A Comparison of Cognitive-Behavior Therapy, Relaxation Therapy and Cognitive Restructuring on State and Trait Anxiety in Speech Anxious Adults

Bernard C. Sefchick
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A COMPARISON OF COGNITIVE-BEHAVIOR THERAPY, RELAXATION THERAPY AND COGNITIVE RESTRUCTURING ON STATE AND TRAIT ANXIETY IN SPEECH-ANXIOUS ADULTS

Bernard C. Sefchick, M.A.
Western Michigan University, 1987

This study tested the following hypotheses: (a) Cognitive-Behavior Therapy would be more effective than either Relaxation Therapy in reducing speech A-state anxiety or Cognitive Restructuring in reducing speech A-trait anxiety; (b) Relaxation Therapy would be more effective than Cognitive Restructuring in reducing speech A-state anxiety; and (c) Cognitive Restructuring would be more effective than Relaxation Therapy in reducing speech A-trait anxiety.

Fifteen volunteers from a speakers organization were screened and randomly assigned to one of three treatments. The Speech Anxiety Inventory was administered before and after treatments to assess subjects' levels of speech A-state and A-trait anxiety.

Results indicated that Cognitive-Behavior Therapy was significantly more effective than Cognitive Restructuring on speech A-trait anxiety measures, and that Relaxation Therapy was significantly more effective than Cognitive Restructuring on speech A-state anxiety measures.

Evidence suggested that all three treatments are effective interventions in the reduction of speech A-state and A-trait anxiety.
ACKNOWLEDGEMENTS

I would like to recognize and thank the following individuals who helped in the writing and completion of this thesis:

Dr. Chris Koronakos, for his continuous guidance, timely encouragements and endless patience as advisor, mentor and friend.

Drs. Bradley Huitema and Malcom Robertson, for their participation as committee members and their assistance in reviewing this research.

My wife Marylin, whose enduring support, limitless patience and numerous prayers have encouraged me to complete this "impossible" task.

Lastly, but most importantly, I give special thanks to Jesus Christ. His unconditional love and ever-present Spirit has taught me to "Trust in the Lord with all thine heart, and lean not on thine own understanding" (Proverbs 3:5).

Bernard C. Sefchick
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A comparison of cognitive-behavior therapy, relaxation therapy and cognitive restructuring on state and trait anxiety in speech anxious adults

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CHAPTER I

THE BACKGROUND AND FOCUS OF THE STUDY

The Background

The use of various behavioral and cognitive techniques to modify behavior has been well documented in the literature (Goldfried & Davidson, 1976; McMullin, 1986; Rimm & Masters, 1979; Turner & Ascher, 1985). Much of the relevant research has concentrated on specific techniques which have been adapted and effectively employed to modify behavior. Examples of behavioral techniques are systematic desensitization (Borkovec, 1970; Rachman, 1967; Turner, DiTommaso & Deluty, 1985; Weissberg & Lamb, 1977), flooding (Marshall, Gauthier, & Gordon, 1979; Wolpe, 1958) and progressive relaxation (Goldfried & Trier, 1974; Johnson & Spielberger, 1968; Kibler & Foreman, 1983; Stoudenmire, 1975). These techniques emphasize the modification of behavior by directly changing a person's overt behavior through environmental manipulations. Cognitive techniques, on the other hand, modify behavior through the use of verbal and semantic methods, focusing on a person's erroneous thoughts, beliefs, and assumptions. Examples of cognitive techniques include stress inoculation (Hussain & Lawrence, 1978; Jaremko, 1980; Novaco, 1977), cognitive restructuring (D'Zurilla, Wilson, & Nelson, 1973; Hahnloser, 1974; Trexler & Karst, 1972), and self-instructional training (Meichenbaum, Gilmore, & Fedoravicius, 1971; Stone, Hinds, & Schmidt, 1975; Thorpe, 1975).
Recent surveys of the literature (Barrios & Shigetomi, 1979; Schwartz, 1982) have reported that these techniques, when employed separately, have been quite effective in the modification of behavior. However, a trend has been to incorporate cognitive components into a behavioral mediational model to increase the effectiveness of such techniques (Wilson, 1978). This integration has led to the development of techniques which can modify behavior, both behaviorally and cognitively, and which have been labeled cognitive-behavioral interventions.

Kendall and Hollon (1979) have ascertained that the development of cognitive-behavioral interventions arose because of a need by many clinicians to recognize that "specific entities such as attitudes, beliefs, expectations, attributions, and other cognitive activities are central to producing, predicting, and understanding psychopathological behavior" (p. 5). The extensive works of Ellis' (1962) rational-emotive therapy, Beck's (1976) cognitive theory and Meichenbaum's (1977) cognitive-behavior modification theory have also played important roles in generating acceptance of such cognitive phenomena.

A principle factor quite evident in all cognitive-behavioral interventions is the recognition that cognitions (i.e., beliefs, attitudes, expectations, etc.) and other cognitive activities (i.e., what a person thinks or says covertly) will produce specific reactions resulting in dysfunctional behavior. One clinical area in which the relationship between cognitions and behavior is evident is in the study of anxiety.
A Scientific and Clinical Definition of Anxiety

The topic of anxiety has received considerable attention in the clinical literature and is a concept that has played a fundamental role in psychological theory. Yet, there is still absent a general definition among scientists and practitioners.

Freud (1926/1963) first defined anxiety as a physiological signal of danger, suggesting that it is a warning device to either external or internal danger. In response to this warning, a person either prepares for action to deal with the external danger or produces psychological defenses to protect oneself against any internal danger.

Dollard and Miller (1950) working within the context of a stimulus-response theory, defined anxiety as a learned behavior resulting from the reinforcement of strong motivating forces called drives (e.g., hunger, sex, fear, and pain). These drives act upon the person in the form of a stimulus, producing specific learned responses (i.e., heart palpitations, increased breathing, euphoria, nervous stomach, etc.). These learned responses then become reinforced in the person by eliciting sympathy and comforting behaviors from others. The reinforcement of learned responses also increase the probability that such responses will reoccur for the person in similar situations.

Sullivan (1953) later hypothesized that anxiety was a direct result of negative interpersonal relationships that developed through the stages of human social development. When interpersonal needs are
not met in the relationship, the adequacy as a human being is threatened and anxiety results.

Cattell and Scheier (1961), in an attempt to define and measure anxiety through multivariate statistical techniques, found two separate factors consistently emerging: state and trait anxiety. This distinction led them to believe that state anxiety was a transitory, emotional condition that varies from day-to-day, moment-to-moment. Trait anxiety, on the other hand, was defined as a relatively stable and permanent personality characteristic.

In 1966, Spielberger, taking a more psychometric approach, incorporated these findings and the results of his own research into the development of the Trait-State Anxiety theory. In a later publication, Spielberger (1972) elaborated on the definitions of these two distinct constructs stating that state (A-state) anxiety is "a transitory emotional state or condition of the human organism that varies in intensity and fluctuates over time. This condition is characterized by subjective, consciously perceived feelings of tension and apprehension and activated by the autonomic nervous system" (p. 39). Spielberger (1972) conceptualized trait (A-trait) anxiety as:

the relatively stable individual differences in anxiety proneness, i.e., to differences in the predisposition to perceive a wide range of stimulus as dangerous or threatening, and in the tendency to respond to such threats with A-state reactions.

Trait anxiety may also be regarded as reflecting individual differences in the frequency and intensity with which A-state reactions have been manifested in the past, and in the probability that such reactions will be experienced in the future. (p. 39)
Simply stated, state (A-state) anxiety refers to anxiety that is experienced at a particular moment in time, characterized by feelings of tension and apprehension, activated by the arousal of the autonomic nervous system. Trait (A-trait) anxiety, commonly referred to as "anxiety proneness," is a personality characteristic which identifies with a general tendency to experience certain stimuli as dangerous or threatening, responding with heightened A-state reactions.

Cognitions and Anxiety

It has been previously stated that cognitions play a central role in producing anxiety (Kendall & Hollon, 1979). Many theorists agree that anxiety is primarily caused by two kinds of stimuli: internal and external. Spielberger (1972) contends that from these two kinds, there are also two distinct varieties of stimuli that will produce state and trait anxiety. These are (a) threats of self-esteem (e.g., reciting in class or taking a test), and (b) threats of physical danger (e.g., impending bodily harm, injury or death). He also concludes that it is not just the stimulus alone which produces anxiety, but the combination of the stimulus and any initial perceptions or evaluations of the stimulus, which produces specific A-state reactions. Such reactions are exhibited as covert behaviors (e.g., rapid heart rate, increased blood pressure, etc.), and overt behaviors (e.g., increased breathing, sweaty palms, light-headedness, etc.), and then are interpreted as anxiety.
A review of the anxiety literature has found several earlier studies supporting Spielberger's assertions that the initial perceptions or evaluations of specific stimuli will directly intensify changes of physiological and motoric responses of subjects under stress. Davids and Erikson (1955), and Katkin (1965) investigated the effects of different stressors in undergraduate college males randomly assigned to stress and non-stress conditions. They found that ego-stressors (i.e., threats to self-esteem) were more likely to be perceived or interpreted as dangerous or threatening than physical stressors (i.e., threats of bodily harm) in only the stressful experimental conditions. Hodges (1968) evaluated the effects of failure-threat and shock-threat in high and low anxiety subjects. He found that both high and low anxiety subjects who perceived failure-threat (i.e., threats to self-esteem) as more threatening and dangerous than shock-threat (i.e., threats of bodily harm) produced higher elevations in A-state anxiety reactions.

The perception or evaluation of one stimulus as more dangerous or threatening than another, and reacting with increased or heightened A-state reactions, suggest that a person could have a higher tendency to experience anxiety in similar situations. Spielberger (1972) defines this as trait (A-trait) anxiety.

It is, therefore, assumed that a person who is said to have high A-trait anxiety must also manifest high A-state reactions. But studies in which high and low A-trait subjects were confronted with threats to self-esteem and of physical danger, and did not perceive these stimuli to be dangerous or threatening, showed no significant
increases in A-state anxiety reactions (Hodges & Spielberger, 1966; Korn, Ascough, & Kleemeier, 1972). Consequently, whether a person who shows differences in A-trait anxiety will show any corresponding differences in A-state reactions, largely depends on the extent to which the stimulus is perceived or judged to be dangerous or threatening. Spielberger, Gorsuch and Lushene (1970) found that this stimulus appraisal is directly related to and greatly influenced by the person's previous experiences in that and similar situations. They also concluded that any effectual change in A-state anxiety reactions is caused by a person's interpretations, perceptions or evaluations of the stimulus as dangerous or threatening, particularly with respect to self-esteem.

While the initial cognitions (i.e., interpretations, judgements, assessments, etc.) about the stimulus will create an increase in A-state anxiety, it is also believed that other evaluations about the actual situation will do the same. A survey of the relevant literature strongly suggests that when a person is confronted with a stimulus, which is perceived as dangerous or threatening, the person is more likely to focus on other cognitions related to judging themselves and/or their ability to function in that situation, causing an even greater increase of intensity in A-state anxiety reactions.

Spielberger (1972) found that test anxious students manifested interfering cognitions about themselves and their abilities causing increased A-state reactions such as nervousness, "writers' cramps," and tightened stomach muscles. This conscious awareness of interfering cognitions by the students resulted in spending more time
on task irrelevant covert behaviors (e.g., thinking about their study habits, how tight their stomach was, even thinking about failing the test, etc.), as well as overt behaviors (e.g., reading the test questions over several times, eyeballing their neighbor's answers, even asking superficial questions about the test, etc.). Others (Saranson, 1972, 1975; Wine, 1971) have also found that test anxious students were more self-critical during a stressful situation and were more likely to emit negative and derogatory self-statements about one's inadequacies and shortcomings, compared to non-test anxious students.

Houston (1977) found that test anxious students became preoccupied with negative consequences (e.g., failing the test, flunking the course, getting a lower grade point average, even flunking out of school, etc.) because of these self-statements. This preoccupation was also found by Morris and Engle (1981) to cause test anxious students to neglect and misinterpret valuable informational cues which would normally provide help and direction with staying on task and task performance.

The State-Trait Anxiety Inventory in Measuring Anxiety

Guided by their theoretical conceptualizations of anxiety, Spielberger et al. (1970) developed the State-Trait Anxiety Inventory (STAI). The STAI provides a reliable and relatively brief self-report inventory consisting of separate scales for measuring these two distinct anxiety concepts. The STAI A-trait scale, measuring anxiety proneness, consists of twenty statements that ask
people to describe how they generally feel, such as "I tire quickly," "I lack self-confidence," and "I try to avoid facing a crisis or difficulty." The STAI A-state scale measures situation-specific anxiety (Spielberger, Anton, & Bedell, 1976) and consists of twenty statements that ask people to describe how they feel at a particular moment in time, such as "I am tense," "I am worried," and "I am content." A detailed description of the underlying theoretical and methodological basis for the construction of the STAI has been outlined by Spielberger et al. (1970).

Although the STAI was not generally available until 1970, it has made a major impact in the area of anxiety measurement. Several factors have been recognized by various researchers (Finney, 1985; Levitt, 1967; Spielberger, 1975; Zuckerman, 1976) as important influences in the acceptance of the STAI. These include:

1. The advantage of measuring both state and trait anxiety with one instrument. Previous anxiety measures, such as the Taylor (1953) Manifest Anxiety Scale (TMAS), the Zuckerman (1960) Affect Adjective Check List (AACL), and the IPAT Anxiety Scale (Cattell & Scheier, 1963) had been developed to measure only trait anxiety.

2. The extensive use of the STAI to validate state and trait anxiety in numerous studies conducted with a wide range of populations: college students, surgery patients, high school students, young children, female athletes, psychiatric patients, and hypertensive patients.

3. The overwhelming evidence of high concurrent validity of the STAI A-trait scale with other measures of trait anxiety: TMAS
(r = .76), AACL (R = .60), and IPAT (r = .80).

4. The adaptability of using the STAI to measure other kinds of anxieties: test anxiety, speech anxiety, social anxiety, and musical performance anxiety.

Previous Anxiety Studies Using the STAI

An extensive survey of the anxiety literature was conducted to discover what types of techniques are most effective in reducing A-state and A-trait anxiety as defined by Spielberger's (1966) Trait-State Anxiety theory.

Behavioral Techniques

Muscle relaxation and systematic desensitization have been found to be two behavioral techniques employed in the reduction of A-state and A-trait anxiety.

Stoudenmire (1975) investigated the effectiveness of progressive muscle relaxation and "relaxing music" on A-state and A-trait anxiety in 108 female college undergraduate students. Subjects were selected for the study based upon their pre-treatment A-trait scores falling within "at least one-half of a standard deviation above the A-trait anxiety mean of the State-Trait Anxiety Inventory" (Stoudenmire, 1975, p. 490). A comparison of the pre-treatment STAI scores with scores obtained after completion of the third sessions were used to determine the relative effectiveness of each treatment. He found that A-state anxiety was reduced by the progressive muscle relaxation training and "relaxing music," but neither reduced A-trait anxiety.
The author concluded that "brief anxiety reducing techniques are effective for A-state, but not for A-trait" (Stoudenmire, 1975, p. 491).

Goldfried and Trier (1974) investigated the use of a progressive relaxation technique (Paul, 1966), as an active coping skill for the reduction of general anxiety. Twenty-seven speech anxious college students were assigned to one of three treatment conditions: progressive relaxation, a "self-controlled" relaxation technique, and an attention-placebo discussion group. Subjective measures were assessed by the STAI immediately prior to and after the public speaking situations. Data for each of the three therapeutic conditions were analyzed from comparisons of pre-test and post-test assessments. The authors found that the "self-controlled" relaxation group had effectively reduced both A-state and A-trait anxiety, while only the attention-placebo discussion group reduced A-state anxiety. Goldfried and Trier (1974) interpreted these results as "consistent with the view of self-control as involving a learned skill" (p. 354), and suggested that progressive relaxation is an effective technique in reducing public speaking anxiety.

The use of systematic desensitization in the reduction of A-state and A-trait anxiety has been demonstrated in two studies with test anxiety.

Anton (1975) compared the effectiveness of systematic desensitization, group counseling, and no treatment with 54 college undergraduate students. The STAI A-trait scale was used as one of four treatment outcome measures, while the STAI A-state scale was
employed only to measure pre-treatment and post-treatment
effectiveness of systematic desensitization. Results of the
statistical analysis showed that the systematic desensitization group
produced the greatest reduction of test anxiety compared to group
counseling and no treatment groups across the Test Anxiety Scale
(Saranson, 1978) and measure of test hierarchy aversiveness. No
treatment effect was found for any of the treatments across changes
in grade point average nor the STAI A-trait scale. In addition,
systematic desensitization was highly effective in reducing scores on
the STAI A-state scale between pre-treatment and post-treatment
measures. A strong pre-post treatment main effect was demonstrated
during each treatment session, particularly in the second through
fifth and final session. The author suggested that systematic
desensitization was effective in reducing test-specific anxiety and
that the use of "relaxation during desensitization influenced the
magnitude of reduction in test anxiety" (Anton, 1975, p. 335).

A similar study by Bedell (1975) compared the relative
effectiveness of systematic desensitization and relaxation training
in 50 college students, also for the treatment of test anxiety. The
STAI A-trait and the TAS were used to measure test-specific anxiety.
The Wonderlic (1973) Personnel Test (WPT) and the arithmetic section
of the Wide-Range Achievement Test (WRAT) (Jastak & Jastak, 1965)
were used as cognitive-intellectual outcome measures. The STAI
A-state was employed to measure treatment process during the
desensitization and relaxation training procedures. Results for all
four outcome measures were comparable to the results obtained in the
previous cited study by Anton. The STAI A-trait and TAS scores for both experimental treatments remained relatively stable and showed no statistically significant effects between pre-treatment and post-treatment measures. Scores on the WPT and the WRAT showed a slight increase and were statistically significant for the same treatment analysis. Bedell (1975) concluded that "while the experimental procedures were effective in reducing test anxiety, the procedures had no effect on A-trait measure" (p. 338). The statistically significant effects between treatment procedures for the WPT and WRAT "appeared to be the result of practice" (p. 338). Measures of state anxiety during the relaxation training and desensitization treatment sessions showed a reduction in mean A-state scores. Subsequent analysis also showed that while the decrease in A-state scores was significant for the relaxation training and the desensitization treatment, the relaxation training alone proved as effective as the desensitization treatment.

Cognitive Techniques

The effectiveness of reducing A-state and A-trait anxiety with cognitive techniques have been demonstrated by the use of stress inoculation training and Rational-Emotive Therapy.

Hussain and Lawrence (1978) extensively studied 48 highly test anxious college students in an attempt to discover the effectiveness of general and test-specific stress inoculation techniques. The generalized stress inoculation training was based upon the stress inoculation program initiated by Meichenbaum (1973) which used
general coping statements. The test-specific stress inoculation training was the same as the generalized stress inoculation training, except for the nature of the self-statements. These statements contained references to test-specific situations, such as test taking procedures, test preparation and grades. Outcome measures for the two experimental groups were assessed by the TAS, both scales of the STAI, and the Fear Survey Schedule (FSS-III) developed by Wolpe and Lang (1964), to measure generalized "state" anxiety (i.e., fear). Data were collected at pre-treatment and completion of each training session, and in 3-week and 8-month follow-ups. Analysis of the data was accomplished by comparing pre-treatment and post-treatment outcome measures, and conducting a multivariate analysis of variance. The results revealed that both the generalized stress inoculation training and test-specific stress inoculation training were significantly effective in reducing test anxiety. Detailed analysis showed that the reduction in anxiety levels were significantly different between the test-specific group and the generalized stress inoculation group on the TAS. On the state portion of the STAI, both experimental groups significantly reduced A-state anxiety, but did not differ significantly from one another. Trait anxiety, measured by the A-trait scale of the STAI also showed similar results. Both treatment groups significantly reduced A-trait anxiety, but comparison between groups showed no significant differences. No treatment effects were found on the FSS-III with either the general stress inoculation training or the test-specific treatment procedure. In the 3-week and 8-month follow-up periods, the results indicated
that the reduction of test and A-state anxiety were maintained on the TAS and A-state portion of the STAI for both experimental groups. The reduction of A-trait anxiety did not continue in either follow-up periods. Hussain and Lawrence (1978) concluded that stress inoculation training is an effective technique for reducing test anxiety. They further concluded that because both A-state and A-trait anxiety were reduced by a test-specific treatment procedure, "it would seem that when a clinician is presented with a situation-specific anxiety, he should treat it with situation-specific coping statements" (p. 35).

An earlier study, (Newmark, 1974) attempted to investigate the effects of Ellis' Rational Emotive Therapy on A-state and A-trait anxiety in 20 psychiatric inpatients. Subjects were chosen whose presenting problems were "indicative of neurotic symptomatology with anxiety and/or depression...and deemed appropriate for the treatment modality" (Newmark, 1974, p. 37). Treatment sessions varied from 20 to 46 weekly sessions and were terminated upon mutual consent of the patient and therapist. A-state and A-trait anxiety, measured by the STAI, were obtained at four intervals during the investigation: pre-therapy, midpoint in the therapy, immediately after termination of therapy, and four to six weeks after discharge. Analysis of the data showed that RET was successful in significantly reducing A-state scores between pre-therapy and midpoint, and midpoint to termination of therapy. Comparison of A-state scores between termination and four to six weeks after discharge, revealed that A-state scores remained consistently stable. On the other hand, RET was not
successful in decreasing A-trait scores from pre-therapy to midpoint. However, a significant decrease in A-trait scores was found when termination scores were compared with either pre-therapy or midpoint scores. As with A-state scores, A-trait scores remained stable when termination of therapy scores and the four to six week follow-up scores were compared. Newmark (1974) interpreted these results as additional support for the construct validity of the STAI. He also concluded that "A-trait scores are amenable to change after the introduction of certain therapeutic modalities" (p. 38).

Focus of the Study

The previously cited studies have provided support that specific behavioral and cognitive techniques are effective in reducing A-state and A-trait anxiety. However, the anxiety literature is strangely silent as to studies demonstrating the effectiveness of a combined cognitive-behavioral intervention in the reduction of A-state and A-trait anxiety.

One purpose of the present study is to examine and compare the effectiveness of a cognitive-behavioral intervention in the reduction of speech state and trait anxiety, as defined by Spielberger's (1972) Trait-State Anxiety theory. This researcher believes that a combined treatment program utilizing specific behavioral and cognitive techniques would be most effective in reducing speech A-state and A-trait anxiety. Cognitive-Behavior Therapy was selected for this study because it is a treatment program incorporating these techniques. Two hypotheses that will be tested are: (a) Cognitive-
Behavior Therapy will have a significantly greater effect than Relaxation Therapy in reducing speech A-state anxiety on self-report measures of speech anxiety; and (b) Cognitive-Behavior Therapy will have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety on self-report measures of speech anxiety.

The Cognitive-Behavior Therapy program used in the present study, was modeled after Meichenbaum's (1972, 1977) Cognitive Behavior Modification program. Due to the nature of this study's design, Meichenbaum's program was modified to clearly delineate between behavioral and cognitive components and make the program more advantageous to the subjects. Cognitive-Behavior Therapy, as employed in this study, differs from Meichenbaum's in three ways. Firstly, the behavioral component in the Cognitive-Behavior Therapy program consists of a simple progressive relaxation procedure, emphasizing deep breathing and muscle relaxation exercises. The muscle relaxation exercises focus on tensing and relaxing the four major muscle divisions of the body. This type of relaxation was used, rather than the desensitization-coping imagery relaxation technique used by Meichenbaum, because it does not contain any cognitive material and was best suited to assist subjects in focusing on their physiological and behavioral manifestations of anxiety, and in learning how to control these reactions. Secondly, no written homework assignments were required, as in the Meichenbaum program. However, each subject was asked to listen to a cassette tape which reexamined the cognitive learning rationale and/or the behavioral
rationale of the progressive muscle relaxation procedure, at least once per day during the last three weekly sessions. Thirdly, there were only four treatment sessions instead of the usual eight as in the Meichenbaum program. This was done because of the limited availability of the subjects.

A second purpose in this study was to compare a specific behavioral intervention with a specific cognitive intervention in the reduction of speech A-state and A-trait anxiety. The previously cited studies have provided mixed conclusions as to which treatment intervention is most effective in reducing either A-state or A-trait anxiety, as defined by Spielberger's (1972) Trait-State Anxiety Theory. It is assumed by this researcher, that Relaxation Therapy, which utilizes progressive muscle relaxation training and teaches a person how to manage their overt and covert behaviors, will be more effective than cognitive intervention in reducing speech A-state anxiety. On the other hand, this researcher believes that a cognitive intervention, namely Cognitive Restructuring, which focuses on challenging a person's initial beliefs, perceptions or evaluations about themselves or the situation, and teaches new thinking patterns, will be more effective than a behavioral intervention in reducing speech A-trait anxiety. Therefore, two additional hypotheses that will be tested in this study are: (a) Relaxation Therapy will have a significantly greater effect than Cognitive Restructuring in reducing speech A-state anxiety on self-report measures of speech anxiety, and (b) Cognitive Restructuring will have a significantly greater effect than Relaxation Therapy in reducing speech A-trait anxiety on
self-report measures of speech anxiety.

Speech anxiety was chosen as the target behavior for two specific reasons. First, speech anxiety can be conceptualized into Spielberger's Trait-State Anxiety theory. Speech state (A-state) anxiety is conceptualized and defined as anxiety that is experienced during a particular speech, characterized by subjective, consciously perceived feelings of tension and apprehension, manifested in specific A-state reactions: Speech trait (A-trait) anxiety is defined as the relatively stable personality characteristic which manifests itself through the individual differences in the disposition, or tendency to perceive a stimulus as dangerous or threatening, and to respond with elevated A-state reactions in particular speaking situations. A second reason speech anxiety was chosen is because speaking in front of an audience can be considered a threat to self-esteem. This type of stimulus was shown, by other researchers previously cited, to be more likely perceived as dangerous or threatening, producing higher elevations on A-state and A-trait anxiety measures.
Hypotheses

The following four hypotheses were tested:

1. Cognitive-Behavior Therapy will have a significantly greater effect than Relaxation Therapy in reducing speech A-state anxiety on self-report measures of speech anxiety.

2. Cognitive-Behavior Therapy will also have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety on self-report measures of speech anxiety.

3. Relaxation Therapy will have a significantly greater effect than Cognitive Restructuring in reducing speech A-state anxiety on self-report measures of speech anxiety.

4. Cognitive Restructuring will have a significantly greater effect than Relaxation Therapy in reducing speech A-trait anxiety on self-report measures of speech anxiety.
CHAPTER II

METHOD

Subjects

Fifteen adult volunteers, consisting of nine males and six females, ranging from 32 to 55 years of age (mean age 44.3), were recruited from a local speakers group called Toastmasters of America, in response to an offer to train individuals to be less anxious when speaking. Toastmasters of America is a national organization whose members are asked to speak at club meetings, conventions and special events.

Each subject was pre-screened in a personal interview by the investigator using a brief interview data sheet (see Appendix A). Subjects were also pre-screened using two self-report measures of anxiety: (a) the Personal Report of Confidence as a Speaker (PRCS); and (b) the State-Trait Anxiety inventory (STAI). The Personal Report of confidence as a Speaker (Paul, 1966) is a brief self-report measure of general speaking anxiety which assess a subject's confidence and ability in making a speech before an audience. The State-Trait Anxiety Inventory (Spielberger et al., 1970) is a relatively brief self-report inventory which can be used to assess a subject's general state and trait anxiety in various anxiety producing situations. Subjects who obtain a score of 16 or above on the Personal Report of Confidence as a Speaker, or a score of 50 or
above on the State-Trait Anxiety Inventory are said to have average to high speech or general anxiety.

Design

Subjects were randomly assigned to one of three treatment groups based upon the following constraints: (a) an effort was made to develop the three treatment groups so that each contained a balance of high, medium, and low anxiety scores, based upon the combined scores of the Personal Report of Confidence as a Speaker and the State-Trait Anxiety Inventory; and (b) matching the groups on sex composition (i.e., each group contained two females). Treatment groups consisted of a Relaxation Therapy (RT) group, a Cognitive Restructuring (CR) group, and a combination of both—a Cognitive-Behavior Therapy (CBT) group numbering five subjects in each. These three treatment groups were employed to examine their relative effectiveness in the reduction of state and trait anxiety. The three treatment groups were conducted in separate 5-week periods. Time limitations on the part of the investigator and subjects prevented conducting the treatment groups at the same time. The sequence for the three treatment groups was randomly established beginning with the Relaxation Therapy group, the Cognitive Restructuring group, and the Cognitive-Behavior Therapy group. The investigator met individually with all treatment subjects once per week, at their convenience, for five consecutive weeks. Treatment sessions varied for each subject, lasting approximately 45 to 90 minutes each and were conducted at the subject's home in a
comfortable and quiet room. Since the investigator also served as therapist for each treatment group, it was considered necessary to withhold scoring of each subject's pre-treatment and post-treatment Speech Anxiety Inventory until completion of the treatments for all groups.

Procedures

Pre-Treatment Session

All subjects who responded to the offer were told the nature of the study. Each subject who wished to participate in the study arranged for an appointment to meet with the investigator. Arriving at the subject's home, the investigator reviewed the nature of the study and briefly interviewed each subject using the interview data sheet. Following the interview, informed consent (see Appendix B) was obtained, and each subject was asked to complete the Personal Report of Confidence as a Speaker and the State-Trait Anxiety Inventory questionnaires. At the end of this meeting, the subject was given a packet containing a 210-word speech (see Appendix C) with instructions to memorize it for the first treatment session. Subjects in all treatment groups received the same speech which was a brief anecdote taken from a speaker's resource book (Friedman, 1960) consisting of several short speeches, anecdotes, and humorous stories for special speaking occasions.
Treatment Session 1

Subjects in all treatment groups were asked to present the speech in the presence of the investigator. Use of note cards were permitted to create a more "natural" speaking situation for the subject. Immediately after the speech, each subject completed the Speech Anxiety Inventory (SAI) developed by Lamb (1973). Each subject was then asked to identify and discuss ways in which he/she coped with the anxiety during the speaking situation. The investigator/therapist proceeded to provide a definition of anxiety and explain how anxiety influences behavior.

Subjects in the Relaxation Therapy group were told that behavior is the result of a person's response to a particular stimulus. The stimulus produces specific physiological reactions (e.g., sweaty palms, nervousness, light-headedness, etc.) which are interpreted as anxiety. The therapist also explained the S-R model of anxiety as described by McReynolds (1976).

Subjects in the Cognitive Restructuring and Cognitive-Behavior Therapy groups were told that anxiety is a state in which a person exhibits certain physiological symptoms (e.g., "butterfly" stomach, shaky knees, fainting spells, etc.) caused by their perceptions, irrational beliefs, and self-defeating thoughts about themselves, the situation, and their ability to function in a stressful situation. The therapist explained anxiety using the A - B - C paradigm of Ellis' Rational Emotive Therapy (Walen, DiGiuseppe & Wessler, 1980), and the cognitive rationale from Meichenbaum's (1977).
Cognitive Behavior Modification technique.

Treatment Sessions 2

Subjects in all treatment groups began Session 2 by reviewing the respective treatment rationale previously discussed in Session 1.

In the Relaxation Therapy group, the therapist introduced the use of relaxation as a way of controlling the physiological manifestations of anxiety. Progressive muscle relaxation training was explained and demonstrated by the therapist. Subjects were taught to "tense and relax" their muscles and guided through the progressive muscle relaxation (PMR) exercises. Prior to the end of Session 2, each subject was given a cassette tape reviewing the S-R model of anxiety and the rationale of PMR training. A recording of the PMR training exercises was also included so that the subject could practice the exercises once per day, at home, between weekly sessions.

Subjects in the Cognitive-Behavior Therapy group reviewed how perceptions, evaluations, and irrational beliefs produced anxiety in speaking situations. Examples of these perceptions and irrational beliefs were also examined. Subjects then discussed the use of self-confrontation as a technique for changing negative thinking patterns. PMR was also introduced to each subject in this group, as a coping strategy to deal with the behavioral manifestations of anxiety. Each subject examined the PMR rationale and was taught the "tense and relax" muscle exercises. A cassette tape was also supplied which reexamined the cognitive theory of anxiety, the use of
self-confrontation, and the PMR rationale and training procedure.
The therapist instructed each subject to listen to the cassette tape and practice the PMR exercises at home, once per day between weekly sessions.

The Cognitive Restructuring group subjects reviewed the same fundamental aspects of how perceptions, judgments, and irrational beliefs with respect to the situation, themselves, and their ability to speak, produce speech anxiety. The use of self-confrontation was also addressed by the therapist. Although subjects in this group did not receive the PMR training, each subject did receive a cassette tape reviewing the cognitive theory of anxiety and the use of self-confrontation to change negative thinking patterns. Instructions were given to each subject in the Cognitive Restructuring group to listen to the cassette tape at home, once per day between weekly sessions.

**Treatment Sessions 3 and 4**

In Sessions 3 and 4, each subject met with the therapist to review their group's treatment rationale and discuss any questions they had during the two weeks pertaining to the cassette tape. Any parts of the treatment procedures that needed reviewing for a subject in a particular treatment group were addressed. Prior to the end of Session 4, subjects in all treatment groups were given a new packet containing a 228-word speech (see Appendix D) to memorize for the final session.
Post-Treatment Session

Session 5 consisted of the post-treatment session. Each subject met with the therapist to present the 228-word speech. Subjects were again permitted the use of note cards during the speaking situation. The Speech Anxiety Inventory (SAI) was again administered immediately after the subject's speech. Upon completion of the Speech Anxiety Inventory, each subject was paid $10.00 for participating in the study.

A brief summary of the experimental design is shown in Table 1.

Therapeutic Groups

Three treatment groups were employed in the present study. Each treatment condition was administered individually to each subject by the investigator/therapist. Treatment sessions varied from subject-to-subject, ranging from 45 to 90 minutes each, and were conducted in a comfortable, quiet room in the subject's home. All subjects completed the treatment sessions in four consecutive weeks.

Cognitive-Behavior Therapy (CBT) Group

This treatment condition consisted of a two part program: a cognitive learning component, modified from Meichenbaum (1972, 1977), and Ellis' A - B - C paradigm of Rational Emotive Therapy (Walen, DiGiuseppe & Wessler, 1980); and a simplified progressive muscle relaxation procedure (Jacobson, 1938, 1977).
<table>
<thead>
<tr>
<th>PRE- TREATMENT SESSION</th>
<th>GROUP</th>
<th>SESSION 1</th>
<th>SESSION 2</th>
<th>SESSION 3</th>
<th>SESSION 4</th>
<th>POST TREATMENT SESSION</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>RT</td>
<td>FIRST SPEECH S-R</td>
<td>S-R ANXIETY THEORY REVIEWED</td>
<td>S-R ANXIETY THEORY REVIEWED</td>
<td>S-R ANXIETY THEORY REVIEWED</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>COMPLETE SAI PRE- TREATMENT MEASURE</td>
<td>PMR TRAINING BEGINS</td>
<td>PMR TRAINING REVIEWED</td>
<td>PMR TRAINING REVIEWED</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>S-R THEOREY OF ANXIETY COMPLETE REVIEWED</td>
<td>REVIEWED CASSETTE TAPE</td>
<td>CASSETTE TAPE REVIEWED</td>
<td>CASSETTE TAPE REVIEWED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALL</td>
<td>A-B-C PARADIGM RATIONALE A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUBJECTS</td>
<td>CR PRE- TREATMENT MEASURE A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>REVIEWED CASSETTE TAPE</td>
<td>REVIEWED CASSETTE TAPE REVIEWED</td>
<td>REVIEWED CASSETTE TAPE REVIEWED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMPLETE</td>
<td>PRCS and STAI FIRST SPEECH COMPLETE SAI PRE- TREATMENT MEASURE A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>PMR TRAINING BEGINS</td>
<td>PMR TRAINING REVIEWED</td>
<td>PMR TRAINING REVIEWED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CBT</td>
<td>A-B-C PARADIGM RATIONALE A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td>A-B-C PARADIGM RATIONALE REVIEWED</td>
<td></td>
</tr>
</tbody>
</table>

Table 1

Design of the Experiment

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The cognitive learning component emphasized that anxiety is produced by people's perceptions, evaluations, and beliefs about a stressful situation, themselves, and their ability to function during a stressful situation. More specifically, a person's perceptions or evaluations about a speaking situation is usually interpreted as a threat to self-esteem. Furthermore, a person's beliefs about oneself and the ability to function in a speaking situation generally reflect negative self-worth and/or lack of speaking ability. Together these perceptions and beliefs can be translated as thoughts or self-statements which will produce speech anxiety in a person.

Examples of such perceptions or self-statements include: "Making mistakes while giving a speech is horrible and terrible," "People must like my speech or I'm a terrible person," "I'm so nervous I can't think or speak well," and "If I fail at speaking, I'm a worthless person." As subjects become aware of such statements, they were asked to discuss the irrational, illogical and self-defeating properties of each statement. Each subject was asked to explore other anxiety provoking situations—fear of failure on the job, worry about economic and job security, worry about future events, etc., and to identify the self-defeating, irrational thoughts and beliefs concerning these situations. Self-confrontation followed using a brief checklist containing five specific questions:

1. Does the belief make me feel better?
2. Does the belief help me accomplish my goal?
3. Does the belief help me get along with others?
4. Would everybody have the same belief in this situation?
5. Do I always have the same belief in similar situations?
These questions and other statements like; "How is worrying going to help?", "This isn't really so terrible," or "Messing up a speech doesn't make me a worthless person," were used to help the subjects focus on and confront their irrational and illogical beliefs.

After discussing these thought patterns, each subject was taught positive self-statements along with the appropriate behaviors. Each subject was also asked to replace the old anxiety arousing thoughts and beliefs with the positive self-statements, practicing this new pattern of thinking whenever possible. Examples of these positive self-statements include: "I practiced as much as I needed to, so just relax and concentrate on the task before me," "Even if I never make a good speech, there are other things I can do well," and "It would be nice if everybody approved of my speech, but I can live with that." It is believed by this investigator that replacing the old self-talk with new and more logical self-statements, subjects will be able to control their cognitive processes and reduce their speech A-trait anxiety.

The second component of the CBT program consisted of a simplified progressive muscle relaxation (PMR) technique developed by Jacobson (1938, 1977). The PMR technique used in this study emphasized systematic muscle relaxation and slow, deep breathing exercises. This technique was chosen because it has been shown to be effective in the reduction of state anxiety (Johnson & Spielberger, 1968; Niefert, 1986; Stoudemire, 1975) and trait anxiety (Kibler & Foreman, 1983).
The systematic muscle relaxation exercises focused on four major muscle divisions of the body: head, arms, thorax and legs. These were subdivided into twelve muscle groups to be 'tensed and relaxed': forehead, middle face (i.e., cheeks), lower jaw, neck and throat, hands, forearms, biceps, chest, shoulders, back, thighs, calves, feet and toes. This investigator employed a series of events for instructions, having subjects 'tense and relax' each of the twelve muscle groups. These instructions were highly recommended by Bernstein and Borkovec (1973) to insure proper muscle relaxation.

1. The subject was instructed to focus attention on the designated muscle group.

2. At a prearranged signal (i.e., "now") from the investigator, the muscles of that group were tensed.

3. Muscle tension was maintained for approximately 5 - 7 seconds (the duration for tensing the calves and feet was shorter due to the tendency of these muscles to cramp easily).

4. At a prearranged signal (i.e., "okay") the muscle group was relaxed.

5. The subject was directed to concentrate and maintain focus on the muscle group as it relaxed.

The slow, deep breathing exercises were used to provide each subject with a point of focus and a resting period between each muscle group. These exercises consisted of three slow, deep breaths and were employed four times throughout the PMR technique: prior to the tensing and relaxing of each major muscle division of the body.
The intent of the Cognitive Behavior Therapy program was to (a) teach subjects how to recognize and change negative self-statements through self-confrontation, developing new thinking patterns; and (b) train subjects how to manage and control the physiological manifestations (i.e., overt and covert behaviors) through relaxation training. It is believed by this investigator that the cognitive learning component and progressive muscle relaxation training together would function as cognitive and behavioral coping strategies for the management of trait and state anxiety respectively.

A cassette tape reexamining the cognitive learning component and the PMR training was given to each subject in this group. The therapist instructed each subject to listen to the cognitive and relaxation rationale and practice the PMR exercises at home, once daily during the three succeeding weekly sessions.

Cognitive Restructuring (CR) Group

This treatment condition involved the same cognitive learning component as in the CBT group. Emphasis was placed on speech anxiety as the result of a person's perceptions, beliefs, and evaluations about the situation, themselves and the ability to function in a speaking situation. The therapist discussed with each subject the same material used in becoming aware of irrational, illogical, and self-defeating thoughts; using self-confrontation to dispute these thoughts and learning new thinking patterns through self-talk with appropriate behaviors. The use of self-confrontation and learning
new thinking patterns through self-talk, is believed by this investigator to function as a cognitive coping strategy for the management of anxiety proneness (i.e., A-trait anxiety).

A cassette tape, similar to the one in the CBT group, was given to each subject in this group. This tape emphasized only the cognitive learning rationale, excluding the PMR training. Subjects in this group were instructed to listen to the cassette tape at home, once daily during the three succeeding weekly sessions.

**Relaxation Therapy (RT) Group**

The RT group discussed the rationale that speaking anxiety is the result of a response to a specific stimulus. The stimulus (i.e., the speaking situation) produces specific physiological reactions (e.g., sweaty palms, queasy stomach, light-headedness, etc.) which are interpreted as anxiety. The therapist also examined the S-R model of anxiety, as described by McReynolds (1976). The use of proper muscle relaxation was also discussed in this group. Emphasis was placed on learning the proper breathing technique and the systematic relaxation of the twelve muscle groups by the "tensing and relaxing" method (Jacobson, 1938, 1977). It was also stressed that proper use of these techniques would function as a behavioral coping strategy for managing the physiological manifestations of anxiety.

A cassette tape was also employed in the RT group and given to each subject. The tape reviewed only the relaxation rationale and the PMR training, as in the CBT group, excluding the cognitive learning component. RT subjects were instructed to listen to the PMR
rationales and practice the deep breathing and systematic progressive muscle relaxation exercises at home, once daily during the three succeeding weekly sessions.

Assessment Measures

The effectiveness of each treatment condition was assessed at two periods during the study: pre-treatment and post-treatment. Both assessment periods involved the use of a subjective, self-report measure of anxiety following the speaking situation.

Speech Anxiety Inventory (SAI)

The Speech Anxiety Inventory (SAI) was developed by Lamb (1973) as a research instrument to investigate several theoretical hypotheses related to Spielberger's (1966) Trait-State Anxiety theory in a public speaking situation. Using the State-Trait Anxiety Inventory (Spielberger et al. (1970), Lamb modified and rewrote the STAI to construct the Speech Anxiety Inventory. A comprehensive description of the theoretical and methodological development of the SAI can be found elsewhere (Lamb, 1972, 1973).

Like the STAI, the Speech Anxiety Inventory (SAI) consists of separate self-report scales for measuring two distinct anxiety concepts: speech A-state and speech A-trait. The A-state scale designated Form X-1 (see Appendix E), consists of 23 statements that require subjects to indicate how they feel at a particular moment in time, namely while giving a particular speech. The A-trait scale designated Form X-2 (see Appendix F), consists of 28 statements that
ask the subject to describe how they generally feel about giving speeches, rather than feeling about one particular speech. Both A-state and A-trait sub-scales are scored by the subject's response to each item, rating themselves on a four point scale of intensity and frequency of feelings respectively.

This instrument was chosen for several reasons: the SAI clearly defines speech A-state and A-trait anxiety using Spielberger’s Trait-State Anxiety theory; the SAI A-state and A-trait sub-scales correlate highly with the STAI A-state and A-trait scales: .75 and .73 respectively; the SAI has been found to be highly reliable in test-retest studies, ranging from .78 to .84; has been very useful in identifying potentially speech anxious individuals; can be used to determine actual levels of anxiety induced by giving a speech; and, is the "ideal instrument for screening individuals for treatment of speech anxiety" (Lamb, 1973, p. 1).
CHAPTER III

RESULTS

The present study tested the following four hypotheses:
(a) Cognitive-Behavior Therapy will have a significantly greater effect than Relaxation Therapy in reducing speech A-state anxiety,
(b) Cognitive-Behavior Therapy will also have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety, (c) Relaxation Therapy will have a significantly greater effect than Cognitive Restructuring in reducing speech A-state anxiety, and (d) Cognitive Restructuring will have a significantly greater effect than Relaxation Therapy in reducing speech A-trait anxiety.

The instrument used in this study to measure speech anxiety was the Speech Anxiety Inventory (SAI), a self-report questionnaire which measures speech A-state and A-trait anxiety. Speech A-state anxiety was measured by the SAI Form X-1, while speech A-trait anxiety was measured by the SAI Form X-2. A subject's level of speech anxiety was represented by separate mean scores on A-state and A-trait anxiety subscales. Mean scores were used because the mean measurement was the primary statistic used in the normalization of the SAI. The greater the level of anxiety, the greater the value scored on the SAI. Consequently, a reduction in anxiety would be represented by a decrease in value.
The results will be divided into two sections: (a) a general analysis of pre-treatment and post-treatment mean scores on both A-state and A-trait measures of the SAI; and (b) a statistical analysis of treatment effects on measures of speech A-state and A-trait anxiety.

General Analysis of Mean Scores

Table 2 represents the comparisons of pre-treatment and post-treatment mean scores, and the relative change in magnitude between these conditions on measures of speech A-state and A-trait anxiety.

Speech Anxiety Inventory Form X-1 (A-state)

In the Cognitive-Behavior Therapy group, the pre-treatment mean score was 50.4, and the post-treatment mean score was 44.0. The difference in pre-treatment to post-treatment mean score was 6.4, representing a 12.7% decrease in speech A-state anxiety from pre-treatment to post-treatment measure. The Cognitive Restructuring group also showed a reduction in speech A-state anxiety. The pre-treatment mean score was 53.4, and the post-treatment mean score was 46.1, a mean difference of 7.3. This stands for a 13.7% decrease in speech A-state anxiety from pre-treatment to post-treatment measure. The greatest decrease in speech A-state anxiety was found in the Relaxation Therapy group. Pre-treatment mean score was 52.8, the post-treatment mean score was 41.4, and the mean difference was 11.4. This mean difference score represents a 21.6% decrease in
Table 2

Summary of Changes in Measures on the Speech Anxiety Inventory, and the Relative Change in Magnitude Between Pre-treatment and Post-treatment Mean Scores

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Mean Difference</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speech Anxiety Inventory - State</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT</td>
<td>52.8</td>
<td>41.4</td>
<td>11.4</td>
<td>21.6%</td>
</tr>
<tr>
<td>CR</td>
<td>53.4</td>
<td>46.1</td>
<td>7.3</td>
<td>13.7%</td>
</tr>
<tr>
<td>CBT</td>
<td>50.4</td>
<td>44.0</td>
<td>6.4</td>
<td>12.7%</td>
</tr>
<tr>
<td><strong>Speech Anxiety Inventory - Trait</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT</td>
<td>60.0</td>
<td>53.4</td>
<td>6.6</td>
<td>11.1%</td>
</tr>
<tr>
<td>CR</td>
<td>62.5</td>
<td>52.0</td>
<td>10.5</td>
<td>16.8%</td>
</tr>
<tr>
<td>CBT</td>
<td>62.4</td>
<td>48.8</td>
<td>13.6</td>
<td>21.8%</td>
</tr>
</tbody>
</table>

speech A-state anxiety across pre-treatment and post-treatment measures.

**Speech Anxiety Inventory Form X-2 (A-Trait)**

All three treatment groups demonstrated a reduction in speech A-trait anxiety across pre-treatment and post-treatment measures. The Relaxation Therapy group pre-treatment mean score was 60.0, the post-treatment mean score was 53.4, yielding a mean difference of 6.6. This mean difference score represents a 11.1% decrease in
speech A-trait anxiety from pre-treatment to post-treatment measure. For the Cognitive Restructuring group, a slightly greater decrease was found. Pre-treatment mean score was 62.5, post-treatment mean score was 52.0, and the mean difference score was 10.5. A 16.8% decrease in speech A-trait anxiety was represented across pre-treatment and post-treatment measures. The greatest decrease in speech A-trait anxiety was found in the Cognitive-Behavior Therapy group. Pre-treatment mean score was 62.5, the post-treatment mean score was 48.8, and the mean difference score was 13.6. This mean difference represents a 21.8% decrease in speech A-trait anxiety from pre-treatment to post-treatment measures.

Statistical Analysis of Treatment Effects

In order to test for any statistical significance between treatment groups, a one-factor analysis of covariance (ANCOVA) was performed comparing the post-treatment test scores against the covariate on separate measures of speech A-state and A-trait anxiety. Pre-treatment test scores were used as the covariate. These results are discussed below.

To facilitate correct interpretations of the results, Huitema (1980) recommends that "the homogeneity of slopes test should be carried out whenever ANCOVA is employed" (p. 47). The results of this analysis proved not to be significant on either A-state (F 2, 9 = 1.92, p.<.05) or A-trait (F 2, 9 = .76, p.<.05) anxiety measures. Therefore, it was determined that the treatment groups were, in fact, homogeneous on measures of state and trait anxiety.
Speech Anxiety Inventory Form X-1 (A-State)

The result of the ANCOVA for the three treatment groups on A-state anxiety measure was found to be significant (F 2, 11 = 4.94, p. <.05). As a result of this significance, the adjusted mean scores were computed for all three treatment groups on post-treatment measures of speech A-state anxiety, and are presented in Table 3.

To determine which treatment would be most effective in the reduction of speech A-state anxiety, a multiple comparison t-test using Fisher's Protected Least Square Difference (LSD) was also performed on each pair-wise comparison of treatments. The results of the t-test on each pair-wise comparison of treatments are presented in Table 4. Analysis of these results indicated that (a) no significant treatment difference was found between the Cognitive-Behavior Therapy group and the Relaxation Therapy group, and (b) a significant treatment difference was found between the Relaxation Therapy group and the Cognitive Restructuring group on measures of speech A-state anxiety.

Speech Anxiety Inventory Form X-2 (A-Trait)

The results of the ANCOVA for the three treatment groups on measures of speech A-trait anxiety was also found to be significant (F 2, 11 = 4.04, p.<05). Adjusted mean scores were also computed for all three treatment groups on post-treatment measures of speech A-trait anxiety, and are presented in Table 3.
### Table 3

Adjusted Mean Scores for All Treatments on Post-Treatment Measures of Speech A-State and A-Trait Anxiety

<table>
<thead>
<tr>
<th>Anxiety Measures</th>
<th>RT</th>
<th>CR</th>
<th>CBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-state</td>
<td>40.8</td>
<td>45.7</td>
<td>44.5</td>
</tr>
<tr>
<td>A-trait</td>
<td>54.2</td>
<td>52.5</td>
<td>48.4</td>
</tr>
</tbody>
</table>

### Table 4

Summary of Protected LSD Pair-Wise Comparisons of Treatments on Measures of Speech A-State and A-Trait Anxiety

<table>
<thead>
<tr>
<th>Anxiety Measures</th>
<th>RT vs CR</th>
<th>Pair-Wise Comparisons&lt;sup&gt;1&lt;/sup&gt;</th>
<th>RT vs CBT</th>
<th>CR vs CBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-state Anxiety</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 2.63&lt;sup&gt;2&lt;/sup&gt;</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 1.91&lt;sup&gt;3&lt;/sup&gt;</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 0.61</td>
<td></td>
</tr>
<tr>
<td>(SAI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-trait Anxiety</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 1.10</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 1.46</td>
<td>t&lt;sub&gt;obt&lt;/sub&gt; = 3.20&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>(SAI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> comparisons made against t(crit) = 2.20, p.<.05.

<sup>2</sup> significant pair-wise comparisons.

<sup>3</sup> pair-wise comparison approaching significance, measures of speech A-state anxiety.
To also determine which treatment would be most effective in the reduction of speech A-trait anxiety, multiple t-tests were performed on each pair-wise comparison of treatments. These results indicated that (a) a significant difference was found between the Cognitive-Behavior Therapy group and the Cognitive Restructuring group, and (b) no significant difference was found between the Cognitive Restructuring group and the Relaxation Therapy group on measures of speech A-trait anxiety.
CHAPTER IV

DISCUSSION

The anxiety literature has shown that behavioral and cognitive methods of therapy, namely Progressive Muscle Relaxation and Cognitive Restructuring, have successfully reduced state and trait anxiety on self-report measures of anxiety. While the literature has not demonstrated the relative effectiveness of a cognitive-behavioral technique in the reduction of state and trait anxiety on self-report measures, this study was designed to examine this issue.

One presumption previously made by this investigator was that a combined treatment program utilizing specific behavioral and cognitive techniques would be more effective in reducing state and trait anxiety than either the behavioral or cognitive techniques separately. Cognitive-Behavior Therapy was selected for this study because it incorporated progressive muscle relaxation training and cognitive restructuring techniques. This program was compared to Relaxation Therapy and Cognitive Restructuring in demonstrating its effectiveness in reducing speech A-state and A-trait anxiety, as defined by Spielberger's (1966) Trait-State Anxiety theory.

A second presumption also made by this investigator was that a behavioral intervention (i.e., Relaxation Therapy) which teaches a person how to manage their overt and covert behaviors would be more effective than a cognitive intervention in reducing speech state anxiety. While, on the other hand, a cognitive intervention (i.e.,
Cognitive Restructuring) which focuses on a person's beliefs, perceptions, or evaluations about the situation, and/or themselves and teaches new thinking patterns would be more effective than a behavioral intervention in reducing speech trait anxiety.

The hypotheses tested in the present study were: (a) Cognitive-Behavior Therapy will have a significantly greater effect than Relaxation Therapy in reducing speech A-state anxiety on self-report measures of speech anxiety; (b) Cognitive-Behavior Therapy will also have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety on self-report measures of speech anxiety; (c) Relaxation Therapy will have a significantly greater effect than Cognitive Restructuring in reducing speech A-state anxiety on self-report measures of speech anxiety; and (d) Cognitive Restructuring will have a significantly greater effect than Relaxation Therapy in reducing speech A-trait anxiety on self-report measures of speech anxiety.

Speech anxiety was assessed by the Speech Anxiety Inventory (Lamb, 1973), a self-report measurement of A-state and A-trait anxiety.

The four hypotheses tested in the present study will be discussed in view of the results obtained on separate speech A-state and A-trait anxiety measures. Further discussion will follow as to the respective clinical implication that can be made from this study.
Speech A-State Anxiety

On self-report measures of state anxiety, all three therapeutic treatments demonstrated a relative effectiveness in reducing speech A-state anxiety, as indicated by lower post-treatment mean scores in comparison to pre-treatment mean scores (Table 3). This finding adds support that all three treatments are valuable interventions in reducing A-state anxiety, as defined by Spielberger.

The hypothesis that Cognitive-Behavior Therapy would be more effective than Relaxation Therapy in reducing speech A-state anxiety was not confirmed. Treatment effectiveness comparing Cognitive-Behavior Therapy with Relaxation Therapy on the A-state scale of the Speech Anxiety Inventory did not provide any statistically significant treatment interaction. This lack of significant treatment interaction provided no evidence to indicate why this hypothesis was not confirmed. The result of the planned comparison between Cognitive-Behavior Therapy and Relaxation Therapy did approach significance and requires comment.

Although a non-significant result might indicate that both treatments were equally effective, there is evidence to suggest that the Relaxation Therapy was more effective than Cognitive-Behavior Therapy in reducing speech A-state anxiety. Examination of pre-treatment and post-treatment mean scores (see Table 2), for both treatment groups, revealed that the Relaxation Therapy group demonstrated a greater decrease on the self-report A-state scales of the Speech Anxiety Inventory than did the Cognitive-Behavior Therapy
group; 21.6% decrease compared to 12.7% decrease respectively.
Investigation of the adjusted means for the Relaxation Therapy and
Cognitive-Behavior Therapy groups also showed that the Relaxation
Therapy group yielded a lower adjusted mean score than the
Cognitive-Behavior Therapy group on the same self-report measure of
speech A-state anxiety (see Table 3). The strong decrease in
post-treatment A-state anxiety scores for the Relaxation Therapy
group suggests that Relaxation Therapy (i.e., progressive muscle
relaxation training) had a greater impact than Cognitive-Behavior
Therapy (i.e., the cognitive learning) in the reduction of A-state
anxiety.

There may be several reasons why Cognitive-Behavior Therapy was
not more effective than Relaxation Therapy in reducing speech A-state
anxiety. Subjects in the Cognitive-Behavior Therapy group may have
spent too much time and effort concentrating on using relaxation and
the new thinking pattern to reduce their A-state reactions during the
speaking situation. In a sense, subjects may have been "overloaded"
by the combination of the two different techniques. One subject in
the Cognitive-Behavior Therapy group indicated that she did not feel
confident in "mastering" the treatment program, particularly in
incorporating both techniques. It is also possible that the length
of treatment may have been inadequate for the Cognitive-Behavior
Therapy to reduce speech A-state anxiety. Several subjects in the
Cognitive-Behavior Therapy group also indicated that they needed more
time in learning the technique of changing negative self-statements
into positive self-statements using self-confrontation.

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The third hypothesis that Relaxation Therapy would be more effective than Cognitive Restructuring in reducing A-state anxiety was confirmed. A significant treatment interaction between Relaxation Therapy and Cognitive Restructuring, when considered with the comparisons of adjusted mean scores, indicated that Relaxation Therapy was more effective than Cognitive Restructuring in reducing speech A-state anxiety. This finding is in agreement with the previous researchers who compared progressive muscle relaxation training with other therapeutic techniques in the reduction of A-state anxiety (Bedell, 1975; Goldfried & Trier, 1974; Stoudenmire, 1975).

The effectiveness of Relaxation Therapy in reducing speech A-state anxiety may have been due to the specific methodology used in the treatment. The procedural method of tensing and relaxing the muscles of the body, along with the proper breathing exercises, provided subjects with an effective coping strategy for managing and controlling the diverse physiological covert and overt behaviors of speech A-state anxiety.

In addition, the progressive muscle relaxation training never really focused on a subject's specific covert or overt behaviors exhibited during the speaking situation. The considerable decrease in A-state anxiety on post-treatment mean scores, however, suggest that subjects in the Relaxation Therapy group were able to generalize this technique to the actual speaking situation. In effect, subjects were able to reduce and control their level of objective anxiety (i.e., the covert and overt behaviors), as defined by Spielberger.
While no actual data were recorded of subject's physiological covert and overt behaviors during the speaking situation, subjects did report at the termination of the study that they felt less anxious and tense, exhibiting fewer signs of "trembling hands, knocking knees" and a "rapidly thumping heart".

Consequently, the specific methodology and the ability of subjects to generalize the progressive muscle relaxation training to a specific situation may be why Relaxation Therapy was more effective than Cognitive Restructuring in reducing speech A-state anxiety.

Speech A-Trait Anxiety

On the self-report measure of A-trait anxiety, all three therapeutic interventions again demonstrated a relative effectiveness in the reduction of A-trait anxiety, as shown in Table 2. This finding adds additional support that all three treatments are valuable in reducing A-trait anxiety (i.e., anxiety proneness), as defined by Spielberger.

Of the three treatments employed, the two treatments which contained cognitive elements proved to be more effective than a treatment containing a relaxation training component. This finding supports previous research which concluded that A-trait anxiety can be effectively reduced by a treatment program focusing on changing a person's perceptions, cognitions, and/or anxiety arousing self-statements (Hussain & Lawrence, 1978; Jaremko, 1980; Meichenbaum, 1972; Meichenbaum et al., 1971; Newmark, 1974; Vagg, 1974; Weissberg & Lamb, 1977).
It was previously shown that A-trait anxiety is defined as the "relatively stable individual differences...in the predisposition to perceive a wide range of stimulus as dangerous or threatening...and to respond to such threats with A-state reactions," (Spielberger, 1972, p. 39). It was also hypothesized that Cognitive-Behavior Therapy would have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety because it would provide the training designed to influence a subject's predisposition to perceive and evaluate a specific stimulus as dangerous or threatening and change or decrease a subject's physiological responses (i.e., their A-state reactions) to these perceptions or evaluations.

Analysis of the treatment interaction between Cognitive-Behavior Therapy and Cognitive Restructuring when considered with the comparison of adjusted mean scores, confirmed the hypothesis that Cognitive-Behavior Therapy would have a significantly greater effect than Cognitive Restructuring in reducing speech A-trait anxiety. The greater effectiveness of Cognitive-Behavior Therapy compared to Cognitive Restructuring in reducing speech A-trait anxiety appears to have been due to this intervention's combination of components, i.e., the cognitive learning plus the progressive muscle relaxation training.

The cognitive learning component employed in the Cognitive-Behavior Therapy treatment taught subjects to become aware of irrational, illogical perceptions or evaluations that produced negative self-statements about themselves, their abilities, and about
the specific situation. Through self-confrontation, subjects were able to change negative self-statements into positive self-statements, developing a new thinking pattern. This new thinking pattern then provided subjects with a way to modify the "dangerous or threatening" perception or evaluations they had about themselves, their abilities, or the speaking situation, thus decreasing their subjective anxiety.

The progressive muscle relaxation training was also employed in the Cognitive-Behavior Therapy treatment. Its purpose was to help subjects control and manage the physiological manifestations of their anxiety. Subjects learned proper breathing and relaxing exercises as a means of controlling their level of objective anxiety (i.e., their covert and overt behaviors) produced as a result of the "dangerous or threatening" perceptions or evaluations about the speaking situation or themselves.

Furthermore, it seemed that the combination of cognitive learning and the progressive muscle relaxation training functioned as a cognitive-behavioral coping strategy for subjects in the Cognitive-Behavior Therapy group, dealing with the overall "anxiety proneness" (i.e., A-trait anxiety) to the speaking situation.

The Cognitive Restructuring treatment, which employed only the cognitive learning, failed to provide subjects with a coping strategy to deal with their overt and covert behaviors. One subject, for example, from the Cognitive Restructuring group believed she was "less anxious and more confident" about speaking at the end of the final treatment session, yet wasn't totally convinced because she
still "felt nervous, tense and shaky" when giving her final speech. Although the subject was able to utilize the cognitive learning in developing a new thinking pattern and coping with her "dangerous or threatening" perceptions, she continued to exhibit A-state reactions because the Cognitive Restructuring treatment failed to provide a way of changing or decreasing her physiological reactions which were produced by her old thinking pattern when confronted with a similar speaking situation. In the study by Anton (1975), it was concluded that the superior effectiveness of the systematic desensitization in reducing test anxiety was partially attributed to the use of "relaxation during the desensitization" (p. 336) which enabled subjects to reduce their level of objective anxiety (i.e., their A-state reactions).

The success of the Cognitive-Behavior Therapy compared to Cognitive Restructuring suggests that a combined treatment employing cognitive learning plus progressive muscle relaxation training is effective in reducing speech A-trait anxiety. It can reasonably be concluded that the most effective treatment for reducing speech A-trait anxiety is one which teaches subjects to cognitively cope with "anxiety proneness" and behaviorally modify or decrease the intensity or frequency of A-state reactions.

A fourth premise tested in the study compared the effectiveness of Cognitive Restructuring against Relaxation Therapy in reducing self-reported speech A-trait anxiety as defined by Spielberger. It was previously theorized that Cognitive Restructuring which focused on changing negative self-statements (i.e., beliefs, perceptions,
etc.,) through self-confrontation would be more effective than Relaxation Therapy, focusing on modifying or decreasing A-state reactions produced by negative self-statements. This hypothesis, however, was not confirmed. Comparison of treatment interaction between Cognitive Restructuring and Relaxation Therapy on the A-trait scale of the Speech Anxiety Inventory showed no statistical significance. It is not clear why this study failed to find support for this hypothesis. The study did find that Cognitive Restructuring and Relaxation Therapy were effective in reducing speech A-trait anxiety. Examination of pre-treatment and post-treatment mean scores (see Table 2) along with the adjusted mean scores (see Table 3), for both treatment groups, revealed a comparable decrease in self-reported A-trait anxiety. This finding suggests that both treatments may be equally effective as brief therapeutic interventions for the reduction of self-reported speech A-trait anxiety.

Clinical Implication and Recommendations

The present study examined the relative effectiveness of three therapeutic interventions—Cognitive-Behavior Therapy, Cognitive Restructuring, and Relaxation Therapy—in reducing self-reported speech A-state and A-trait anxiety. While the findings showed that all three treatments were effective in reducing speech anxiety, the Cognitive-Behavior Therapy proved most effective. For the clinician treating the anxious client, this finding becomes important. Chessick (1976) found that the anxious client most seen in therapy
often exhibits symptoms of a behavioral nature (i.e., dizziness, sweating, hot and cold flashes, etc.) manifested by the sudden onset of intense fear or terror. Other anxious clients may demonstrate an irrational fear or apprehension of a specific object, activity, or a situation (American Psychological Association, 1980). In either case, it would seem that the clinician's first and only treatment of choice for such a client would be a cognitive-behavioral treatment; i.e., a treatment utilizing both cognitive and behavioral techniques to change the irrational, illogical perceptions or evaluations, and provide a means of modifying or decreasing any behavioral covert or overt reactions.

Although the findings from this study tend to support the use of a cognitive-behavioral treatment intervention in reducing speech anxiety, additional research is needed. Future research should be conducted to (a) replicate this study with a larger population sample; (b) examine the effectiveness of cognitive-behavioral treatments with clients having other anxiety disorders (i.e., phobias or anxiety neuroses), or problems that are anxiety related (i.e., chronic pain, anorexia nervosa, occupational stress, etc.); and (c) examine the long-term effects of cognitive-behavioral treatments over time.
Interview Data Sheet

Name: ___________________________ Code #: _______________________

Address: ___________________________ Home Phone: ___________________________

Speaker Organization: __________________________________________

How long have you been speaking? ___________________ months/years

Type of Speeches:  Presentations ______ Debates ______
                  Organized Mtgs. ______ Ceremonial ______
                  Others: __________________________________

Date of last speech: ____________ Where: ________________________

Average number of speeches per month? __________________________

Average length of time per speech: _____________ Mins./Hrs.

Average audience size: _______ Audience known: Yes____ No___

Do you memorize your speech?: ______ Use note cards?: ______

Anxiety symptoms related to speaking: (please check all that apply)

_____ dry mouth     _____ dizziness     _____ hoarse throat

_____ nervousness   _____ shaky hands   _____ indigestion

_____ headache      _____ trembling     _____ constipation

_____ nausea        _____ cold hands    _____ weakness

_____ sweaty palms  _____ tense        _____ diarrhea

_____ weak knees    _____ rapid speech  _____ hyperactivity

_____ confused thinking _____ knotted stomach _____ stuttering

_____ rapid heart beat _____ loss of words

_____ rigid or stiff  _____ warm or flushed _____ shallow breathing

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APPENDIX B

INFORMED CONSENT
Informed Consent

Name:__________________________________________________________

Address:________________________________________________________________

Phone:________________________ Date: __________________________

I understand that I will be participating in an experimental project designed by the researcher as partial fulfillment of his Masters degree in Clinical Psychology at Western Michigan University.

This project will require me to: 1) memorize two 200-225 word speeches; 2) be recorded on cassette tape while giving the speeches; 3) complete a questionnaire after each speech; 4) be given a treatment procedure; 5) make a commitment of five (5) weeks to complete the project; and 6) receive a monetary gift of two dollars per session, for a total of ten dollars when the project is completed.

All aspects of the experimental project have been explained and any questions adequately answered. I also understand that I may ask questions at any time throughout the project.

Since there is a treatment being applied in this experimental project, I understand that the only risk involved in participating is that the treatment may not be effective in reducing my anxiety.

All information will be treated as confidential and names will be coded in order to ensure privacy, and all personally identifiable records will be destroyed at the conclusion of the project. Only the researcher and his advisors will have access to the records. The information collected will be used for professional purposes only. Any reports of the project in professional journals or meetings will preserve anonymity of the participants.

I also understand that I can withdraw from participation at any time throughout the project and that my records will be destroyed upon withdrawal. Failure to complete the project will also forfeit any monetary gift expected for my participation.

With full knowledge of the above, I volunteer my participation in this project.

Signature:___________________________________________

Researcher/Witness:______________________________
APPENDIX C

SPEECH 1
You have to have money these days if you want to get along. Of course, I admit that there are other things in life besides money. For instance, stocks, bonds, travelers checks, and so forth.

Everywhere we go it becomes pretty obvious that money is important. For example, outside Hialeah in Florida, there is a sign which reads as follows: "Keep Florida Green. Bring Money."

Florida is a good example of how money goes these days. A Texas oil man drove up to the front of one of those fabulous Florida hotels in one of those new and expensive convertible automobiles. He handed the doorman a twenty-dollar bill and said, "Here you are boy. Take good care of this car. I just bought it." The doorman nodded understandably and replied, "I know exactly how you feel, sir. I have one just like it."

You don't have to feel sorry for the hotel employees down in Florida. One guest asked a bellboy, who had brought up his luggage, if he had change for five dollars. "Mister," the boy snapped back at him, "in this town a five dollar bill is change."

No wonder workers are always asking for more money. Still the majority of workers are satisfied with their income. All they ask is the same amount a little more often.
APPENDIX D

SPEECH II
More than 2,500 years ago the ancient Greeks developed a formula for the good life. I might say this formula was so satisfactory that never in the 2,500 years that have been passed since that time has it ever been improved upon. A formula for the good life which can endure for 2,500 years and be as suitable now as it was then, has surely been a great contribution to human knowledge. I am sure that you are all familiar with this formula, but for those who may have forgotten it, I will refresh your memory by reminding you that this famous ancient Greek formula for the good life was as follows: "Nothing in excess." Yes, there is a rule of life which should serve as a guide to all our activities—nothing in excess. I think it would be a wise idea to follow this ancient rule once again and bring this happy and enjoyable evening to a close.

Dear friends, members, guests and everybody—our good times should become more frequent. And there should be no regrets or sadness in our parting. A poet once put it far better than I could. And with his words we are adjourned:

Hail and so long---
There's no time for adieu.
Life is best lived
With old friends and new!
Good-bye and God bless all of you.
SPEECH ANXIETY INVENTORY (SAI) FORM X-1

In reference to the speech that you just gave, please read each statement and then circle the appropriate number to the right of the statement to indicate how you felt in this particular speech situation. Be sure to give the answer which best describes your feelings in regard to this speech only.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt tense while I was speaking...........................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I perspired while I was speaking..............................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. While speaking, I was worried about what others thought of me............</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The audience seemed to be interested in what I had to say..................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I felt ill at ease using gestures in my speech................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I felt in a daze while I was speaking.........................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I could not think clearly while I was speaking................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I felt awkward while I was speaking..........................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. At the end of the speech, I would have liked to continue to talk..........</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. My heart seemed to beat faster during my speech..............................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I found myself speaking either faster or slower than usual................</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I felt that I had nothing worthwhile to say to my audience...............</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I felt relaxed while I was speaking..........................................</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>14. While speaking, it was difficult for me to calmly search my mind for the right words to express my thoughts.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>15. I felt calm while I was speaking.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>16. My fingers or hands trembled while I was speaking.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>17. I felt relieved at the conclusion of my speech.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>18. I felt self-confident while I was speaking.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>19. While speaking, I was afraid of making an embarrassing slip of the tongue.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>20. While I was speaking, my words became confused and jumbled.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>21. While I was speaking, I was afraid of forgetting my speech.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>22. While I was speaking, I felt poised.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
<tr>
<td>23. My posture felt strained and unnatural while I was speaking.</td>
<td>Not At All</td>
<td>Somewhat</td>
<td>Moderately So</td>
<td>Very Much So</td>
</tr>
</tbody>
</table>
APPENDIX F

SPEECH ANXIETY INVENTORY (SAI) FORM X-2
SPEECH ANXIETY INVENTORY (SAI) FORM X-2

The following statements refer to the experiences and feelings that have been reported by people immediately before and while speaking to an audience. Please reach each statement and circle the appropriate number to the right of the statement to indicate how you generally feel about making speeches. Be sure to give the answer which best describes how you generally feel about making speeches.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm as I rise to speak...........................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. It is easier to prepare a speech, than to give it............................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. It is difficult for me to calmly search my mind for the right word to express my thoughts.................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Fear of forgetting my speech causes me to jumble my words.......................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I feel tense and stiff while I am speaking..................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Owing to nervousness, I cannot speak and think clearly..........................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I feel awkward while speaking.............................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. My ideas and words flow smoothly while I am speaking..........................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I feel in a daze while speaking...........................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tr>
<tr>
<td>10. I am terrified at the thought of speaking before a large group...............</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I am so frightened at times that I lose my train of thought....................</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. At the conclusion of my speech, I feel that I would like to continue talking....</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
13. If I had a choice, I would rather give a speech than compose it.............. 1 2 3 4
14. Although I talk fluently with friends, I am at a loss for words when asked to speak unexpectedly............... 1 2 3 4
15. I enjoy speaking in public............... 1 2 3 4
16. I face the prospect of making a speech with confidence............... 1 2 3 4
17. While speaking, I am afraid of forgetting my speech............... 1 2 3 4
18. I feel disappointed in myself after trying to address a group of people..... 1 2 3 4
19. The audience seems "with me" while I am speaking...................... 1 2 3 4
20. My posture feels strained and unnatural while I am speaking to a group........ 1 2 3 4
21. While speaking, I become flustered when I am unexpectedly distracted........ 1 2 3 4
22. I feel alert while speaking.............. 1 2 3 4
23. I feel poised when I face an audience...................... 1 2 3 4
24. I am fluent while speaking.............. 1 2 3 4
25. Although I am nervous just before a speech, I soon forget my fears and enjoy the experience...................... 1 2 3 4
26. I feel that I am not making a good impression when I am speaking.............. 1 2 3 4
<table>
<thead>
<tr>
<th></th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. I look forward to an opportunity to speak in public.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. I feel relaxed and comfortable while I am speaking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

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