident that a stimulus, dread, emotional tension, and frustration all are necessary components. For the purpose of this study an all inclusive definition will be used. Anxiety shall be defined as an uneasy, troubled and distressed state of mind, caused by nervous expectation of unforeseen consequences.

2. Sex

The importance of sex as a variable of human communication was stressed in the previous chapter. Males and females have been found to differ in their communicative behavior, so in the present investigation the sex variable is controlled. It is possible, therefore, to test for differences between male and female verbal interactions and identify the characteristics of each.

C. Dependent Variables

Although previous research has not quantitatively tested the effects of anxiety on verbal behavior, related research can be helpful in developing a measure of its effects. Whereas several studies have suggested important variables possibly related to high anxiety behavior, only
Schachter has offered an entire list of possible explanations why people desire affiliation. Schachter examined the results obtained in his anxiety studies, and compared his conclusions to existing research on affiliative needs. The de-individuation study discussed in the previous chapter suggests that persons desire affiliation in order to satisfy interpersonal needs such as status, approval, and help. The results of this study also showed that a reduction of an individual's inner restraints often occurs during affiliative behavior. Schachter suggests that this less restrained behavior may be desirable, and may occur in the form of hostile statements or relatively wild activity.

Festinger, in his study on social evaluation, explained another possible reason for the affiliative tendency:

To the extent that self evaluation can only be accomplished by means of comparison with other persons, the drive for self evaluation is a force acting on persons to belong to groups, to associate with others. And the subjective feelings of correctness in one's opinions and the subjective evaluation of adequacy of one's performance on important abilities are some of the satisfactions that persons attain in the course of these associations with other people. How strong the drives and satisfactions stemming from these sources are compared to the other needs which people satisfy in groups is impossible to say, but it seems clear that the drive for self evaluation is an important factor contributing to making the human being gregarious.
Schachter and Burdick suggest that the drive for evaluation is often broadened into a more general drive for cognitive clarity. They found that when ambiguous issues are impossible to clarify through reference to an authoritative source or the physical world individuals seek out other persons for clarifying information.16

From this research, Schachter concluded that there are five reasonable alternatives why people desire social affiliation. These alternatives, discussed in the previous chapter, are self evaluation, escape, cognitive clarity, indirect and direct anxiety reduction. Because of the extent of Schachter's research, the present investigation will adopt these alternatives as dependent measures of verbal behavior. The study will be designed so that all statements will therefore be judged according to their orientation toward the following dependent categories:

1. Self Evaluation.—These are statements which tend to seek out information from others with which the subjects can compare their own feelings about the situation. "Are you scared?" would be the obvious example. Self evaluation statements also appear as open expressions of feeling, such as, "I'm scared".

2. Escape.—These are statements aimed at getting
out of the experiment and therefore avoiding the un­pleasant consequences. Also included in this category are statements of protest about participation. "Let's not stay" would be an escape statement, as would "We shouldn't have to do this".

3. Cognitive Clarity.--These are statements designed to find out facts about the situation, which is strange and nebulous. Statements which apply to this category are those aimed at talking things over to find out the facts. "Do you think they will really shock us?" or "Why did he leave us here?" would be cognitive clarity statements.

4. Direct Anxiety Reduction.--These are statements of reassurance, comfort, support, or courage bolster­ing. "It won't really hurt" or "I don't think they can do it" are direct anxiety reduction statements.

5. Indirect Anxiety Reduction.--This refers to all statements designed to change the subject or get their minds off the problem. Humorous statements such as "I was ready to die" or statements such as "Let's talk about something else" are indirect anxiety reduction statements.17

The present study incorporates a simple 2 x 2 factorial design. There are two independent variables,
anxiety level and sex, with two levels each. The experimental design is shown in the diagram presented in Figure 1.

The experimentation was divided into three distinct phases. First, a pilot was conducted to examine the applicability and relevance of the dependent measures and to test the viability of the experimental procedure. Second, the experiment was conducted. Anxiety was manipulated and the discussion statements were recorded. Then the statements were submitted to the judges to be rated and the data was analyzed.

Figure 1--Diagram for Experimental Design

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FOOTNOTES


4Taylor, op. cit., p. 58.

5Ibid., p. 20.

6Ibid., p. 22.


12J. P. Scott, "Relative Importance of Social and Hereditary Factors in Life Adjustments During Periods of Stress in Laboratory Animals," Life, Stress, and Bodily Disease (New York: Association for Research in Nervous Mental Disease, 1949), pp. 48-60.


15Ibid., p. 3.

16Ibid., pp. 5-6.

17Ibid., pp. 25-27.
Chapter 3

PROCEDURE

The process orientation discussed in the previous chapter is a relatively new innovation in behavioral research. Every effort was made to ensure an operationally sound procedure, and a pilot experiment was conducted to test the viability of the procedural operation. Because of their apparent reliability, the experimental techniques developed by Schachter\(^1\) and the measuring scale used by Wrightsman\(^2\) were utilized in the present study. Several studies, including research done by Bales,\(^3\) Gouran,\(^4\) and Taylor\(^5\), have shown that judges' ratings of statements are also both effective and reliable as a means of analysis.

A. The Pilot Experiment

In order to check the soundness of the experimental procedure, a pilot study was conducted using eight groups of four subjects each. Four groups of males and four groups of females were divided equally at random into two groups of high and low anxiety. The pilot was designed to investigate the following possible procedural
problems.

1. Would the subjects show up so that four will be available for each group?

2. Would the subjects talk after the experimental manipulation?

3. Would the subjects tend to disbelieve the instructions?

4. Would the subjects in the high anxiety condition leave after hearing about the shock?

5. Would the subjects find the microphone?

6. Would the microphone adequately pick up the statements?

7. Would the anxiety scale be too confusing?

8. Would the judges have difficulty understanding the dependent categories?

The pilot experiment was completed for the most part without problems. The subjects apparently believed the experimental manipulation since the differences in anxiety ratings between the high and low anxiety conditions was significant beyond the .01 level of confidence. No subjects left the experimental room after the high anxiety instructions, and most groups verbally interacted for virtually the entire session. The microphone, which
was not found by any of the groups, recorded the statements clearly. Very little difficulty was encountered by the judges as they rated the statements.

One possible bias was corrected for the final study. In the pilot experiment, five judges were used, three males and two females. The number was reduced to four in the final experiment so that an equal number of males and females would be used.

Another unforeseen complication that was later corrected concerned subjects meeting one another. At the conclusion of the pilot sessions, subjects waiting to begin the experiment encountered those leaving. This increased the possibility of contamination of the arriving subjects. The problem was corrected by changing the experimental room to the psychology lab, since the subjects could exit this facility by way of a back door.

The results of the pilot experiment showed that the experimental manipulation of anxiety was highly effective. Differences in distributions of high and low anxiety conditions were significant beyond the .01 level of confidence for both males and females. With the experimental manipulation successfully operant, the results of the verbal behavior analysis also showed significant differences
between conditions in regards to use of the dependent categories, as shown in Table 1.

Table 1

Results of Chi-Square Analysis of Judges' Ratings Between Experimental Conditions

<table>
<thead>
<tr>
<th>Conditions</th>
<th>df</th>
<th>Chi-Square Value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hi Anx. M</td>
<td>5</td>
<td>16.01</td>
<td>.01</td>
</tr>
<tr>
<td>Lo Anx. M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Hi Anx. F</td>
<td>5</td>
<td>20.02</td>
<td>.01</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hi Anx. M &amp; F</td>
<td>5</td>
<td>19.73</td>
<td>.01</td>
</tr>
<tr>
<td>Lo Anx. M &amp; F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Hi Anx. M</td>
<td>5</td>
<td>12.03</td>
<td>.05</td>
</tr>
<tr>
<td>Hi Anx. F</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Selection of Subjects

Subjects for the present study were chosen from the freshman Speech 101 and Communication 100 courses at Florida Technological University during the winter quarter of the 1972-73 academic year. Students in these courses are required to participate in at least two experiments each quarter. These courses are required, and therefore registration for them is reasonably random. No more than two persons were allowed to sign up from any one class.
for each experimental session in order to minimize the possibility of extensive prior acquaintance. Although only four subjects were used for each experimental session, six were signed up each time to assure that the necessary four would be available. Forty male and forty female subjects were used in the final experiment. Twenty groups of four subjects were thus utilized. There were no mixed sex groups, so the twenty groups were assigned into equal numbers of high and low anxiety conditions. The resultant experimental sample consisted of five groups in each experimental condition.

After the subjects arrived at the waiting area, a period of ten minutes was allowed to elapse before the experiment began. This allowed the subjects the opportunity to exchange greetings, thus reducing the effects of primary tension on the initial experimental verbal interaction. Since every precaution was taken against using subjects who were well acquainted, it was necessary to allow some time for these normal introductory verbal exchanges to occur before the experimental treatment.

C. Manipulation of Anxiety

Approximately ten minutes after the subjects arrived at the experimental room, the experimenter led
them into a small room for the instructions. The room contained only a table and four chairs. After each subject was carefully seated, the instructions were given.

The instructions used in the high anxiety condition were only slightly different from those used in the Schachter series.6 The remainder of the instructions given in part below are printed in Appendix B:

Allow me to introduce myself, I am Dr. Gregory Butler of the Psychology Department's Neurological Division. I have asked you all to come today in order to serve as subjects in an experiment concerned with the effects of electrical shock.

The experimenter obviously paused at this point, and then began his lecture on the importance of research in this area, citing, as in the Schachter study, the increasing number of electrocutions. He continued:

What we will ask each of you to do is very simple. We would like to give each of you a series of electric shocks. Now, I feel I must be completely honest with you and tell you exactly what you are in for. These shocks will hurt, they will be painful. As you can guess, if, in research of this sort, we're to learn anything at all that will really help humanity, it is necessary that our shocks be intense. What we will do is put an electrode on your hand, hook you into apparatus, give you a series of electric shocks, and take various measures such as your pulse rate, blood pressure, and so on. Again, I do want to be honest with you and tell you that these shocks will be quite painful but, of course, they will do no permanent damage.

After the instructions were given, the experimenter then
explained that the experiment would begin as soon as the technicians in the lab were ready.

In the low anxiety condition, there was no mention of electrical shock. The subjects were instead informed that they would be tested according to their ability to remember nonsense syllables. Limited detail concerning the nature of the experiment was given in the instructions in order to avoid the likelihood that a lack of information would influence the subjects to talk about the experiment. An effort was made to give the subjects in both conditions equal amounts of information concerning the nature of their participation. The low anxiety instructions, though, were given in a less serious, more casual manner.

After the experimental instructions, an independent measure of anxiety level was taken to determine the effectiveness of the manipulations. Subjects in both conditions were asked to fill out a form with the following information:

Now that you know the nature of this experiment, would you please indicate below how at-ease or ill-at-ease you feel about participating. Indicate by writing a number from 0 to 100, with 0 indicating that you are completely at-ease about participating in the experiment, and 100 indicating that you are completely ill-at-ease about participating.
The experimenter then repeated these instructions to assure that the subjects would clearly understand the use of the scale. The subjects were reminded which end of the 100 point scale represented a more ill-at-ease state of mind. Cover sheets were provided so that each subject could shield his reply from the other group members and the experimenter. The forms were then collected and the subjects were again informed that the experiment would begin shortly.

D. The Group Verbal Interaction

The experimental room contained a hidden microphone. The subjects were not cognizant of the fact that their statements were being tape recorded. They were left alone for approximately ten minutes, and the entire session was audio tape recorded. At the end of this ten minute interaction period, the experimenter re-entered the room with the final questionnaire, and instructed each student to fill it out. The following information was requested:

1. Do you have any older brothers or sisters?
2. Do you think talking about the experiment helped to ease your mind?
3. Did you hear anything about the nature of the experiment before you participated?
4. Thank you again. We ask that you do not discuss this experiment with anyone.

No questions were answered until each subject had completed the final questionnaire. The subjects were then debriefed, and told the real reason for the experiment. Before they were dismissed, the experimenter again asked that they not discuss the experiment with other students.

E. Treatment of Data

In order to assure that the selection of statements was done in a random manner, the first twenty statements from each group was extracted for analysis. If there was difficulty in understanding one of these statements, it was replayed only four times. If, after five playbacks, there was still a question of exactly what was said, the statement was discarded and the following statement used in its place. There was generally little difficulty in understanding the first twenty statements as the majority of the conversations were recorded clearly. The twenty statements selected were then edited onto the master tape, and written down in the order they appeared. Each statement appeared twice on the master tape.
F. Analysis of Dependent Variables

Three judges were selected from the graduate students in the Communication Department at Florida Technological University, two males and one female. A female undergraduate served as the fourth judge. One week prior to the day of judging each judge was given a study guide which explained the terms of the dependent variables and the process of evaluation. A trial judging session was conducted using some of the discarded statements. Questions concerning the terms or the process of evaluation were cleared up in this preliminary session.

Before the actual judging, each judge was given an additional instruction sheet. Some of the information on that sheet, which is presented in full in Appendix E is given below:

You are to rate each statement on the basis of whether it applies to any of the following categories:

1. Self Evaluation.--Statements which tend to seek out information from others with which the subjects can compare their own feelings about the situation. "Are you scared?" would be the obvious example. It may also appear in the form of an open expression of feeling such as "I'm really scared of being shocked". Any statement which is self evaluatory shall be included in this category.

2. Escape.--Statements aimed at getting out of the experiment or avoiding having to be shocked. Includes questions concerning why they must participate or declarations of protest. "I'm not going to let them shock me" or "How can we get out of this?" are examples.
3. Cognitive Clarity.--Statements designed to find out facts about the situation. Includes statements aimed at finding out what is involved in the experiment and what will happen to them. "Are they really going to shock us?" or "I wonder what this is for" are examples. Statement must pertain to the subject's actual fate in terms of the experiment.

4. Direct Anxiety Reduction.--Statements of reassurance, comfort, or courage bolstering. "They can't really shock us" or "We don't need to worry" are examples. These must be direct statements of reassurance, and not self evaluatory opinions.

5. Indirect Anxiety Reduction.--Statements which are obvious attempts to get their minds off the situation. "Let's talk about something else" is an example. Not included in this category are statements of normal conversation. The statement must be obviously intended to ease the subjects' minds.

6. Not Applicable.--If the statement, in your opinion, does not apply to any of the above categories, then that particular statement will be evaluated as not applicable, and marked "NA" on your answer sheet.

Each judge then received a script of the statements and an answer sheet. Each statement was played twice, and the judges marked their answers on the rating sheets. After all statements were analyzed, the completed rating sheets were collected and each judge's ratings compared to check for consistency and agreement. The data were then organized and categorized for analysis.
FOOTNOTES


6Schachter, loc. cit.
Chapter 4

RESULTS AND DISCUSSION

A. Anxiety Manipulation Results

A comparison of the results of the anxiety scales measuring the effectiveness of the experimental manipulation of anxiety reveals significant differences between the high and low anxiety groups. The significant differences shown in Table 2 indicate that the experimental manipulation was highly successful.

Table 2

Anxiety Ratings of High and Low Anxiety Subjects

<table>
<thead>
<tr>
<th>Group</th>
<th>( \bar{x} )</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Anxiety</td>
<td>69.55</td>
<td>40</td>
</tr>
<tr>
<td>Low Anxiety</td>
<td>16.37</td>
<td>40</td>
</tr>
</tbody>
</table>

\[ t = 11.44 \text{ (significant at .05)} \]

Results of tests for differences between the high anxiety male and high anxiety female conditions were non-
significant, as shown in Table 3. Low anxiety differences between sexes, shown in Table 4, were also non-significant. The tests, therefore, indicate that the manipulation of anxiety was highly successful, and that the level of anxiety of male subjects did not differ significantly from that of female subjects in both the high and low anxiety conditions.

Table 3

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Anxiety Rating</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi Anx. M</td>
<td>64.65</td>
<td>20</td>
</tr>
<tr>
<td>Hi Anx. F</td>
<td>74.45</td>
<td>20</td>
</tr>
</tbody>
</table>

\[ t = 1.26 \text{ (non-significant)} \]

Before submitting the statement ratings to test for differences among conditions, it was necessary to determine the general consistency of the judges in their ratings. On 358 statements or approximately 89.5% of the total sample, there was complete interjudge agreement. Of the 400 statements analyzed, there was interjudge disagree-
ment on only 42 statements. For 28 of these 42 statements only one judge disagreed with the rating of the other three. The remaining 14 statements on which three of the four judges did not agree were excluded from the data analysis, leaving a total of 386 to be analyzed.

Table 4
Anxiety Ratings of Low Anxiety Males and Females

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Anxiety Rating</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo Anx. M</td>
<td>13.40</td>
<td>20</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td>19.35</td>
<td>20</td>
</tr>
</tbody>
</table>

\[ t = 1.18 \text{ (non-significant)} \]

B. Results of Statement Analysis

The judges' ratings were subjected to a series of chi-square analyses. All high anxiety statements were first compared to all low anxiety statements to examine the differences in applicability and orientation to the dependent categories. This analysis tested for differences in the number of high and low anxiety statements which were rated applicable to any one of the dependent
categories. It also tested for differences in how the statements were distributed among the various dependent categories according to the judges' ratings. The ratings of high anxiety male statements were then compared to high anxiety female ratings. Chi-square analyses were also run between the low anxiety male and female conditions, the male high and low anxiety conditions, and the female high and low anxiety conditions.

As indicated in Table 5, significant differences were found whenever high anxiety statement ratings were compared to low anxiety statement ratings. Pronounced differences were also found between the high anxiety statement ratings of males and females. The only non-significant differences were found when comparing low anxiety male and female statement ratings. The differences between high anxiety male and high anxiety female statements were significant at the .05 level, while all other differences were found to be beyond the .005 level of confidence. Only when comparing the low anxiety groups are differences found to be non-significant.

In order to examine these differences, the results of the judges' ratings are presented in Table 6. An examination of Table 6 reveals the exact nature of the
differences shown in Table 5.

Table 5
Tests for Significant Differences in Statement Ratings Between Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>df</th>
<th>$x^2$</th>
<th>p</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lo Anx. M</td>
<td>5</td>
<td>5.94</td>
<td>ns</td>
<td>196</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td>5</td>
<td>11.76</td>
<td>.05</td>
<td>194</td>
</tr>
<tr>
<td>Hi Anx. M</td>
<td>5</td>
<td>113.67</td>
<td>.005</td>
<td>386</td>
</tr>
<tr>
<td>Hi Anx. F</td>
<td>5</td>
<td>37.11</td>
<td>.005</td>
<td>190</td>
</tr>
<tr>
<td>Hi Anx. M</td>
<td>5</td>
<td>78.66</td>
<td>.005</td>
<td>196</td>
</tr>
</tbody>
</table>

Of the nearly 200 high anxiety statements analyzed, only 41 or approximately 20% were rated not applicable, compared to 136 or 68% in the low anxiety groups. Low anxiety subjects made only one-seventh as many self evaluation statements as high anxiety subjects and only one low anxiety statement was rated applicable to the escape, indirect anxiety reduction, or direct anxiety reduction categories. Most of the low anxiety statements which were applicable to
the dependent categories were cognitive clarity statements, but even in this category there were 14% more statements made by high anxiety subjects.

Table 6

Distribution of Judges' Ratings for Each Dependent Category

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi Anx.</td>
<td>56</td>
<td>74</td>
<td>12</td>
<td>5</td>
<td>6</td>
<td>41</td>
</tr>
<tr>
<td>Lo Anx.</td>
<td>8</td>
<td>47</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>136</td>
</tr>
<tr>
<td>Hi Anx.</td>
<td>24</td>
<td>43</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Hi Anx.</td>
<td>32</td>
<td>31</td>
<td>11</td>
<td>3</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Lo Anx. M</td>
<td>5</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td>3</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>76</td>
</tr>
</tbody>
</table>

Table 6 shows that the differences between high anxiety male and female conditions are found in the use of the dependent categories, and not in the applicability or non-applicability of the statements. The biggest differences are shown in the self evaluation, cognitive clarity, and escape categories. While more female statements were rated self evaluatory, more males made cognitive clarity
statements. Eleven female statements were escape oriented, compared to only one in the male condition. High anxiety males and females differed only slightly in their use of indirect anxiety reduction, direct anxiety reduction, and non-applicable statements.

In order to more fully interpret the results of the judges' ratings, the data was re-examined after collapsing the dependent categories of self evaluation, cognitive clarity, escape, and direct and indirect anxiety reduction. As a result, all ratings previously attributed to these categories were labeled as applicable and compared as before to the non-applicable category. This procedure allowed the investigator to examine closely the differences between experimental conditions in terms of applicability or non-applicability of statements. The results are summarized in Table 7.

As in the earlier analysis, significant differences were found in all tests between high and low anxiety conditions. In contrast to earlier findings, no differences were found between high anxiety males and females when the categories are collapsed. This indicates that the differences between these conditions found in the previous analysis were in relation to variations in the use of the
different dependent categories and not in the applicability or non-applicability of the statements to those categories. As noted earlier, 80% of the high anxiety statements were rated as applicable to one of the five collapsed categories.

Table 7

Tests for Significant Differences in Ratings Between Conditions With the Dependent Categories Collapsed

<table>
<thead>
<tr>
<th>Condition</th>
<th>df</th>
<th>$x^2$</th>
<th>p</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi Anx.</td>
<td>1</td>
<td>96.00</td>
<td>.005</td>
<td>386</td>
</tr>
<tr>
<td>Lo Anx.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi Anx. M</td>
<td>1</td>
<td>30.98</td>
<td>.005</td>
<td>190</td>
</tr>
<tr>
<td>Lo Anx. M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi Anx. F</td>
<td>1</td>
<td>68.65</td>
<td>.005</td>
<td>196</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi Anx. M</td>
<td>1</td>
<td>0.46</td>
<td>ns</td>
<td>194</td>
</tr>
<tr>
<td>Hi Anx. F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lo Anx. M</td>
<td>1</td>
<td>5.36</td>
<td>.025</td>
<td>192</td>
</tr>
<tr>
<td>Lo Anx. F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Differences were found between low anxiety conditions when the categories were collapsed, significant at the .025 level. An examination of Table 6 indicates that the relatively frequent use of cognitive clarity statements in the low anxiety male condition explains this
finding. These results give strong support to the two main hypotheses of the present study. High anxiety verbal behavior differs significantly from that of low anxiety subjects, and males and females in the high anxiety condition also revealed significant differences in their discussion behavior.

C. Results of Final Questionnaire

Sixty-five percent of the high anxiety and eighty percent of the low anxiety subjects perceived the discussion to be anxiety reducing. An equal number of males and females in both conditions thought that talking the situation over helped to ease their minds. This indicates that most individuals perceived the ten minute discussion period to facilitate anxiety reduction.

D. Discussion of Hypothesis One

The high anxiety discussion statements were consistently rated as applicable to the dependent categories while the low anxiety statements for the most part were not. According to the judges' ratings, high anxiety subjects made significantly more statements oriented toward self evaluation, escape, cognitive clarity, direct anxiety reduction, and indirect anxiety reduction. When these five
dependent categories were collapsed into one category containing all statements previously rated to any one of the five, the results were similar. High anxiety subjects made significantly more statements than low anxiety subjects which were applicable to the dependent categories. Only ten percent of the high anxiety statements analyzed were rated as not applicable to any of the categories. The significance of each of the dependent categories will be discussed separately in the next section.

1. Self Evaluation

The need for self evaluation concerning one's relative status and abilities has been examined by researchers such as Festinger, Pepitone, and Newcomb, and found to be a prominent factor in the determination of an individual's affiliative behavior.¹ Theorists have suggested that people in general will strive for social identification, approval, and help.²

In the present investigation, seven times as many self evaluation statements were made by high anxiety discussants than by low anxiety discussants. The results appear to support existing theory. A rise in the individual's anxiety level, coupled with a resultant rise in desire for social affiliation, creates an increase in the
need for social approval. The drive for social self evaluation was shown to be particularly prevalent in individuals in a state of psychological uneasiness.

Perhaps the self evaluation results can be further explained in terms of the high anxiety uneasy state of mind. The individual was placed in a strange, confusing, and somewhat fearful situation. The anxiety increase resulted in an increase in desire for social identification or evaluation because the individual did not know how to react to the new situation. Upon reacting, he did not know if his reaction was proper. Because there is no way to check the reaction against physical reality or any type of authoritative source, the evaluation could be obtained only through reference to other individuals. By seeking this evaluation through self evaluation statements, the subject could have his reaction reinforced by the group and perhaps determine the proper reaction.

A state of high anxiety may make more salient those affiliative desires associated with social approval which can be satisfied through self evaluation behavior. These statements may provide the individuals with subjective group judgment of the correctness of their reactions.

The low anxiety subjects were not subjected to the
unfamiliar, anxiety producing conditions. They, therefore, did not experience the increased desire for social evaluation. While some low anxiety statements were self evaluatory, the results strongly indicate that the desire is notably more psychologically prominent among high anxiety individuals.

Strengthening the likelihood of the high anxiety individuals to make self evaluation statements may be the fact that each group member in the present study perceived each other group member to be in a similar psychological state. The Schachter series of experiments showed that high anxiety individuals desired affiliation only with other high anxiety individuals.\(^3\) Wrightsman found, however, that individuals tend to reduce their inter-individual variability of anxiety level after a period of affiliation.\(^4\) Since the high anxiety had increased the individual's need for social evaluation, the fact that the other group members were in the same situation increased the attractiveness of these group members as references for evaluation.

Future research into the relationship between anxiety and self evaluation should study the social evaluation process alone. Studies could then deal with pressure to uniformity through the self evaluation state-
ments or achievement of group goals. Now that self evaluation appears to be a major type of high anxiety statement, research is necessary to expand fully our knowledge about why and how this phenomenon operates.

2. Cognitive Clarity

The desire for cognitive clarity in an unusual situation is considered by Schachter as a generalization of the drive for self evaluation. The term actually broadens the self evaluation concept though, and includes those aspects of communicative behavior which are designed to find out whatever facts are available about a particular situation.

The results of the judges' ratings clearly show a greater tendency to seek cognitive clarity among the high anxiety individuals. According to the ratings, a significantly higher number of high anxiety statements were spoken in order to seek clarity of the individual's impending activity.

Since the definition of anxiety includes an element of psychological uncertainty, individuals with higher levels of anxiety would logically have greater need for clarifying information. The ambiguous environment created by the experimental manipulation caused the high
anxiety subjects to experience this increased need, and, therefore, make more statements seeking cognitive clarity.

The fact that the subjects perceived each other to be in a similar state of mind may have increased the probability of occurrence of cognitive clarity statements also. Since each subject knew that the other subjects were given the same stress producing message, fellow group members were perhaps considered reliable sources for clarifying information. Some of the subjects had previous experience participating in research experiments. They were aware, therefore, of some experimental techniques. Once these individuals became identified in the discussion, the other group members directed cognitive clarity statements at them, relating other experimental procedures to the present one. The experimental room may have also influenced the amount of cognitive clarity statements, since in the high anxiety condition electrical equipment and in the low anxiety condition response recorders were in view of the subjects.

The high number of cognitive clarity statements in the low anxiety condition was perhaps due to the existence of minimal levels of anxiety experienced by low anxiety subjects in low anxiety conditions. Because there
are relatively few college students who are totally naive to experimental procedures, the subjects even in the low anxiety condition seemed anxious to determine the reality of the situation. Although there was no indication that the low anxiety subjects tended to disbelieve their instructions, statements were made concerning possible reasons for conducting the research or the presence of possible hidden cameras. The presence of a minimal level of anxiety is seen in the 16.38 mean anxiety rating in the low anxiety condition, which would presumably approach zero if the subjects felt completely at ease.

The results strongly indicate that high anxiety individuals will generally make statements designed to seek out information about their immediate situation. Future research is necessary to determine how generalizable this tendency might be outside the laboratory environment.

3. Escape

Of the 400 statements analyzed, only 12 were rated as escape oriented, with 11 of the 12 occurring in the high anxiety female condition. The results seem to indicate that desire of escape is not a significant determinant of verbal behavior. Perhaps if the experimental instructions had been more fear oriented, a greater
number of escape statements would have been generated, since reduction of that fear would obviously be obtained through escape. Anxiety and fear are not synonymous, but it is that element of apprehension included in the definition of anxiety which may have generated the few escape statements that were made.

Although effort was made to insure against the high anxiety manipulation being too fear oriented, it is also possible that some subjects are extremely fearful of even controlled electricity. The presence of such subjects in the high anxiety condition could also explain the occurrence of the escape statements. No escape statements were found in the low anxiety discussions.

The relationship of fear to anxiety is a possible area for future research, particularly in relation to escape oriented statements. The manipulation of anxiety and fear as independent variables might reveal direct relationships between fear appeals and anxiety research. More research is necessary before the escape category can be fully accepted or rejected as a significant characteristic of high anxiety verbal behavior.

4. Indirect Anxiety Reduction

This investigation revealed no evidence that high
or low anxiety persons will use statements designed specifically to get their minds off their problem. Almost no statements were rated as being obvious attempts to change the subject. While it is likely that this type of statement is indeed not used significantly in high anxiety situations, it is also possible that the present investigation lacked the power to measure such a statement. Unless the meaning was conveyed to the judges either verbally or through non-verbal inflections, it was not represented in the analysis. It seems likely that few statements were rated as indirect anxiety reduction because this type of meaning would be difficult to detect. If a statement was rated as non-applicable for instance, it is possible that the statement was designed specifically to change the subject, but that the speaker was the only person aware of this intention. More sensitive methods of interpretation such as audio-visual reproduction of the discussion may be necessary before final conclusions can be drawn concerning the use of indirect anxiety reduction statements.

5. Direct Anxiety Reduction

The results reveal no significant use of direct anxiety reduction statements in the high or low anxiety
condition. While the Schachter research had indicated that direct anxiety reduction may be a major reason for the affiliative tendency, only six such statements were found in the entire sample.

It is possible that the likelihood of occurrence of the anxiety reducing statements may have been influenced by the type of manipulation used. Since, in the present investigation, the discussants in each session were in the same experimental condition and therefore had presumably the same relative anxiety level, none of the individuals was in a position to offer direct anxiety reducing statements. The use of groups containing both high and low anxiety subjects may allow future studies to overcome this possible bias.

E. Discussion of Hypothesis Two

Significant differences were found between the high anxiety verbal statements of males and those of females. It was then necessary to determine whether the differences found were due to the fact that females made significantly more or fewer statements which were rated applicable to one of the dependent categories, or made statements which differed in how they were applicable to the categories. The five dependent categories were
therefore collapsed as before and male and female statements were analyzed as either applicable or non-applicable. Because no significant differences were found under this procedure, it was determined that the differences revealed earlier were due to variances in the distribution of statements among the various categories, and not due to differences in the number of statements that were rated applicable. The next section will focus on these differences.

1. Self Evaluation

Although both males and females made numerous statements which were rated as self evaluation by the judges, nine percent more of these statements were found in the female condition. Since only slight differences were found in the relative effectiveness of the anxiety manipulation between high anxiety males and females, it is assumed then that the females did experience a slightly greater desire to seek social evaluation or approval. A review of relevant research offers no explanation of these particular results, but studies conducted by Paulson\(^5\) and Pross and Wegrocki\(^6\) did reveal that women may react more strongly to persuasive messages than men. It is possible, therefore, that this stronger reaction was
revealed in the self evaluation statements.

The nature of the experimental manipulation may have had a different effect on females than on males. Since college males are more likely to have been previously exposed to activities involving electricity, there could have been less need in the male condition to seek evaluation of their attitudes toward the impending shock. Intrinsic societal norms may also preclude males from seeking excessive reinforcement of these types of attitudes even when desired, whereas females may feel less inhibited to reveal doubt or uncertainty in high anxiety situations.

The differences exhibited by males and females with respect to self evaluation statements provide several areas for possible future research. It would be interesting to examine this particular category in relation to normative and informational norms, to determine what types of group pressures are acting on males and females which inhibit or facilitate social evaluation. The different social pressures operant on the sexes in this manner need to be identified and sorted out. Future research can then take these pressures into account, and perhaps even design an anxiety manipulation that would affect both sexes equally. After this has been accomplished, it would be possible
to examine further the relative inclination of males and females to seek social approval and evaluation.

2. Cognitive Clarity

High anxiety males made 18 percent more cognitive clarity statements than females. Males were more interested in determining the true details of the experiment and the exact nature of their involvement than in the evaluation of their attitude toward the situation. Males, in other words, were more interested than females in finding out the facts about the high anxiety situation. Whereas females made approximately the same percentage self evaluation and cognitive clarity statements, males made 10 percent more statements which were rated cognitive clarity.

The nature of the anxiety manipulation may again explain the differences. College males are perhaps more exposed to electricity than females, and are therefore interested in determining the specifics of their involvement. Females, on the other hand, possibly know less than males about electricity, and are more inclined to dread the possibility of being shocked no matter what the circumstances. In other words, the topic of discussion may have an effect on the relative amounts of cognitive clarity and self evaluation statements made. More research
is necessary with a variety of anxiety manipulations before it will be possible to conclude that high anxiety males will always make more cognitive clarity seeking statements than females.

The possibility that the orientation of high anxiety discussion may depend somewhat on the type of anxiety stimulus poses a significant area of study for future research. Statements could be judged on a semantic differential according to their orientation toward each of the dependent categories, instead of being rated as applying to only one. Because the cognitive clarity and self evaluation categories are somewhat similar, it is possible that a statement which is actually self evaluation oriented may also be to a lesser extent designed for cognitive clarity. The use of the semantic bipolar scales as in the Taylor and Gouran studies would therefore more sensitively measure for this overlap.

Another area for future research is the problem of sub-categorizing the cognitive clarity statements. In the present investigation a wide variety of statements was included under the general heading of "statements designed to find out facts about the situation". It is possible that particular types of cognitive clarity statements are
made more often than others in high anxiety situations. This additional breakdown may explain the differences between the sexes found in the present investigation.

3. Escape

Although the escape category was not significant in terms of the amount of high anxiety statements applicable, it is interesting that of the twelve escape statements made, eleven were made in the female groups. Since the anxiety ratings revealed no significant sex differences, this occurrence was possibly due to the fact that females are generally more afraid of electrical shock. The independent measure was made of anxiety level and there could have been greater differences in the amount of fear contributing to the ill-at-ease state of mind between sexes.

Future research into the escape category might examine the relationship between fear and anxiety and test for escape tendencies in each situation. It would then be possible to determine if the differences in the use of fear statements in the present investigation was due not to differences in overall anxiety levels, but to greater fear of the impending shock.

The final two dependent categories of indirect anxiety reduction and cognitive clarity were not signifi-
cantly utilized in either the male or female conditions.
The few statements which were rated applicable to these
categories were evenly divided among males and females.

F. Conclusions

The results of the investigation of the hypotheses
are summarized in outline form below:

I. The verbal behavior of high anxiety discussants
differs significantly from that of low anxiety
discussants.

A. High anxiety discussants express more
statements designed to make a self evaluation
than low anxiety discussants.

B. High anxiety discussants make more statements
which are designed to achieve cognitive
clarity in the situation than low anxiety
discussants.

C. High anxiety discussants reveal a slight ten-
dency to make escape oriented statements, where-
as low anxiety discussants reveal no such trend.

D. Neither high nor low anxiety discussants
make significant usage of direct anxiety
reduction or indirect anxiety reduction
statements.

II. High anxiety male discussant statements differ
significantly from high anxiety female discussant
statements.

A. High anxiety females reveal a greater tendency
than high anxiety males to make self evalua-
tion statements.

B. High anxiety males generally make more state-
ments designed to achieve cognitive clarity
of a particular situation.
C. Females show a tendency to make more escape oriented statements than males in high anxiety situations.

G. Other Implications For Future Research

The present investigation examined the verbal behavior of subjects through the use of tape recorded statements. A more precise measurement could perhaps be made of the exact meaning of each statement if the entire discussion could be video as well as audio taped. Non-verbal messages as well as verbal ones could then be analyzed, thus adding additional understanding of high anxiety behavior. Research, such as that done by Morhabian, has suggested that perhaps the non-verbal messages conveyed by individuals are even better indicators of true meaning than the verbal ones.9

Research has also indicated that an individual's ordinal position can have an effect on his affiliative behavior. Schachter,10 Ehrlich,11 and Wrightsman12 have found that firstborn and those without siblings tend to place more reliance on social means of evaluation than later-born persons. Some evidence also indicates that early-born subjects are more socially influenced than others. Although exact reasons have only been theorized, it is believed that the anxiety reflected in the care a
mother gives her first child and the fact that younger children generally are accustomed to having older, anxiety producing persons in their environment explain this phenomenon.

It is possible, therefore, that differences among subjects' ordinal positions in their families can have an influence on high anxiety or social evaluation research. Before final conclusions can be drawn from anxiety research, the nature of the effects of ordinal position as a variable must be determined and taken into account.

Another implication of the present investigation on future research lies in the possible significance mixed groups might have on high anxiety research. If males and females interact differently while separated as they did here, then is it not possible that mixed groups would display further differences in verbal behavior? The statements from such a group could be used as a control group to determine if differences found between all male or all female groups were actually due to the sex variable.

Future research is also necessary to determine whether in fact the verbal interaction among high anxiety subjects is anxiety reducing. Schachter concluded in his research that the ability to verbally interact was not a
significant source of the desire to affiliate,\textsuperscript{13} and Wrightsman found that subjects who were allowed to discuss their high anxiety situation did not reduce their anxiety more than those prohibited from talking.\textsuperscript{14} The present investigation found significant differences though in the verbal behavior of high and low anxiety subjects, which indicates a desire to talk over the situation. Sixty-five percent of the high anxiety subjects indicated that they perceived the discussion to be somewhat helpful in reducing anxiety. More research is necessary before it can be determined whether talking actually aids in reduction of anxiety.

\textbf{H. Summary}

Empirical research dealing with man's affiliative tendency goes back to the nineteen-fifties. Studies have examined various aspects of human affiliative behavior for the past twenty years and some particularly interesting findings have been made concerning the relationship of a person's desire to affiliate and his level of anxiety. No empirical research has been done, however, examining the process of communicative behavior of persons once they do have the opportunity to affiliate.

Research on the affiliative tendency suggested
five possible reasons why high anxiety persons increase their desire to affiliate: (1) to make a self evaluation, (2) to achieve cognitive clarity, (3) to escape the anxiety, (4) to directly reduce the anxiety, and (5) to indirectly reduce the anxiety. These possible reasons for the affiliative tendency were adopted and used for the dependent categories. The purpose of the present investigation was to identify some of the characteristics of high anxiety verbal behavior. Two hypotheses were tested:

1. The verbal behavior of high anxiety group members will differ significantly from the verbal behavior of low anxiety group members.

2. High anxiety male verbal behavior will differ significantly from high anxiety female verbal behavior.

A pilot study was run to test the relevancy of the dependent categories mentioned above, and to insure the viability of the experimental procedure. In the final study five male and five female groups of four subjects were given the high anxiety manipulation. The high anxiety subjects were instructed that they would undergo a series of painful electrical shocks. An equal number of male and female groups of four subjects were given the low anxiety instructions. An independent measure of anxiety was made and the subjects were then left for ten
minutes supposedly to await the experiment. All discussion was audio tape recorded via a hidden microphone.

The first twenty statements from each group were extracted and rated by a panel of four judges according to their orientation toward the dependent categories. The check for interjudge reliability revealed disagreement on less than 11 percent of the statements analyzed. The results of the independent measure of anxiety revealed significant differences at the .05 level between the high and low anxiety conditions according to their rating scales, which indicates that the experimental manipulation was also highly successful.

The judges' ratings revealed significant differences between the high and low anxiety conditions according to their orientation to the dependent categories. High anxiety discussants made significantly more statements which were designed for self evaluation, cognitive clarity, and escape. Indirect anxiety reduction and direct anxiety reduction statements were not characteristic of high anxiety verbal behavior. The majority of high anxiety statements were oriented toward either the self evaluation or cognitive clarity categories.

Pronounced differences were also found between
male and female high anxiety verbal behavior. While males tended to make more cognitive clarity statements, females made more statements which were rated in the self evaluation category. Almost all of the escape statements were made in the female groups. No differences were found between sexes in the limited usage of direct and indirect anxiety reduction statements.
FOOTNOTES


2 Ibid., p. 389.


6 Ibid.


10 Schachter, op. cit., pp. 42-89.

11 Ibid., pp. 86-89.

12 Wrightsman, loc. cit.

13 Schachter, op. cit., pp. 32-41.
Appendix A

FOUR HUNDRED DISCUSSION STATEMENTS RATED IN THE FINAL STUDY

The following one hundred statements are from the five high anxiety female discussions. The first twenty statements from each group are given.

1. "I don't want to get shocked."
2. "I'll bet they have a tape recorder on."
3. "What does this thing do?"
4. "I don't think they're going to do that."
5. "I don't think they should tell us they're gonna shock us."
6. "I don't know, why is the tape there?"
7. "That makes you scared."
8. "I'm not scared, I just don't want them to shock me."
9. "I bet this place is bugged."
10. "I know, we're supposed to be psyching ourselves up."
11. "What does that say?"
12. "Bill Ivey's apartment."
13. "They must of wanted us to break a leg."
14. "Oh, weird."
15. "Maybe this is supposed to be enough time for us to get scared."
16. "Either that, or in a few minutes a great big bolt of shock's gonna come through."
17. "Oh, that's the whole thing - just to scare us."
18. "I'll bet somebody's looking at us."
19. "How can he look at us?"
20. "See that crack up there?"
21. "They're probably taping all this."
22. "I'm dying."
23. "That's what I always said, I hope it's anything but electrical shock."
24. "Do y'all like that?"
25. "I don't think they'll do anything that'll really hurt us y'all."
26. "But I'm not gonna worry about it."
27. "I started to get up and run when they said that."
28. "Is that why they have us in a little room?"
29. "I'm kind of half and half, I don't really care, you know."
30. "They can't do anything to me!"
31. "My brain's already gone, maybe this'll increase my knowledge."
32. "Will they bury us?"
33. "I hope they can't do it."
34. "Why'd they leave this messy junk lying around?"
35. "Don't mess with any of their equipment."
36. "What speech class are y'all in?"
37. "Section 13."

38. "I don't want to get shocked y'all - I hate shock."

39. "Hope they can't get it fixed."

40. "What's this got to do with communications?"

41. "I'm not doing it."

42. "I'm not either - I don't want to."

43. "I get shocked real easy all the time."

44. "Why don't they just use guys?"

45. "Are we different or something?"

46. "And they have a nurse - I mean, is it that bad?"

47. "Yeah, they told us that they'd tell us if it was something to be shocked - they said all we had to do was write down something."

48. "I don't want to do it."

49. "I'm not either."

50. "We'll see you leave in a minute."

51. "If it was just a little shock it wouldn't be that bad."

52. "I know."

53. "It's a quarter till eleven."

54. "We don't have time - we gotta leave."

55. "Yeah, that's right, we can't do it."

56. "It really wouldn't be bad, I mean just, you know, shock three or four times, if I could see or know the severity of the shock."

57. "Yeah, I want to see the other people ahead of us."
58. "We're the first group, too."
59. "I don't want to be the first group."
60. "I wonder if they're listening to us talk about how we feel."
61. "Oh no, if I had known I wouldn't ever've signed up!"
62. "One of those is a microphone."
63. "Supposed to say oh boy, am I scared."
64. "Find if girls are chickener than guys."
65. "No, to see if we like sitting in a cramped corner, now the walls are gonna start coming in."
66. "We're sitting here and we gotta pretend we're in "2001"."
67. "He said don't mess with the junk."
68. "Yeah, don't mess with it, and this is what's gonna shock me."
69. "Let's find the bug."
70. "That's one of them."
71. "I'll bet that's one."
72. "Yeah, but what do they look like?"
73. "They're gonna shock us worse."
74. "I think I'm beginning to levitate y'all."
75. "I know it's a hoax because in my speech department they said they weren't doing anything physical."
76. "I wonder if these chairs are wired in any way."
77. "Yeah, this is kind of scary because you don't know what's gonna happen but you know something."
78. "What if we open the door and see three guys with their ears to the door?"

79. "A psych experiment, yeah."

80. "I know what this is, this is a game."

81. "He just got through saying we were gonna be in another room."

82. "I hope so."

83. "I feel like I'm on "Truth or Consequences" or something."

84. "It's not that I'm scared, it's just that I'm ill-at-ease."

85. "Like you would be if you were up in front of your class giving a speech, you're not nervous, you're scared to death."

86. "Well you know, I used to have to give those speeches in French and it depended on how well I knew the teacher, but I'd get up in front of Chemistry, and they weren't the same people."

87. "Yeah, you have to get to know the people in your class."

88. "Like you're not afraid to sit and talk to your friend but if it's a stranger or something."

89. "God, if it's a stranger my mouth just gets."

90. "It's not that you're afraid or anything, just maybe you wouldn't say the same thing in the same way."

91. "If you were just sitting here for an hour you could go crazy."

92. "Oh, you sure could."

93. "Think of this as being a foreign class and the student and teacher sits right there."
94. "Thing is, is it's hot in here too."

95. "I can't stand to sit in a closed place."

96. "I believe this is part of it - if you're not ill-at-ease you will be by the time."

97. "You'll be crazy."

98. "See, I can't stand it when it gets so quiet - everybody's thinking."

99. "Well, it's a quarter to two."

100. "Is your clock fixed 'cause mine says seventeen to?"

The following one hundred statements are from the five high anxiety male discussions. The first twenty statements from each group are given.

1. "I'm scared to death of electricity."

2. "I wonder if they're really gonna do it."

3. "I hope they don't."

4. "I wonder if they were just telling us that, or if they're really gonna do it."

5. "Damn!"

6. "That would be interesting, if that was all there was to the experiment because everyone else was walking out of here and nobody looked like they had been through intense pain but nobody was laughing either."

7. "They probably just sorta smiled."

8. "You're gonna get yours."

9. "I don't even like household current."

10. "Maybe they're checking to see if your attitude is different if they tell you it's gonna be painful."
11. "Well, it certainly is different."
12. "I got a shock over the summer."
13. "I grabbed an electric chord trying to pull it out."
14. "Feels good, doesn't it?"
15. "My toaster shocked me once."
16. "I felt it for the next two an' one-half weeks."
17. "I was standing on top a metal trailer and stood up into a clothesline and it formed a perfect connector with myself."
18. "I was trimming the hedge with my electric trimmer and cut the wire."
19. "And you're afraid of electricity, this must be doing you a lot of good - us sitting here and telling you these shock stories."
20. "Boy, I got shocked when I was little!"
21. "I think that was the experiment."
22. "Yeah, I think so too."
23. "I don't see nothing plugged in."
24. "Got electrodes in our chairs."
25. "Probably shock me."
26. "Is it plugged in anywhere?"
27. "Got any batteries in it?"
28. "What's behind that board there?"
29. "Here's some microphones."
30. "Here's the plug right here."
31. "Drive 'em crazy if they're listening."
32. "He said don't ruin the equipment."
33. "Hit a wrong wire it shocks you."
34. "Did they tell you about the registered nurse?"
35. "Yeah, they've got something in the wall."
36. "No release forms?"
37. "Yeah, if they're doing a dangerous experiment, they have you sign a release form, liability form."
38. "Stimulate your brain cell."
39. "It's more like blowing your mind."
40. "If you want to be honest about it you do feel anxiety."
41. "I don't think they're really gonna shock us."
42. "I think that's a bunch of bull."
43. "They wouldn't take any chances."
44. "I'm almost sure."
45. "I think the experiment is how will we react to them telling us."
46. "What is this?"
47. "What are you doing?"
48. "Yeah, that's one of those test scorers."
49. "Let's hope they don't lay this little bit of electricity on us anyway."
50. "I thought the worst would be we'd have to get up in front of class and answer questions."
51. "What does this have to do with speech?"
52. "Probably a psychology experiment."
53. "How do we know about that here in speech don't even know what psychology is?"

54. "You see I don't think I should be able to put all these holes in it."

55. "I guess it doesn't work."

56. "I wonder if they're gonna take somebody in there and ask them to scream or something?"

57. "Injury not permanent."

58. "Just for a day or so."

59. "House current."

60. "I don't think they're gonna shock us."

61. "Gonna stick our hand in a light socket, man."

62. "Open this door, man, it's hot in here."

63. "That's just 'cause you're sweatin'."

64. "Oh, I'm gonna get shocked right now."

65. "You're gonna practice, huh, stick your finger in the wall socket?"

66. "I got shocked the other day."

67. "Wonder if they do this to the chicks too, man?"

68. "They probably use a nine volt battery on them."

69. "What are all the microphones for - oh, to record the screams."

70. "No, they don't do it in here."

71. "Electricity arcing through the air."

72. "Stick your hand in there, buddy."

73. "I thought it was gonna be a lie detector test or
something like that."
74. "We ought to get double credit for this."
75. "Hell yes."
76. "Well, go back and see Mrs. Johnson."
77. "We ought to get hazard pay for this."
78. "I've done one of these deals before."
79. "It's a test."
80. "It registers your answer."
81. "Actually he's trying to scare the hell out of you."
82. "At least the one in Psych class did."
83. "This might be different."
84. "They did the same thing - they put a couple of little rings on your finger."
85. "There's gotta be something to it."
86. "It pokes holes in the paper, doesn't it?"
87. "These are the truth principles and you have to figure it out from that."
88. "Why don't you turn it off?"
89. "It's not hooked up, is it?"
90. "This is a pretty good mike."
91. "I got that one right."
92. "You poking a hole in that thing?"
93. "It's very thin paper."
94. "Try one from the top and see if you can get it right."
95. "I did."

96. "They'll probably electrocute me for doing this."

97. "Like they do in Vietnam, attached to battery wires, guys rev the engine up if they don't tell 'em the right things."

98. "That gets bad, comin' down with a volt of electricity."

99. "The Vietnamese, they catch a couple of V.C., they bring 'em in to the base and blindfold them, make 'em walk over hot coals."

100. "Over there it gets pretty hot."

The following one hundred statements are from the five low anxiety female discussions. The first twenty statements from each group are given.

1. "What they're really trying to do is see how long four people can sit in a little room like this without going mad - they're gonna leave us."

2. "We're being video taped."

3. "Are we helping them or are we doing this because we're in speech?"

4. "I think it's a little bit of both, trapped people."

5. "I was wondering too why they pick on speech."

6. "They say experiments, is the school trying to do something?"

7. "You don't know anything either do you?"

8. "Why don't you read your summaries?"

9. "They probably pick speech classes because it's something everybody has to take."
10. "In Psych class there was the graduate student who helped them perform."

11. "Have you gone four years here?"

12. "Yeah, I don't like it but I gotta."

13. "Are you gonna be a teacher?"

14. "She's gonna work up to principal."

15. "Why you'll just get a master's degree?"

16. "Anywhere near the end? Just starting?"

17. "Oh no, I'm on the ground floor."

18. "Has she ever gone to college before?"

19. "My mother was thinking about it."

20. "I think you enjoy it a little bit more."

21. "You were on debate, weren't you?"

22. "No, I wasn't debate, extemp."

23. "She's good though, don't let her fool you, she's already gotten up in front of a whole school and talked."

24. "That was different."

25. "We didn't have speech."

26. "Yeah, we had speech there."

27. "You know we had English classes where you got to talk once in a while."

28. "I kind of wish I'd taken it now."

29. "Kids don't talk so much in classes at Rollins - the teacher would ask for a response and everybody would just kind of sit there."
30. "I know what you mean."
31. "In school there's always a big response in class, you know."
32. "You mean here it could be because college is much more impersonal in some of your classes."
33. "At Colonial, by the time we reached our senior year we knew everybody."
34. "Are you thinking you know, those kind of programs where they stick you in a little room and say they're gonna do this to you?"
35. "I hadn't thought of that 'till now."
36. "Truth or Consequences?"
37. "I've seen it there."
38. "Fifteen minutes, what are they gonna do with us in fifteen minutes?"
39. "Where are y'all's speech classes?"
40. "In the library."
41. "If you lean just a little bit that seam will continue right in your part, get some symmetry in this room."
42. "Ought to have something to do with this room."
43. "It reminds me of those psychology experiments where they tell you they're gonna do something and they leave you in the room and listen to what you're doing in the room."
44. "I keep looking around for microphones."
45. "I can't see why they didn't want me to mess up this room, it looks pretty messy already."
46. "What are those little blue things?"
"It reminds me of a little box, you know, when they have tests, that's what it looks like."

"Yeah, it does."

"Answer A, B, or C."

"Reminds you of what? I'm lost."

"You plug it in on a board or something."

"And it computes electronically or something."

"I guess you plug in something to tell whether it's a test or not."

"They do that these days in preference to using the pencil that picks up electronically."

"What quarter are you in?"

"201, what are you in?"

"This is so hard for me because I got up to the third year in high school."

"I know exactly how you feel because we didn't have all those tenses."

"Oh, we had all the verbs and all, but different from the book."

"And then he wants us to speak it."

"You work at Martin?"

"No, my husband's at Martin."

"I was in an experiment in Psychology class in college where they had two of us and that put us in separate rooms."

"That's the only thing I remember with the rat and the lights."

"Naturally they always pick girls to go in with the
"It was a great big one."
"How big was it?"
"I don't think I would have done it either."
"Wasn't bad enough to have to sit in one room with him, had to move him from one cage to another."
"My roommate was telling me about this one experiment."
"They were wondering whether to tell them if it was real or not."
"They know ahead of time anything that you do in an experiment's not gonna harm you."
"I let my mind do terrible things to me."
"Do you live out here in the dorms?"
"You do, what one?"
"I live over in "C" dorm."
"You do? I've never seen you."
"I just moved last quarter, into "A".
"I was in "D".
"You like it?"
"What are you writing it on?"
"Uh, this is my persuasion speech on legalization of marijuana."
"You have Mrs. Bledsoe?"
"When do you have to give it?"
"Today."
86. "You do, what about it?"

87. "I was wondering if the outline's gotta be introduction, body, and conclusion?"

88. "No."

89. "I knew it wasn't."

90. "It's gotta be those five things."

91. "Could you show me how?"

92. "Well, let's see, all that I can tell you is the first step has to be your attention step like the introduction."

93. "The second part is where you establish a need or you show that there's a problem, sort of like we did in our last speech."

94. "The third part is the solution part and the fourth part is the visualization."

95. "That is a very short part; you don't even have to write too much on the outline about that, you just say now if you think about the future if we don't legalize marijuana such and such will happen."

96. "The fifth part is just the conclusion, you give the audience a challenge, like saying go out and work for this committee because they want the legalization of marijuana or something."

97. "Oh my gosh, what period do you have to give it, I mean, what time?"

98. "I'm giving mine Wednesday and I don't even have my outline done yet."

99. "I'm really nervous - I wanted this to be a real good speech."

100. "Me too, 'cause our symposium was really rotten."
The following one hundred statements are from the five low anxiety male discussions. The first twenty statements from each group are given.

1. "What are all these things?"
2. "This room is probably bugged."
3. "Wouldn't that be something?"
4. "Maybe it's under the table - paranoia."
5. "Watch it, you'll touch that one and get zapped."
6. "I hope it's audio perception and not visual perception."
7. "I took one of those when I was taking Com, showed all these company emblems and junk."
8. "Yeah, I did that one."
9. "I think the guy assumed that if you had the letters you would remember the company better."
10. "Do you know what the result was?"
11. "I talked to him but he didn't know how it came out."
12. "Maybe this is part of the testing and we just don't know it."
13. "Yeah, they let the CO$_2$ build up so your brain goes bad and you can't answer the questions."
14. "Yeah, this is one source of air."
15. "That's 'cause you might overhear something."
16. "Let's follow these and see where they end."
17. "O.K., this is disconnected."
18. "That goes to the tape recorder that doesn't have anything on it."
19. "There's a real one inside."

20. "What does this plug go to?"


22. "Considering it's not plugged in, I don't think so."

23. "There's no microphones that don't have - like, did you ever see a teacher walk in with one that's not plugged in?"

24. "What time is it anyway?"

25. "That tape recorder came across on the Ark."

26. "Jesus!"

27. "Been around, hasn't it?"

28. "Heavy weight."

29. "Maybe this is the experiment."

30. "Boring the hell out of people, see who walks out first."

31. "That's more like psychology, though."

32. "Study of the human animal."

33. "This is probably bugged."

34. "I'm not gonna wait that long."

35. "I wonder why they made us sign the form here, you know."

36. "Maybe the test was just to see if we were anxious - you know, by writing that zero down."

37. "I drive a Mazda."

38. "What a car, what a car."

39. "You don't drive your VW to school?"
40. "No, I don't have it here."
41. "I'd like to rip that off, man, I need a mike for my cassette."
42. "Oh, there we go, that's what I need."
43. "We'll probably end up getting the hell shocked out of us."
44. "Oh yeah, wouldn't that be heavy?"
45. "O.K., fork up the mike."
46. "Shake the table."
47. "A guy listening on the other end."
48. "Been drinking lately?"
49. "Who me, yeah, got drunk Saturday night."
50. "I haven't been doing any lately."
51. "It's easier to do it that way than the other way."
52. "Just can't give it away."
53. "Should've brought my book to study."
54. "You still workin'?"
55. "I'm retired."
56. "I didn't get off last night 'till quarter 'till twelve."
57. "Yeah, but you get to study out there."
58. "See the job I was working on I didn't get off until twelve and I'd be working continuously."
59. "I was working for the janitor service."
60. "How much were you making?"
61. "I put thirty-two, what'd you put?"
62. "Why didn't you put thirty or forty?"
63. "The room's bugged."
64. "Could be."
65. "Nice mike."
66. "Oh, it's just for a regular test, for you to take a test."
67. "You know what you're doing there?"
68. "How are they graded - by that grid thing there?"
69. "Really professional here."
70. "Is that pretty hard, that pre-calculus?"
71. "No, it ain't that hard, but I screwed up last quarter."
72. "We didn't have anything to do in there, did we?"
73. "Who do you have?"
74. "I think we did."
75. "Are you in my class?"
76. "Where do you sit?"
77. "I usually sit in front of you."
78. "Yeah, there's a test this Friday."
79. "What kind of math?"
80. "It's just algebra."
81. "Give me a ten."
82. "I think they've got cameras or microphones in here."
83. "See what we do while we're alone."
84. "I'm about to fall asleep as it is."
85. "It doesn't make any difference to me."
86. "That's expensive."
87. "This right here?"
88. "I'm not too good at remembering things."
89. "When do you give your next speech?"
90. "Next Wednesday."
91. "I give mine Monday."
92. "I gotta give one today."
93. "I'm doing mine on drunk driving."
94. "Couldn't think of enough things to do it on."
95. "Are y'all on your persuasive speech?"
96. "The last one, I guess."
97. "Y'all taking the first speech course?"
98. "That class wasn't as bad as I thought it was going to be."
99. "I thought it was really gonna be bad."
100. "It's easy, really."
Appendix B

HIGH ANXIETY EXPERIMENTAL
INSTRUCTIONS

You are here today to serve as subjects in an experiment concerned with the effects of electrical shock. In the past ten years it has become increasingly important to determine the exact effect of electrical shock on human behavior. Experimental research is an absolute must in this area because it is impossible to examine electrical shock occurring naturally due to extreme brevity of each incident and the diverse places of occurrence. Still, every year, we have more and more accidents with electricity. More and more children are injured by exposed wires, housewives electrocuted by household items, and working people killed or seriously injured on the job. Research is the only means by which we can study the causes of the senseless deaths and injuries and how they can be avoided because it is too late in actual field conditions. How do these people react to the first instant of shock, and could they behave differently and avoid injury? These and countless other questions need to be answered. Also, especially in recent times, such research as we are conducting has led to great strides in the field of electroshock therapy. Florida in particular has a serious problem with lightning as many people are struck and electrocuted each year. Therefore, someone has to serve as a subject in order that research might continue.

What we will ask each of you to do is quite simple. We would like to give each of you a series of electrical shocks. Now, I feel I must be completely honest with you, and tell you exactly what you are in for. These shocks will hurt, they will be painful. As you can guess, if, in research of this sort, we are to learn anything at all that will really help humanity, it is necessary that our shocks be intense. What we will do is put an electrode on your hand, hook you into an apparatus, and give you a series of electrical shocks. We will then take various measures such as your pulse rate, blood pressure, and so on. A registered
nurse will be on hand. Again, I do want to be honest with you and tell you that these shocks will be quite painful but, of course, they will not do any permanent damage. I will be most happy to answer any questions you may have about this experiment but before doing that I would appreciate very much your answering a few questions on this questionnaire.
Appendix C

LOW ANXIETY EXPERIMENTAL INSTRUCTIONS

As students in the beginning courses at Florida Technological University you are required to participate in experiments. What you will do today will be very simple and require about thirty minutes of your time. You will be given a list of nonsense syllables such as NAN, POL, ROL, or POQ. After you have seen all of the syllables, we will test you to see how many of them you can recall. A second list will be handed out, and you are to check the ones from the list which were presented earlier. The list will contain approximately twice as many syllables as the first one. As soon as the other group finishes the experiment we will call for you.
Appendix D

JUDGES' STUDY GUIDE

You will be asked to judge discussion statements according to their orientation to the following categories:

1. Self Evaluation.—Statements which tend to seek out information from others with which the subjects can compare their own feelings about the situation. "Are you scared?" would be the obvious example. It may also appear in the form of an open expression of feeling such as "I'm really scared of being shocked".

2. Escape.—Statements aimed at getting out of the experiment or avoiding having to be shocked. Includes questions concerning why they must participate or declarations of protest. Examples: "I'm not going to let them shock me." "How can we get out of this?"

3. Cognitive Clarity.—Statements designed to find out facts about the situation. Includes statements aimed at finding out what is involved in the experiment and what will happen to them. Examples: "Are they really going to shock us?" "I wonder what this is for."

4. Direct Anxiety Reduction.—Statements of reassurance, comfort, or courage bolstering. Examples: "They can't really shock us." "We don't need to worry."

5. Indirect Anxiety Reduction.—Statements which are obvious attempts to get their minds off the situation. Example: "Let's talk about something else."

6. Not Applicable.—These will be all statements which do not apply to any of the above categories.
Appendix E

JUDGES' INSTRUCTION SHEET

You are to rate each statement according to its orientation toward the following categories:

1. Self Evaluation.--Statements which tend to seek out information from others with which the subjects can compare their own feelings about the situation. "Are you scared?" would be the obvious example. It may also appear in the form of an open expression of feeling such as "I'm really scared of being shocked." Any statement which is self evaluatory shall be included in this category. For each statement rated in this category place "S" down on your answer sheet.

2. Escape.--Statements aimed at getting out of the experiment or avoiding having to be shocked. Includes questions concerning why they must participate or declarations of protest. Examples: "I'm not going to let them shock me" or "How can we get out of this?" For each statement rated as escape oriented place "E" down on your answer sheet.

3. Cognitive Clarity.--Statements designed to find out facts about the situation. Includes statements aimed at finding out what is involved in the experiment and what will happen to them. Examples: "Are they really going to shock us?" or "I wonder what this is for." Place "C" down on your answer sheet for all cognitive clarity statements.

4. Direct Anxiety Reduction.--Statements of reassurance, comfort, or courage bolstering. Examples: "They can't really shock us" or "We don't need to worry." These must be direct statements of reassurance, and not self evaluatory opinions. Place a "D" down on your answer sheet for all direct anxiety reduction statements.

5. Indirect Anxiety Reduction.--Statements which
are obvious attempts to get their minds off the situation. Example: "Let's talk about something else." Not included in this category are statements of normal conversation. The statement must be obviously intended to ease the subjects' minds. Place an "I" down on your answer sheet for all indirect-anxiety reduction statements.

6. Not Applicable.—If the statement, in your opinion, does not apply to any of the above categories, then that particular statement will be evaluated as not applicable, and marked "NA" on your answer sheet.
Appendix F

JUDGES' RATINGS OF DISCUSSION STATEMENTS

The following are the judges' ratings of the one hundred high anxiety female statements.*

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* C = Cognitive Clarity
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* C = Cognitive Clarity
**D** = Direct Anxiety Reduction
**E** = Escape

I = Indirect Anxiety Reduction

N = Not Applicable

S = Self Evaluation
The following are the judges' ratings of the one hundred low anxiety female statements.*

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*C = Cognitive Clarity  
D = Direct Anxiety Reduction  
E = Escape  
I = Indirect Anxiety Reduction  
N = Not Applicable  
S = Self Evaluation
The following are the judges' ratings of the one hundred low anxiety male statements.*

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Appendix G

POST MANIPULATION QUESTIONNAIRE

EXPERIMENT "A"

NAME:

Now that you know the nature of this experiment, would you please indicate below how at-ease or ill-at-ease you feel about participating. Indicate by writing a number from 0 to 100, with 0 indicating that you are completely at-ease about participating in the experiment, and 100 indicating that you are completely ill-at-ease about participating.

Please mark your number from 0 to 100 in this blank
Appendix H

FINAL QUESTIONNAIRE

EXPERIMENT "A"

NAME:

Thank you for your participation. Before you go, would you please answer the following questions?

Do you have any older brothers or sisters? ____

Do you think talking about the experiment helped to ease your mind? ____

Did you hear anything about the nature of the experiment before you participated? ____

Thank you again. We must ask that you do not discuss this experiment with anyone.
BIBLIOGRAPHY


Timmons, William M. "Sex Differences in Discussion," *Speech Monographs*, VIII (1941), 68-75.