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A COMPARISON BETWEEN CUE-CONTROLLED
DESENSITIZATION, COGNITIVE RESTRUCTURING, AND
A CREDIBLE PLACEBO IN ALLEVIATING PUBLIC
SPEAKING ANXIETY.

THE OHIO STATE UNIVERSITY, PH.D., 1979
A COMPARISON BETWEEN CUE-CONTROLLED DESENSITIZATION, COGNITIVE RESTRUCTURING, AND A CREDIBLE PLACEBO IN ALLEVIATING PUBLIC SPEAKING ANXIETY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Robert William Lent, B.A., M.A.

* * * * *

The Ohio State University

1979

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Counselors and other college student personnel workers frequently encounter students who experience considerable anxiety in interpersonal-performance situations, such as test-taking or speaking before groups. These anxieties can be especially problematic since the college environment requires that students perform repeatedly within such situations (Deffenbacher, 1974). In fact, successful performance on social-evaluative tasks is nearly mandated by our competitive, industrialized society (Sarason, 1975).

The debilitating effects which performance anxieties may have on interpersonal behavior have long been recognized. For example, speech-communication educators have acknowledged that public speaking anxiety (also referred to as "stage fright" and "communication apprehension") can lead to severe disruption of students' communication ability and to avoidance of social speech situations (Cleavinger, 1959; McCroskey, Ralph, and Barrick, 1970).

Within the past twenty years, a great deal of research has been directed toward the modification of debilitative performance anxiety. As a result of this research activity, systematic desensitization (SD) has emerged as a well-established technique for anxiety reduction (Bandura, 1969; Paul, 1969b; Rimm and Masters, 1974). However,
despite SD's apparent efficacy, there is good reason to believe that it is not a panacea for anxiety reactions (e.g., Bergin and Suinn, 1975). It has been shown, for example, that certain clients may not profit maximally from SD (Kanter and Goldfried, in press; Meichenbaum, Gilmore, and Fedoravicius, 1971). Also, procedural drawbacks, such as problems in anxiety hierarchy construction and presentation, may sometimes limit SD's usefulness (Russell and Wise, 1976). Finally, it has recently been argued that the methodological state of desensitization research does not convincingly demonstrate SD to be effective independent of nonspecific treatment factors such as attention and suggestion (Kazdin and Wilcoxon, 1976).

In response to these considerations, several alternative treatment techniques have been developed and evaluated. One major purpose of the present investigation was to determine the relative effectiveness of two recently developed alternative treatment strategies, cue-controlled desensitization (CCD) and systematic rational restructuring (SRR). The CCD procedure incorporates elements of cue-controlled relaxation (e.g., Russell, Miller, and June, 1975) within a desensitization format (Russell, Lent, and Sipich, 1977). SRR represents a systematic variant of rational-emotive therapy (Goldfried, Decenteceo, and Weinberg, 1974). Both are conceived of as "self-control" strategies, in that each seeks to impart generalized skills which clients may actively employ in coping with a wide variety of anxiety-eliciting situations (Goldfried, 1971). They differ in their relative emphasis on cognitive variables; in SRR, rational reevaluation replaces relaxation as the self-control skill. Initial results with both strategies have been
promising in treating test (Goldfried, Linehan, and Smith, 1978; Lent and Russell, 1978) and interpersonal anxieties (Kanter and Goldfried, in press).

In an attempt to extend these findings, the present study focused on the treatment of public speaking anxiety. Speech anxiety was seen as a suitable target problem for two reasons: first, it constitutes a problem of significant magnitude on college campuses (McCroskey et al., 1970); secondly, the public speaking situation may provide "a prototypic stress situation for the elicitation of interpersonal-performance anxiety" (Paul, 1966, p. 9), thus allowing generalizability to actual counseling and clinical settings (see Bernstein and Paul, 1971).

A second goal of this study involved the comparison of both treatments with an empirically-derived attention-placebo control procedure, termed "subconscious reconditioning" (SR; Russell, Lent, and Crimmings, 1977). Recently, the adequacy of the placebo control methodology used to establish the efficacy of various therapeutic techniques has been strongly criticized (e.g., Kazdin and Wilcoxon, 1976). Specifically, placebo procedures which have been commonly employed in past research may be perceived by subjects as less credible and generate less expectancy for improvement than the active treatments to which they have been compared (Borkovec and Nau, 1972; McGlynn and McDonnell, 1974). As a result, it usually cannot be determined whether observed differences between groups are due to active and specific therapeutic ingredients, or to differential client expectancies for improvement across treatment and control conditions.
To remedy this problem, Kazdin and Wilcoxon (1976) have recommended the development and employment of empirically-derived placebo controls. They argue that, "the utility of a particular control procedure has to be evaluated empirically by assessing the extent to which treatment credibility and client expectancies for change are equal across treatment and control conditions" (p. 739). Preliminary work with the SR placebo suggests that it may adequately control for credibility and expectancy factors, based on Kazdin and Wilcoxon's criterion (Evans, Kazarian, and Greenough, 1977; Russell, Lent, and Crimmings, 1977). However, despite SR's "face validity", it has rarely been used within actual comparative outcome investigations on anxiety reduction. And that, after all, is the "acid test" for a placebo procedure.

Given the above considerations, the present investigation was designed:

1) To compare the effectiveness of cue-controlled desensitization and systematic rational restructuring in alleviating students' speech anxiety

2) To determine if both treatments produce anxiety reduction beyond that due to nonspecific treatment effects (vis-a-vis the subconscious reconditioning placebo procedure)

3) To ascertain whether subjects' perception of treatment credibility and expectation for improvement will remain constant over the course of treatment

4) To examine treatment generalization effects across conditions

5) To compare all three experimental conditions against a no treatment control group.
Efficacy of treatment was determined on the basis of pre-post improvement on measures of self-report and behaviorally-manifested anxiety. In addition, to examine treatment credibility, experimental subjects rated their respective conditions on credibility/expectancy measures at three different points during treatment.
CHAPTER II
REVIEW OF LITERATURE

The literature review is divided into three major sections, in accordance with the major objectives of the present investigation. The first section reviews research on the treatment of public speaking anxiety by several behavioral techniques, including desensitization, implosion and, more recently, self-control methods. Secondly, research representing a cognitive approach to speech anxiety modification is examined. The third section discusses the general state of placebo-control methodology in the treatment literature, with particular emphasis on several outcome investigations.

Behavioral Approaches

Systematic Desensitization (SD)

Over the past two decades, behavior therapy outcome research has expanded at an impressive rate. In large part, this has been due to a growing dissatisfaction with traditional modes of therapy (Eysenck, 1952), coupled with the promise of several pioneering behavior therapy investigations (e.g., Lang and Lazovik, 1963; Paul, 1966). There has also been much progress in identifying many of the formidable methodological obstacles evidenced by early outcome studies (e.g., Kiesler, 1966; Paul, 1967b). Consequently, a great deal of research has focused on the development and evaluation of alternative behavioral
Desensitization has become the most thoroughly researched and validated method for the modification of conditioned anxiety (Allen, 1972; Rimm and Masters, 1974; Wine, 1973). Despite methodological shortcomings in much of this literature (Bernstein and Paul, 1971; Paul, 1967b), SD has withstood rigorous evaluation in its application to several classes of anxiety-eliciting stimuli and phobic responses (Paul, 1969b). Therefore, it is not surprising that most research on the treatment of speech anxiety has involved some form of SD.

In a landmark outcome investigation, Paul (1966) examined the efficacy of individually-administered SD relative to an "insight"-oriented therapy condition and three control procedures. Paul considered the public speaking situation to be a "prototypic stress condition for the elicitation of interpersonal performance anxiety". His subjects were 96 students recruited from an introductory public speaking course, based on their response to several self-report anxiety measures. Treatment was administered by five experienced therapists within five 1-hour sessions.

Paul's results indicate that desensitization was consistently superior to all of the other conditions, as assessed by change on cognitive, physiological and behavioral indices. The insight-oriented and attention-placebo procedures were generally equivalent and superior to a no-treatment control group on most outcome criteria. Treatment gains were maintained over a six week follow-up period.

Despite this study's importance in setting a standard for outcome methodology, Paul's results must still be qualified in light of
several design problems. For example, Paul's therapists were not pro-
vided with an explicit set of procedures to utilize in the insight-
oriented condition (Meichenbaum, Gilmore, and Fedoravicius, 1971).
Therefore, it is possible that this treatment was not administered
uniformly by the therapists; it also leaves the operational meaning of
"insight-oriented" therapy unspecified.

A second problem involved Paul's failure to establish empirically
the credibility of his attention-placebo manipulation relative to the
active treatments. As will be seen later, this oversight still is
being committed in outcome research. Finally, and perhaps most impor-
tantly, Paul's results are limited by his subject selection procedures:
subjects were recruited from among students enrolled in a basic speech
course. Thus, treatment was not strictly limited to desensitization,
but rather might be described as "multicomponent" in nature -- i.e.,
SD plus public speaking skills training (cf. Lent and Russell, 1978;
Mahoney, 1974). From Paul's design, it is impossible to assess the
efficacy of SD-alone in treating speech anxiety.

In a second study, designed to evaluate the efficacy of group-
administered SD, Paul and Shannon (1966) found a combined group SD-
"re-educative discussion" condition to be as effective as individually-
administered SD in alleviating self-reported social-evaluative anxiety.
Treatment involved completion of both speech and test anxiety
hierarchies.

While this demonstration of group SD's efficacy was significant
in terms of reducing the time and resources necessary for effective
treatment, the study's design was suspect on several grounds.
Problems included, (1) a failure to cross therapists with treatments (two different sets of therapists administered the group and individual SD conditions); (2) confounding of treatment procedures with length of treatment, since individual treatment consisted of five hours of therapy, while groups met for nine hours; (3) the provision of group discussion along with SD, thus failing to insure a "pure" SD treatment.

Several speech communication educators, recognizing the debilitating effect of anxiety on students' classroom performance (Giffin and Bradley, 1969), have also examined SD's treatment potential. For example, McCroskey and his colleagues (McCroskey, 1972; McCroskey, Ralph, and Barrick, 1970) have implemented large-scale desensitization programs within the context of on-going speech courses. Their results demonstrate the consistent superiority of SD relative to "no-treatment conditions" (i.e., participation in speech class alone) in alleviating subjectively-experienced speech anxiety. In addition, they found non-professional therapists (graduate speech instructors) to be as effective as professionals in administering SD. Unfortunately, as was the case in Paul's (1966) study, treatment subjects received both SD and public speaking skills training; hence, the effects of SD per se cannot be assessed from this research.

Other researchers have also demonstrated SD's efficacy with public speaking anxiety. Deffenbacher (1974) reported significant subjective anxiety reduction and grade point average gains with group SD procedures. In a study examining SD's value as a "prophylactic" (preventative) strategy, Jaremko and Wenrich (1973) found SD subjects to be significantly less anxious than attention-placebo subjects at posttreatment.
However, both of these studies are extremely weak methodologically. For example, neither study included a no-treatment comparison group, thus failing to account for base-rate change and jeopardizing internal validity (Campbell and Stanley, 1963). While Jaremko and Wenrich did include an attention-placebo control (desensitization with an irrelevant hierarchy), they did not demonstrate that subjects were actually speech-anxious and in need of intervention. Thus, these findings should be interpreted cautiously.

Kondas (1967) compared group desensitization and relaxation (autogenic training) methods in the reduction of "stage fright" with both children (fifth to ninth grade pupils) and college students. He found group SD to be superior to relaxation-alone and two control procedures with both subject populations; SD's effects were stable at a five-month follow-up evaluation.

Marshall, Presse, and Andrews (1976) compared self-administered desensitization (via take-home manuals) with standard therapist-administered SD. While both groups reported comparable subjective anxiety reductions which were generally superior to two control conditions, neither was significantly effective in reducing behaviorally-manifested anxiety, assessed during test speeches. Therapist-administered SD did produce greater generalization of treatment effects than the other conditions.

Although Kondas (1967) and Marshall et al. (1976) both included attention-placebo manipulations (hierarchy presentation minus relaxation; playing bogus "brain wave" tapes, respectively), their relative credibility was neglected. Marshall et al.'s results are further
limited by evidence of differential subject attrition across conditions.

In spite of methodological shortcomings, the bulk of the literature does attest to desensitization's effectiveness in reducing self-report anxiety and, less consistently, in allaying behavioral and physiologically-experienced anxiety (e.g., Paul, 1966; Paul and Shannon, 1966). However, SD is not effective with all clients under all conditions (DiLoretto, 1971; Meichenbaum et al., 1971). For example, it has been argued that certain procedural drawbacks may often limit its efficacy (Kostka and Galassi, 1974; Russell and Wise, 1976).

In contrast, several other recently developed behavioral methods avoid SD's procedural problems by either simplifying or eliminating anxiety hierarchy presentation. Research on the application of these procedures to speech anxiety reduction will be reviewed next.

**Cue-controlled Relaxation (CCR)**

The goal of CCR is to enable clients to achieve relaxation in response to a self-produced cue-word, such as "calm" or "relax". Training in CCR involves a two-step process: (1) progressive muscle relaxation and, (2) continuous association of the relaxed state with the subvocalized cue-word. Eventually, clients are encouraged to utilize this technique in vivo to overcome naturally-occurring anxiety. CCR has been applied successfully to the treatment of various phobic reactions, for example, test anxiety (Russell, Miller, and June, 1974; Russell and Sipich, 1973) and fear of night driving (Russell, Lent, and Sipich, 1977).

To date, there have been three reported applications of CCR to public speaking anxiety. Gurman (1973), in an uncontrolled case study,
produced evidence suggesting CCR's efficacy. He combined CCR with an in vivo practice procedure in successfully treating a severely speech-anxious graduate student. Therapeutic gains were maintained at one and three-month follow-up contacts; the client also reported some transfer effects to interpersonal situations not covered during treatment.

Although this study's simplistic design precludes evaluation of the relative contribution of the various treatment components, it is instructive from a multimodel, individualized treatment perspective (Lazarus, 1976; Mahoney, 1974). It is also interesting that, in contrast to Russell's technique (see Russell and Sipich, 1973), Gurman's CCR procedure did not involve a systematic pairing of the cue-word and relaxed state.

In a partial replication of Paul's (1966) study, Russell (1972) compared the efficacy of individually-administered CCR and desensitization within a controlled investigation. Surprisingly, Russell found neither treatment to be significantly more effective than either an attention-placebo or a no-treatment control condition on measures of self-report, physiological and behaviorally-rated anxiety.

The results of this study obviously conflict with Paul (1966), who found that SD subjects showed significant improvement over placebo subjects on almost all outcome measures. Russell cites a number of possible reasons for this discrepancy. For example, Russell may have employed more stringent subject selection criteria, thus resulting in a more severely anxious sample. Also, Russell's subjects were not concurrently enrolled in a public speaking course, as were Paul's. Finally, it is possible that Russell's placebo may have appeared more
credible to subjects than Paul's. While recent research on the relative
credibility of various attention-placebo manipulations tends to support
this hypothesis (Borkovec and Nau, 1972; Russell, Lent, and Crimmings,
1977), the generalizability of Russell's (1972) findings are limited by
the fact that he allowed four months to elapse between pretesting and
the inception of treatment.

In a later investigation, Russell and Wise (1976) found both group-
administered CCR and SD to be significantly more effective than no-
treatment in reducing self-reported speech anxiety. The two treatments
were comparable on all measures; neither was superior to no-treatment
in alleviating generalized anxiety. Consistent with the results of
McCroskey et al. (1970), Russell and Wise also found that undergradu­
ate "paraprofessional" counselors were as effective as experienced
psychologists in administering the treatment conditions. Unfortunately,
Russell and Wise did not undertake a follow-up assessment or include
objective behavior change criteria. Also subjects were recruited from
introductory communication classes, thus producing multiple-treatment
interference (Campbell and Stanley, 1963).

Implosive Therapy (IT) and Flooding (FLO)

While the terms "flooding" and "implosion" have often been used
interchangeably, Morganstern (1973) has suggested that they are dis­

tinct procedures, differentiated by intensity of stimulus presenta­
tion. Whereas flooding involves prolonged exposure to items at the
top of a desensitization hierarchy, IT focuses on the depiction of
horrifying imaginal scenes, often involving adverse consequences
(Stampfl and Levis, 1967). Both, however, are based on an extinction
Kirsch, Wolpin, and Knutson (1975) compared the efficacy of in vivo FLO, IT, and "successive approximation" techniques in reducing speech anxiety. They found that all three treatment procedures produced greater improvement than an attention-placebo condition on both behavioral and self-report measures. On the behavioral measure, FLO was significantly superior to the other treatment methods.

In a comparison between SD and a flooding procedure ("reactive inhibition"), Calef and McClean (1970) reported that, relative to no-treatment, both treatments were effective in significantly reducing subjective speech anxiety. However, neither treatment produced significant change on a measure of generalized anxiety. Similarly, Mylar and Clement (1972) found automated (tape-recorded) versions of both desensitization and implosion to be significantly more effective than no-treatment on both self-report and behavioral ratings; SD and IT were not differentially effective. Treatment effects were maintained at a one-month follow-up.

Closer inspection of the above three studies reveals several major methodological flaws. Most importantly, the subject selection procedures of all three investigations do not demonstrate convincingly that subjects were highly speech-anxious. For example, Calef and McClean's treatment subjects needed only to score above the group mean (from an initial subject pool of 111 subjects) on a subjective anxiety measure to be considered "highly anxious". The clinical relevance of Kirsch et al.'s study is severely limited in that treatments involved a total of only 20 minutes per subject.
Further, only one of the three studies (Mylar and Clement, 1972) present follow-up data. Kirsch et al.'s design failed to include a no-treatment comparison group and, while an attention-placebo condition was provided, its relative credibility was not determined. Finally, the latter study utilized subjects concurrently enrolled in an introductory speech course, thus producing confounded treatment results.

**Skills Training (ST)**

Although speech communication educators have observed that basic speech courses alone tend to be ineffective in helping students overcome speech anxiety (Giffin and Bradley, 1969; McCroskey et al., 1970), several researchers have recently reconsidered the potential efficacy of skills training programs in dealing with performance anxieties (Fawcett and Miller, 1975).

In general, behavioral anxiety reduction techniques attempt to decrease the conditioned anxiety which interferes with appropriate responses (Bandura, 1969). These approaches seem to be based on the assumption that the client already has the requisite skills to perform competently once anxiety is reduced (Fremouw and Zitter, 1978). However, as research on test anxiety has demonstrated (Allen, 1971; Mitchell and Ng, 1973), this may prove a weak assumption; subjects often still possess deficient performance skills in spite of successful anxiety reduction.

Several recent investigations have studied the relative contributions of anxiety reduction and skills training programs in treating public speaking anxiety. Sherman, Mulac, and McCann (1974) found that a combined self-control relaxation—"rehearsal feedback" (skills
training) package was superior to either method administered independently in alleviating self-reported and behaviorally-rated anxiety. Neither relaxation-alone nor rehearsal-alone was significantly more effective than no-treatment. While this is an important finding, it should be noted that combined treatment subjects appear to have received twice as many treatment sessions as subjects in the other conditions. Therefore, it is unclear whether the combined strategy per se or simply greater exposure to therapy -- or some interaction of these factors -- may have accounted for between-group differences.

Fremouw and his associates have also examined the relative efficacy of a skills training approach. Fremouw and Harmatz (1975) found that a multicomponent intervention (incorporating elements of behavior and cognitive therapies with a skills training program) was significantly effectively relative to a waiting-list control condition on subjective and behavioral anxiety indices. Improvement was maintained at a three-month follow-up.

Unfortunately, this study's design precludes determination of the relative contributions of the various therapeutic ingredients. However, it was particularly interesting in that speech-anxious subjects were successfully employed as therapists for other speech-anxious subjects. This finding further confirms the potential utility of non-professional helpers in speech anxiety reduction programs (McCroskey et al., 1970; Russell and Wise, 1976).

Fremouw and Zitter (1978) recently compared public speaking skills training with a combined cognitive restructuring-relaxation condition. Both treatments were superior to a discussion-placebo condition and
a waiting-list control group in alleviating subjective and behaviorally-rated speech anxiety. These treatment gains were maintained at a two-month follow-up.

While the skills training approach represents a promising line of research, its methodological defects are similar to those of earlier behavioral research. For example, all three studies reviewed employed introductory speech course students as subjects. Although one of the three included an attention-placebo control condition (Fremouw and Zitter, 1978), the credibility of this condition relative to the active treatments was once again neglected.

Self-control Desensitization (SCD)

Recently, there has been an increasing interest in self-control intervention strategies within the fields of counseling and therapy (Goldfried and Merbaum, 1973; Mahoney and Thoreson, 1974). Self-control procedures have been directed toward a variety of target behaviors and have taken a variety of forms, such as anxiety management training (Deffenbacher and Shelton, 1978), coping imagery (Meichenbaum, 1972), and self-control desensitization (Goldfried, 1971). Self-management counseling seeks not only to aid clients in resolving presenting problems, but also to help them become their own change agents (Deffenbacher and Payne, 1977). Applied to anxiety, self-control techniques attempt both to alleviate target-specific anxieties and to develop general coping skills for combating anxiety in naturally-occurring situations.

Systematic desensitization was originally conceived of as a "counter-conditioning" procedure for the alleviation of circumscribed anxiety-eliciting stimuli (Wolpe, 1958). However, despite
desensitization's well-documented efficacy, several authors have ques-
tioned the adequacy of its theoretical base (Kazdin and Wilcoxon, 1976; Wilkins, 1971). For example, Goldfried (1971) suggests that SD is not merely a "passive" reciprocal inhibition to specific aversive stimuli, but rather an "active building in" of generalized anxiety-coping behaviors.

Consistent with his conceptualization of the desensitization pro-
cess, Goldfried (1971; Goldfried and Merbaum, 1973) has proposed sev-
eral procedural modifications designed to facilitate client development of self-control skills. In particular, he recommends that relaxation be taught to clients as an active coping skill; that, during desensi-
tization, clients be encouraged to "relax away" tension in response to hierarchy items, rather than the therapist withdrawing tension-produc-
ing scenes; and, that clients be instructed in the in vivo application of the relaxation response, thus providing behavioral rehearsal and maximizing possible transfer effects. (See Lent, 1977, for an extended discussion of the theoretical and procedural differences between Wolpe's and Goldfried's interpretations of desensitization.)

Following Goldfried's formulation, several recent investigations have examined the efficacy of the self-control paradigm in anxiety reduction. Two basic treatment forms have emerged from Goldfried's orientation: self-control desensitization (SCD) and self-control (or "applied") relaxation (SCR). While both of these methods rely on the use of deep muscle relaxation as an active coping skill, the two differ in that SCD requires presentation of an anxiety hierarchy; SCR does not. In contrast to traditional relaxation and desensitization procedures,
it has been hypothesized that the self-control variants should result in greater generalization of treatment effects (Goldfried and Goldfried, 1977).

Goldfried and Trier (1974) compared SCR with a standard relaxation procedure (i.e., relaxation presented as a series of exercises that would "automatically" lower overall anxiety) and a placebo-discussion condition in treating speech anxiety. While there were no significant between-group differences on any measures, pre-post changes within conditions generally favored the SCR group on several self-report and behavioral measures. Self-control subjects also showed evidence of continued improvement at a six-week follow-up. Goldfried and Trier suggest that this finding is consistent with a view of self-control as the teaching of a learned skill that improves with practice.

A study by Gatchel, Hatch, Watson, Smith, and Gaas (1977) was designed to assess the effectiveness of SCR relative to heart rate biofeedback training and a combined SCR-biofeedback procedure in reducing speech anxiety. Their results indicated that all three conditions produced significant pre-post self-report and behavioral anxiety reduction. The treatments were not differentially effective, nor were they more effective than a false biofeedback-placebo condition. On two physiological measures, however, the treatment groups were superior to the placebo condition.

Deffenbacher and Payne (1977) compared SCR with a self-control desensitization procedure and a wait-list control group. The SCR condition in this instance included elements of cue-controlled relaxation (Russell, Miller, and June, 1975) and in vivo guided practice
procedures. Their findings showed that both treatments were equally effective and superior to the control in decreasing subjective speech anxiety. Additionally, the treatments were effective in alleviating a non-targeted anxiety, providing evidence of generalization effects. Similar successful employment of self-control relaxation procedures has been reported in the treatment of test anxiety (Snyder and Deffenbacher, 1977).

Several investigations have focused specifically on the comparative effectiveness of systematic desensitization and self-control desensitization (SCD). In a study designed to assess the differential generalization effects of the two procedures, Zemore (1975) identified a group of subjects who were fearful of both public speaking and college testing situations. Subjects were then treated for one or the other of their fears by either standard or self-control desensitization. Relative to a no-treatment control group, both treatments produced significant reductions in both the treated and untreated fears.

In discussing his findings, Zemore concluded that there was "no evidence. . . to suggest that Goldfried's (1971) procedures are an improvement over standard systematic desensitization in reducing directly treated fears or in providing subjects with a general anxiety reducing skill" (p. 160). However, Goldfried and Goldfried (1977) have challenged Zemore's conclusions. They contend that Zemore's design did not provide an adequate test of the relative effectiveness of the two approaches to desensitization because, among other reasons, there was no follow-up assessment. This is an important consideration because there is some evidence that subjects participating in
self-control programs continue to improve their coping skills with added practice (e.g., Goldfried and Trier, 1974).

Lent and Russell (1978) were also interested in assessing the effectiveness of the self-control variant of desensitization. Their self-control procedure, termed cue-controlled desensitization (CCD), was combined with study skills training, and compared against a traditional desensitization-study skills program, in treating test-anxious college students. Results of this study show that both desensitization treatment packages were generally equivalent and superior to no-treatment and study skills training alone in reducing test anxiety and enhancing academic performance. Treatment effects were maintained at a six week partial follow-up.

These results are consistent with those of Zemore (1975). Specifically, both studies found the two approaches to desensitization to be comparably effective in reducing specific anxieties and in promoting generalized anxiety reduction. Thus, despite Goldfried's (1971) speculations regarding greater generalization of treatment effects accruing from the self-control form of desensitization, these effects have not yet been demonstrated.

Lent and Russell's (1978) study represents the first attempt to empirically validate the CCD technique. While their results are promising, especially in terms of CCD's relative ease of administration, it must be noted that their design precluded a clear-cut determination of CCD's efficacy as a single-component technique since it was combined with study skills training to form a multicomponent test anxiety intervention.
Methodologically, the self-control research has not been without its shortcomings. For example, three studies reviewed failed to include follow-up assessments (Deffenbacher and Payne, 1977; Gatchel et al., 1977; Zemore, 1975); two did not provide no-treatment controls (Goldfried and Trier, 1974; Gatchel et al., 1977); two confounded treatment with therapist effects by employing a single therapist (Deffenbacher and Payne, 1977; Zemore, 1975); and three did not attempt to control for nonspecific treatment effects (Deffenbacher and Payne, 1977; Lent and Russell, 1978; Zemore, 1975).

On a positive note, none of the speech anxiety studies employed subjects who were concurrently enrolled in public speaking courses (cf. McCroskey et al., 1970; Paul, 1966), thus avoiding "multiple treatment interference" (Campbell and Stanley, 1963). Also, Goldfried and Trier's (1974) study is significant in that it is the first study reviewed thus far that has assessed the relative credibility of its placebo control manipulation. Surprisingly, this control was found to be less credible than their active treatments. This is an important finding, considering that a similar placebo procedure has been used in other speech anxiety outcome work (e.g., Meichenbaum, Gilmore, and Fedoravicius, 1971) under the assumption that subjects find it as credible as actual treatments.

**Summary**

Before turning to a review of cognitive approaches to speech anxiety management, some conclusions on the relative efficacy of the behavioral strategies should be made. First, desensitization, having received the most research attention, has also been the most well-
validated of the behavioral techniques. SD is generally effective in decreasing speech anxiety, at least when self-reported anxiety is the outcome criterion. Results are less consistent with regard to behavioral and physiological changes. Secondly, initial research on such alternative methods as CCR, implosion, flooding and skills training is encouraging, but far from clear-cut. While these methods may offer procedural advantages over SD, they have not shown greater therapeutic effectiveness. Unfortunately, researchers have largely neglected examining subject characteristics which might dictate differential treatment applications.

Self-control relaxation and desensitization programs, which theoretically provide superior treatment generalization effects, represent a promising new line of research. However, preliminary findings have not consistently supported this generalization hypothesis. Clearly, there is a need for further research in this area. The above conclusions must be qualified by the inadequate methodological state of the treatment literature. Until the methodological and conceptual quality of the literature improves, further conclusions and applied implications remain tentative.

Cognitive Approaches

Several years ago, behavior therapists were criticized for de-emphasizing the importance of cognitive variables in the behavior change process (Breger and McGough, 1965; Murray and Jacobson, 1971). Subsequently, there has been much progress in the development of techniques aimed explicitly at modification of clients' cognitive processes (Beck, 1970). In addition to anxiety reduction
(Meichenbaum, 1972), cognitive methods have been applied to such problems as depression (Beck, 1976) and chronic anger management (Novaco, 1977).

Although desensitization and related behavioral techniques have received the larger share of research activity, counseling and therapy researchers have more recently begun to consider the efficacy of cognitive procedures in anxiety treatment (Bandura, 1969; Mahoney, 1974; Rimm and Masters, 1974). Much of the work in this area has been based on the clinical observations of Ellis (1962), who emphasized that modification of maladaptive thought processes could lead to behavior change. Thus, researchers have typically employed various components of Ellis' rational-emotive therapy (RET) within their cognitive treatments.

There have been several reports assessing the relative efficacy of cognitive procedures in the treatment of speech anxiety. Karst and Trexler (1970; Trexler and Karst, 1972) found RET to be superior to no-treatment and placebo conditions in alleviating self-reported speech anxiety. There were no between-group differences, however, on behavioral or physiological indicants of anxiety. It is interesting that their "placebo" consisted basically of standard relaxation procedures. As noted earlier, other investigators have considered relaxation training to be an active treatment condition (e.g., Goldfried and Trier, 1974).

In a partial replication of Paul's (1966) study, Meichenbaum, Gilmore, and Fedoravicius (1971) compared an RET approach with desensitization and a combined RET-SD condition. In general, all three
groups were significantly more effective than a placebo-discussion condition and a wait-list control in reducing subjectively-experienced speech anxiety. In terms of behavioral anxiety reduction, desensitization and RET were more effective than the combined condition and both controls. Treatment gains were largely maintained at a three-month follow-up.

Meichenbaum et al.'s post hoc analysis suggests several interesting treatment x client type interactions. In particular, SD appeared to be the most effective approach with subjects whose speech anxiety was relatively circumscribed; conversely, RET appeared more effective with subjects who suffered from a more pervasive social anxiety. While differential effectiveness based on subject characteristics is potentially quite important (Kiesler, 1966; Paul, 1967b), these particular findings have not been consistently supported (Casas, 1975; Germer, 1975).

In a study discussed earlier, Fremouw and Zitter (1978) compared the effects of a "cognitive restructuring and relaxation" condition with public speaking skills training. Both treatments were superior to placebo and wait-list control groups in reducing self-reported and behaviorally-rated anxiety. The two treatments produced equivalent changes on the behavioral measure; on one self-report measure, the skills training group surpassed the cognitive group. Contrary to expectations, there were no significant between-group differences on treatment generalization measures.

Using a cognitive technique similar to Fremouw and Zitter's, Weissberg (1975) reported successfully treating two speech-anxious
college students. Specifically, these clients were taught to cope with their tension by utilizing anxiety-inhibiting self-statements and muscle relaxation. While these results are uncontrolled, it is significant that Weissberg's clients reported continued improvement at a one-year follow-up.

Thorpe, Amatu, Blakely, and Burns (1976) present further evidence for RET's efficacy. They investigated the relative contributions of two ingredients of the RET approach: imparting "insight" regarding habitual, self-defeating thinking; and overt "rehearsal" of coping self-verbalizations. Their results suggest that "insight" may be the more important ingredient, since subjects receiving insight alone exhibited greater improvement in self-reported anxiety. Unfortunately, no experimental controls were employed in this study.

**Systematic Rational Restructuring (SRR)**

Goldfried and his colleagues have argued that, despite the relatively explicit rationale underlying RET, comparatively "little has been done in outlining specific procedures for implementing the re-learning process" (Goldfried, Decenteceo, and Weinberg, 1974, p. 249). In fact, the studies reviewed above did not employ a uniform approach to RET administration. Investigators have used diverse practices in operationalizing their treatments (e.g., Meichenbaum et al.'s, 1971, "self-instructional training"; Fremouw and Zitter's, 1978, "cognitive restructuring-relaxation"). Unfortunately, treatment descriptions are often vague and sketchy, thus discouraging attempts at replication. Due to the variability of the cognitive techniques used in these studies, there is often insufficient grounds for assessing
interexperiment comparability or the extent to which results may be

In an attempt to place RET within a social-learning framework,
Goldfried, Decenteceo, and Weinberg (1974) have presented a set of
systematic therapeutic guidelines for implementing an RET-based pro-
gram. Their model, termed Systematic Rational Restructuring (SRR),
involves a five-step process: (1) exposing clients (via imagination
or role-playing) to an anxiety-provoking situation; (2) having them
evaluate their anxiety; (3) using anxiety as a cue to identify self-
defeating cognitions; (4) rationally reevaluating self-statements; and
(5) taking note of anxiety level after rational reappraisal.

To provide clients with the opportunity to rationally reevaluate
anxiety-producing cognitions, Goldfried et al. (1974) employ behav-
ioral rehearsal through imaginal or overt role-playing procedures.
They recommend using a hierarchy of increasingly more difficult situa-
tions, with successful coping at one level determining progression to
the next situation. Clients are encouraged to "remain with" a hierarchy
situation until they are successful in reducing their upset via ra-
tional reevaluation. SRR is thus viewed as an active coping tech-
nique, whereby anxiety provides the individual with the signal for
rational reappraisal. This approach to rational restructuring par-
allels the self-control variation of desensitization (Goldfried, 1971),
with the exception that rational reevaluation replaces relaxation as
the self-control skill.

Goldfried et al. (1974) also present some case report data sug-
gestling the efficacy of this technique in decreasing self-reported
speech anxiety. More convincing evidence of SRR's efficacy comes from several recent controlled outcome investigations. Casas (1975) compared the effectiveness of SRR and self-control desensitization in reducing speech anxiety. His results revealed no significant differences between either condition and a no-treatment control group on most measures; all three groups showed significant improvement between pre- and post-assessment. However, somewhat in line with Meichenbaum et al.'s (1971) results, Casas (1975) did find SRR to be the most effective technique with subjects who were excessively concerned about the evaluation of others.

In a study directed at test-anxious students, Goldfried, Linehan, and Smith (1978) compared SRR with a waiting-list control and a "prolonged exposure" condition. In the latter, subjects were presented with the same hierarchy items used in SRR but were not provided with instructions for coping cognitively. This procedure was provided to control for possible extinction effects. SRR was found to be superior to the other two conditions in reducing self-reported test anxiety and in promoting generalization effects to other social-evaluative fears; no behavioral measures were included. Treatment effects on several measures were maintained at a six-week follow-up.

Kanter and Goldfried (in press) investigated the relative efficacy of SRR, self-control desensitization (SCD), and a combined SRR-SCD condition in treating interpersonal anxiety. Contrary to Casas' (1975) results with speech-anxious subjects, these authors did find evidence for the differential effectiveness of treatments. While no significant between-group differences emerged across behavioral or
physiological criteria, all three treatments were significantly more effective than a waiting-list control in producing reductions in self-reported anxiety. Among the treatments, SRR resulted in the most consistent within-group improvement on self-report anxiety indices; SRR was also significantly more effective than desensitization in reducing trait anxiety. No interaction was found between effectiveness of treatment procedure and initial level of social anxiety (cf. Casas, 1975; Meichenbaum et al., 1971). Treatment results were generally maintained over a nine-week follow-up period.

While Kanter and Goldfried interpret their results to "support the relative superiority of cognitive restructuring over desensitization in the treatment of social anxiety", this claim may be premature. For one thing, differential improvement was limited to self-report measures of anxiety; for another, previous research has produced discrepant findings (DiLoreto, 1971). Also, Kanter and Goldfried's findings are limited by the fact that only one therapist was employed, thus confounding therapist and treatment effects. It is significant, however, that, in an attempt to enhance external validity, these investigators employed subjects who were community residents.

One other point should be mentioned about this study. While other cognitive modification procedures for anxiety reduction have consisted of treatment packages containing elements of rational-emotive therapy and relaxation training (e.g., Fremouw and Zitter, 1978; Meichenbaum, 1972; Weissberg, 1975), initial results with SRR indicate that cognitive restructuring alone is effective (Goldfried et al., 1978; Kanter and Goldfried, in press).
In terms of methodological adequacy, the cognitive therapy research in this area generally parallels the behavioral outcome studies reviewed earlier. Specific design problems in the above studies have included: the use of subjects concurrently enrolled in public speaking courses, thus producing confounded treatment effects (Fremouw and Zitter, 1978; Trexler and Karst, 1972); employment of a single therapist in administering treatments, thereby possibly yielding therapist-specific results (Trexler and Karst, 1972; Kanter and Goldfried, in press); either omitting relevant control procedures (Casas, 1975; Kanter and Goldfried, in press; Thorpe et al., 1976) or failing to establish the relative credibility of placebo conditions (Fremouw and Zitter, 1978; Meichenbaum et al., 1971); and, failing to assess anxiety across response modes other than self-report criteria (Goldfried et al., 1978).

It is impressive, however, that all of the studies reviewed in this section present follow-up data. Also, several have attempted to assess the credibility of their placebo-controls (Goldfried et al., 1978; Trexler and Karst, 1972); in both cases, subjects' expectancies were comparable for placebo and treatment conditions. While Fremouw and Zitter (1978) and Meichenbaum et al. (1971) did not provide placebo credibility checks, other research (employing a placebo condition similar to the one used in both of these studies) suggests that their placebo procedures may not have been particularly convincing (Goldfried and Trier, 1974).

Based on the research presented in the first two sections of this review, several conclusions relevant to the present study may be
advanced. First, compared to no-treatment, both self-control desensitization and cognitive restructuring appear to be relatively successful in alleviating self-report anxiety; results are somewhat less consistent in regard to physiological and behaviorally-manifested anxiety. Second, there is some evidence to suggest that these two approaches may be differentially effective in producing change on different measures. Third, there is a continuing need to determine the efficacy of both procedures beyond nonspecific treatment factors and in relation to generalization of treatment effects.

Throughout the research reviewed thus far, problems with placebo methodology have frequently been mentioned. In fact, this has been a procedural shortcoming for outcome research in general. In order to more closely examine the relevant issues, the following section will focus on some recent research in the placebo literature.

**Analogue Therapy and Nonspecific Treatment Effects**

Recently, researchers have begun to question the adequacy of control conditions used to establish the efficacy of various therapeutic procedures (e.g., Borkovec and Nau, 1972; Kazdin and Wilcoxon, 1976). As Osarchuk and Goldfried (1975) have observed, an important part of controlled outcome research involves the partialling of effects of presumably active treatment conditions from those changes due primarily to nonspecific treatment factors, e.g., participation in therapy, therapist attention, expectation of improvement. In order to be considered truly efficacious, it must be demonstrated that a given treatment produces client change beyond nonspecific treatment effects.
The "attention-placebo" (AP) group has been widely adopted as a strategy to control for nonspecific treatment factors. An adequate placebo control should meet the dual criteria of being therapeutically "inert", yet capable of generating client expectancies for improvement equal to that of the active treatment conditions. In this way, any placebo treatment effects can be attributed solely to nonspecific factors.

Although a variety of placebo procedures have been described in the literature (e.g., Paul, 1966; Marcia, Rubin, and Efran, 1969), investigators generally have not tried to demonstrate that these conditions are perceived by subjects to be as credible as active treatments (Davison and Wilson, 1973). Simply designating a technique as "attention placebo" does not insure that subjects will find it believable. Thus, in the present literature, it usually cannot be determined whether observed differences between groups are due to active therapeutic ingredients, or to differential credibility and expectancy for improvement across treatment and control conditions (Russell, Lent, and Crimmings, 1977).

The general deficiency in placebo methodology has received the most attention from desensitization researchers. However, this issue is equally relevant to cognitive therapy outcome studies, or any other type of analogue treatment research. The remainder of this section will involve a brief review of research on the control of nonspecific treatment factors relative to desensitization. Because excellent extended discussions of this topic are already available (e.g., Davison and Wilson, 1973; Kazdin and Wilcoxon, 1976; Wilkins, 1971), the
current review will focus on a few exemplary studies, including several recent investigations which have not been reviewed by others.

The inadequacy of the placebo control groups to which desensitization is frequently compared has been revealed by having subjects evaluate treatment rationales or simulate treatment effects. For example, Borkovec and Nau (1972) had college students read the rationales and procedural descriptions of various treatment and control conditions. Subjects then rated the credibility and expectancy for improvement generated by all conditions. Interestingly, desensitization was rated as more credible than each of the control conditions, including Paul's (1966) famous placebo procedure.

Other investigators have presented subjects with taped excerpts of desensitization and placebo procedures (McGlynn and McDonnell, 1974) or asked subjects to simulate performance on therapy outcome measures (Nau, Caputo, and Borkovec, 1974). Results of this research have similarly shown SD to be perceived as more credible than various placebo conditions.

While the above research suggests that treatment and nonspecific treatment control conditions employed in desensitization research may generate differential client expectations, this sort of research is limited by its "quasi-control" nature (Kazdin and Wilcoxon, 1976). That is, exposure to information about treatment (e.g., rationales and procedural descriptions) is not necessarily tantamount to the expectancy for change generated by the experience of actual treatment. In fact, Kirsch and Henry (1977) have found that subjects actually undergoing treatment may respond differently on credibility measures than
subjects who are simply asked to "role-play" the effects of treatment.

A more convincing demonstration of the role of client expectancy for change and demand characteristics might be achieved within a treatment study rather than a quasi-control experiment (Kazdin and Wilcoxon, 1976). In an outcome study, Marcia, Rubin, and Efran (1969) compared desensitization with a seemingly highly credible placebo to alter the fear of snakes ("T-scope therapy"). The latter involved providing subjects with tachistoscopic exposure to blank slides that were supposedly of snakes. These slides were presented at subliminal levels and paired with false physiological feedback which indicated improvement over the course of treatment. Marcia et al.'s results indicated that desensitization was no more effective than T-scope therapy given under high-expectancy instructions in reducing subjective and behavioral fear.

However, this study has been criticized severely on methodological grounds (e.g., Bandura, 1969; Davison and Wilson, 1973). While several other relatively well-designed studies on the effects of expectancy in contributing to or accounting for the effects of desensitization have been conducted, they have produced conflicting results (e.g., Kirsch and Henry, 1977; McReynolds, Barnes, Brooks, and Rehagen, 1973; Tori and Worell, 1973). "High-expectancy" placebo conditions have been equally effective, less effective, or more effective than desensitization (Kazdin and Wilcoxon, 1976). Unfortunately, many of these findings are limited in that investigators have not tried to assess the relative credibility of treatment and control conditions.

In addition to comparing desensitization with "high-expectancy" placebo and "pseudo-therapy" conditions, several studies have assessed
the role of expectancy for therapeutic change within desensitization proper. Specifically, subjects' expectancy for success have been manipulated by presenting SD as a highly effective therapy, a neutral procedure, or an ineffective intervention that should not alter behavior. For example, in treating speech-anxious students, Woy and Efran (1972) compared SD groups which were given either positive or neutral expectations concerning successful outcome. While both groups were comparably effective on most measures, the high-expectancy SD group did produce greater gain on one subjective variable. These results were supported in a partial replication of this study by Hemme and Boor (1976). Both sets of authors concluded that SD's efficacy is thus affected by a "modest expectancy effect".

More recently, Sullivan and Denney (1977) have also assessed the role of different instructional sets in accounting for SD's effectiveness. They found that snake-phobic subjects given positive therapeutic instructions experienced greater anxiety reduction than subjects exposed to either negative therapeutic (i.e., presenting SD as a relatively ineffective therapy) or experimental (i.e., presenting SD as an experimental procedure) instructions. These authors similarly suggest that "expectancy was a consistently influential factor affecting treatment outcome".

Slutsky and Allen (1978) examined the extent to which contextual cues mediate the effectiveness of SD and a "plausible" placebo in alleviating speech anxiety. Specifically, each condition was conducted in a context that either stressed the clinical relevance of the procedure or presented the procedure as a laboratory investigation of fear.
without therapeutic implications. Their results indicate that desensitization was effective in reducing anxiety in both the laboratory and clinical contexts, whereas the placebo was effective only in the therapeutic setting.

While they interpret their findings as indicating support for the efficacy of SD beyond nonspecific factors, closer inspection of their data suggests that this inference may be unwarranted. For example, Slutsky and Allen did not empirically demonstrate that their placebo was perceived by subjects as "plausible". Also, the equivalence of the SD and placebo groups on most measures within the therapy context is crucially important, since results in this context should have greater relevance to real treatment settings than those obtained within the "laboratory" context.

Finally, Kirsch and Henry (1977) have also examined the influence of perceived treatment credibility on the desensitization of speech anxiety. They found SD and a placebo condition to be comparably effective in alleviating subjective and behaviorally-measured anxiety. This study is especially noteworthy in that the credibility of the placebo procedure relative to desensitization was demonstrated empirically by having actual experimental subjects rate their treatments.

While Kirsch and Henry concluded that "the results of desensitization may be duplicated by at least some equally credible placebo procedures" (1977, p. 1059), methodological considerations limit the external validity of their findings. In particular, the therapists in this study were advanced undergraduates with little or no clinical experience with desensitization procedures.
Despite the methodological diversity and abundance of conflicting findings amongst the studies reviewed, several conclusions may be warranted. Most importantly, while desensitization is undoubtedly effective (Bandura, 1969; Paul, 1969b), there is little agreement regarding the specific active ingredients accounting for its success. Few studies have used placebo control procedures that are demonstrated to possess as much "face validity" as desensitization. In these few studies that do equalize client expectancy for success across conditions, results do not consistently support the efficacy of SD beyond nonspecific treatment factors (Kazdin and Wilcoxon, 1976). Therefore, at present, "cognitive-expectancy" theoretical formulations (e.g., Marcia et al., 1969; Wilkins, 1971) cannot be ruled out in accounting for the effects of desensitization. Since cognitive therapeutic techniques have been compared against placebo procedures similar to those used in desensitization research (Fremouw and Zitter, 1978; Meichenbaum et al., 1971), their efficacy independent of nonspecific factors may likewise be suspect.

In sum, it appears that nonspecific treatment effects have not been adequately controlled in anxiety treatment research. The effectiveness of placebo conditions in controlling for nonspecific factors has rarely been tested and is usually simply assumed (Borkovec and Nau, 1972). However, recent research suggests that several innovative placebo procedures, comparable to desensitization in credibility and expectancy factors, may now be available. These include "systematic ventilation" (Kirsch and Henry, 1977), "prolonged exposure" (Osarchuk and Goldfried, 1975), and the placebo employed in the present study, "subconscious
reconditioning" (Evans, Kazarian, and Greenough, 1977; Russell, Lent, and Crimmings, 1977). While preliminary work suggests that these procedures may adequately control for nonspecific treatment effects, there is a need for further empirical validation within the context of outcome studies.
CHAPTER III

METHOD

Subjects

Subject selection was accomplished in two phases. The initial phase served to screen a sample which exhibited high speech anxiety, based on a self-report criterion. Five hundred seventy-seven students enrolled in introductory psychology courses at the Ohio State University were administered the Personal Report of Confidence as a Speaker (PRCS; Paul, 1966). The resulting data were used to establish a frequency distribution and a cut-off criterion for the inclusion of subjects in the second stage of selection. Specifically, those scoring above the 80th percentile (scores $> 20$) formed the pool of potential treatment subjects ($N = 121$).

In the second phase of recruitment, approximately 65 subjects meeting the above criterion were contacted individually and invited to participate in the investigation. Interested subjects were asked to attend an orientation/assessment session for the "Speech Reactions Program". At this session, the nature of the research project was discussed and pretreatment indices of anxiety were administered. The latter included measures of subjectively experienced anxiety as well as observer ratings of performance anxiety obtained during a three-minute test speech. Of the subjects who were contacted, 57 attended
pretesting sessions and were subsequently assigned to treatment groups. After treatment, the same anxiety measures were re-administered at post-test sessions. All subjects were offered experimental credit for their participation in the study. (See Appendix A for a more complete description of subject selection procedures.)

The mean age of subjects assigned to experimental conditions was 18.9, \(SD = 3.4\). This sample consisted of 15 males and 42 females, predominantly of freshmen and sophomore standing, e.g., the mean number of quarters completed in college was 2.1, \(SD = 2.6\).

**Instruments**

Two general types of dependent variables were used to assess the relative efficacy of the treatment procedures. The first type involved self-report indices designed to assess (a) specific speech anxiety; (b) emotional state during an actual speech situation (state anxiety); (c) general (trait) anxiety level and extent of distress in other interpersonal situations. The second response mode involved behaviorally-manifested anxiety within a Test Speech situation. All outcome measures were administered one week before treatment began and one week after its termination.

In addition, treatment credibility, assessed by self-report rating scales, was monitored at three intervals — at the end of the first, third, and fifth (final) treatment sessions. A more detailed description of the dependent variables is given below.

**Self-report Anxiety**

(a) **Specific speech anxiety** — The two self-report measures used to assess speech anxiety were the Personal Report of Confidence as a
Speaker (PRCS; Paul, 1966) and the S-R Inventory of Anxiousness, Speech Form (S-R Speech; Endler, Hunt, and Rosenstein, 1962).

The PRCS is a 30-item true-false questionnaire designed to measure subjective confidence and ability in making a speech before an audience. (See Appendix B.) The original PRCS, constructed by Gilkenson (1962), consisted of 104 items. For this form, internal consistency, based on odd-even item reliability using the Spearman-Brown formula, was found to be .93. Over four months test-retest reliability was reported at .60. The PRCS correlated at about .40 with observer ratings of anxiety, obtained during class speeches. The relationship between the PRCS and a measure of intellectual ability was very weak, ranging between .02 and .12. Further normative data is provided by Gilkenson (1962).

Paul (1966) developed the current form in order to "satisfy time restrictions and improve the psychometric characteristics of the questionnaire" (p. 12). Unfortunately, Paul (1966) does not present much data on the PRCS' psychometric characteristics. He did, however, report a significant correlation between the PRCS and the S-R Speech scale ($r = .62, p < .01$). This finding, based on the correlation of change scores of subjects within his treatment study, is impressive, considering that the range of scores was restricted by sample homogeneity. He also found change on the PRCS to correlate significantly with observer ratings of improvement ($r = .48, p < .01$). These findings suggest that the instrument is related to other measures which purport to measure the same phenomenon. Despite the dearth of normative data on the short form of the PRCS, perusal of the literature suggests that it has been the measure of choice in speech anxiety outcome
S-R Speech is one of the scales comprising the S-R Inventory of Anxiousness (Endler et al., 1962). The format of this instrument involves presenting a stimulus situation ("You are getting up to give a speech before a large group") to which subjects are asked to respond by rating their anticipated anxiety on 14 items, each consisting of a 5-point scale. (See Appendix C.) Endler et al. present evidence for the reliability and validity of the 11 scales (situations) which make up the S-R Inventory. Internal consistency was examined using Alpha coefficients. For total scores, reliability ranged between .95 and .97; for the Speech scale, it ranged between .83 and .88. In general, the Inventory does not correlate too highly with measures of general anxiety, suggesting that these specific situational anxieties may be considered apart from general anxiety. Paul (1966) reported a positive correlation between change on the S-R Speech scale and behaviorally-rated improvement ($r = .32, p < .01$).

(b) State Anxiety (during Test Speeches) -- Following Paul's (1966) procedures, the Anxiety Differential (AD; Husek and Alexander, 1963) was administered to subjects immediately before their test speeches. This instrument, developed to measure situationally-aroused stress or "state" anxiety, was constructed on a semantic differential format. It consists of 18 items (or concepts) which subjects are asked to respond to on a 7-point scale, based on what each concept "means" to them at the moment the questionnaire is being completed. (See Appendix D.)
Husek and Alexander's (1963) findings suggest that the AD is sensitive to situational anxiety. Because the AD purports to measure cognitive changes produced by anxiety-arousing stimuli, it was administered to subjects in the present study just prior to their giving an actual Test Speech, under ego-involving instructions (cf. Lent, 1977).

A unique advantage of the AD is that it may not be readily susceptible to response distortions, since most subjects do not know what the instrument is attempting to measure (Husek and Alexander, 1963). Alpha coefficients on the AD, assessing internal consistency, were found to range between .58 and .80, with a median correlation of .68.

(c) Generalization Measures -- Several measures were used to examine treatment generalization effects. They included the State-trait anxiety inventory, trait form (STAI-T; Spielberger, Gorsuch, and Lushene, 1970); S-R Inventory of Anxiousness, Job Form and Exam Form (S-R Job and S-R Exam; Endler et al., 1962); and, the Social Anxiety Scale, developed by Watson and Friend (1969).

The STAI-T provides a measure of trait, or characteristic, anxiety. It contains 20 statements which subjects are asked to respond to on a 4-point scale, based on how they "generally feel". (See Appendix E.) Spielberger et al. suggest that the STAI-T reflects "relatively stable individual differences in anxiety-proneness". They report test-retest reliability as ranging between .73 and .86, for periods up to about three months. The STAI-T was found to correlate significantly with another measure of trait anxiety, the Taylor Manifest Anxiety Scale ($r = .80$). This lends support to its concurrent validity. Further normative data are presented by Spielberger et al. (1970).
S-R Exam and S-R Job, like the S-R Speech Scale, provide measures of situation-specific anxiety. They were included in the present study to examine possible transfer of training effects to other social-evaluative situations. S-R Exam and S-R Job assess subjective anxiety elicited by college exam-taking and job interviews, respectively. They follow the same format as the S-R Speech scale, described above. (See Appendix F and G.) Both scales possess adequate internal consistency. Alpha coefficients for S-R Exam range between .68 and .87; for S-R Job, they range between .74 and .89. The intercorrelations between these two S-R scales is significant ($r = .61, p < .01$). Endler et al. (1962) present additional psychometric data on these instruments.

The Social Anxiety Scale (Watson and Friend, 1969) is composed of two sub-scales, the Social Avoidance and Distress scale (SAD; 28 items) and the Fear of Negative Evaluation scale (FNE; 30 items). Both contain true-false response formats and purport to measure different aspects of social-evaluative anxiety. According to the authors, the SAD questions the degree of interpersonal anxiety experienced in various social situations. Subjects scoring high on SAD tend to worry about and avoid social interactions. The FNE reflects concern over being evaluated by others. High FNE scorers tend to become nervous in evaluative situations and work hard either to avoid disapproval or gain approval. (See Appendix H and I.)

Watson and Friend (1969) present normative data on the two scales. Scale homogeneity was examined using mean biserial correlations of each item with its own scale. Mean biserial correlation of the SAD items was .77; it was .72 for the FNE. The intercorrelation between the
SAD and FNE is moderate, ranging between .32 and .51. Thus, while the two scales are related, there is not a great deal of common variance. Over a one month interval, test-retest reliability for the SAD ranged between .68 and .79. For the FNE, test-retest correlations ranged between .78 and .94.

**Observer-rated Speech Anxiety**

After administration of the self-report anxiety measures, subjects were asked to deliver a test speech before an audience consisting of other subjects and two behavioral observers. Each subject presented two test speeches, one before and one after treatment. In order to obtain an estimate of behaviorally-manifested anxiety, subjects were scored on a modified form of the Timed Behavioral Checklist for Performance Anxiety (TBCL; Paul, 1966) during presentation of their speeches. (See Appendix J.)

The original instrument lists 20 observable manifestations of anxiety, the presence or absence of which is recorded by trained observers. Paul (1966) reported excellent inter-rater reliability using this technique, .93 and .94 for pre- and posttest speeches, respectively. However, pilot testing prior to the present investigation revealed several problems with the original Checklist technique. For example, observers found it difficult to discriminate between several of the items (e.g., "face muscles tense" and "face 'deadpan'").

To alleviate some of these definitional and mechanical problems, the TBCL was revised for the present study. The current form lists 18 behaviors and was scored by two, rather than four, observers. Also, the present investigation had subjects speak for three minutes...
instead of four — both to reduce time constraints and because pilot work had established that relatively few subjects were able to speak for four minutes with little preparation. The rating period was divided into successive 30-second time intervals. Raters were trained to observe for 20 seconds and then to record for ten seconds throughout the first two minutes of a speech. Both raters were advanced graduate students in counseling psychology, trained together during three one-hour sessions over a two-week period. They were instructed not to make judgments of "anxiety", but to indicate only the presence or absence of the behaviors on the Checklist. Training consisted of observation of live "role-play" speakers and was directed at developing common definitions of the TBCL behaviors. TBCL scores, derived by pooling the total incidence of behavioral manifestations over raters, may be considered an objective analogue indicant of speech anxiety (Paul, 1966).

In addition, a second behavioral index of anxiety was developed for the present study. Despite instructions to speak for three minutes, it was observed that many subjects had difficulty attaining this criterion. For example, during pretesting, speeches varied in length from 90 to 180 seconds. To accommodate this situation, the raters followed a standard procedure. If a subject stopped and indicated he was finished before the three minute trial had elapsed, one rater would encourage the subject to continue speaking for the remainder of the trial. However, if the speaker similarly hesitated a second time prior to the end of the trial, he was thanked and given permission to return to his seat. This procedure offered two benefits. First, it allowed for ethical treatment of subjects, since the test speech was undoubtedly a
stressful situation for the majority. Secondly, it provided another behavioral measure, since a range of speech times resulted.

Several investigators have related anxiety to aspects of speech characteristics such as word count, duration of silences, and number of "ah" statements (e.g., Boomer and Goodrich, 1961; Geer, 1966). In the present study, it was assumed that there may be an inverse relationship between speech anxiety and length of test speeches. Thus, length of speech, or speech time (ST), was included as a separate dependent variable to reflect possible speech disturbance resulting from performance anxiety. This measure was obtained by one of the raters, who timed each test speech with a stop watch.

Treatment Credibility

The relative credibility of the treatment procedures was assessed by the Borkovec-Nau (1972) treatment credibility/expectancy-for improvement scale (CRED). Subjects are asked to indicate their feelings about their own treatment procedure by responding to each of the five CRED items on a 10-point scale (see Appendix K). Credibility rating scores are summed over the five items of the scale.

Treatment credibility was monitored on three separate occasions, at the end of the initial, third and final treatment sessions. At the first session, subjects had limited experience with treatments. Counselors provided them with rationales, descriptions of the procedures and introductory experiences. In addition, subjects were asked to read written procedural descriptions, to foster a common base of knowledge regarding their own treatment technique. At the second and third credibility assessments, subjects were simply asked to rate their
treatment based on their feelings "at this point" in the program.

While Borkovec and Nau (1972) do not present reliability data, some evidence for the scale's validity is provided by Nau, Caputo, and Borkovec (1974). For example, credibility ratings were found to correlate positively with simulated treatment responses in three different experiments (r = .30, .38, and .60, respectively).

Follow-up

A two month follow-up assessment was conducted to examine the stability of treatment effects. This final testing session was limited to four self-report variables, the PRCS, S-R Speech, S-R Exam, and STAI-T. At this session, subjects were also given the opportunity to request additional treatment and obtain the results of the study.

Treatments

Treatment was conducted in small group sessions. Subjects were seen in groups of five to seven for five weekly one-hour sessions. Missed appointments were rescheduled during the same week and, generally, conducted on an individual basis. Each of the counselors administered each of the three experimental treatments. The counselors were given treatment manuals describing the procedures and rationales for each condition.

Prior to the beginning of treatment, counselors met with the investigator to discuss the procedures described in the manuals. Since neither of the counselors had previously administered the rational restructuring program, a therapy manual for this condition was secured from Goldfried (1973) and adapted to the treatment of speech anxiety. Likewise, manuals for cue-controlled desensitization (Lent, 1977) and
the placebo condition (Russell, 1972) were adapted to the present study. During treatment, the counselors continued to meet weekly with the investigator to discuss any technical problems and to ensure that the treatments were administered uniformly.

On the basis of pretreatment PRCS and TBCL scores, subjects were randomly assigned from stratified blocks into one of four conditions: 

**Cue-controlled Desensitization (CCD; n = 14)** — This treatment program closely followed the combined self-control relaxation-systematic desensitization format described by Lent (1977). CCD consists of four steps: (a) progressive muscle relaxation; (b) pairing the relaxed state with a self-induced cue word ("calm"); (c) presentation of hierarchy items; and (d) coping with tension by self-administration of the cue-controlled relaxation response. The treatment rationale for this condition was based on Goldfried's (1971) theory of desensitization as training in a self-control coping skill.

In the first treatment session, about 15 minutes were spent in introductions, discussing the origin of speech anxiety, and providing a rationale for the treatment procedure. Another ten minutes were devoted to a description of specific therapy procedures. When time permitted, subjects were shown the basic 12-item speech anxiety hierarchy (Appendix L), and an attempt was made to tailor the hierarchy to individual group members' concerns. During the remainder of the first session, subjects received training in progressive muscle relaxation (Bernstein and Borkovec, 1973). They were instructed to practice the 16-muscle group relaxation procedure between sessions, twice a day.
In the second session, the first five to ten minutes were spent checking the frequency and success of relaxation practice and correcting problems with the procedure. Next, the treatment procedures were reviewed and subjects were given imagery practice. This was followed by relaxation induction combined with cue-word pairing. The latter strategy, following the procedures of Russell and Sipich (1973), was aimed at developing a cue-controlled relaxation response. Specifically, subjects were first taught the six-muscle group version of deep muscle relaxation. After relaxation was achieved, cue word association was developed by having subjects attend to their breathing while silently repeating the word "calm" in synchrony with each exhalation. Two sets of 20 cue word-relaxed state pairings were separated by a 60-second interval during which subjects' attention was focused on general feelings of relaxation.

The third through fifth sessions followed the same basic format: relaxation homework and in vivo coping practice were reviewed and reinforced, with special attention paid to procedural difficulties (five to ten minutes); relaxation was induced via the four-muscle group version of the Bernstein-Borkovec technique, followed by cue word association (15 minutes); desensitization proper was administered (30-40 minutes). The desensitization technique paralleled the procedure employed by Lent (1977). Following the second cue word association set, hierarchy items were presented. Subjects were instructed to imagine themselves in each scene throughout the entire presentation and to cope with experienced tension by using the cue word. After each one-minute exposure, subjects were told to signal (with their left index
finger) if they had experienced any distress during the scene. When items were coped with successfully, subjects were simply reinforced for their efforts. In the event of unsuccessful coping attempts, physical relaxation was reinstated and the scene was re-introduced pending successful coping. Homework included daily relaxation and cue word association practice.

The basic exception to Lent's (1977) procedure involved presentation of hierarchy scenes for a total of three one-minute trials. This greater exposure to the aversive imaginal scenes (i.e., one-minute as opposed to ten-second visualizations) was intended both to increase the procedural similarity to rational restructuring and to provide subjects with greater in-session practice in employing the relaxation coping skill. Approximately four hierarchy items were presented within each desensitization session. As with the original CCD strategy, after the third treatment session, subjects were told to begin using the cue-controlled skill in response to real life tension-producing situations.

**Systematic Rational Restructuring (SRR; n = 12)** -- Treatment in this condition followed the SRR procedure described by Goldfried et al. (1974). SRR, a systematic variant of Ellis' (1962) rational-emotive therapy, consists of a five-step procedure (outlined earlier). Basically, treatment is aimed at training individuals to recognize the self-defeating and unrealistic nature of anxiety-producing thoughts (e.g., "I'm going to say something foolish to these people and they'll think I'm really dumb") and to substitute more reasonable thoughts for the unrealistic ones (e.g., "Chances are I won't say anything foolish. Even if I do, it doesn't mean that I'm a dumb person") (Kanter and
Goldfried, in press).

The first half of the first treatment session (about 30 minutes) was very similar to the format used with CCD. Following introductions, counselors discussed the origins of speech anxiety and provided a rationale for treatment. Specifically, anxiety was described as a "learned" phenomenon, stemming from one's interpretation of a situation. Examples were provided to facilitate understanding of the rationale. Irrational attitudes which encourage speech anxiety (e.g., perfectionism, need for approval) were outlined and an effort was made to elicit the types of sentences group members "tell" themselves in public speech situations.

The next 10-15 minutes were devoted to presenting an outline of the SRR procedure. Subjects were shown the anxiety hierarchy and then given practice with imagery. As with CCD, an effort was made to modify the basic hierarchy to meet individual concerns. Finally, counselors modeled the SRR procedure using a standard example ("becoming anxious during a class presentation") and described the use of the SUDS (subjective unit of distress) scale.

The second session began with a brief review of the therapy procedure and SUDS scale (five to ten minutes). Next, in-session record forms were distributed (see Appendix M) and subjects were instructed in the recording of cognitions. The remainder of the session involved rational restructuring proper. The first three hierarchy items were each presented for a total of three one-minute exposures. With group members in comfortable positions, counselors had subjects imagine themselves in the hierarchy scenes. They were instructed (a)
to focus in on their initial anxiety level; (b) to pinpoint irrational thoughts; (c) to rationally re-evaluate the situation; and (d) to note subsequent changes in anxiety level. At the end of each one-minute exposure, subjects were asked to record this information on their forms.

Following the third presentation of each item, a group discussion was initiated. Counselors had group members describe their attempts at coping; these were reinforced and difficulties with the procedure were dealt with. (Imaginal presentation and discussion of hierarchy scenes took about 15 minutes per item.) During the final five minutes, homework forms were distributed (see Appendix N) and subjects were instructed to use rational restructuring in everyday situations involving speech and non-speech situations.

The format for the remaining sessions (three to five) followed the same basic pattern: review of homework and trouble-shooting procedural difficulties (10-15 minutes); presentation and discussion of three hierarchy items (45 minutes); miscellaneous questions and comments (five minutes).

SRR in the present investigation paralleled the procedures described by Goldfried in his treatment manual (1973). However, since the manual was directed at test anxiety treatment, it was revised for the present purposes. The only major departures from Goldfried's strategy were that (a) items were presented for three, not four, visualizations and (b) there were five, instead of six, treatment sessions. The first modification was intended to save time and reduce tedium. It was consistent with Kanter and Goldfried's (in press) application of SRR. Thus, the net effect of these changes was to shorten slightly the length of
treatment.

As was the case with CCD, subjects gradually progressed up the hierarchy and used anxiety as a signal to invoke a coping response. The major difference between SRR and CCD involved the means for coping with tension, i.e., rational re-evaluation as opposed to cue-controlled relaxation.

Attention-Placebo (AP; n = 14) -- Subjects in this condition received "subconscious reconditioning" (Russell, Lent, and Crimmings, 1977), a modified form of the "T-scope therapy" placebo first employed by Marcia et al. (1969). The procedures were administered by the same counselors as in the other conditions. The inclusion of this condition was intended to assess the extent of improvement resulting from nonspecific treatment factors (e.g., expectation of relief, suggestion, therapeutic relationship).

AP subjects were presented with a rationale emphasizing that speech anxiety stems from subconscious thoughts and feelings, and that success in overcoming the anxiety could be achieved by presenting stimuli directly to the subconscious. It was explained that this would be done by means of a tachistoscope, flashing messages at subliminal awareness levels. Further, subjects were informed that the content of messages would enable the subconscious to be "reconditioned", thereby alleviating the fear. In reality, "treatment" messages consisted of nonsense syllables, designed to appear to be words when flashed briefly before subjects' eyes. Actual procedures closely followed those outlined by Russell (1972), with modifications made to accommodate group treatment.
During the initial session, about 10-15 minutes were devoted to introductions and a discussion of the origins of public speaking anxiety. This was followed by an explanation of the treatment rationale and procedures (10-15 minutes). The remainder of the session involved actual administration of subconscious reconditioning procedures. For this purpose, room lights were shut off and a tachistoscope (actually a slide projector with a specially calibrated shutter) was provided.

Prior to presentation of "treatment" slides, it was necessary to establish the awareness threshold of the group. This was done by flashing three neutral items to subjects. Each slide was presented with a steadily increasing exposure time, until the message was clearly perceived. (Neutral slides consisted of simple sentences, e.g., "Ride your bike"). Thus, an average perception level was determined over the three trials. This procedure enabled presentation of treatment slides below the awareness threshold; subjects could see that something was written on the slides, but could not make out the actual message content.

After establishing proper exposure time, counselors presented the treatment messages. Each of the 14 treatment slides was shown six times, with a five-second interval between flashes. This procedure was followed for three separate trials. Between trials, subjects were instructed to close their eyes, relax, and "try to recall as much about the treatment messages as you can". It was explained that this would help to consolidate memory and facilitate reconditioning on a subconscious level. In addition, for homework, subjects were asked to practice the memory consolidation process at night in bed, prior to sleep.
The second through fifth sessions were similar in format to the treatment phase of the first session. Following a period spent reviewing the procedures, discussing homework practice and answering questions (10-15 minutes), the slides were presented. The entire treatment phase generally required between 30 to 40 minutes. On the average, placebo sessions took about five to ten minutes less than CCD or SRR sessions. While counselors were instructed to encourage group cohesiveness, they generally avoided discussing topics relevant to public speaking anxiety. Again, it was emphasized that relearning (anxiety reduction) could best take place within a subliminal context.

No-treatment Control (NTC; n = 17) -- Subjects assigned to this condition did not meet with a counselor during the treatment phase of the study. NTC subjects met inclusion criteria and received assessment procedures identical to those of treatment subjects. Within a few days of pretesting, they were informed that they could not be offered immediate entry into speech reaction groups due to scheduling conflicts and group size limitations. However, they were given the same experimental course credit as their treatment counterparts and offered the promise of treatment during the next academic quarter.

As Paul (1966) has noted, this sort of condition does not represent a complete control, since subjects were given the attention of several phone contacts, participation in two test speeches, and the promise of future treatment. Thus, inclusion of this group in the experimental design allowed for assessment of changes resulting from repeated measurements, limited attention, and expectation of future relief.
Counselors

Two counselors served in the study. Both were Ph.D. psychologists (one in clinical, the other in counseling) possessing prior experience with relaxation, desensitization, and rational-emotive therapy procedures. Each counselor led one group in each treatment condition. As was previously mentioned, counselors met weekly with the investigator during the treatment phase to discuss any procedural difficulties and to insure comparable administration of treatments.

Procedure

The basic outline of the study is summarized in Table 1. Following screening procedures, subjects were contacted individually and scheduled for pretesting sessions. These sessions, carried out in groups of six to ten, were conducted by the investigator. Prior to actual pretesting, a general description of the purposes and procedures of the study were presented, to allow for informed consent. A battery of self-report anxiety variables was then administered, followed by the "stress condition" procedure, i.e., having subjects present short test speeches. All testing took place in the same room.

For each testing group, speaker order was randomly assigned and written on the blackboard. The investigator explained that the purpose of the test speech was to observe each subject's reactions to a real-life public speech situation. Further, subjects were told that "two advanced graduate students in counseling psychology will be helping us evaluate your reactions". Subjects were then given five minutes to prepare their speeches; index cards were provided for note-making. All subjects were asked to speak on the topic, "What I expect to get
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<th>Five Treatment Sessions</th>
<th>Posttreatment Battery</th>
<th>Follow-up</th>
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out of college life" (vis-a-vis Meichenbaum et al., 1971).

Following preparation time, the two observers were brought into the testing room. Just before his own speech, when the preceding speaker went to the front of the room, each subject was taken outside the room where another experimenter (an undergraduate research assistant) obtained the Anxiety Differential situational stress measure. Subjects were then taken back into the testing room to present their talk before the audience of other subjects and the two observers. During speeches, timed Checklist frequency counts were made by the trained observers. When all speeches were completed, subjects were thanked for their efforts and informed that they would be contacted by telephone regarding group assignments.

On the basis of a rank-ordering of PRCS and TBCL scores, subjects were randomly distributed from stratified blocks into either one of three treatment groups (CCD, SRR, AP) or a "no-treatment" control condition (NTC). Subjects assigned to treatment conditions met in small groups with a counselor on a weekly basis for five consecutive sessions. All treatments were carried out concurrently. NTC subjects were informed that, although they could not be assigned to experimental groups immediately, treatment would be made available during the following quarter for those desiring it; they were also told that it would still be necessary for them to return in several weeks for re-administration of the assessment battery and a test speech, so that their speech reactions could be monitored.

To check on whether attention-placebo subjects found "subconscious reconditioning" to be as compelling as were the active treatment
conditions, all experimental subjects were asked to rate their treatments on Borkovec and Nau's (1972) credibility scales. These were administered at the end of the first, third, and fifth treatment sessions.

About one week after treatment termination, subjects in all conditions completed a posttest battery identical to that used during initial subject selection procedures. During posttest speeches, care was taken to assign approximately the same speaking order as earlier. The topic for the second test speech was "What I expect to be doing in the future" (again, borrowed from Meichenbaum et al., 1971). Following testing, subjects were notified about meeting times for "feedback" sessions, scheduled for the next week. These optional sessions were made available for subjects desiring some immediate information about their performance and/or the experimental procedures. It was emphasized that complete details would not be available for several weeks, until the data could be computed. They were also informed that anyone desiring further help with speech anxiety in the interim could be accommodated. Finally, voluntary participation in follow-up assessment was requested. All subjects were offered experimental course credit for their participation.

Follow-up testing was conducted eight weeks after the completion of treatment. The follow-up battery consisted of four self-report variables which were previously administered at the pre- and post-tests. When subjects had completed the questionnaires, they were "debriefed" and given an opportunity to receive interpretation of pre-to-posttest scores. Subjects in the placebo and no-treatment
conditions were additionally offered appropriate treatment (i.e., CCD).

**Hypotheses**

Given the objectives of the present study and the review of literature, four sets of predictions were advanced. The first three sets account for expected differential effectiveness of treatment conditions, assessed by a comparison of pre-to-post change scores on the various response measures.

1. **Self-report speech anxiety and state anxiety:** CCD and SRR will both prove significantly more effective than either AP or the NTC control condition in reducing subjective speech anxiety, as measured by the PRCS and S-R "Speech" instruments. It is expected that CCD and SRR will be comparably effective, and that AP will be significantly more effective than NTC. This same direction of results is posited in relation to situationally-aroused anxiety, assessed by the Anxiety Differential, during the test speech. \( (\text{CCD} = \text{SRR} > \text{AP} > \text{NTC}) \)

These predictions were seen as fairly consistent with both theory and the existing treatment literature. Specifically, self-report anxiety measures may be relatively susceptible to attention-placebo and demand characteristic effects. Thus, relative to no-treatment, a credible placebo condition might be expected to produce significant improvement in self-rated speech anxiety. However, if the treatments contain specific therapeutic elements, they should produce greater anxiety decrements than the AP group.

2. **Generalization measures:** Because they are conceptualized as generalized coping techniques, CCD and SRR will both be significantly more effective than the other conditions in reducing trait \( (\text{STAI-T}) \)
and social anxiety (SAD-FNE), and in promoting anxiety reduction to non-
speech social-evaluative situations (S-R Exam and S-R Job Scales).
Since SRR places a more overt emphasis on cognitive coping strategies
and the reappraisal of irrational social fears, there may be a trend
for the SRR condition to produce greater treatment generalization than
CCD, particularly on the Fear of Negative Evaluation scale. It is
not expected that AP will differ from NTC. (SRR ≥ CCD > AP = NTC)
(3) Behavioral ratings of speech anxiety: CCD and SRR will be sig-
nificantly more effective than AP and NTC, both in terms of reducing
observed manifestations of anxiety on the TBCL and increasing the dur-
ation of speeches (ST). It is not expected that CCD will differ sig-
nificantly from SRR, nor that AP will differ from NTC. (CCD = SRR >
AP = NTC)

This was considered an important dimension on which to compare the
placebo and treatment conditions, since it was assumed that actual
speech behavior may be somewhat less susceptible to demand character-
istics and nonspecific factors than are self-report measures (cf.
Hemme and Boor, 1976).

The final set of hypotheses deals with perceived treatment credi-
bility/expectancy-for-improvement ratings:
(4) CCD, SRR, and AP will generate equivalent (i.e., not significantly
different) credibility and expectancy for improvement; credibility
and expectancy ratings will remain constant over the course of treat-
ment, as measured by the Borkovec and Nau (1972) scales.

This prediction was based on preliminary work which suggests that
subjects find "subconscious reconditioning" to be relatively credible
(Russell, Lent, and Crimmings, 1977). (CCD = SRR = AP)

All predictions were tested against the null hypothesis. Of course, considering the state of the treatment literature, the above hypotheses were put forth tentatively, more in a spirit of exploration than firm confiction.
CHAPTER IV
RESULTS

Of the 57 subjects initially assigned to groups, 53 completed posttesting. One subject each from the CCD and AP conditions, and two subjects from the NTC group, failed to complete the program. Both experimental group drop-outs left school during the treatment stage, while the two NTC drop-outs cited fear about the posttest speech as their reason for leaving the program. (The latter did agree, however, to complete posttest questionnaires.) The subject attrition rate between pre- and posttreatment was thus about 7%, comparing very favorably with other speech anxiety outcome studies.

Treatment Effectiveness

Group means and standard deviations for each dependent variable at pre- and posttreatment assessments are presented in Table 2. These data exclude the subjects who did not complete posttest speeches. To assess the relative efficacy of the experimental conditions, the data was first subjected to a repeated measures multivariate analysis of variance (MANOVA). The MANOVA, conducted because of the collection of multiple dependent measures, is summarized in Table 3. This analysis yielded significant main effects for both treatment ($F = 1.89$, $p < .009$) and time ($F = 14.26$, $p < .001$), in addition to a significant treatment $\times$ time interaction effect ($F = 1.94$, $p < .007$).
Table 2

Pre- and Posttreatment Means and Standard Deviations of Self-report and Performance Variables

<table>
<thead>
<tr>
<th>Condition</th>
<th>Measure</th>
<th>PRCS Pre</th>
<th>PRCS Post</th>
<th>SR-Speech Pre</th>
<th>SR-Speech Post</th>
<th>AD Pre</th>
<th>AD Post</th>
<th>SR-Exam Pre</th>
<th>SR-Exam Post</th>
<th>SR-Job Pre</th>
<th>SR-Job Post</th>
<th>STAI-T Pre</th>
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<td>9.4</td>
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<td>72.0</td>
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Table 2 (Continued)

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<td>23.4</td>
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<td>6.8</td>
<td>29.4</td>
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Table 3
Multivariate Analysis of Variance on Pre-Post Dependent Measures (Treatment x Time)

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<th>Effects</th>
<th>df Hypotheses</th>
<th>df Error</th>
<th>F</th>
<th>p &lt;</th>
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<td>Treatment</td>
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<td>1.89</td>
<td>.009</td>
</tr>
<tr>
<td>Treatment x Time</td>
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<td>118.08</td>
<td>1.94</td>
<td>.007</td>
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<tr>
<td>Time</td>
<td>10.00</td>
<td>40.00</td>
<td>14.26</td>
<td>.001</td>
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</table>
It was decided that the highly significant MANOVA results justified examination of univariate $F$ ratios. Thus, each dependent variable was subjected to a $4 \times 2$ (treatment) $\times$ (time; pre-post) repeated measures analysis of variance. Table 4 presents a summary of these analyses. Since a comparison of pre- to posttreatment changes between groups was a major interest of this study, planned contrasts were performed for each measure. Specifically, the Scheffé method (Kennedy, 1975) was used to determine the significance of differences in pre-post changes between groups. These mean change comparisons are displayed in Table 5.

**Self-report Variables**

Among the questionnaire battery, two measures (the PRCS and S-R Speech) focus specifically on subjectively-experienced performance anxiety in the public speaking situation. Analysis of these variables revealed significant time (PRCS: $F = 71.92$, $p < .001$; S-R Speech: $F = 36.34$, $p < .001$) and treatment $\times$ time interaction effects (PRCS: $F = 12.50$, $p < .001$; S-R Speech: $F = 10.39$, $p < .001$), indicating differential improvement among groups. In addition, a significant treatment main effect was obtained for the PRCS ($F = 5.24$, $p < .003$).

These results are illustrated graphically in Figures 1 and 2.

Planned comparisons using the Scheffé test demonstrated a similar pattern of findings on the two measures. In particular, the CCD group's reduction in speech anxiety was significantly greater than all the other groups' ($p < .05$). Also, the anxiety reduction for the placebo group was significantly greater than that for the no-treatment control. Surprisingly, there was no difference between rational
<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment</th>
<th>Treatment x Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS</td>
<td>F</td>
<td>p &lt;</td>
</tr>
<tr>
<td>PRCS</td>
<td>127.15</td>
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<td>.003</td>
</tr>
<tr>
<td>S-R Speech</td>
<td>85.17</td>
<td>1.04</td>
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</tr>
<tr>
<td>AD</td>
<td>169.70</td>
<td>.92</td>
<td>.344</td>
</tr>
<tr>
<td>S-R Exam</td>
<td>320.77</td>
<td>2.58</td>
<td>.064</td>
</tr>
<tr>
<td>S-R Job</td>
<td>228.32</td>
<td>2.52</td>
<td>.069</td>
</tr>
<tr>
<td>STAI-T</td>
<td>101.48</td>
<td>.55</td>
<td>.648</td>
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<td>SAD</td>
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<td>ST</td>
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<td>.240</td>
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</table>

Note. For the effect of time, df = 1,49; for the effect of treatment and for the interaction, df = 3,49.
Table 5

Planned Comparisons of Pre-Post Difference Scores
Between Treatment Conditions

<table>
<thead>
<tr>
<th>Measure</th>
<th>CCD &gt; NTC</th>
<th>SRR &gt; NTC</th>
<th>AP &gt; NTC</th>
<th>CCD &gt; SRR</th>
<th>CCD &gt; AP</th>
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<tr>
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<td></td>
<td>*</td>
<td>*</td>
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<tr>
<td>S-R Exam</td>
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</tr>
<tr>
<td>S-R Job</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>STAI-T</td>
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<td></td>
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<tr>
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</tr>
<tr>
<td>FNE</td>
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<tr>
<td>TBCL</td>
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</tr>
<tr>
<td>ST</td>
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<td></td>
<td></td>
<td>NTC &gt; AP</td>
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<td>SRR &gt; AP</td>
</tr>
</tbody>
</table>

Note. An asterisk (*) indicates a significant (p < .05) between-group difference, based on the Scheffé method; two asterisks (**) indicate significance at the .10 level (p < .10).
Figure 1. Group reductions in speech anxiety on the PRCS between pre, post, and follow-up testing.

Note. These values exclude the data from subjects not completing the follow-up.
Figure 2. Group reductions in speech anxiety on the S-R Speech between pre, post, and follow-up testing.

Note. These values exclude the data from subjects not completing the follow-up.
restructuring and the placebo group on the PRCS scale, while AP was superior to SRR on the S-R Speech measure. On neither variable did the rational procedure differ significantly from no-treatment.

The Anxiety Differential (AD), administered to subjects immediately before each of their test speeches, provided an index of cognitively experienced state anxiety. The analysis comparing groups on the AD demonstrated significant time ($F = 37.04$, $p < .001$) and treatment x time interaction effects ($F = 5.25$, $p < .003$). Mean group reductions in situationally-aroused stress are illustrated in Figure 3. Planned comparisons indicated that all three treatment groups improved significantly over the no-treatment control between pre- and posttesting. However, there were no significant differences in pre-post change scores between CCD, SRR and the placebo group.

Generalization of treatment effects were assessed by five separate measures (S-R Exam, S-R Job, STAI-T, SAD and FNE). The S-R Exam and S-R Job scales focused on interpersonal-evaluative situations not directly related to public speaking. Thus, changes on these measures were not the specific focus of treatment. Analysis of these two S-R Inventory scales revealed significant main effects of time (S-R Exam: $F = 20.60$, $p < .001$; S-R Job: $F = 13.99$, $p < .001$) and nearly-significant treatment main effects (S-R Exam: $F = 2.58$, $p < .064$; S-R Job: $F = 2.52$, $p < .069$). In addition, for S-R Job, the treatment x time interaction effect fell just short of conventional significance ($F = 2.30$, $p < .089$).

As might be expected, based on the overall analyses, the Scheffé planned comparisons on these measures did not uncover many significant
Figure 3. Group reductions in state anxiety (prior to the Test Speech) on the AD between pre and posttesting.
findings. In fact, the only contrast showing significance at the .05 level occurred on the S-R Job variable: CCD was significantly more effective than no-treatment. Three other comparisons reached significance at the .10 level: for S-R Exam, both CCD and AP were superior to no-treatment; for S-R Job, CCD showed greater anxiety reduction than rational restructuring. In general, differential changes were not observed between the three treatment groups. Despite non-significant treatment x pre-post interaction effects, the relative group order of anxiety reduction on both S-R generalization measures was consistent with the results for the specific speech anxiety measures. That is, CCD reported the greatest anxiety reduction followed, respectively, by AP, SRR and no-treatment (see Figures 4 and 5).

The STAI-T variable was used to assess changes in trait, or general, anxiety resulting from treatment. The analysis of variance on this variable produced only a significant main effect of time ($F = 4.98$, $p < .03$); effects of treatment and treatment x time interaction were non-significant. This pattern of results, displayed graphically in Figure 6, indicates a pre-post reduction in trait anxiety across all conditions. However, there were no differential changes among groups on this dimension.

The final treatment generalization indices were provided by two social-evaluative anxiety measures, the Social Avoidance and Distress (SAD) and Fear of Negative Evaluation (FNE) scales. Analyses of these two variables yielded results similar to those with the STAI-T. Specifically, while both produced significant time effects (SAD: $F = 11.24$, $p < .002$; FNE: $F = 12.30$, $p < .001$), their treatment x time
Figure 4. Group reductions in test anxiety on the S-R Exam between pre, post, and follow-up testing.

Note. These values exclude the data from subjects not completing the follow-up.
Figure 5. Group reductions in job interview anxiety on the S-R Job between pre and posttesting.
Figure 6. Group reductions in trait anxiety on the STAI-T between pre, post, and follow-up testing.

Note. These values exclude the data from subjects not completing the follow-up.
interaction effects were non-significant. On the SAD only, the treatment main effect was also significant, \( F = 2.94, p < .042 \). As was the case with the STAI-T measure, these results demonstrate that, while all groups improved over time, there were no differential changes between groups on these criteria. Inspection of Figures 7 and 8 reveals the same relative pattern of improvement as was noted above: in descending order, CCD, AP, SRR, NTC. In fact, this ordering of the conditions in terms of mean pre-post anxiety reduction is fairly consistent across all of the self-report dependent measures.

In summary, the first hypothesis received only partial support. That is, CCD was found to be superior to both AP and NTC on the two measures of speech anxiety. Also, the placebo group exhibited significantly greater anxiety reduction than NTC. However, contrary to expectations, rational restructuring failed to produce speech anxiety reduction greater than that for the no-treatment group. Further, on one of the speech anxiety measures, SRR was inferior to the AP condition; CCD was superior to SRR on both measures. On the state anxiety variable, obtained prior to test speeches, all three treatment groups experienced significantly greater pre-post change than the NT control; differential changes among the treatment groups did not take place. The second hypothesis, predicting differential improvement on the treatment generalization measures, received little confirmation. With the exception of a few between-group differences on the S-R scales (e.g., CCD > NTC), results across most generalization measures suggested a trend toward improvement for all groups.
Figure 7. Group reductions in social avoidance and distress on the SAD between pre and posttesting.
Figure 8. Group reductions in fear of negative evaluation on the FNE between pre and posttesting.
Performance Variables

During presentation of test speeches, trained observers obtained two different indices of behaviorally-manifested speech anxiety. The first measure, TBCL, employed a checklist of observable manifestations of anxiety. The present investigation used a modified form of this measure, developed by Paul (1966), in which two observers rated subjects during successive 30-second time intervals of the first two minutes of speeches.

Inter-rater reliability, computed by correlating total TBCL scores for the two observers, was found to be .68 at pretest speeches and .52 at posttest speeches. While both correlations are highly significant ($p < .01$), other investigators have reported more impressive inter-judge agreements using similar rating techniques. For example, both Paul (1966) and Russell (1972) found reliabilities exceeding .90 for pre- and posttest speeches. The lower correlations in the present study may have been due to several causes, such as shortening of both the number of behavior categories (18 as opposed to Paul's 20) and the length of trials (two minute instead of four minute speeches) or insufficiently trained raters. The first two possibilities, both artifacts of modifying the TBCL, seem the most plausible.

The $4 \times 2$ analysis of variance comparing groups pre- to post on the TBCL (see Table 4) produced non-significant time, treatment, and treatment x time interaction effects. Clearly, no group exhibited significant change on this measure. Inspection of Figure 9 confirms that there were no dramatic group differences; while CCD, SRR and NTC all improved slightly, the placebo group showed a small increase in
Figure 9. Group reductions in behaviorally-manifested speech anxiety on the TBCL between pre and posttesting.
performance anxiety between pre- and posttesting.

A second behavioral index of speech anxiety was provided by the length of speech, or speech time (ST), measure. ST (measured in seconds) was obtained by one of the raters, using a stop-watch, during test speeches. It was assumed that there would be a negative relationship between speech anxiety and speech length, e.g., that with increasing anxiety, subjects would make shorter speeches. Thus, this variable may reflect speech disturbance accruing from performance anxiety. This hypothesized relationship received some minor support from the data. Specifically, change on ST correlated negatively with change on the PRCS, S-R Speech and TBCL measures (−.18, −.23, −.22, respectively). While these correlations are not of a high magnitude, one would expect higher correlations if the range of scores were not restricted by sample homogeneity.

Analysis of the ST measure indicated a significant time main effect, $F = 31.31$, $p < .001$; the interaction approached significance, $F = 2.68$, $p < .057$. Comparison of group mean changes, illustrated in Figure 10, reveals a general improvement across time. While CCD, SRR and NTC all show greater change than the AP group ($p < .05$), this differential finding may be an artifact of testing. Specifically, inspection of pretreatment means shows that AP had the greatest average speech time at the pretest. Thus, AP's failure to match the other conditions in pre-post change may be due to a "ceiling effect"; i.e., AP subjects simply had little room for improvement. At any rate, the general improvement trend, with NTC paralleling CCD and SRR, suggests that practice effects apart from treatment may have accounted for change
Figure 10. Group increases in duration of speech on the ST between pre and posttesting.
on this variable.

In summary, the third hypothesis, predicting the superiority of CCD and SRR on the behavioral measures of anxiety, was not supported by the data. No differential group changes occurred on the TBCL measure. On ST, the order of between-group differences was not in the predicted direction. Unfortunately, large mean pretest differences, combined with a "ceiling" limitation, preclude an adequate evaluation of group changes on this measure.

Within-Group Comparisons

The significance of pre- to posttreatment mean changes within each condition was assessed using Tukey's honest significant difference test for planned comparisons (Kennedy, 1975). The results of these comparisons for each outcome measure are displayed in Table 6. Inspection of this table reveals that both CCD and AP produced significant (at the .05 level) improvement in speech anxiety (PRCS, S-R Speech), situational anxiety (AD), and examination anxiety (S-R Exam). Additionally, CCD showed significant change in job interview anxiety (S-R Job) and fear of negative evaluations (FNE). At a more liberal significance level ($p < .10$), AP exhibited improvement on the FNE, and both CCD and AP declined in social avoidance and distress (SAD). Subjects in the SRR and NTC conditions generally did not experience significant changes on the self-report measures, although SRR did produce a significant decrease in state anxiety (AD) during test speeches.

None of the conditions attained significant improvement in trait anxiety (STAI-T) or observer-rated speech anxiety (TBCL). On the speech duration measure (ST), CCD, SRR and NTC all showed significant
Table 6
Within-group Mean Differences Between Pre- and Posttesting for each Dependent Measure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CCD</td>
</tr>
<tr>
<td>PRCS</td>
<td>9.9*</td>
</tr>
<tr>
<td>S-R Speech</td>
<td>13.3*</td>
</tr>
<tr>
<td>AD</td>
<td>15.2*</td>
</tr>
<tr>
<td>S-R Exam</td>
<td>6.6*</td>
</tr>
<tr>
<td>S-R Job</td>
<td>8.3*</td>
</tr>
<tr>
<td>STAI-T</td>
<td>2.9</td>
</tr>
<tr>
<td>SAD</td>
<td>3.8**</td>
</tr>
<tr>
<td>FNE</td>
<td>4.0*</td>
</tr>
<tr>
<td>TBCL</td>
<td>1.6</td>
</tr>
<tr>
<td>ST</td>
<td>-22.7*</td>
</tr>
</tbody>
</table>

Note. Positive values indicate a decrease between pre- and posttreatment; negative values indicate an increase.

* $p < .05$, using Tukey's HSD procedure

** $p < .10$
pre- to post increases. Overall, CCD produced significant ($p < .05$) within-group change on the largest number of variables (seven), followed by AP, SRR and NTC (four, two and one, respectively).

Counselor Differences

To determine whether the counselors were differentially effective, the dependent measures were also subjected to a three-way MANOVA (treatment x counselor x time). Results of this analysis, presented in Table 7, indicate a non-significant ($F < 1.0$) main effect for counselors. Similarly, the interaction of treatment x counselor, counselor x time and treatment x counselor x time are all non-significant ($F$'s of 1.26, .57, and 1.11, respectively).

In terms of univariate analyses, a significant treatment x counselor x time interaction was observed on one variable, the S-R Exam ($F = 5.24$, $p < .01$). However, considering the large number of dependent measures and the crucial non-significant MANOVA interactions, this finding is rendered uninterpretable. In essence, there is a high likelihood that such a result may have occurred by chance.

In summary, the general absence of counselor effects suggests that the treatments were administered uniformly and with equal effectiveness by the two counselors.

Treatment Credibility

In order to examine the relative credibility of the treatment conditions, subjects in the CCD, SRR and AP groups were administered the CRED scale at the end of the first, third and fifth treatment sessions. Group means and standard deviations on the CRED scale at each assessment period are displayed in Table 8. A summary of the treatment x
### Table 7

**Treatment x Counselor x Time Multivariate Analysis of Variance on Dependent Measures (Pre-Post)**

<table>
<thead>
<tr>
<th>Effects</th>
<th>df&lt;sub&gt;Hypotheses&lt;/sub&gt;</th>
<th>df&lt;sub&gt;Error&lt;/sub&gt;</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>20.00</td>
<td>46.00</td>
<td>1.85</td>
<td>.043</td>
</tr>
<tr>
<td>Counselor</td>
<td>10.00</td>
<td>23.00</td>
<td>.90</td>
<td>.546</td>
</tr>
<tr>
<td>Treatment x Counselor</td>
<td>20.00</td>
<td>46.00</td>
<td>1.26</td>
<td>.256</td>
</tr>
<tr>
<td>Time</td>
<td>10.00</td>
<td>23.00</td>
<td>12.77</td>
<td>.001</td>
</tr>
<tr>
<td>Treatment x Time</td>
<td>20.00</td>
<td>46.00</td>
<td>1.46</td>
<td>.142</td>
</tr>
<tr>
<td>Counselor x Time</td>
<td>10.00</td>
<td>23.00</td>
<td>.57</td>
<td>.818</td>
</tr>
<tr>
<td>Treatment x Counselor x Time</td>
<td>20.00</td>
<td>46.00</td>
<td>1.11</td>
<td>.369</td>
</tr>
</tbody>
</table>

**Note.** This analysis excludes the NTC condition, since counselors were not assigned to this group.
Table 8
Means and Standard Deviations of Credibility Scale
at Sessions One, Three and Five

<table>
<thead>
<tr>
<th>Condition</th>
<th>Session Number</th>
<th>1</th>
<th>3</th>
<th>5</th>
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<td></td>
<td>Condition</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CCD</td>
<td>37.4</td>
<td>5.8</td>
<td>41.4</td>
</tr>
<tr>
<td></td>
<td>(n = 13)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SRR</td>
<td>39.2</td>
<td>4.8</td>
<td>39.6</td>
</tr>
<tr>
<td></td>
<td>(n = 12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP</td>
<td>32.0</td>
<td>8.3</td>
<td>37.4</td>
</tr>
<tr>
<td></td>
<td>(n = 13)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
counselor x time (session) ANOVA performed on this variable is given in Table 9. Inspection of this table reveals highly significant main effects for time, $F = 7.30, p < .01$, indicating a sizeable increase in credibility over time across the three treatments. None of the other main or interactional effects were significant, suggesting that differential changes between groups did not occur.

The group changes between sessions one, three and five on the CRED are presented graphically in Figure 11. As can be seen from this figure, each procedure's credibility increased across time. Despite the non-significant interaction effects, planned comparisons were conducted to more closely examine credibility changes, both within and between conditions. A comparison of group means at session one, using the Scheffé method, revealed that AP was rated as significantly less credible ($p < .05$) than SRR. The differences between AP and CCD, and between SRR and CCD, were non-significant. By the third, and continuing through the fifth, sessions, there were no differences among any of the group means. Apparently, while the placebo procedure was initially rated less credible, AP subjects' confidence in their treatment increased with greater exposure. Over a short period of treatment, subconscious reconditioning was perceived as comparable to the active conditions in terms of plausibility and subjects' expectancy for improvement.

A comparison of change scores among groups between sessions one and five uncovered one significant result: the AP group's credibility increase was greater than that for the SRR condition. Within-group comparisons, assessed by Tukey's HSD test, revealed that only the AP
Table 9
Treatment x Counselor x Time Analysis of Variance on Credibility Scale

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (A)</td>
<td>2</td>
<td>517.09</td>
<td>258.55</td>
<td>2.32</td>
<td>.115</td>
</tr>
<tr>
<td>Counselor (C)</td>
<td>1</td>
<td>5.04</td>
<td>5.04</td>
<td>.05</td>
<td>.833</td>
</tr>
<tr>
<td>Treatment x Counselor (AC)</td>
<td>2</td>
<td>356.94</td>
<td>178.47</td>
<td>1.60</td>
<td>.217</td>
</tr>
<tr>
<td>Error (S/AC)</td>
<td>32</td>
<td>3566.51</td>
<td>111.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (B)</td>
<td>2</td>
<td>251.81</td>
<td>125.90</td>
<td>7.30</td>
<td>.001</td>
</tr>
<tr>
<td>Linear</td>
<td>1</td>
<td>212.22</td>
<td>212.22</td>
<td>9.07</td>
<td>.005</td>
</tr>
<tr>
<td>Quadratic</td>
<td>1</td>
<td>39.58</td>
<td>39.58</td>
<td>3.57</td>
<td>.068</td>
</tr>
<tr>
<td>Treatment x Time (AB)</td>
<td>4</td>
<td>77.69</td>
<td>19.42</td>
<td>1.13</td>
<td>.352</td>
</tr>
<tr>
<td>Linear</td>
<td>2</td>
<td>74.65</td>
<td>37.32</td>
<td>1.60</td>
<td>.219</td>
</tr>
<tr>
<td>Quadratic</td>
<td>2</td>
<td>3.05</td>
<td>1.52</td>
<td>.14</td>
<td>.872</td>
</tr>
<tr>
<td>Counselor x Time (BC)</td>
<td>2</td>
<td>79.25</td>
<td>39.62</td>
<td>2.30</td>
<td>.109</td>
</tr>
<tr>
<td>Linear</td>
<td>1</td>
<td>53.18</td>
<td>53.18</td>
<td>2.27</td>
<td>.141</td>
</tr>
<tr>
<td>Quadratic</td>
<td>1</td>
<td>26.07</td>
<td>26.07</td>
<td>2.35</td>
<td>.135</td>
</tr>
<tr>
<td>Treatment x Counselor x Time (ABC)</td>
<td>4</td>
<td>4.27</td>
<td>1.07</td>
<td>.06</td>
<td>.993</td>
</tr>
<tr>
<td>Linear</td>
<td>2</td>
<td>.22</td>
<td>.11</td>
<td>.01</td>
<td>.995</td>
</tr>
<tr>
<td>Quadratic</td>
<td>2</td>
<td>4.05</td>
<td>2.02</td>
<td>.18</td>
<td>.834</td>
</tr>
<tr>
<td>Error (SB/AC)</td>
<td>64</td>
<td>1103.82</td>
<td>17.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>32</td>
<td>748.51</td>
<td>23.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quadratic</td>
<td>32</td>
<td>355.31</td>
<td>11.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. This analysis excludes the NTC group, since the credibility scale was not administered to this condition.
Figure 11. Group changes in self-report credibility/expectancy-for-improvement on the CRED between sessions one, three, and five.
group reported a significant ($p < .05$) rise in credibility between sessions one and five; CCD's increase bordered on significance. However, both this finding and the AP $>$ SRR change score difference must be interpreted with restraint since it is likely that each is simply an artifact of the large mean differences observed at session one, combined with a ceiling effect at session five. In essence, AP had a wide potential range for credibility improvement, whereas SRR and CCD's range was restricted.

Because credibility was assessed at equal (two week) time intervals, a trend analysis was conducted to examine the nature of credibility change over time. Results of this analysis, also summarized in Table 9, indicate a strong linear trend on the main effect of time ($F = 9.07$, $p < .005$); the quadratic trend approaches significance ($F = 3.57$, $p < .068$). Thus, collapsing across treatments, a straight line seems the "best-fitting" function to describe the general increase in credibility across trials. Inspection of Figure 11 confirms this linear trend in the credibility data.

To summarize, analysis of the CRED variable revealed that, while there were initial differences in treatment credibility (i.e., SRR $>$ AP), these differences disappeared by the middle of treatment. In addition, there was a general trend across all conditions for treatment credibility to increase between the first and last sessions. Thus, the fourth hypothesis received only partial support, since the treatments were differentially credible at session one, and rather than remaining stable, credibility/expectancy-for-improvement ratings increased over the course of treatment.
Follow-up Assessment

Two months after the posttest, a follow-up assessment was conducted to examine the stability of treatment effects on four of the self-report variables. One subject each from the CCD, AP and NTC groups did not participate in the follow-up session. Table 10 presents the pre, post and follow-up means and standard deviations for each condition, excluding the three subjects who did not complete the follow-up.

This data was first subjected to a multivariate analysis of variance, summarized in Table 11. The analysis revealed significant treatment, time and interaction effects (respectively, $F_2 = 2.03, p < .028$; $F = 12.86, p < .001$; $F = 2.20, p < .003$), suggesting differential group change on at least one of the measures. Next, to examine treatment efficacy more closely, a $4 \times 3$ (treatment x pre-post-follow-up) ANOVA was conducted on each variable. Results of these analyses are displayed in Table 12. Table 13 presents a comparison between the groups on pretest to follow-up change scores.

On the dimension of speech anxiety, analysis of the PRCS and S-R Speech scales yielded significant main effects for both treatment (PRCS: $F = 4.62, p < .01$; S-R Speech: $F = 2.83, p < .05$) and time (PRCS: $F = 50.54, p < .01$; S-R Speech: $F = 35.67, p < .01$). The treatment x time interaction effects for both variables were also significant; PRCS: $F = 4.62, p < .01$; S-R Speech: $F = 3.91, p < .01$. Scheffé comparisons on the PRCS demonstrated that, between pre- and follow-up testing, CCD improved significantly ($p < .05$) more than either the placebo or no-treatment groups. No significant differences
<table>
<thead>
<tr>
<th>Condition</th>
<th>PRCS</th>
<th>SR-Speech</th>
<th>SR-Exam</th>
<th>STAI-T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Post</td>
<td>F-U</td>
<td>M</td>
</tr>
<tr>
<td>CCD</td>
<td>23.4</td>
<td>13.3</td>
<td>13.1</td>
<td>47.1</td>
</tr>
<tr>
<td>(n = 12)</td>
<td>2.7</td>
<td>5.0</td>
<td>7.1</td>
<td>7.0</td>
</tr>
<tr>
<td>SRR</td>
<td>24.3</td>
<td>22.4</td>
<td>16.3</td>
<td>46.4</td>
</tr>
<tr>
<td>(n = 12)</td>
<td>3.0</td>
<td>4.5</td>
<td>6.6</td>
<td>7.6</td>
</tr>
<tr>
<td>AP</td>
<td>23.5</td>
<td>18.7</td>
<td>17.3</td>
<td>47.5</td>
</tr>
<tr>
<td>(n = 13)</td>
<td>2.2</td>
<td>5.6</td>
<td>7.9</td>
<td>6.8</td>
</tr>
<tr>
<td>NTC</td>
<td>24.4</td>
<td>23.0</td>
<td>19.9</td>
<td>47.2</td>
</tr>
<tr>
<td>(n = 14)</td>
<td>3.2</td>
<td>4.2</td>
<td>5.5</td>
<td>5.8</td>
</tr>
</tbody>
</table>
Table 11
Multivariate Analysis of Variance on Pre-Post-Follow-up
Dependent Measures (Treatment x Time)

<table>
<thead>
<tr>
<th>Effects</th>
<th>df Hypotheses</th>
<th>df Error</th>
<th>F</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>12.00</td>
<td>114.06</td>
<td>2.03</td>
<td>.028</td>
</tr>
<tr>
<td>Treatment x Time</td>
<td>24.00</td>
<td>113.71</td>
<td>2.20</td>
<td>.003</td>
</tr>
<tr>
<td>Time</td>
<td>8.0</td>
<td>39.00</td>
<td>12.86</td>
<td>.001</td>
</tr>
</tbody>
</table>
Table 12

Univariate F Tests for Treatment x Pre-Post-Follow-up

Analysis of Variance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment</th>
<th>Treatment x Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>PRCS</td>
<td>236.56</td>
<td>4.62</td>
<td>.01</td>
</tr>
<tr>
<td>S-R Speech</td>
<td>288.80</td>
<td>2.83</td>
<td>.05</td>
</tr>
<tr>
<td>S-R Exam</td>
<td>432.13</td>
<td>2.44</td>
<td>.08</td>
</tr>
<tr>
<td>STAI-T</td>
<td>199.82</td>
<td>.78</td>
<td>NS</td>
</tr>
</tbody>
</table>

Note. For the effect of treatment, df = 3,16; for the interaction, df = 6,92; for the effect of time, df = 2,92.
Table 13
Comparisons of Pre-Follow-up Difference Scores
Between Conditions

<table>
<thead>
<tr>
<th>Measure</th>
<th>CCD &gt; NTC</th>
<th>SRR &gt; NTC</th>
<th>AP &gt; NTC</th>
<th>CCD &gt; SRR</th>
<th>CCD &gt; AP</th>
<th>SRR &gt; AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRCS</td>
<td></td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-R Speech</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-R Exam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAI-T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. An asterisk (*) indicates a significant between-group difference ($p < .05$), using the Scheffé method; two asterisks (**) indicate significance at the .10 level ($p < .10$).
were observed between AP and NTC, nor between rational restructuring and AP. However, by the follow-up, SRR's reduction in speech anxiety was comparable to that for CCD. In fact, at the .10 level of significance, SRR was superior to the no-treatment group.

A different pattern of results emerged on the S-R Speech scale. On this measure, CCD's pre-follow-up anxiety reduction was significantly greater than that for either SRR or NTC. While there were no significant differences between either active treatment and the placebo group, the latter was significantly superior to no-treatment. The difference between SRR and NTC was non-significant.

The follow-up assessment also included two of the treatment generalization measures, S-R Exam and STAI-T. The repeated measures ANOVAs on both these variables produced significant time main effects (S-R Exam: $F = 24.06, p < .01$; STAI-T: $F = 6.95, p < .01$), although their treatment x time interactions were non-significant. In addition, the treatment main effect on the S-R Exam scale approached significance at the .05 level, $F = 2.44, p < .08$.

Despite the non-significant interaction effects, Scheffé comparisons on the S-R Exam did reveal a few significant differential effects. While there were no differences among any of the three treatment groups in test anxiety reduction, both CCD and AP were significantly more effective than no-treatment on this measure. Meanwhile, results on the trait anxiety variable (STAI-T) were very similar to the pre-post analysis. Specifically, there was a generalized trend toward improvement, with no differential change among groups.
Within-group mean changes between pre- and follow-up testing are displayed in Table 14. These results are illustrated graphically in Figures 1, 2, 4 and 6, respectively, for the PRCS, S-R Speech, S-R Exam and STAI-T variables. All three treatment groups evidenced significant pre- to follow-up improvement on the measures of speech and test anxiety ($p < .05$). On the trait anxiety variable, only CCD showed significant change, albeit at a relaxed standard for significance ($p < .10$). The improvement of NTC subjects reached significance on only one measure, the PRCS.

In summary, results of this final assessment revealed that all groups continued to improve over the follow-up interval on several self-report anxiety measures. However, CCD appeared to remain the superior procedure, showing significant anxiety reduction over the no-treatment group on three measures. CCD was also more effective than the placebo and rational restructuring groups on one of the two speech anxiety measures. The placebo condition was superior ($p < .05$) to no-treatment on two measures (S-R Speech and S-R Exam), while SRR's efficacy over no-treatment approached significance ($p < .10$) on only one variable, the PRCS.

The most notable finding emerging from the follow-up assessment was SRR's accelerated improvement rate. Compared to their absence of pre-post change on the speech and test anxiety measures, by the follow-up, SRR subjects reported significant anxiety reduction on all three of these measures. In fact, the SRR group surpassed AP's improvement on the PRCS, although at a non-significant level; SRR was the only condition to experience a significant reduction in anxiety on the PRCS between post- and follow-up testing.
### Table 14
Within-group Mean Differences Between Pre- and Follow-up Testing

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CCD</td>
</tr>
<tr>
<td>PRCS</td>
<td>10.3*</td>
</tr>
<tr>
<td>S-R Speech</td>
<td>12.4*</td>
</tr>
<tr>
<td>S-R Exam</td>
<td>8.1*</td>
</tr>
<tr>
<td>STAI-T</td>
<td>5.0**</td>
</tr>
</tbody>
</table>

**Note.** These values indicate anxiety reduction between pre- and follow-up testing.

* $p < .05$, using Tukey's HSD procedure

** $p < .10$
CHAPTER V
DISCUSSION

In this chapter, the present findings will be summarized and interpreted. In addition, several methodological limitations of this investigation will be pointed out and implications for further research and actual counseling programs will be outlined.

Summary and Interpretation of Findings

According to the present findings, each of the three experimental conditions resulted in significant pre-post anxiety reduction which was either maintained or improved upon at follow-up. However, the pattern of results indicates that the conditions were not equally effective. Between-group comparisons of pre-post change scores revealed that CCD was more effective than each of the other groups in reducing self-report anxiety. When compared with no-treatment controls, CCD was also significantly more effective on a greater number of variables than were the other conditions. Further, CCD produced significant within-group improvement on more variables than the other groups; CCD subjects reported significant pre-post change in speech, state, exam, job interview, and social evaluative anxieties (seven measures in all), while the placebo and SRR groups were limited to significant improvement on four and two variables, respectively. Finally, there was somewhat of a tendency for CCD to result in greater generalization of
anxiety reduction to non-targeted situations, e.g., exams and job interviews.

Results of a partial follow-up assessment, conducted two months after the completion of treatment, revealed that the treatment groups continued to experience therapeutic gains. While CCD generally remained the superior treatment (e.g., producing significantly greater anxiety reduction than no-treatment on three of the four follow-up measures and surpassing SRR's and AP's improvement on one of two speech anxiety variables), rational restructuring subjects showed considerable gains during the follow-up. In contrast to its relative failure in reducing anxiety between pre- and posttesting, SRR demonstrated significant improvement on both speech and test anxiety variables at the follow-up. On a measure of trait anxiety, none of the groups were more effective than no-treatment.

It must be emphasized that all of the above results were based on self-report criteria. In general, the behavioral "stress condition" measures failed to differentiate among groups. Analysis of the behavioral checklist, obtained during test speeches, revealed that no group demonstrated significant change in performance anxiety. Results on a second index reflecting anxiety-related speech disturbance suggests that there was a general improvement trend across conditions; specific evaluation of differential group changes on this measure is precluded by evidence of large between-group mean differences at the pretest. On the self-report measure assessing situational anxiety prior to test speeches, all three treatment groups reported significantly greater pre-post improvement than no-treatment. However, there were no
significant differences among the treatment conditions.

Based on the assessment of treatment credibility, it is unlikely that CCD's relative efficacy was attributable to differential expectation of success or demand characteristics across the experimental conditions. Although credibility ratings for the placebo condition were initially lower than that for the active treatments, between-group differences were minimal by the third treatment session. For all groups, there was a trend for perceived credibility to increase over the course of treatment.

The present findings regarding the relative efficacy of CCD in reducing a focalized social-evaluative anxiety both support and extend the results of Lent (1977). While the earlier study demonstrated the comparative effectiveness of a combined CCD-study skills training package in alleviating test anxiety, the present results show that CCD alone may be effective in fear reduction. This provides preliminary support for the application of CCD as a single-component strategy. The present findings are also consistent with other research which has shown both systematic (McCroskey, 1972; Paul, 1966) and self-control desensitization (Zemore, 1975) to be relatively effective in reducing subjective speech anxiety.

Contrary to expectations, CCD was not consistently effective over the other conditions in promoting generalization of treatment effects. However, CCD subjects did report significant pre-post anxiety reduction on more generalization measures than subjects in the other groups. Specifically, CCD produced significant pre-post change on three of the five generalization measures (exam anxiety, job interview anxiety,
fear of negative evaluations); AP's improvement was limited to one variable, exam anxiety, while neither SRR or NTC evidenced significant pre-post change on any generalization variable.

Despite CCD's edge in within-group improvement, between-group comparisons did not convincingly demonstrate its superiority relative to the other conditions. In fact, CCD was significantly more effective than no-treatment on only one generalization measure (job interview anxiety) between pre- and posttesting; by follow-up, it was additionally superior to no-treatment in reducing exam anxiety. Thus, while Goldfried (1971) has hypothesized that self-control desensitization should be highly effective in producing generalization to untreated fears, superior transfer effects have not consistently been found (Spiegler et al., 1976; Zemore, 1975). Surprisingly, in contrast to Lent's (1977) findings, the present study did not find CCD to be effective in alleviating trait anxiety.

Even more surprising was rational restructuring's ineffectiveness across most outcome criteria, at least between pre- and posttesting. SRR produced significant pre-post change on only two measures, state anxiety and speech duration. In contrast, other research has demonstrated SRR to be relatively effective in reducing both test (Goldfried et al., 1978) and interpersonal anxieties (Kanter and Goldfried, in press); SRR also resulted in significant treatment generalization effects in these studies. Similarly, additional research has found other cognitive strategies to be relatively effective in treating speech anxiety (Fremouw and Zitter, 1978; Meichenbaum et al., 1971; Trexler and Karst, 1972), although there have been exceptions (Casas,
Given the discrepancy between the findings of this study and those of other investigations, light needs to be shed on possible reasons for this divergence. One obvious speculation is that there may have been errors in implementing the rational procedure. For example, possible counselor inexperience with SRR or inadequate modification of the technique can be cited in the present study. However, while it is true that the counselors had not had previous experience with SRR per se, both did have several years experience in using similar rational strategies. Also, therapy manuals and weekly meetings were used to ensure appropriate administration of SRR. Finally, credibility ratings provide evidence that SRR was perceived by subjects to be as highly plausible and potentially effective as was CCD. Thus, differential counselor experience or skill level would not seem to adequately account for the findings.

It is perhaps more likely that, in modifying SRR for the present study, its efficacy was diminished. To guard against this possibility, an SRR therapy manual had been secured from Goldfried. However, in an effort to satisfy time constraints, the present application of SRR was shortened relative to its use in earlier research. This resulted in fewer total sessions and fewer presentations of each hierarchy scene than had been reported previously. As was mentioned, the present use of SRR involved three one-minute presentations of each item; treatment took place within five weekly one-hour sessions. In comparison, Goldfried et al. (1978) presented items for a total of four one-minute trials within six one-hour sessions. While, similar to the present
procedure, Kanter and Goldfried (in press) presented three one-minute trials per item, their treatment involved seven weekly one and one-half hour sessions.

Therefore, it is possible that the present SRR treatment was of insufficient length to produce positive effects between pre- and post-testing. This likelihood receives some support when the follow-up reports of SRR subjects are considered. By the follow-up, SRR did result in significant change on three out of four measures, closely paralleling CCD's pattern of within-group change on these variables. Thus, SRR subjects may need more time to practice this procedure than was allotted in the present study. Apparently, with the greater practice allowed by the two-month follow-up period, SRR subjects were able to obtain positive results. Incidentally, this finding, that subjects trained in a skill-oriented intervention program continue to improve on specific anxiety measures between posttesting and follow-up, is consistent with other research findings (Goldfried and Trier, 1974; Lent and Russell, 1978). It seems that additional time and practice may enhance subjects' proficiency in the application of the rational coping skill.

Nevertheless, based on the present results, CCD may be more efficient than SRR — since CCD subjects experienced beneficial treatment effects over a shorter time period. Also, CCD was superior in reducing subjective speech anxiety, as determined by comparison of pre-follow-up difference scores.

Several other reasons may be offered to account for the difference between the present findings and those of Goldfried and his colleagues. For example, the other studies involved different target problems, e.g.,
test and interpersonal anxieties. While speech anxiety would seem somewhat similar to these other fears in terms of its social evaluative nature, Kanter and Goldfried (in press) have suggested the possibility of an interaction between target problems and the effectiveness of therapeutic procedures. Thus, it is conceivable that SRR may be more effective in treating these other fears, as opposed to speech anxiety. Although this conjecture may appear inconsistent with therapeutic "common sense", it receives some support from a study by Casas (1975) which similarly found no difference between SRR and a no-treatment group in treating speech anxiety.

It should also be pointed out that anxiety level, irrespective of specific fear, may mediate results with different treatments. Kanter and Goldfried (in press) have speculated that "in the case of intense states of anxiety, . . . cognitive procedures may be less effective because of the disruptive effects of anxiety level on thought processes". In the present study, subject selection procedures emphasized the recruitment of subjects reporting high levels of speech anxiety. Comparison of pretreatment PRCS anxiety level with that of other speech anxiety outcome studies (e.g., Paul, 1966) confirms that the present sample did exhibit a high degree of speech anxiety. By contrast, due to differing selection procedures, Goldfried et al.'s (1978) subjects may not have been as highly phobic. Thus, it is possible that differences in pretreatment anxiety level may have accounted for the differential efficacy of SRR in the two studies. Because (as Kanter and Goldfried have hypothesized) high anxiety levels may limit the efficacy of a cognitive procedure, strategies involving relaxation (such as CCD)
may be preferable, at least initially, to modify the heightened emo-
tional arousal experienced by highly anxious subjects.

In light of the generally deficient state of placebo methodology
in the anxiety treatment literature (Kazdin and Wilcoxon, 1976), the
present findings regarding "subconscious reconditioning" (SR) are es-
pecially noteworthy. As was mentioned earlier, very few researchers
employing placebo conditions have demonstrated empirically that these
conditions actually generate subject expectancies for improvement equal
to that of "active" treatment conditions (Davison and Wilson, 1973).
In contrast, the present investigation assessed perceived treatment
credibility/expectancy-for-improvement on three occasions during treat-
ment. The results suggest that, while SRR was initially seen as some-
what less credible than the active conditions, its relative plausi-
bility increased over a short period of treatment; by the third session,
SR was rated as comparable to CCD and rational restructuring in per-
ceived credibility. This finding, that greater exposure to the placebo
under conditions analogous to actual therapy may enhance its credibil-
ity, is in line with results obtained by Nau, Caputo, and Borkovec

Interestingly, the credibility of each of the experimental condi-
tions in the present study tended to increase over time, a finding
perhaps consistent with cognitive balance (Heider, 1958) and dissonance
reduction (Festinger, 1957) theories. That is, with increasing invest-
ment in the program, subjects came to view their treatments as even
more potentially helpful. Alternatively, they may have simply been
responding to heightened demand stimuli and the desire to please their
counselors.

In large part, the present findings support earlier research with "role-play" subjects suggesting the relative credibility of the SR placebo procedure (Evans, Kazarian, and Greenough, 1977; Russell, Lent, and Crimmings, 1977). They also confirm Russell et al.'s finding that SR is capable of producing significant reductions in self-reported anxiety. Consistent with expectations, SR was significantly more effective than no-treatment in reducing pre-post subjective speech anxiety. However, contrary to predictions, SR was also superior to rational restructuring on one of the two speech anxiety measures and effective over no-treatment on an additional self-report measure (exam anxiety).

In terms of overall within-group change between pre- and posttesting, SR was second only to CCD in effectiveness across most variables. Further, SR's "treatment" effects were maintained at the follow-up, although its efficacy relative to rational restructuring and no-treatment was somewhat diminished due to post-follow-up gains by these other conditions.

These results suggest that SR was surprisingly effective, when compared with rational restructuring and no-treatment. However, it is also important to examine SR's efficacy relative to CCD. Results of this comparison indicate that CCD was more effective than the placebo, both in terms of speech anxiety reduction and in producing significant within-group change across more measures. Specifically, CCD evidenced greater within-group gains than SR on eight of the ten pre-post variables and on all four follow-up measures, although between-group differences reached significance only on the speech anxiety measures.
It is likely that small sample sizes and large variability within groups precluded further significant differences between CCD and the placebo condition.

Taken in total, the present results are consistent with other research which has shown that credible placebo conditions can effect positive results on self-report variables, at times approximating the changes of active conditions (Kirsch and Henry, 1977; Marcia, Rubin, and Efran, 1969). However, in contrast to these other studies, the present results clearly demonstrate desensitization to be more effective than a credible placebo in alleviating a specific targeted anxiety. While various methodological and ecological differences may account for this discrepancy in findings, it may be significant that the present study employed a self-control variant of desensitization, as opposed to the standard desensitization procedures used in these other studies. At any rate, by establishing the relative credibility of SR, the present results suggest that the superiority of CCD in reducing speech anxiety is due to active therapeutic ingredients and not differential expectation for improvement across the two conditions.

Another important aspect of the present results concerns the failure of any treatment method to achieve significant reductions in behaviorally-manifested anxiety, assessed by the TBCL measure. On the surface, this finding contrasts with research which has shown various anxiety reduction techniques to be effective in alleviating behavioral indices of speech anxiety (e.g., Fremouw and Harmatz, 1975; Fremouw and Zitter, 1978; Kirsch et al., 1975; Paul, 1966). However, closer inspection reveals that the majority of these other procedures differed from
those of the present study in at least one very important way: either inadvertently or by design, their subjects were additionally presented with a skills training treatment component. For example, Paul's (1966) subjects were concurrently receiving training in speech-making through participation in a basic speech course. Thus, these subjects were essentially receiving a multicomponent treatment package, i.e., training in effective public speaking skills in conjunction with anxiety reduction.

According to the present results and those of other investigators (Marshall et al., 1976; Sherman et al., 1974), improvement in behaviorally-rated speech anxiety may be much less likely when treatment is limited to anxiety reduction alone. As Paul himself has observed,

... the reduction of anxiety does not directly, or invariably, lead to an adaptive change in the appropriate behaviors that may have produced anxiety initially, nor does it lead to the development of the responses or skills that have been blocked by anxiety. ... the reduction of anxiety only makes the client "teachable"; the modification of other attitudes, behaviors, and skills may still require specific learning experiences (1966, p. 93).

Apparently, the omission of a public speaking skills component from the present program resulted in a failure to modify poor speaking habits. These habits, which persisted despite successful subjective anxiety reduction, were taken as evidence at posttesting of enduring behaviorally-manifested anxiety. Thus, it is likely that the skill of "appearing at ease" while speaking requires explicit practice and intervention via a skills training program component.

An alternative reason for the present failure to find improvement in observed anxiety may have involved the degree of inter-rater
reliability on the TBCL. Specifically, the present observer reliability coefficients were lower than those frequently cited in the literature (e.g., Paul, 1966). As noted earlier, these attenuated correlations may have been due to some combination of modifying (i.e., shortening) the TBCL procedure and offering insufficient practice to the raters. However, despite their magnitude relative to Paul's finding, the present inter-rater correlations were still highly significant. Therefore, unreliability of the observers does not appear to provide a satisfactory explanation for the present inability to obtain significant behavioral change.

On a second behavioral index of speech anxiety (length of speech), significant gains were noted for three of the four groups, CCD, SRR, and no-treatment. While each of these conditions improved more than the placebo group, the meaningfulness of these comparisons is limited by testing artifacts, e.g., large mean differences between AP and the other groups at the pretest, combined with a potential ceiling effect. At any rate, since the no-treatment group's change paralleled that of the active treatments, results on this measure similarly suggest that the anxiety reduction methods per se may not effectively modify behaviorally-defined speech anxiety.

Methodological Limitations

Throughout the literature reviewed earlier, common methodological and conceptual problems in speech anxiety treatment research were pointed out. One might safely conclude that this literature, on the whole, is compromised by frequent threats to internal, external and theoretical validity. Unfortunately, as Mahoney (1978) has observed,
"the perfect experiment has yet to be designed... Even if it were conceivable, however, it is a safe bet that it would be impossible to execute" (p. 660). Therefore, it is reasonable to consider all experiments, including counseling outcome research, as falling along a "continuum of fallible effort". Since the present study is obviously not methodologically flawless, it seems necessary to outline several major issues which may influence interpretation of its findings. The reader will no doubt be able to identify others.

Kazdin (1978) has developed a model for evaluating the external validity, or generalizability to the clinical situation, of analogue counseling and therapy research. He notes several dimensions along which outcome research varies in the extent to which it approaches the actual treatment context. Of particular relevance to the present study are the dimensions of subject population and manner of subject recruitment. As mentioned previously, subjects in this investigation were introductory psychology students who received course credit for their participation. These considerations pose threats to external validity in that (a) college students as a group may differ from clinical populations typically treated for anxiety disorders in certain characteristics (e.g., educational level, age, socioeconomic status) which may influence treatment outcome; and (b) the incentives for clients who seek out treatment on their own may differ drastically from those of "mildly coerced" college students who have less investment in being "cured". Indeed, the latter may be able to cope with anxiety through avoidance of the public speaking situation.
In support of clinical generalizability, however, subject selection was based on relative severity of subjective speech anxiety, a problem which may bear some relation to interpersonal-performance fears experienced by actual clients (Bernstein and Paul, 1971; Paul, 1966). Also, considering the motivational differences between college student volunteers and actual clients, Kazdin (1978) has suggested that the analogue situation can be advantageous in providing a more rigid and conservative test of treatment efficacy than that in the clinical context. For example, "if a given treatment effects change in subjects who are less motivated and...[may] adhere less rigidly to treatment requirements...than do clients in a clinical situation, then the effects of treatment could be more pronounced in a clinical situation" (p. 684). Therefore, the extent to which the present subject population and recruitment procedures negate clinical generalizability is unclear and is, itself, an empirical question.

A second criticism of the present study involves the manner in which the behavioral checklist procedure was implemented. Due to some factor or combination of factors, such as shortening the TBCL measure or failing to provide observers with sufficient practice with the rating technique, inter-rater correlations were lower than those typically reported in the literature. These reduced correlations may have contributed to the lack of significant group changes observed in behaviorally-manifested anxiety.

However, as noted earlier, it is also likely that the absence of behavior change may have been due to withholding a skills training component from treatment. In contrast to Paul's (1966) study, subjects in
the present study did not have the opportunity to learn and practice
the elements of effective speech making, and this was reflected in their
posttest speeches, i.e., they still appeared anxious. While the rela-
tive contributions of a skills training ingredient may be inferred from
the literature, the present investigation might have tested this di-
rectly by presenting anxiety management techniques both with and without
a public speaking skills program.

That the present study did not examine the interaction between sub-
ject characteristics and treatment effectiveness may be cited as a
conceptual limitation. It has become well-acknowledged that no one
treatment is effective for all clients (Bergin and Suinn, 1975; Kiesler,
1966; Paul, 1967b). Accordingly, in addition to examining gross diff-
erences in treatment efficacy, research is needed to identify client-
treatment matching criteria that maximize therapeutic success. Very
few investigations on interpersonal performance anxieties have studied
this outcome dimension (e.g., DiLoretto, 1971; Paul, 1966). While
several did examine the interaction between social anxiety level and
effectiveness of various treatments, results have been inconsistent
(Casas, 1975; Fremouw and Zitter, 1978; Kanter and Goldfried, in press;
Meichenbaum et al., 1971).

One important factor discouraging the proliferation of treatment
x client type studies is the number of subjects that this research
requires. In fact, this consideration was responsible for the present
decision to not assign subjects to treatment groups based on a subject
characteristic variable. However, some researchers have examined
their data on a post hoc basis for evidence of treatment-client
interaction trends (e.g., Meichenbaum et al., 1971). This will be
done with the present data in the near future. In particular, the data
will be analyzed to observe possible relationships between pretreatment
level of social anxiety (on the SAD and FNE) and differential treatment
outcome.

Finally, some objections might be raised with regard to the imple­
mentation of rational restructuring. Specifically, the counselors did
not have exposure to the specific SRR procedure prior to their partici­
pation in the study, although both had had experience with various
desensitization and rational-emotive therapy techniques. Also, SRR
involved fewer sessions than had been reported previously (Goldfried et
al., 1978; Kanter and Goldfried, in press). While both counselors were
exceptionally well-experienced in comparison with the majority of
studies in this area, and steps were taken to insure proper training in
and uniform administration of SRR, the shortened length of treatment is
a well-founded criticism. It is conceivable that, considering subjects'
speech anxiety levels, the duration of SRR treatment was insufficient.
Nevertheless, SRR subjects did report significant gains by the follow­
up period, suggesting that continued practice with this technique may
be beneficial. In any event, the results indicate that CCD was more
effective than SRR on a number of criteria between pre- and posttreat­
ment; thus, CCD may be the more efficient program over the short run.

Implications for Practice and Further Research

On an applied level, the present study may tentatively offer sev­
eral implications for counseling programs aimed at interpersonally
anxious clients. First, cue-controlled desensitization may be a
relatively effective approach to social-evaluative anxiety treatment, particularly where the goal is focalized fear reduction. However, if subjective anxiety is co-existent with deficient performance skills, a combined anxiety management-skills training approach may prove most desirable (e.g., Fremouw and Zitter, 1978; Marshall et al., 1976; Sherman et al., 1974). Such a multicomponent treatment package approach (CCD + study skills training) has been successively applied to the treatment of test anxiety (Lent and Russell, 1978). As has been noted (Deffenbacher and Payne, 1977; Lent, 1977), self-control anxiety reduction procedures may also contribute to other skills-oriented programs such as assertion, social or dating skills training.

Goldfried (1971) has theorized that self-control desensitization programs should enhance maintenance and generalization of treatment effects. However, research has not consistently supported this contention. For example, several authors have found standard and self-control desensitization to be generally equivalent in promoting treatment generalization effects (Lent and Russell, 1978; Zemore, 1975). In the present study, there was a trend for CCD to produce greater generalization to various untreated fears than the other treatments employed. However, this trend was mainly in terms of pre-post within-group changes. Because of the important potential of "coping skills" intervention programs (Mahoney, 1974), this dimension of treatment efficacy deserves further empirical study.

Procedurally, the CCD technique offers some distinct advantages over standard systematic desensitization. For example, CCD minimizes common difficulties encountered in hierarchy presentation. It also
encourages greater client involvement while reducing demands on the counselor. This is an important consideration, since subjects who attribute successful behavior change to their own efforts may show superior persistence in treatment effects (Davison and Valins, 1969). Further, the cue-assisted relaxation component may promote a deeper level of relaxation than non-cue-assisted desensitization (Reeves and Mealiea, 1975).

In light of the discrepancy between the present findings and those of Goldfried and his colleagues (Goldfried et al., 1978; Kanter and Goldfried, in press), there is an apparent need for additional research on the SRR technique. Considering this divergence of findings, it is suggested that further research and counseling applications employing SRR take steps to provide participants with an adequate number of treatment sessions as well as sufficient within- and between-session coping practice. Related to this suggestion, it may be important to carefully insure that subjects are successfully coping at one hierarchy level before proceeding to the next. Unlike CCD, rational restructuring (as outlined by Goldfried et al., 1974) does not provide a clear-cut standard for successful coping with hierarchy items. For example, if a subject reports a "subjective unit of distress" drop of ten points between trials one and three on a particular item, it is unclear whether this reflects adequate use of the rational coping skill. Thus, greater clarification and discussion may be required to determine successful coping. This procedural discrepancy between SRR and CCD may have accounted for some of the observed differences in their relative efficacy in the present study.
Another fruitful direction for research might involve evaluating the efficacy of a combined CCD-SRR approach. Because of their numerous procedural similarities, this may easily be accomplished. For example, subjects could be taught to employ the cue-controlled relaxation skill in addition to anxiety-competing self-sentences. In fact, the cue word "calm" may augment the relearning process by, itself, functioning as a cognitive coping self-verbalization (see Lent, 1977, p. 111). Also, it might be advantageous to focus simultaneously on treating the emotional (physiological) and cognitive arousal components of anxiety (see Liebert and Morris, 1967) via relaxation and rational coping training.

It should be noted that initial research examining the efficacy of a combined desensitization-rational restructuring approach has generally not shown supportive results (e.g., Kanter and Goldfried, in press; Meichenbaum et al., 1971). However, as speculated by these investigators, the time allotted for the combined treatment may have been insufficient for participants to adequately assimilate and use these two coping skills. Therefore, it would be necessary to ensure appropriate length in administering a combined CCD-SRR program.

Additional research on both CCD and SRR should document their efficacy in treating other target problems, particularly those of a severe or pervasive nature. This sort of research could enhance the clinical generalizability of the procedures by recruiting subjects who are more representative of a clinical population than those used in the present study. Also, it would be useful to further examine various subject characteristic (e.g., personality) factors which might predict differential success with CCD, SRR or a combined technique.
The present findings, taken together with the results of several "quasi-control" investigations (Evans et al., 1977; Russell et al., 1977), suggest that the "subconscious reconditioning" placebo procedure is capable of instilling subject confidence and expectations for improvement comparable to that of active treatment techniques -- at least after a short period of treatment. These results also demonstrate that SR is capable of producing significant "treatment" effects on self-report measures of anxiety. Because SR was without specific therapeutic ingredients for anxiety reduction, such treatment effects may be attributed to nonspecific factors, e.g., demand stimuli for improved posttest behavior, confidence in the counselors, desire to please the counselors, etc.

The potency of nonspecific elements in contributing to the success of counseling and therapy is well documented (Shapiro, 1971). Accordingly, Paul (1969) and others have argued that placebo conditions are essential in the critical evaluation of "active" interventions. However, with regard to desensitization treatment, the literature has failed to conclusively demonstrate the efficacy of SD beyond nonspecific factors -- largely because the relative credibility of common placebo procedures has been ignored (Kazdin and Wilcoxon, 1976).

One strength of the present study was in assessing the relative credibility and expectancy generated by the SR placebo technique. Because of this assessment, greater faith may be placed in CCD's relative efficacy in alleviating speech anxiety. While subconscious reconditioning was somewhat effective in reducing speech anxiety, CCD produced significantly greater gains. Thus, given comparable treatment
credibility, this may provide a relatively convincing demonstration of the efficacy of desensitization (i.e., CCD) beyond placebo factors.

Although it is tempting to encourage counseling and therapy investigators to adopt the present type of placebo control methodology in future outcome studies, caution is warranted on several grounds. In a recent article, O'Leary and Borkovec (1978) have outlined some conceptual, methodological, practical and ethical issues involved in the use of placebo groups in psychotherapy research. Of greatest relevance to the present study is their discussion of ethical considerations regarding placebo controls. Specifically, on the one hand, psychologists have an ethical responsibility to evaluate the efficacy of their treatments; on the other, the ethical nature of methods used to evaluate treatments can be questioned (e.g., the use of deception). This ethical dilemma intensifies with both the severity of target problems and an increasing number of treatment sessions.

In the final analysis, the individual investigator must weigh the potential risks and benefits accruing from the use of placebo control groups. In the present study, the application of SR was deemed appropriate. Humane subject selection procedures, including provision for informed consent (see Appendix A), were emphasized to ensure ethical treatment of subjects. Such a methodology clearly may be useful in similar analogue counseling studies. However, there is a growing development of alternative methods of controlling for nonspecific treatment effects, e.g., "best available" treatment and component control comparisons; expectancy and counterdemand manipulations (see Kazdin and Wilcoxon, 1976; O'Leary and Borkovec, 1978). While these
alternative strategies are not without their own limitations, under some circumstances they may be preferable to the present form of placebo control methodology.
APPENDIX A

Procedures for Subject Selection

Once a suitable target pool was identified (i.e., introductory psychology students with scores of $\geq 20$ on the Personal Report of Confidence as a Speaker scale), potential subjects were contacted individually by telephone. They were invited to take part in "research on different methods of helping people who are nervous in public speaking situations".

It was explained that they were being contacted on the basis of their "response to the questionnaire which was taken on the first day of class". During this conversation, it was also mentioned that the specific purpose of the study "is to compare several well-established methods of anxiety reduction with some method(s) which do not have much research behind them, to see which works best".

Speech-anxious students who expressed interest in participating were asked to attend an orientation/assessment session. At this session, the nature of the research project was reiterated in more detail. Specifically, subjects were presented with the following information to allow for informed consent:

"Before we begin, I would like to tell you a little bit about our research program. As I mentioned on the phone, you were contacted because your responses to the questionnaire you filled out on the first day of class indicated that you are concerned with your performance in speaking before groups of people.

This is a very common area for people to feel anxious about. In fact, a large percentage of students who take public speaking courses
report that they are excessively tense about having to speak in front of groups of people. This feeling also can often generalize to other related types of situations, such as participating in class discussions, and have an adverse impact on performance and enjoyment in these situations.

Our research is part of an ongoing project to determine which methods for helping people cope with anxiety are the most effective ones. In the work we and others have done so far, we have been able to develop and evaluate some fairly effective anxiety-reducing techniques. For example, we have successfully dealt with test anxiety and fear of airplane flights using procedures similar to those that we'll be using in this study. However, we are interested in further refining these techniques and in comparing them against other techniques which do not, as yet, have much research behind them.

Now, if you choose to participate in our research, we may be assigning you to receive either a short treatment which has been well supported by research and practice with real people or one which we are, frankly, not as sure about. Since people's expectations about such things may influence how they respond to different treatments, we will not be telling you (until after the study is over) which is an old, effective treatment and which is a new one.

I feel that this is a very important area for research and one that can be well worth participating in. For example, you may learn to approach public speaking and related situations with greater confidence and less worry. Then too, you may be helping us in the task of devising better methods for helping people to overcome stress problems.
At this point, I would like to stop to see if there are any questions. We will be asking for about a seven hour time commitment. Now, I realize that this is three hours more than you have to do for course credit, but as I said, I believe that this experience may be worth your extra time because of the possibility to learn how to be more relaxed in public speaking situations.

We will be choosing people randomly to participate in the different experimental groups. Therefore, based on chance, you may receive either a well-supported technique or one which is newer and less tested. Our earlier results, however, show that each may result in a reduction of unwanted tension in different situations, such as taking college exams. Also, since we would like to see how well people improve without any type of intervention -- to compare their improvement rates with people who do receive some form of treatment -- we will be assigning some of you to an experimental condition in which you will not at first receive any specific help in reducing public speaking tension. Instead, we would simply like for you to participate in the same 'before and after' tests that everyone else will take.

Of course, everyone who volunteers for this study will receive the entire four credits of experimental time, regardless of which condition you get assigned to. Those who will not receive treatment at first and those who, based on our results, receive the less effective technique or techniques, will be offered additional help at the end of the study to help you to relax and concentrate for better performance in public speaking situations.
If you would like to continue with our program, we'd like to have you. However, if you have any reservations — for any reason — about joining us, you needn't continue further. There will be absolutely no penalty for dropping out of this study. If you decide not to continue, we'll be happy to give you one hour of credit at this point and you can leave. However, if you do decide to participate, we ask that you join us for the full extent of the program. Would anyone like some more information or the opportunity to leave at this point?. . ."

At this juncture, specific information regarding actual commitment time was presented, i.e., number and length of treatment sessions, participation in pre- and posttesting, etc. The voluntary nature of the program was stressed and subjects were given the opportunity to decline or accept further participation.
APPENDIX B

This instrument is composed of 30 items regarding your feelings of confidence as a speaker. After each question there is a "true" and a "false." Try to decide whether "true" or "false" most represents your feelings associated with public speaking, then put a circle around the "true" or "false." Remember that this information is completely confidential and will not be made known to your instructor. Work quickly and don't spend much time on any one question. We want your first impression on this questionnaire. Now go ahead, work quickly, and remember to answer every question.

1. I look forward to an opportunity to speak in public. T F
2. My hands tremble when I try to handle objects on the platform. T F
3. I am in constant fear of forgetting my speech. T F
4. Audiences seem friendly when I address them. T F
5. While preparing a speech I am in a constant state of anxiety. T F
6. At the conclusion of a speech I feel that I have had a pleasant experience. T F
7. I dislike to use my body and voice expressively. T F
8. My thoughts become confused and jumbled when I speak before an audience. T F
9. Although I am nervous just before getting up I soon forget my fears and enjoy the experience. T F
10. I have no fear of facing an audience. T F
11. I face the prospect of making a speech with complete confidence. T F
12. I feel that I am in complete possession of myself while speaking. T F
13. I prefer to have notes on the platform in case I forget my speech. T F
14. I like to observe the reactions of my audience to my speech. T F
15. Although I talk fluently with friends I am at a loss for words on the platform. T F
16. I feel relaxed and comfortable while speaking. T F
17. Although I do not enjoy speaking in public I do not particularly dread it. T F
18. I always avoid speaking in public if possible. T F
<table>
<thead>
<tr>
<th></th>
<th>The faces of my audience are blurred when I look at them.</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>I feel disgusted with myself after trying to address a group of people.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>21</td>
<td>I enjoy preparing a talk.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>22</td>
<td>My mind is clear when I face an audience.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>23</td>
<td>I am fairly fluent.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>24</td>
<td>I perspire and tremble just before getting up to speak.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>25</td>
<td>My posture feels strained and unnatural.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>26</td>
<td>I am fearful and tense all the while I am speaking before a group of people.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>27</td>
<td>I find the prospect of speaking mildly pleasant.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>28</td>
<td>It is difficult for me to calmly search my mind for the right words to express my thoughts.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>29</td>
<td>I am terrified at the thought of speaking before a group of people.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>30</td>
<td>I have a feeling of alertness in facing an audience.</td>
<td>T</td>
<td>F</td>
</tr>
</tbody>
</table>
APPENDIX C

Please circle the number that most closely approximate your reactions to the following situation.

YOU ARE GETTING UP TO GIVE A SPEECH BEFORE A LARGE GROUP:

1. Heart beats faster
   1. not at all
   2. very much

2. Get an "uneasy feeling"
   1. not at all
   2. very much

3. Emotions disrupt action
   1. not at all
   2. very much

4. Feel exhilarated and thrilled
   1. not at all
   2. very much

5. Want to avoid situation
   1. not at all
   2. very much

6. Perspire
   1. not at all
   2. very much

7. Need to urinate frequently
   1. not at all
   2. very much

8. Enjoy the challenge
   1. not at all
   2. very much

9. Mouth gets dry
   1. not at all
   2. very much

10. Become immobilized
    1. not at all
    2. very much

11. Get full feeling in stomach
    1. not at all
    2. very much

12. Seek experiences like this
    1. not at all
    2. very much

13. Have loose bowels
    1. not at all
    2. very much

14. Experience nausea
    1. not at all
    2. very much
APPENDIX D

NAME

INSTRUCTIONS

In answering the items below, please make your judgments on the basis of what these things mean to you now. Each item contains a different concept to be judged and beneath it a scale. You are to rate the concept on the scale.

Here is how you use the scales:

If you feel that the concept is VERY CLOSELY RELATED to one end of the scale, you place your check-mark as follows:

EXAMS


OR


In the example above, EXAMS were rated as Extremely Fair or Extremely Unfair.

If you feel that the concept is QUITE CLOSELY RELATED to one or the other end of the scale (but not extremely), you should place your check mark as follows:

EXAMS


OR


If the concept seems only SLIGHTLY RELATED to one side as opposed to the other side (but is not really neutral), then you should check as follows:

EXAMS


OR


The direction which you check depends upon which of the two ends of the scale seem most characteristic of the thing you are judging.

If you consider the concept to be NEUTRAL on the scale, both sides of the scale EQUALLY ASSOCIATED with the concept, then you should place your check mark in the middle space:

EXAMS


IMPORTANT
Place your check in the middle of the spaces, not on the edge


THIS NOT THIS
Make each item a separate and independent judgment. Do not worry or puzzle over individual items. It is your first impression, the immediate feelings about the items that we are interested in. On the other hand, please do not be careless, because we want your true impressions.

If you have any question, raise your hand. Go ahead and rate the following concepts.

1. **FINGERS**
   - STRAIGHT
   - TWISTED

2. **HELPLESS**
   - SECURE

3. **TIGHT**
   - LOOSE

4. **STRONG**
   - WEAK

5. **WET**
   - DRY

6. **LOOSE**
   - TIGHT

7. **FRIGHTENED**
   - FEARLESS

8. **DEEP**
   - SHALLOW

9. **GOOD**
   - BAD

10. **CAREFUL**
    - CAREFREE

11. **LOOSE**
    - TIGHT

12. **STIFF**
    - RELAXED

13. **CALM**
    - JITTERY
14. HANDS
TIGHT ______:_____:_____:_____:_____:_____:_____:LOOSE

15. BREATHING
HOT ______:_____:_____:_____:_____:_____:_____:COLD

16. ME
CAREFREE ______:_____:_____:_____:_____:_____:_____:WORRIED

17. ANXIETY
CLEAR ______:_____:_____:_____:_____:_____:_____:HAZY

18. FINGERS
LOOSE ______:_____:_____:_____:_____:_____:_____:TIGHT
APPENDIX E

**DIRECTIONS:** A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number at the right of the statement to indicate how you generally feel.

There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>1. I tire quickly</td>
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<tr>
<td>2. I feel like crying</td>
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<td>3. I wish I could be as happy as others seem to be</td>
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<td>4. I am losing out on things because I can't make my mind up soon enough</td>
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<tr>
<td>5. If I had my life to live over again, I would want it the same</td>
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<tr>
<td>6. I am &quot;calm, cool, and collected&quot;</td>
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<td>7. I feel that difficulties are piling up so that I cannot overcome them</td>
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<td>8. I worry beyond reason over something that really doesn't matter</td>
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<td>9. I feel useless</td>
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<td>10. I am inclined to take things hard</td>
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<tr>
<td>11. Life is a strain for me</td>
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<tr>
<td>12. I lack self confidence</td>
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<tr>
<td>13. I shrink from facing a crisis or difficulty</td>
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<td>14. I feel blue</td>
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<tr>
<td>15. I do (have done) many things which I regret</td>
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<tr>
<td>16. I brood</td>
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<tr>
<td>17. Some unimportant thoughts run through my mind and bother me</td>
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<tr>
<td>18. I take disappointments so keenly that I can't put them out of my mind</td>
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<tr>
<td>19. I feel tired</td>
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<tr>
<td>20. I get in a state of tension or turmoil as I think over my recent concerns and interests.</td>
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</tbody>
</table>
APPENDIX F

Please circle the number that most closely approximate your reactions to the following situation

YOU ARE ABOUT TO TAKE A FINAL EXAM:

1. Heart beats faster
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

2. Get an "uneasy feeling"
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

3. Emotions disrupt action
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

4. Feel exhilarated and thrilled
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

5. Want to avoid situation
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

6. Perspire
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

7. Need to urinate frequently
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

8. Enjoy the challenge
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

9. Mouth gets dry
   - 1 not at all
   - 2
   - 3
   - 4 very much
   - 5

10. Become immobilized
    - 1 not at all
    - 2
    - 3
    - 4 very much
    - 5

11. Get full feeling in stomach
    - 1 not at all
    - 2
    - 3
    - 4 very much
    - 5

12. Seek experiences like this
    - 1 not at all
    - 2
    - 3
    - 4 very much
    - 5

13. Have loose bowels
    - 1 not at all
    - 2
    - 3
    - 4 very much
    - 5

14. Experience nausea
    - 1 not at all
    - 2
    - 3
    - 4 very much
    - 5
APPENDIX G

Please circle the number that most closely approximate your reactions to the following situation

**YOU ARE ABOUT TO GO ON A JOB INTERVIEW:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| **1. Heart beats faster** | 1 | 2 | 3 | 4 very much
| **2. Get an "uneasy feeling"** | 1 | 2 | 3 | 4 very much
| **3. Emotions disrupt action** | 1 | 2 | 3 | 4 very much
| **4. Feel exhilarated and thrilled** | 1 | 2 | 3 | 4 very much
| **5. Want to avoid situation** | 1 | 2 | 3 | 4 very much
| **6. Perspire** | 1 | 2 | 3 | 4 very much
| **7. Need to urinate frequently** | 1 | 2 | 3 | 4 very much
| **8. Enjoy the challenge** | 1 | 2 | 3 | 4 very much
| **9. Mouth gets dry** | 1 | 2 | 3 | 4 very much
| **10. Become immobilized** | 1 | 2 | 3 | 4 very much
| **11. Get full feeling in stomach** | 1 | 2 | 3 | 4 very much
| **12. Seek experiences like this** | 1 | 2 | 3 | 4 very much
| **13. Have loose bowels** | 1 | 2 | 3 | 4 very much
| **14. Experience nausea** | 1 | 2 | 3 | 4 very much
APPENDIX H

DIRECTIONS: This questionnaire is concerned with your feelings about various social situations. After each question there is a "true" and a "false". Try to decide whether "true" or "false" most represents your feelings associated with these situations, then put a circle around either the "true" or "false". There are no right or wrong answers; we are interested in how you generally feel in these types of situations.

1. I feel relaxed even in unfamiliar social situations. T F
2. I try to avoid situations which force me to be very sociable. T F
3. It is easy for me to relax when I am with strangers. T F
4. I have no particular desire to avoid people. T F
5. I often find social occasions upsetting. T F
6. I usually feel calm and comfortable at social occasions. T F
7. I am usually at ease when talking to someone of the opposite sex. T F
8. I try to avoid talking to people unless I know them well. T F
9. If the chance comes to meet new people, I often take it. T F
10. I often feel nervous or tense in casual get-togethers in which both sexes are present. T F
11. I am usually nervous with people unless I know them well. T F
12. I usually feel relaxed when I am with a group of people. T F
13. I often want to get away from people. T F
14. I usually feel uncomfortable when I am in a group of people I don't know. T F
15. I usually feel relaxed when I meet someone for the first time. T F
16. Being introduced to people makes me tense and nervous. T F
17. Even though a room is full of strangers, I may enter it anyway. T F
18. I would avoid walking up and joining a large group of people. T F
19. When my superiors want to talk with me, I talk willingly. T F
20. I often feel on edge when I am with a group of people. T F
21. I tend to withdraw from people. T F
22. I don't mind talking to people at parties or social gatherings. T F
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23. I am seldom at ease in a large group of people.</td>
<td>T F</td>
</tr>
<tr>
<td>24. I often think up excuses in order to avoid social engagements.</td>
<td>T F</td>
</tr>
<tr>
<td>25. I sometimes take the responsibility for introducing people to each other.</td>
<td>T F</td>
</tr>
<tr>
<td>26. I try to avoid formal social occasions.</td>
<td>T F</td>
</tr>
<tr>
<td>27. I usually go to whatever social engagements I have.</td>
<td>T F</td>
</tr>
<tr>
<td>28. I find it easy to relax with other people.</td>
<td>T F</td>
</tr>
</tbody>
</table>
APPENDIX I

DIRECTIONS: This instrument is also concerned with your reactions to social situations. Once again, please circle either "true" or "false", depending on how you generally feel about each type of situation. Remember that your answers will be regarded with confidentiality, so try to be as honest as you can.

1. I rarely worry about seeming foolish to others. T F
2. I worry about what people will think of me even when I know it doesn't make any difference. T F
3. I become tense and jittery if I know someone is sizing me up. T F
4. I am unconcerned even if I know people are forming an unfavorable impression of me. T F
5. I feel very upset when I commit some social error. T F
6. The opinions that important people have of me cause me little concern. T F
7. I am often afraid that I may look ridiculous or make a fool of myself. T F
8. I react very little when other people disapprove of me. T F
9. I am frequently afraid of other people noticing my shortcomings. T F
10. The disapproval of others would have little effect on me. T F
11. If someone is evaluating me I tend to expect the worst. T F
12. I rarely worry about what kind of impression I am making on someone. T F
13. I am afraid that others will not approve of me. T F
14. I am afraid that people will find fault with me. T F
15. Other people's opinions of me do not bother me. T F
16. I am not necessarily upset if I do not please someone. T F
17. When I am talking to someone, I worry about what they may be thinking about me. T F
18. I feel that you can't help making social errors sometimes, so why worry about it. T F
19. I am usually worried about what kind of impression I make. T F
20. I worry a lot about what my superiors think of me. T F
21. If I know someone is judging me, it has little effect on me. T F
22. I worry that others will think I am not worthwhile. T F
23. I worry very little about what others may think of me. T F
24. Sometimes I think I am too concerned with what other people think of me. T F
25. I often worry that I will say or do the wrong things. T F
26. I am often indifferent to the opinions others have of me. T F
27. I am usually confident that others will have a favorable impression of me. T F
28. I often worry that people who are important to me won't think very much of me. T F
29. I brood about the opinions my friends have about me. T F
30. I become tense and jittery if I know I am being judged by my superiors. T F
# Timed Behavioral Checklist

**Subject's name** ___________________________  **Date** ____________

**Rater** ___________________________  **Speech #** ____________

<table>
<thead>
<tr>
<th>Behavior Observed</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Paces</td>
<td></td>
</tr>
<tr>
<td>2. Sways or shifts weight</td>
<td></td>
</tr>
<tr>
<td>3. Shuffles feet</td>
<td></td>
</tr>
<tr>
<td>4. Knees treble</td>
<td></td>
</tr>
<tr>
<td>5. Extraneous arm and hand movement</td>
<td></td>
</tr>
<tr>
<td>6. Restrainted behavior (arms rigid, hands in pockets)</td>
<td></td>
</tr>
<tr>
<td>7. Hand shaking</td>
<td></td>
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<tr>
<td>8. Poor eye contact</td>
<td></td>
</tr>
<tr>
<td>9. Tense facial muscles (drawn, tics, twitches)</td>
<td></td>
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<tr>
<td>10. Face flushed</td>
<td></td>
</tr>
<tr>
<td>11. Inappropriate smiling or laughing</td>
<td></td>
</tr>
<tr>
<td>12. Purging, licking or biting lips</td>
<td></td>
</tr>
<tr>
<td>13. Swallowing</td>
<td></td>
</tr>
<tr>
<td>14. Clearing throat</td>
<td></td>
</tr>
<tr>
<td>15. Breathing heavily or sighing</td>
<td></td>
</tr>
<tr>
<td>16. Voice shaking</td>
<td></td>
</tr>
<tr>
<td>17. Speech blocks or stammers</td>
<td></td>
</tr>
<tr>
<td>18. Perspiring (face, hands, armpits)</td>
<td></td>
</tr>
</tbody>
</table>

Comments:
APPENDIX K

Name ____________________________

Treatment Evaluation Questionnaire

Listed below are five questions designed to assess your reactions at this point to the treatment program. Please answer each question by placing an "X" at the point on the scale which most closely approximates your feelings about the technique.

1. How logical does this type of treatment seem to you?

1 2 3 4 5 6 7 8 9 10
Not at all logical

2. How confident would you be that this treatment would be successful in eliminating fear of speaking before a group?

1 2 3 4 5 6 7 8 9 10
Not at all confident

3. How confident would you be in recommending this treatment to a friend who was extremely anxious about making speeches?

1 2 3 4 5 6 7 8 9 10
Not at all confident

4. If you were extremely anxious in speech situations, would you be willing to undergo such treatment?

1 2 3 4 5 6 7 8 9 10
Not at all willing

5. How successful do you feel this treatment would be in decreasing a different fear, for example, strong anxiety about taking tests?

1 2 3 4 5 6 7 8 9 10
Not at all successful

Extremely logical

Extremely confident

Extremely willing

Extremely successful
APPENDIX L

Example of Speech-Anxiety Hierarchy Used in Treatment

(0) Lying in bed in room looking at poster on wall.
(1) Reading about speeches alone in room one week before presentation.
(2) In the audience while another gives speech, one week before your presentation.
(3) Writing a speech in your room six days before its presentation.
(4) Writing a speech in your room four days before its presentation.
(5) Practicing a speech alone in your room three days before its presentation.
(6) Practicing a speech with your taperecorder two days before its presentation.
(7) Reviewing your speech the morning of your presentation.
(8) Reviewing your speech immediately before leaving for your presentation.
(9) Entering the room and taking your seat on the day of your speech.
(10) Waiting for the first person to give his speech on the day of your presentation.
(11) Waiting while the third person gives his speech on the day of your presentation.
(12) Presenting your speech before the audience.
### APPENDIX N

<table>
<thead>
<tr>
<th>Situation Description</th>
<th>Anxiety Level</th>
<th>Irrational Thoughts</th>
<th>Rational Re-evaluation</th>
<th>Anxiety Management</th>
</tr>
</thead>
<tbody>
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</table>
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