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The Relationship Between Expectation, Belief, and Anxiety in a Speaking Situation

George (Tod) William Bossert

University of Tennessee - Knoxville

Recommended Citation

To the Graduate Council:

I am submitting herewith a dissertation written by George (Tod) William Bossert entitled "The Relationship Between Expectation, Belief, and Anxiety in a Speaking Situation." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Kenneth Newton, Major Professor

We have read this dissertation and recommend its acceptance:

Leo F. Droppleman, Wilhelmina Simmons, James A. Black

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)
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We have read this dissertation and recommend its acceptance:

Lee F. Dauplasse
William L. Jones
James M. Black

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research
THE RELATIONSHIP BETWEEN EXPECTATION, BELIEF, AND ANXIETY IN A SPEAKING SITUATION

A Dissertation
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Doctor of Philosophy
Degree
The University of Tennessee

George (Tod) William Bossert

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ABSTRACT

Subjects were given bogus test results that indicated they would be either "relatively calm" or "highly anxious" in a speaking situation. They were also given either an anxiety-okay belief or an anxiety-not-okay belief. The expectations and beliefs given subjects by the experimenter were called manipulated expectations and beliefs. Subjects also filled out forms indicating whether they expected to be calm or anxious and whether they believed anxiety was or was not okay. The expectations and beliefs of the subject were called prior expectation and beliefs.

Each subject was given an expectation and a belief and then requested to make a three minute speech before the experimenter and his two assistants. During the speech, four measures of anxiety were taken: a self-rating scale, two behavioral measures, and a physiological measure. The following results were found:

1. Subjects with a prior expectation of being calm exhibited significantly less anxiety on self-rating and two behavioral scales of anxiety than those given anxious expectations. Although in the expected direction, there was no significant differences on finger sweat print anxiety.

2. Those subjects given a calm expectation by the experimenter were significantly less anxious on self-rated anxiety than those given an anxious expectation. There were no significant differences on the other anxiety measures.

3. There were no significant differences between the belief message given, either prior or manipulated, and any of the anxiety measures.
outcome measures. However, all relationships were in the expected direction.

4. Belief was a significant factor in self-rated anxiety when its interaction with expectation was analyzed. In combination with the calm expectation, subjects given an anxiety-okay message were significantly less anxious than subjects given an anxiety-not-okay message. However, in combination with the anxiety expectation, there was no significant difference between subjects given an anxiety-okay or an anxiety-not-okay message.

An analysis of the results indicated that expectation manipulations may be important first steps which increase the likelihood of persons putting themselves in feared situations. Once in such situations, the effects of habituation, reinforcement, and repetition of expectations might then influence behavioral and physiological measures of anxiety initially unresponsive to expectation and belief manipulations.
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CHAPTER I

INTRODUCTION

Anxiety is a serious problem in present day society. It has been used as an explanatory concept in almost all theories of personality and has been considered responsible for many behavioral problems. Anxiety has, for example, been considered a primary causative agent for insomnia, psychosomatic disorders, alcoholism, drug abuse, hostility, and habitual smoking. What is anxiety related to and how can individuals be helped to decrease their anxiety level?

It is this researcher's position that there are two factors which contribute to anxiety: an individual's "expectation" and his "belief." The word "expectation" is being used with reference to a future outcome and the word "belief" to refer to an attitude with no particular reference to the future. It can be said, then, that an individual expects to be anxious in a certain situation (future reference) and believes it is terrible to appear anxious (no future reference).

With respect to the present study, one of two possible expectations will be given: (1) that the subject will be relatively calm in a simulated public speaking situation, or (2) that the subject will be anxious in a simulated public speaking situation. One of two possible beliefs will also be given: (1) that it's okay to experience or show anxiety, or (2) that it's not okay to experience or show anxiety.

The purpose of this investigation will be to demonstrate that speaking anxiety is related to the expectation and belief given subjects by the experimenter and to the prior expectations and beliefs held by
the same subjects. More specifically, it is being suggested that subjects given the expectation they will be relatively calm in a speaking situation and the belief it's okay to experience or show anxiety will be less anxious than subjects given the expectation they will be anxious and the belief it's not okay to experience or show anxiety.

If this proves correct, it may, then, be possible to help individuals decrease their anxiety by helping them to change their expectations and beliefs. Ellis (1962) emphasizes the importance of beliefs in his theory of personality and psychotherapy. He holds that persons who believe that "one should be thoroughly competent, adequate, and achieving in all respects" is likely to be anxious in many situations (Ellis, 1961, p. 92). This anxiety will be the result of repeating such sentences as: "Wouldn't it be terrible if I looked foolish? . . . I couldn't stand it. . . . What a no-goodnik I would be." Ellis attempts to change these thoughts or beliefs which he contends are the primary causative agents in anxiety.

Beck (1967), in studying the relationship between cognitive factors and depression, found that it was not primarily the number of negative childhood events which contributed to later depression, but beliefs about these events. For example, one child might conclude that when he is criticized for poor behavior, this makes him a bad person, while another child might conclude that his act is wrong but that he is no less of a person for his mistaken act. The first child, as a consequence of condemning himself for his wrong act is more likely to become depressed than the second child. Beck demonstrated that it is not the situation alone which influences the likelihood of later
depression, but the individual's view or belief about that situation.

Arnold Lazarus (1971), in his recent book *Behavior Therapy and Beyond*, has put increasing importance on cognitions as being important factors in emotional arousal. The two factors he considers of primary importance are beliefs and what he calls "anticipatory processes" (expectations). Much of his therapy is based on changing these two cognitions.

The study differs from many others in that it involves experimental manipulation, both of expectations and belief, with a concomitant analysis of the effect on anxiety.
CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature relevant to the current research will cover two major areas: (1) the relationship between expectation and anxiety, and (2) the relationship between belief and emotion.

The Relationship Between Expectation and Anxiety

A large number of studies have been done on the relationship between expectation and anxiety using desensitization as the basic model. In general, these studies involve a number of snake-phobic groups, with half the groups given the expectation that the desensitization procedure would result in reduced anxiety and the other half not given this expectation. The two groups, one with the expectation and the other without, go through the identical desensitization procedure and are then compared on the actual reduction of anxiety to snakes.

Studies such as these have indicated that expectation is of some importance in the desensitization procedures, but the degree of its importance varies with the criterion measures of anxiety employed. The following criterion measures have been utilized:

Behavioral Measures

These measures involve a comparison between groups given and not given an expectation of reduced anxiety on approach distance from the feared object. The score is usually a difference score between pre-experimental approach distance and post experimental approach distance (after desensitization procedures). Based on procedures
similar to those described, five studies report that expectation is an important factor in decreasing anxiety (Borkovek, 1971; Efran and Marcia, 1967; McGlynn, Mealer, and Nawas, 1969; Oliveau, Agras, Leitenberg, Moore, and Wright, 1969; Rugel, 1972). However, five studies report no significant relationship between expectation and anxiety (Cataldo, 1971; Jaffe, 1969; Leitenberg, Stewart, and Barlow, 1969; Paul, 1966; Woy, 1972).

Self-Report Measures

These measures involve the subject's rating, typically on a scale, of his subjective level of experienced anxiety. With self-report measures utilized, five studies report positive results (Cataldo, 1971; Jaffe, 1969; Rugel, 1972; Weber, 1972; Zuckerman and Link, 1968). However, as with behavioral measures, five studies also report negative results (Borkovek, 1971; Efran and Marcia, 1967; Leitenberg, Stewart, and Barlow, 1969; Paul, 1966; Woy, 1972).

Physiological Measures

Some of the typical physiological indices of anxiety utilized in expectation research are galvanic skin response, sweat prints, heart rate, pulse rate, etc. When using this type of anxiety criterion measure, only one study reports a significant relationship between expectation and anxiety (Cooley, 1972). Five studies report negative results (Borkovek, 1971; Leitenberg, Stewart, and Barlow, 1969; Rugel, 1972; Woy, 1971; Woy, 1972).

Behavioral Ratings by Others

These measures refer to ratings by judges on how anxious experimental subjects appear to be. Only two studies could be located, both
of which indicate a significant relationship between expectation and anxiety (Efran and Marcia, 1967; Woy, 1972).

Why the Difference in Results?

There are a number of variables which might account for the conflicting results. First, timing may be an important factor. The expectation of decreased anxiety may be given before, during, or after the desensitization procedure, or in any combination of the three. While it is clear that most studies cited so far give the expectation before the experimental procedure, it is not clear whether the expectation is repeated during or after the desensitization procedure. The number of times the expectation is given might also be of importance. It is likely that the expectation message will be most effective if given immediately prior to desensitization, so as to limit retroactive inhibition, and a number of times during the procedure as well. This change would be expected to influence all anxiety measures.

Physiological measures of anxiety have fared poorly for a number of reasons. Borkovek (1971) found that at the same time subjects were physiologically more anxious, they made more approaches to the feared object. Rugel (1972) found that at the same time subjects were physiologically more anxious, they made both greater behavioral approaches to the feared object and reported they were less anxious. It is important to note that in both of these studies, as in many others cited, distance from the feared object was not controlled for at the time physiological measures of anxiety were taken. It is, for example, deceiving to take the same physiological readings for one individual now able to handle the feared object with another individual remaining 20 feet from the feared object. A more accurate measure would require that
physiological readings be taken at identical distances from the feared object. If done, some studies which reported negative findings might have reported positive.

Physiological measures might also suffer from the fact that individuals experience physiological anxiety in different ways. In a comprehensive review of the literature on the relationship between physiological measures of anxiety, Martin (1961) reports that this relationship tends to be low. In the studies cited so far, most used just one measure of physiological arousal. It is possible that this one measure did not accurately reflect each individual's unique way of experiencing physiological anxiety. It is, therefore, being recommended that future research in physiological arousal take numerous physiological readings and combine them for an average score. Another possibility would be to take the highest physiological index for each person and consider this the physiological anxiety level.

In regard to self-report measures, confusion arises with respect to the subject's reference point when he gives his estimate of anxiety. If he assumes that because of his improved approach to the feared object, he must necessarily be less anxious, he will report this. If, however, he focuses primarily on the internal signs of physiological arousal as he is now able to manipulate the feared object, he may report more anxiety. Here again, as with the physiological measures, it would be important to control for distance from the feared object when self-report measures are taken.

Another reason that studies have not reported more consistently positive results is that they have not reported expectation effects across measures. Woy (1972), in studying the influence of expectation
on speech anxiety found that only one of six measures yielded positive results (ratings by judges) but that all six measures were in the predicted direction \( (p = .03) \). The author concludes that there is a modest expectation effect across measures. It is possible, then, that some of the studies using a fairly large number of multiple criteria would have found expectation effects if cross measure reports were utilized.

It is important to note that there are actually two types of positive expectations. One expectation is that the procedure employed is for the purpose of reducing anxiety. A second expectation is that the procedure employed has been proven an effective one in anxiety reduction. While studies typically given the first expectation, it is unclear as to how many gave the second expectation. It is being suggested that both expectations, that the purpose of the procedure is to reduce anxiety and that the procedure has been proven an effective one, will result in a greater anxiety decrease than either one given alone.

Two Additional Studies

Sternbach (1964) did an interesting study which did not utilize desensitization. He studied the effects of instructional set (expectation) on autonomic responsivity. Three groups were given different expectations with respect to the effect of noise on shock. One group was told that noise would decrease the pain from shock, a second group that noise would increase the pain from shock, and the third group that noise would have no effect on the pain associated with shock. Outcome measures were palmar skin resistance, heart rate, and finger pulse
volume. Significant differences in the predicted direction were found among the three groups.

Sternback (1964) followed up this study with a drug study on six college students. Each subject was given the same placebo drug under three different conditions: the expectation that the drug was a stimulant and increased stomach motility, the expectation that the drug was a relaxant and decreased stomach motility, and the expectation that the drug had no effect on stomach motility. An analysis of variance indicated that expectation had a significant effect upon stomach motility. Stomach motility was greatest under the stimulant expectation, second greatest under the neutral expectation, and least under the relaxant expectation.

Why the Public Speaking Situation?

The public speaking situation for the purpose of measuring the relationship between expectation and anxiety is believed to have a number of advantages. First, the properties of public speaking can be produced in the controlled conditions of the laboratory (Droppleman and McNair, 1971). Second, since all persons experience anxiety in relation to public speaking, pretesting of public speaking anxiety is unnecessary. Third, there is no problem of controlling distance from the feared object. Fourth, public speaking has significance and practical appeal to most persons. One can, for example, avoid snakes without practical loss. It is considerably more difficult to avoid speaking before others, particularly in certain occupations.
Summary of Review of the Literature on Expectation

In general, expectation has been shown to have a moderate effect on anxiety. The use of different outcome measures, different types of expectations, and the lack of detail on the timing and number of expectations given are some of the reasons it has been difficult to compare studies. The following suggestions are offered: that larger samples be used; that the expectation be given just prior to engaging in an anxiety situation and that it be given more than once; that distance from the feared object be controlled for when anxiety measures are taken; that expectation effects be analyzed across measures; and that prior, as well as manipulated, expectation be utilized in relation to anxiety outcome measures. This study will employ most of the above suggestions.

The Relationship Between Belief and Emotion

A number of studies in diverse areas indicate that beliefs have physiological counterparts. With some exceptions, the results tend to be positive. In light of these results, it is surprising that more theories of psychotherapy have not utilized beliefs to help individuals decrease negative emotions.

Prejudice and Emotion

A number of studies have been done on prejudice (negative beliefs about certain groups) and autonomic responsivity. Westie, Fleur, and Melvin (1959) found that greater GSR's were given by prejudiced white persons to black slides than by non-prejudiced white persons. Cooper and Pollack (1959) reversed the above procedure by obtaining GSR measures first and found that persons with the highest GSR's to complimentary statements about an ethnic group were most prejudiced toward that ethnic
group. In a similar and more recent study, Dickson, Hollida, and McGinnies (1966) related attitude toward the church to emotional arousal. They found that both pro and anti church attitudes generated higher GSRs when they heard messages contrary to their belief.

In short, there is evidence indicating that a negative attitude toward a certain group is related to higher GSRs toward both pictures of and complimentary statements about that group.

Acceptable and Unacceptable Attitude Statements and Emotion

A number of studies in combination indicate that GSR responses and electrocardiograph measures were higher for subjects given messages contrary to their beliefs (Katz, Cadoret, Hughes, and Abbey, 1965; Snoek and Marian, 1967; Ward and Carlson, 1964).

These findings might be expected to complicate this investigation. This would be particularly true, for example, when subjects with a prior belief that it's not okay to be anxious are told by the experimenter that it's okay to be anxious. Since this message is contrary to their prior belief, the above findings suggest a resultant increase in anxiety. It is this investigator's opinion, however, that increased anxiety results not so much from contrary beliefs as from contrary beliefs that subjects do not wish to believe. With respect to this study, it is being suggested that subjects wish to be calm in a speaking situation and to believe that if they are anxious, that's okay. Consequently, when a contrary message is given, the desire to believe the contrary message will inhibit the increase in anxiety predicted from the above studies.

In the previous mentioned study by Snoek and Marian (1967) on
agreement-disagreement statements, it is relevant that they found "dogmatism" an important variable. "Dogmatism" refers to "a set of highly organized beliefs, usually derived from authority and reflecting closed-mindedness" (from Hollander, 1967, p. 294). He found that high dogmatic individuals manifested more GSR emotional arousal to all statements read to them: statements they agreed with, mildly disagreed with, and strongly disagreed with.

The Relationship of Belief to Certain Emotions Causing Bodily Diseases

In one of the first studies on the relationship between beliefs, emotions, and bodily diseases, Grace and Graham (1952) found that arterial hypertension (believed due to anxiety) is related to beliefs such as "Nobody is ever going to beat me... I had to be ready for anything." In their study of the relationships between beliefs, emotions, and 12 different diseases, they conclude that: "Each of these conditions was associated with a particular... attitude toward the precipitating situation. There were, in other words, physiological changes specific to each attitude... It is proposed that emotion be defined as an attitude with its associated physiological changes" (p. 250).

While the above study employed no experimental manipulation procedures, other studies have used manipulation to demonstrate the relationship between beliefs and physiology. Graham, Stern, and Winokur (1958) gave hypnotized subjects either a Hives' attitude or a Raynauds' attitude. The Hives' attitude consisted of the belief that the subject was being unjustly treated and could think of nothing he wanted to do about it, and the Raynauds' attitude consisted of the belief that the subject was being mistreated and wanted to hit and strangle the experimenter. Their prediction that the Hives' attitude
would result in a rise in skin temperature and the Raynauds' attitude to a fall in skin temperature was confirmed.

Stern, Winokur, Graham, D., and Graham, F. (1961) also used hypnosis and studied the Hives', Hypertensive, and Raynauds' attitudes. The Hypertensive attitude consisted of the belief that the subject had to be on guard against bodily assault. They found that, as predicted, diastolic blood pressure (a measure of anxiety) rises under the Hypertensive attitude and falls with the Raynauds' attitude.

Graham, D., Kabler, and Graham, F. (1962) gave hypnotized subjects either the Hives' or Hypertensive attitude. As in previous studies, they found that skin temperature rose more with the Hives' attitude than the Hypertensive and that diastolic blood pressure rose more with the Hypertensive than the Hives' attitude. However, there were no differential effects of the two attitude suggestions on systolic blood pressure, heart rate, or respiratory rate.

The results of the above studies give evidence that beliefs can influence emotion. It is worth noting that the findings by Grace and Graham (1952) referred to earlier that subjects with hypertension tended to have beliefs reflected by the statement "Nobody is ever going to beat me" is similar to a belief which will be given to subjects in this study: that they shouldn't show their anxiety and that they have to perform just right. It is beliefs such as these which emphasize performance that are considered important in influencing anxiety.

Orienting Information, Beliefs, and Emotional Arousal to Stressor Films

Lazarus and Alfert (1964) predicted that a stimulus, in this case a stressor film depicting a gruesome and primitive surgical operation,
might or might not create anxiety depending upon the cognitive appraisal (belief) the individual has about the stimulus. Two groups were studied, one given a denial or reaction formation message which played down the gruesomeness of the film and the other group given no prior belief about the film. With skin resistance, heart rate, and self-report indices employed as outcome measures, the investigators found that the denial-reaction formation group exhibited less anxiety on all three outcome measures.

In a follow-up study, Lazarus, Optom, and Markellos (1965) assigned subjects to either a denial, intellectualization, or control group. The movie shown all three groups was a gruesome movie depicting an industrial accident in which a worker amputates two joints of a finger in a milling machine. The denial group was lead to believe that what they saw was just actors and that no one was really hurt; the intellectualization group was lead to believe that the purpose of the movie was to focus on the psychodynamics of the methods the foreman used to motivate his men; and the control group was told nothing. With heart rate and skin conductance the measures of anxiety, the intellectualization group exhibited the lease anxiety, the denial group was intermediate, and the control group exhibited the most anxiety. The authors conclude: "... orienting information which influence beliefs (underlining mine) about or attitudes toward the film can reduce the stress induced by the film. The cognitive appraisal of the significance of what is apprehended is crucial in determining the emotional reaction to a stimulus" (p. 364).
Two Studies Directly Relevant to the Present Investigation

Malmo (1965) studied two groups on their ability to perform on a tracking apparatus (time on target). One group was given the belief that it was very important to do well and that they had to beat their previous best performance on the tracking apparatus (high incentive group). The second group was told that excellent performance was not an important consideration (low incentive group). With palmar conductance, heart rate, and finger print used as measures of anxiety, all three outcome measures indicated that the high incentive group exhibited significantly more anxiety.

The above study is similar to the one being done by this researcher. For example, in this investigation one group will be lead to believe that if they experience or show some anxiety, that's okay; they don't have to perform just right. A second group will be lead to believe that if they begin to experience some anxiety, they shouldn't show it; that they have to perform just right. As in Malmo's study, it is important to note that the present investigation involves no actual punishment to the subjects for a poor performance. This is important because it points to the fact that many beliefs are accepted without evaluating the validity of the beliefs in relation to reality.

Another study directly relevant to this research was done by Rimm and Livak (1969) in an investigation of Ellis' theory of Rational-emotive psychotherapy. In studying the effect of self-verbalization on emotional response, they had one group repeat to themselves such sentences as: "My grades may not be good enough this quarter. . . . I might fail out of school. . . . That would be awful." The control group repeated such thoughts as: "Inventors are imaginative. . . . Edison was
an inventor. . . . Therefore he was imaginative." Results indicated that the first group experienced significantly more anxiety as measured by respiration measures and approached significance as measured by the GSR. Another part of the study did not support Ellis' theory and the authors report moderate validation for Rational-emotive therapy.

The belief "Wouldn't that be awful" is very similar to the belief "I mustn't show my anxiety." In the same way that those individuals who repeat "Wouldn't it be awful" are more anxious than those not repeating these beliefs, it is being suggested that persons believing "I shouldn't be anxious" will be more anxious than those believing it's okay to be anxious.
CHAPTER III

METHOD

Subjects and Initial Testing Procedures

The sample for this study was taken from two Introductory Psychology classes at the University of Tennessee. In class, students were administered three tests of anxiety by the experimenter: the 28 item Taylor Manifest Anxiety Scale, the 30 item PRSC scale by Gordon Paul, and a 27 item test of apparent anxiety (see Appendix C for copies of all three tests). They were also administered two 1-9 point semantic differentials, one on their prior expectation of the degree of anxiety they would experience in a public speaking situation and the other on their prior belief of how terrible it would be if they did appear obviously anxious in a public speaking situation (see Appendix E). The anxiety tests for this study were chosen because they had face validity and could be administered in a 20 minute time limit. Before the students were administered the tests, they were given the following instructions:

All persons experience anxiety in a variety of different situations. I am doing an investigation of some tests which have been proven quite good in predicting anxiety in such situations. I am attempting to find how these tests might be combined to yield the best possible prediction. I would very much appreciate your cooperation in completing these tests. The results will be confidential, as I will be the only one having access to your scores. As another part of this study, you will be contacted by phone to see if you are willing to participate further in a 15 minute research project on anxiety. For those of you who are willing, Mr. _______ has notified me that he is willing to add three extra points to your final grade. While it is likely that I will be able to use almost all of you in my research, there is a possibility that some of you who take the initial tests will not be included in the second part of this study. You see, I only
need a certain amount of subjects. Whether you are included in this study will be determined entirely by chance, like drawing names from a hat. Are there any questions?

The tests were not scored but were used as evidence to support later expectations given to subjects on their anxiety level.

Groups

After initial testing, 78 subjects were randomly assigned to one of four groups based on the expectation and belief given to them by the experimenter. Two of the groups had 20 subjects and the other two had 19 subjects. The groups were:

**Group I.** This group was given the expectation that they would be relatively calm and the belief that if they experienced or showed some anxiety, that was okay; they didn't have to perform just right. This was designated the C-AO group, for the calm expectation and the anxiety-okay belief.

**Group II.** This group was given the expectation that they would be relatively calm and the belief that if they experienced some anxiety, they shouldn't show it; that they had to perform just right. This group was called the C-ANO group, reflecting the calm expectation and the anxiety-not-okay belief.

**Group III.** This group was given the expectation that they would be anxious and the belief that when they experienced or showed some anxiety, that was okay; they didn't have to perform just right. This group was called the A-AO group, for the anxiety expectation and the anxiety-okay belief.
Group IV. This group was given the expectation that they would be anxious and the belief that when they experienced this anxiety, they shouldn't show it; that they had to perform just right. This was called the A-ANO group, reflecting the anxiety expectation and the anxiety-not-okay belief.

Instructions and Experimental Manipulation Procedures

Subjects tested in class and randomly assigned to one of the four groups discussed were contacted by phone for the second part of this research. The previous testing in class was used as evidence for either a calm or anxiety expectation. The evidence for each test was presented in the form of semantic differentials, with number 1 representing most calm and number 9 representing most anxious. For the relatively calm expectation, the numbers 2, 3, and 2 were presented in that order. For the anxiety expectation, the numbers 8, 7, and 8 were presented in that order. All subjects made a three minute speech while their finger sweat prints were taken and they were observed by the experimenter and his two assistants. The experimenter and his two assistants filled out a behavioral anxiety checklist and behavioral impression anxiety scale during the three minute speech presentation.

The subjects were given expectations and beliefs based on which of the four groups they had been assigned. The message given was identical for each group, except for the different expectation and belief given by the experimenter. For example, group I, the group given the calm expectation and the anxiety-okay belief (C-AO) was given the following message:
Thank you for participating in this study. I bet you're wondering what this is all about (subject given chance to respond). I'm studying the relationship between speech and anxiety. The three tests you took in class have been proven good predictors of anxiety in speaking situations, but they have only been used individually. I am trying to see if three good tests used in combination will predict anxiety even better than any one of them alone. So what I'm going to ask you to do is to make a three minute speech during which time your finger sweat print will be taken and you will be observed by myself and my two assistants who are across the hall and will be called in shortly.

Before proceeding, it's a university regulation that subjects who participate in research sign a consent form. Please read the consent form, and here's a pencil for you (subject given form).

Okay, the first thing we'll do is to take a look at your test scores (test scores put in front of subject). Your tests have been converted to semantic differentials so that you can understand them better. As you can see one end of the scale indicates relative calmness and the other end high anxiety. You have scored a 2 on the first test, indicating you'll be relatively calm. This does not mean that you won't experience some anxiety. We know from past research that all persons experience some anxiety when speaking before others, so you can expect to experience some. What your test does indicate is that, in comparison to others, you'll experience less anxiety than they would. On the second test you scored a 3, which indicates slightly more anxiety but still below the average which is 5. And on the third test, you've scored at the two level again, so that our overall prediction for you is that you'll be relatively calm. Do you have any questions (questions answered matter of factly)?

At this point, the experimenter takes the subject behind a desk to get him set up with the finger sweat print. The subject is asked to extend his right index finger and a ferric-chloride solution is applied (the finger-sweat print procedure is described in full by Droppleman and McNair, 1971). After 30 seconds, the subject is asked to place his index finger from the first crack on up onto the sweat print. As the experimenter wraps the tape around the subject's index finger, he says:

All persons experience some anxiety when talking before others. If you begin to feel or show some, that's okay; you don't have to do this just right.

The subject is then asked to come over to the middle of the
floor, so that the desk does not block the subject from view and so that he cannot use the desk for support. The experimenter then calls in his two assistants who have been waiting in a room across the hall and introduces the subject to the assistants. The experimenter and his assistants seat themselves facing the subject and the experimenter then notifies the subject he has about 15 seconds to decide what he wishes to talk about. The experimenter sets a bell timer for three minutes.

At the end of three minutes, the bell rings, the two assistants leave, and the experimenter removes the finger sweat print. He then requests that the subject be seated. The experimenter then gives the subject a self-rating scale and says:

I'd like you to check how anxious you felt during your speech. At one end of the scale is the number 1, which indicates very little anxiety, and at the other end of the scale is the number 9, which indicates very high anxiety. Please put a check mark above that number which indicates how anxious you felt.

For the groups given the anxiety expectation, the numbers 8, 7, and 8 were substituted for 2, 3, and 2, and each time the word "calm" was used in the above example, the word "anxious" was substituted.

For the groups given the anxiety-not-okay message, they were told "When you do experience some anxiety, you shouldn't show it; you have to do this just right." This message was substituted for the anxiety-okay message given in the above example.

Debriefing

After the subject completed the anxiety self-rating scale, he was given the following debriefing message:

Now that you have completed this experiment, I'd like to tell you more about this study and get your reaction to it.
Because of the nature of my research, I was not able to be as honest with you as I would have liked to have been. I really have no way of knowing whether you would be anxious or calm during your speech. Your tests taken in class were never scored, nor were any one else's tests scored. What I was studying was expectation. My idea was that if I told people they would be relatively calm, they would be more likely to be calm than if I told them they would be anxious. To give you the expectation I did I, of course, had to have what looked like evidence. That is why it was necessary to present to you phony test scores.

The second aspect of this study dealt with beliefs. Do you recall what I said to you as I wrapped the tape around your finger (subject given opportunity to respond)? (If the subject recalls, "That's right" is substituted for "well"). Well, I told you ___________. Some subjects were given the message that it was okay to be anxious, that they didn't have to perform just right. Other subjects were given the belief it was not okay to be anxious, that they had to perform just right. My belief was that those persons given the message that it was okay to be anxious would put less pressure upon themselves to perform and, consequently, feel less anxiety than those believing it was not okay to be anxious.

I hope that the results of this study will be helpful to counselors and others who work with people, so that they will give them positive expectations and healthy beliefs.

I would very much like any questions or comments you have concerning this study (all questions will be answered honestly and matter of factly).

Okay, we're going to have to stop now. I would appreciate your not telling others the purpose of this experiment, as you could see how this would really hurt my results. I would also appreciate your not even telling them they will have to make a speech, because if you do, they will rehearse their speech and have an advantage that you and others who have participated in the study have not had. Thank you very much for helping me out.

Description of Outcome Measures

Four anxiety outcome measures were employed in this study: finger sweat print, self-rating, behavioral checklist of performance anxiety, and behavioral impression. A description of these measures follows:

Finger Sweat Print

The finger sweat print technique utilized in this study is described by Dropleman and McNair (1971). The rationale for this
physiological measure is that the more anxious the subject is, the more likely he will be to perspire and the darker the finger sweat print. In this study, the sweat prints were rated by this experimenter and his two raters. The three ratings were added into a physiological anxiety score.

Self-Rating

The self-ratings employed in this study were based on the subject rating himself on a 1-9 point scale, with 1 indicating little anxiety and 9 indicating much anxiety.

Behavioral Checklist for Performance Anxiety

The behavioral anxiety checklist was completed by the experimenter and his two assistants during the subject's three minute speech. It included items such as sways, swallows, moistens lips, stammers, etc. (see Appendix F). A pre-experimental decision was made that no item could be checked more than three times. The overall behavioral checklist score for each subject was based on the sum of the checks for the two assistant raters. The experimenter's behavioral checklist score was not included due to possible bias.

Behavioral Impression

This measure consisted of a 1-9 point scale which was included on the bottom of the behavioral checklist and was completed by the experimenter and his two assistant raters. This measure was included for the purpose of detecting those persons who might receive many checks but who just did not appear anxious on an impressionistic basis and for detecting those persons who received few checks but who appeared quite anxious on an impressionistic basis. The overall score for each subject was the
sum of the assistants' ratings. Again, the experimenter's ratings were not included due to possible bias.
CHAPTER IV

HYPOTHESES

1. Subjects with a prior expectation of being relatively calm will be less anxious than subjects with a prior expectation of being anxious.

2. Subjects with a prior anxiety-okay belief will be less anxious than subjects with a prior anxiety-not-okay belief.

3. Subjects given a relatively calm expectation will be less anxious than subjects given an anxious expectation.

4. Subjects given an anxiety-okay belief will be less anxious than subjects given an anxiety-not-okay belief.

The above hypotheses were tested by a two-way analysis of variance, which included an analysis of the interaction effect between expectation and belief.
CHAPTER V

RESULTS

Prior Expectation and Prior Belief

Table I, Appendix A, presents a summary of the 2 x 2 analysis of variance for prior expectation and prior belief. The dependent variables are four measures of anxiety, with intercorrelations ranging from -.036 between finger sweat print anxiety and self-rated anxiety to .756 between behavior checklist anxiety and behavioral impression anxiety.

Subjects with a calm prior expectation were significantly less anxious than subjects with an anxious prior expectation on three of the four anxiety outcome measures: behavioral checklist (p=.01), behavioral impression (p<.01), and self-rating (p<.01). Although in the predicted direction, the relationship between prior expectation and finger sweat print did not reach statistical significance.

The relationship between prior belief and anxiety, although in the expected direction, was insignificant on all measures of anxiety.

Manipulated Expectation and Manipulated Belief

Table II, Appendix A, presents a summary of the 2 x 2 analysis of variance for manipulated expectation and manipulated belief. The dependent variables are four measures of anxiety.

Subjects given a calm expectation were significantly less anxious on self-rated anxiety than subjects given an anxious expectation. However, the relationship between manipulated expectation and anxiety
was insignificant when measured by finger sweat print, behavioral checklist, and behavioral impression.

The direct relationship between manipulated belief and anxiety was insignificant on all anxiety measures. However, with self-rating the dependent variable, belief was a significant factor when its interaction with expectation was analyzed (p=.04). When the calm expectation is given, subjects given an anxiety-okay belief are significantly less anxious on self-rated anxiety than those given an anxiety-not-okay belief. However, when the anxiety expectation is given, there is no significant difference between subjects given an anxiety-okay or anxiety-not-okay belief (Figure I, Appendix B, depicts the interaction effect).

It should be noted that all relationships between manipulated expectation and anxiety and between manipulated belief and anxiety were in the predicted direction (Table III, Appendix A).

**Effectiveness of the Anxiety Outcome Measures**

In terms of the effectiveness of the anxiety outcome measures in depicting anxiety differences, all relationships for prior and manipulated expectation and belief were looked at in terms of the anxiety outcome measures. Three relationships were significant on self-rating, one each on behavioral checklist and behavioral impression, and none on finger sweat print.
CHAPTER VI

DISCUSSION

Hypotheses I and III--Expectation Hypotheses

Hypotheses I and III dealt with the relationship between prior expectation and anxiety and between manipulated expectation and anxiety.

The relationship between prior expectation and anxiety was significant on three of the four anxiety outcome measures. Subjects who expected to be anxious in a speaking situation both appeared more anxious on two behavioral scales and rated themselves as more anxious than subjects who expected to be relatively calm. In comparison to prior expectation, it is relevant to note that the relationship between manipulated expectation and anxiety was significant only when self-rating was the dependent variable and that behavioral and physiological indices did not support the self-rating finding.

This points to the importance of including multiple outcome measures in research studies. If only self-rating was used as the anxiety measure, as has been true in other studies, it would be too easy to conclude that there is a significant relationship between expectation and anxiety without looking more closely at the data. As Mischel (1968, pp. 85-87) has pointed out, the use of a single measure or even multiple measures of the same format (for example, all questionnaires) can lead to positive conclusions where, in fact, none exist. The use of more objective back-up measures of anxiety can either help to support or cast doubt upon more subjective self-ratings.
With respect to the relationship between manipulated expectation and self-rated anxiety, it appears clear that subjects who are told they will be either anxious or calm tend to report what they are told. What this means, however, requires closer inspection. Since the rationale presented for this study was to prove the validity of anxiety tests and since these tests were used to give subjects their expectations, subjects wishing to please the experimenter may have been disinclined to check an anxiety rating much different from the expectation given them. Future research might by-pass this problem by presenting a rationale which suggests no ego-involvement on the part of the experimenter. For example, subjects might be told that the researcher is investigating the effectiveness of tests in predicting anxiety, rather than attempting to prove their validity.

While, as discussed above, the self-ratings may have reflected a desire to please the experimenter, it would be too easy to gloss over the possibility that, at least initially, it is easier to change how people define themselves than how they behave or react physiologically. Although a change in how individuals define themselves, e.g. calm or anxious, may not initially influence physiology, it can influence the likelihood of individuals putting themselves in previously feared situations (Borkovek, 1971; Rugel, 1972). With time, then, it is possible that the habituation effect of making speeches and the opportunity to reinforce the speech maker may later influence behavioral and physiological measures initially unresponsive to manipulated expectation.

Even if the relationship between self-rated anxiety and
manipulated expectation represents, in part, an attempt to please the experimenter, research (Janis and King, 1954) has indicated that persons who commit themselves publicly to beliefs they do not necessarily believe are more likely to actually come to accept those beliefs than those not committing themselves. So that even manipulated self-ratings, which this study has indicated are not congruent with behavioral or physiological measures, may be a starting point for influencing how individuals eventually come to define themselves. With repetition in this process, behavioral and, possibly, physiological measures may be altered.

The idea of repetition deserves further comment. In retrospect, the fact that manipulated expectation was not significantly related to behavioral or physiological anxiety is not surprising. It may be that the effect of expectations is most potent when they involve many repetitions by numerous significant other persons over extended periods of time. Although the differences were small, it is relevant to note that all four of the relationships between manipulated expectation and the anxiety outcome measures were in the expected direction. It may be that additional expectations over a period of time would combine with habituation effects and reinforcement of the speech maker to have a greater influence on behavioral and physiological measures of anxiety. There is already evidence from this research that the re-definition of an individual's anxiety level can increase the likelihood of his putting himself in a feared situation. Once in this situation, the processes of repetition, habituation, and reinforcement may further decrease levels of anxiety.
The fact that prior expectation, in comparison to manipulated expectation, was significantly related to anxiety on three of the four measures lends support to the idea that repetition is an important factor. Since prior expectation is probably the result of all expecta-
tions to the present time, it is more likely than manipulated expectation to reflect the many repetitions of expectation necessary for maximum impact upon anxiety. The fact, then, that prior expectation appears more important than manipulated expectation, most particularly on behavioral anxiety indexes, would be predicted from the fact that prior expectation involves many more expectation repetitions.

In discussing repetition, this study points clearly to the problem with much present day research. Studies tend to be one-shot investigations with no follow-up for possible long term effects. What is needed is well planned and coordinated research efforts of a more longitudinal nature. In this way, variables can be studied over a period of time, and the possibility of repetition and other effects investigated. This will be discussed further in "Suggestions for Future Research."

Hypotheses II and IV--Belief Hypotheses

Hypotheses II and IV dealt with the relationship between prior belief and anxiety and manipulated belief and anxiety. There were no significant relationships between belief, either prior or manipulated, and anxiety on any of the outcome measures.

However, belief was a significant factor in self-rated anxiety when the interaction between belief and expectation was analyzed. When
the calm expectation is given, subjects given the anxiety-okay belief were significantly less anxious than subjects given the anxiety-not-okay belief. However, when the anxiety expectation is given, there is no significant difference between subjects given the anxiety-okay and the anxiety-not-okay belief (see Figure I in Appendix B).

The interaction effect appears to indicate that the belief message was received by those given a calm expectation but not by those given an anxious expectation. It may be that subjects given an anxious expectation were so anxious that they became cognitively pre-occupied with their anxiety and the anxiety-okay or anxiety-not-okay message was not received. This could be tested in future research by predicting that subjects given the anxiety expectation would be less likely to recall the belief given them than subjects given the calm expectation.

If anxiety should be shown to have a negative effect on auditory reception, as is being suggested, it would not only, in part, account for the interaction effect between expectation and belief, but suggest that manipulated expectation may show up more readily on self-rated anxiety scales and as deficits in auditory reception than on behavioral or physiological measures. In addition, if anxiety is such an inhibitor of auditory reception, it may be important that researchers and psychotherapists assure that the persons with whom they work are in a calm state before giving them messages.

The fact that none of the eight possible direct relationships between belief and anxiety were significant is surprising. As this study was carried out, belief was not demonstrated to be an important variable in influencing behavioral or physiological anxiety.
It should be noted, however, that, as with expectation, there was no possibility to investigate the effects of repetition and that all relationships between belief and anxiety were in the expected direction. In addition, there is evidence that there are a number of factors not investigated in this study which might increase the likelihood of subjects both receiving and accepting the validity of belief messages given them. To increase the probability of reception, timing of the belief message might be an important variable. Since anxiety is at a higher point just preceding speech making than at any previous time (Droppleman and McNair, 1971), and since anxiety may interfere with the reception of messages, it may be important to give belief messages earlier in an investigation when high anxiety is less likely to interfere with auditory reception. It is also possible that belief messages would be received more readily and have more impact if given singly and not in combination with other messages such as expectation. The giving of two messages in close proximity may have weakened the potency of each individual message. With respect to the acceptance of belief messages, the significance of the message giver to the subject might also be important. Subjects might receive but reject messages given to them by an experimenter with little personal significance to the subject. It is clear from the interaction effect between belief and expectation that some subjects both received and accepted beliefs given them. It is also clear that some subjects did not. If the significance of the message giver to the subject were greater (for example, a friend or relative), the impact of the message on the subject in terms of reception and, most importantly, acceptance might be greater.
By increasing the likelihood that messages are received and accepted as valid, the actual relationship between belief and anxiety could be more clearly delineated.

Suggestions for Future Research

1. To investigate the possibility that the giving of an expectation or belief may raise anxiety higher than the absence of an expectation or belief, future researchers might utilize a control group whose members make a speech but receive no expectation or belief. In an even more vigorous research design, subjects can be employed as their own control by obtaining baseline anxiety data from an actual speech. Then subjects can be given an expectation and belief, to be followed by a second speech. A comparison of baseline anxiety levels with anxiety levels after expectations and beliefs have been given can then be made.

2. It is important to note that studies employing only one measure of physiological anxiety, or only one anxiety measure, often fail to obtain significant results. This is, in part, true because the measure employed does not reflect each individual's unique way of exhibiting anxiety. It is known, for example, that the various physiological anxiety measures are not unitary (Martin, 1961), and that some persons exhibit physiological anxiety by sweating, others by an increase in heart rate, and still others by a change in respiration. It is, therefore, being suggested that future researchers pre-select individuals high in anxiety on the index that most accurately reflects this anxiety level. This will assure that anxiety as experienced by the specific
individual (and not as defined by the experimenter) is being measured, and will increase the probability of obtaining significant decreases in anxiety, if, in fact, expectation and belief are important factors in such a decrease.

It should be noted that pre-selection of subjects high in anxiety on specific indexes fits in well with the idea of establishing baseline data. Such pre-selection could be taken during baseline determinations by including a number of anxiety measurements and utilizing each subject's highest measurement as a comparison for improvement. The employment, then, of more than one anxiety measure is important not only, as pointed out earlier, to provide back-up data to support or cast doubt upon research findings, but also to pre-select high anxiety individuals on an index that most reflects this high anxiety.

3. In addition to the importance of taking baseline measurements and utilizing pre-selection procedures, future investigators might study the process of repetition by planning a series of carefully coordinated longitudinal studies. As this study has indicated, the problem with much of the research in psychology is that there is little follow-up. It would be quite easy, for example, to conclude that on the basis of this one study that manipulated expectation and manipulated belief are unimportant in determining behavioral or physiological anxiety level. However, it is quite possible that with follow-up studies involving many repetitions of expectations and beliefs that the small behavioral and physiological anxiety differences found in this study would be magnified.

Repetition effects might be studied via group feedback. The
group can give subjects planned feedback on whether the subject did or
did not appear anxious, or, more importantly, on whether the group
expected the subject to be relatively calm or anxious during his next
speech presentation. During a second presentation, the effect of group
feedback on anxiety can be investigated. This type of study could be
extended over a period of time and numerous speeches, so that expecta­
tion and belief effects would involve many repetitions by many indi­
viduals.

It should be noted that during a study of this length, there
would be the possibility of habituation and reinforcement effects
operating to decrease anxiety. That is, the subject is not only likely
to become less anxious as he familiarizes himself with the feared situa­
tion, but can receive group reinforcement for expectations in terms of
feedback that he did a good job or did not appear anxious. Whether the
researcher would wish to employ these processes for increased anxiety
reduction or to control for them, depends upon the purpose of the
study. What is important to note is that for the processes of repeti­
tion, habituation, and reinforcement to take effect, the individual
must be willing to put himself in the feared situation. This study
has presented evidence which indicates that expectations can be changed
and that such changes, for example, from more to less anxiety, increases
the likelihood of subjects putting themselves in previously feared
situations. Therefore, a change in expectation may be an important
first step in aiding persons to face their fears, at which time repeti­
tion of expectations, habituation, and reinforcement become important
in further reducing anxiety levels.
4. In order for messages given to subjects to have a significant effect on anxiety level, it is important that subjects both receive and accept the validity of messages given them. This research has presented evidence which indicates that subjects given anxiety expectations are unlikely to receive and accept belief messages given to them by the experimenter. Future researchers, therefore, might study variables that would increase the likelihood of subjects receiving and accepting the messages given them. Three of the variables would be: the significance of the message giver to the subject, the timing of the message, and the degree to which expectations given subjects can vary from expectations subjects presently hold.

The significance of the message giver could be investigated, for example, by varying the message givers for different matched groups. One group could receive expectation and belief feedback from fraternity members (significant others), and another group could receive the same expectation and belief feedback from strangers. A comparison on actual changes in anxiety could then be made between the two groups, with the prediction that greater changes will occur from feedback from the fraternity member group.

In addition to the significance of the message giver, the timing of the message may also be relevant. As stated, this research has indicated that subjects given high anxiety expectations rate themselves as more anxious and are less likely to receive belief messages given to them than subjects given calm expectations. Future researchers might investigate the time interval before an anxiety arousing situation in which belief messages are most likely to be received and remembered.
by subjects. This would be interesting in that belief messages given too late might result in anxiety interfering with reception of the message, and belief messages given too early might be forgotten through retroactive inhibition.

Just as important as the reception of messages is the acceptance of the validity of those messages. In retrospect, the acceptance by subjects of the messages given to them in this study might have been increased if the words "will experience less than average anxiety" were substituted for the words "relatively calm" when the calm expectation was given. Subjects may have had difficulty associating the word "calm" with making a speech in the presence of three persons taking behavioral anxiety measures. In addition, when giving supposed test results, in order to take into account the subject's initial state, it might have been advantageous to change calm expectation rating scales from 2, 3, 2, to 3, 4, 3. The higher numbers may be more believable and more accurately represent the amount of anxiety subjects expect to experience. Both suggestions point to the importance of future research investigating the degree to which expectations given to subjects can vary from expectations subjects presently hold. It is likely that there is a point beyond which subjects will not accept expectations too different from their own, inasmuch as such expectations would be unlikely to fit with their real life experiences.

5. While a fair amount of research has been done on the relationship between expectation and anxiety and some on the relationship between belief and anxiety, there has been a scarcity of research on the effect of expectation and belief on other emotions, such as
depression and hostility. If the variables suggested above are proven
important in changing expectations and beliefs and, subsequently,
anxiety, more distant research might then apply the same principles to
the emotions of hostility and depression.

In summary, it has been suggested that researchers pre-select
subjects high on anxiety and obtain baseline data for a variety of
anxiety indexes. In addition to these methodological considerations,
it has also been suggested that researchers might study the following
variables: repetition, the significance of the message giver, the
timing of expectation and belief messages, and the amount of variance
between manipulated and prior expectation most conducive to anxiety
change.

Implications for Psychotherapy

It does appear clear from this research that persons given calm
expectations and anxiety-okay messages will more likely rate themselves
as experiencing less anxiety than those given other messages. There
is also some evidence which suggests that persons reporting a decrease
in subjective anxiety are more likely to put themselves in situations
they had previously feared. Once in the feared situations, the prin­
ciples of repetition of expectations and beliefs, habituation, and feedback via reinforcement might then effect behavioral and physiological
anxiety.

In lieu of the above findings it is being suggested that
therapists give patients realistic positive expectations and anxiety­
okay beliefs. For example, the patient who is fearful of social
situations can be told that there is a good chance he can overcome his fear but that if he experiences some anxiety or difficulty in doing so, that's okay; he doesn't have to be perfect and overcome all things.

In giving such expectations and beliefs, there are a number of guidelines the therapist might follow. Since this research has indicated that anxiety expectations increase reports of subjective anxiety and decrease the likelihood of receiving belief messages, it would be inadvisable to give high anxiety expectations to patients. In contrast to high anxiety expectations, this research has indicated that a relatively calm expectation will likely decrease reports of subjective anxiety, increase the probability of patients putting themselves in feared situations, and increase the likelihood of patients receiving anxiety-okay messages.

However effective calm expectations may be in decreasing reports of subjective anxiety, it should be noted that it may not be very effective to give calm expectations to persons whose previous experiences have been highly anxiety provoking. Such expectations may be so discrepant with the patient's real life experiences that they will not be accepted. The most effective use of expectation might involve the individualization of expectations, so as not to differ too greatly from the patient's own expectation. For example, the patient who expects to be highly anxious in a speaking situation might be told: "Of course you'll experience some anxiety. All people do (or, that's okay). But my guess is that it's going to be much less anxiety than you expect and, as you continue to put yourself in speaking situations, we know from past research that you'll experience less and less until the time will
come that you'll probably experience very little." In this way, the patient's anxiety is not denied, but he is given an expectation which not only includes the suggestion of decreased anxiety for his next speaking encounter but of additional decreases for future ones as well.

Since this research has presented evidence that anxiety interferes with the reception of messages, it may be important for the therapist to relax a highly anxious patient so that therapeutic messages are received. This may involve short desensitization procedures, deep breathing exercises, the use of relaxation fantasy, or whatever procedure is helpful in relaxing the patient. If relaxation procedures are not employed, the therapist should be aware that the highly anxious subject may not be receiving all he says.

It should be noted that the psychotherapeutic process involves a patient-therapist relationship which offers a number of unique qualities which were not part of this research and which would be likely to increase the effect of expectation and belief messages on anxiety.

First, the therapist has an opportunity over a period of time to build a relationship in which he becomes a significant other in the patient's life. The patient who likes and trusts his therapist may be more likely to receive and accept expectations and beliefs suggested to him by the therapist. Second, because of the ongoing nature of the patient-therapist relationship, the therapist is in a position to give numerous expectations and beliefs in such a way as to maximize the effects of repetition. Third, the therapist can reinforce the patient for decreased anxiety in a feared situation or, if such a decrease in fear does not occur, for the patient's courage in putting himself in the
feared situation. Fourth, expectations given to patients can be individualized, so as not to be too greatly different from previous expectations. In this way, expectations given to patients may be more likely accepted. Fifth, patients are more likely to be highly anxious than non-patients. Therefore, pre-selection has occurred naturally, and the probability that expectation and belief messages would effect anxiety is increased.

Because of the above factors, the chances of the therapist being an effective change agent are increased. In summary, it has been suggested that the effective therapist give positive expectations and anxiety-okay beliefs, that he avoid giving high anxiety expectations, that he individualize expectations, that he relax the highly anxious patient before giving belief messages, and that he reinforce decreases in anxiety or, if not reported, the patient's courage in putting himself in the feared situation.
REFERENCES
REFERENCES


APPENDIXES
APPENDIX A

TABLE I
ANALYSIS OF VARIANCE OF FOUR MEASURES OF ANXIETY AS A FUNCTION OF PRIOR EXPECTATION AND BELIEF

<table>
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*P<.05
**P<.01

50
### TABLE II

**ANALYSIS OF VARIANCE OF FOUR MEASURES OF ANXIETY AS A FUNCTION OF MANIPULATED EXPECTATION AND BELIEF**

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<tr>
<th>Source of Variation</th>
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*P<.05  
**P<.01
### TABLE III

**ANXIETY OUTCOME MEASURE MEANS AS A FUNCTION OF EXPECTATION AND BELIEF**

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<thead>
<tr>
<th>Source</th>
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<th>B-IMP</th>
<th>S-R</th>
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### TABLE IV

**ANXIETY OUTCOME MEASURE MEANS AS A FUNCTION OF PRIOR EXPECTATION AND PRIOR BELIEF**

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<tr>
<td><strong>Overall Means</strong></td>
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<td>28.526</td>
<td>32.939</td>
<td>11.602</td>
<td>5.974</td>
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</table>
Figure 1. Mean amount of self-rated anxiety.
APPENDIX C

TEST A

Name (Print): Date: Phone:

This instrument is composed of 30 items regarding your feelings of confidence as a speaker. After each question there is a "true" or "false."

Try to decide whether "true" or "false" most represents your feelings associated with your most recent speech; then put a circle around the "true" or "false." Now go ahead, work quickly, and remember to answer every question.

1. I look forward to an opportunity to speak in public. T F
2. My hands tremble when I try to handle objects on the platform. T F
3. I am in constant fear of forgetting my speech. T F
4. Audiences seem friendly when I address them. T F
5. While preparing a speech I am in a constant state of anxiety. T F
6. At the conclusion of a speech I feel that I have had a pleasant experience. T F
7. I dislike to use my body and voice expressively. T F
8. My thoughts become confused and jumbled when I speak before an audience. T F
9. I have no fear of facing an audience. T F
10. Although I am nervous just before getting up I soon forget my fears and enjoy the experience. T F
11. I face the prospect of making a speech with complete confidence. T F
12. I feel that I am in complete possession of myself while I am speaking. T F

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13. I prefer to have notes on the platform in case I forget my speech.  T  F
14. I like to observe the reactions of my audience to my speech.  T  F
15. Although I talk fluently with friends I am at a loss for words on the platform.  T  F
16. I feel relaxed and comfortable while speaking.  T  F
17. Although I do not enjoy speaking in public I do not particularly dread it.  T  F
18. I always avoid speaking in public if possible.  T  F
19. The faces of my audience are blurred when I look at them.  T  F
20. I feel disgusted with myself after trying to address a group of people.  T  F
21. I enjoy preparing a talk.  T  F
22. My mind is clear when I face an audience.  T  F
23. I am fairly fluent.  T  F
24. I perspire and tremble just before getting up to speak.  T  F
25. My posture feels strained and unnatural.  T  F
26. I am fearful and tense all the while I am speaking before a group.  T  F
27. I find the prospect of speaking mildly pleasant.  T  F
28. It is difficult for me to calmly search my mind for the right words to express my thoughts.  T  F
29. I am terrified at the thought of speaking before a group of people.  T  F
30. I have a feeling of alertness in facing an audience.  T  F
TEST B

THERE ARE TWO PARTS TO ANSWER. READ THE INSTRUCTIONS BEFORE STARTING EACH PART.

PART I. Read each of the following statements. If in your case the statement is TRUE or MOSTLY TRUE, fill in the blank under T. If the statement is FALSE or MOSTLY FALSE as applied to you, fill in the blank under F.

1. I am often sick to my stomach. II
2. I believe it is best for a person not to think about a worry or problem but to keep busy with more cheerful things. II
3. I wish I could be as happy as others. II
4. "Every man for himself" is the wisest rule to follow. II
5. I find it hard to keep my mind on a task or job. II
6. I lose interest in things which I cannot get or do right away. II
7. Life is often a strain for me. II
8. I think that people can be divided into two distinct classes; the weak and the strong. II
9. I am not at all confident of myself. II
10. I have often spent more money than I had by borrowing on the spur of the moment. II
11. My hands and feet are usually warm enough. II
12. I believe that someday astrology will probably be able to explain a lot of things. II
13. I sometimes break a date with someone without telling him about it. II
14. When we go out together, I sometimes walk off and leave my friends without telling them about it. II
15. As I see it, there is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents. II
PART II. Read each of the following questions. Fill in the blank under the answer to the right which best describes HOW OFTEN YOU DO EACH OF THE FOLLOWING:

1 = Rarely  
2 = Occasionally  
3 = Sometimes  
4 = Fairly Often  
5 = Very Often

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<th>Question</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
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<td>1. Notice the beating of your heart?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Explore your own feelings without shutting them off?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Observe your breathing?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Think about the reasons you feel the way you do?</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Think about your past?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Notice changes in your body temperature?</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Notice movements in your stomach?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Put yourself in another's place?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Find that you are sweating?</td>
<td></td>
<td></td>
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<tr>
<td>10. Notice that your muscles are tense and try to relax them?</td>
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<tr>
<td>11. Daydream?</td>
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<td></td>
<td></td>
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<tr>
<td>12. Let yourself feel a variety of emotions?</td>
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TEST C

TAYLOR MANIFEST ANXIETY SCALE

Name (Print): Sex: Phone:
Date: Age:

This scale is composed of 28 items dealing with anxiety. Each question may be answered either "true" or "false." Try to decide whether "true" or "false" most accurately represents your feeling about the question and then circle either "T" or "F."

1. I am often sick to my stomach. T F
2. I am about as nervous as other people. T F
3. I work under a great deal of strain. T F
4. I blush as often as others. T F
5. I have diarrhea ("the runs") once a month or more. T F
6. I worry quite a bit over possible troubles. T F
7. When embarrassed, I often break out in a sweat which is very annoying. T F
8. I do not often notice my heart pounding and I am seldom short of breath. T F
9. Often my bowels don't move for several days at a time. T F
10. At times I lose sleep over worry. T F
11. My sleep is restless and disturbed. T F
12. I often dream about things I don't like to tell other people. T F
13. My feelings are hurt easier than most people. T F
14. I often find myself worrying about something. T F
15. I wish I could be as happy as others. T F
16. I feel anxious about something or someone almost all of the time. T F
17. At times I am so restless that I cannot sit in a chair for very long.  T  F
18. I have often felt that I faced so many difficulties I could not overcome them.  T  F
19. At times I have been worried beyond reason about something that really did not matter.  T  F
20. I do not have as many fears as my friends.  T  F
21. I am more self-conscious than most people.  T  F
22. I am the kind of person who takes things hard.  T  F
23. I am a very nervous person.  T  F
24. Life is often a strain for me.  T  F
25. I am not at all confident of myself.  T  F
26. At times I feel that I am going to crack up.  T  F
27. I don't like to face a difficulty or make an important decision.  T  F
28. I am very confident of myself.  T  F
PRIOR EXPECTATION AND PRIOR BELIEF SELF-RATING SCALE

(Title not included on form given to subjects)

There are two questions below dealing with public speaking. Each is on a 9 point scale, with 5 representing average. Please put a check mark above that number which represents how much anxiety you would expect to feel in a public speaking situation (question 1) and how terrible it would be if you did appear obviously anxious in a public speaking situation (question 2). In each case, try to avoid checking number 5.

1. In making a speech before an audience, compared to others, I would expect to experience:

Little Anxiet
Anxiety  ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ Much Anxiety
1 2 3 4 5 6 7 8 9

2. If you did appear obviously anxious before an audience, you would consider this:

Not At All Terrible
Terrible  ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ Very Terrible
1 2 3 4 5 6 7 8 9
CONSENT FORM

I ____________________________ consent to participate in an experiment of speech anxiety. I understand that I will be required to make a three minute speech while having my finger sweat print taken. I am aware that during the experiment, I am free to terminate at any time, and that, at the end of this research, I will be given the opportunity to ask questions and give my opinion about this study. I also understand that the experimenter and his two assistants will be present during my speech.
APPENDIX E

NAME:

TAYLOR MANIFEST ANXIETY SCALE

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PHYSIOLOGICAL AND PSYCHOLOGICAL AROUSAL SCALE

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PRSC SPEECH ANXIETY SCALE

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TEST PREDICTION: Relatively Calm
NAME:

TAYLOR MANIFEST ANXIETY SCALE

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PHYSIOLOGICAL AND PSYCHOLOGICAL AROUSAL SCALE

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PRSC SPEECH ANXIETY SCALE

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TEST PREDICTION: Anxious
**APPENDIX F**

**BEHAVIORAL CHECKLIST FOR PERFORMANCE ANXIETY**

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**Behavior Observed**

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<tr>
<td>1.</td>
<td>Paces</td>
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<tr>
<td>2.</td>
<td>Sways</td>
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<tr>
<td>3.</td>
<td>Shuffles Feet</td>
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<td>4.</td>
<td>Knees Tremble</td>
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<td>5.</td>
<td>Extraneous Arm and Hand Movement (swings, scratches, toys, etc.)</td>
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<tr>
<td>6.</td>
<td>Arms Rigid</td>
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<tr>
<td>7.</td>
<td>Hands Restrained (in pockets, behind back, clasped)</td>
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<tr>
<td>8.</td>
<td>Hand Tremors</td>
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<tr>
<td>9.</td>
<td>No Eye Contact</td>
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<tr>
<td>10.</td>
<td>Face Muscles Tense (drawn, tics, grimaces)</td>
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<td>11.</td>
<td>Face &quot;Deadpan&quot;</td>
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<tr>
<td>12.</td>
<td>Face Pale</td>
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<tr>
<td>13.</td>
<td>Face Flushed (blushes)</td>
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<tr>
<td>14.</td>
<td>Moisten Lips</td>
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<td>15.</td>
<td>Swallows</td>
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<tr>
<td>16.</td>
<td>Clears Throat</td>
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<td>17.</td>
<td>Breathes Heavily</td>
</tr>
<tr>
<td>18.</td>
<td>Perspires</td>
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19. Voice Quivers

20. Speech Blocks or Stammers

Comments:

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POST EXPERIMENT SELF-RATING ANXIETY SCALE

On the 9 point scale below, with 5 as average, please rate yourself on how much anxiety you experienced during your three minute speech. Put a check mark above that number which most accurately represents the amount of anxiety you experienced. Try to avoid checking number 5.

Little Anxiety

Much Anxiety

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
George (Tod) William Bossert was born on January 25, 1943, in Jamaica, New York. He attended elementary and high school in Westport, Connecticut, graduating from Staples High School in June 1961. He then attended Bradley University in Peoria, Illinois, for one year before transferring to the University of Connecticut where he received his Bachelor of Arts degree in June 1966.

In September of 1966, he began graduate work in Counseling Psychology at Teachers College, Columbia University, and completed course requirements for the two-year master's degree in June 1966.

In September of 1968 he entered the Graduate School of the University of Tennessee. During his training, he worked at Eastern State Psychiatric Hospital, the university counseling center, and the university psychological clinic. He also taught courses at the University of Tennessee. He completed his internship at Camarillo State Hospital, Camarillo, California, in August 1973, during which time he also taught at LaVerne College, Pt. MuGu, California. He received the Doctor of Philosophy Degree in Clinical Psychology in December 1974.

He is married to the former Jeanne Donath of Mystic, Connecticut.