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MULTIMODAL TEST ANXIETY MANAGEMENT TRAINING

A Thesis
Presented to the
Faculty of
California State College
San Bernardino

In Partial Fulfillment of
the Requirements for the Degree
Master of Arts
in
Psychology

by
Steven R. Wallace

June 1977

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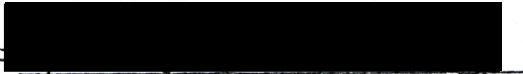
by
Steven R. Wallace
June 1977

Approved by:



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ABSTRACT

The present experiment compared automated multimodal therapy and systematic desensitization with an untreated control group in the treatment of test anxiety. Each treatment approach was composed of eight 50-minute self-instructional modules. Subjects completed two modules each week for four successive weeks. Results indicated that the control group showed no significant changes in test anxiety over time. Conversely, the multimodal and systematic desensitization treatments significantly reduced debilitating test anxiety as assessed by three pre- and posttreatment self-report measures. A self-report measure of facilitating test anxiety yielded nonsignificant results for both treatment groups. Implications for research and treatment are discussed.

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INTRODUCTION

The phenomenon of anxiety contiguous with evaluative situations has been widely documented. While anxiety may be a universal consequence of academic examinations (Sarason, Pederson, & Nyman, 1968), the literature indicates that anxiety may exert differential effects upon test performance. Individual responses to anxiety-engendering test situations may be dichotomized into two generic categories: facilitating or performance-enhancing anxiety and debilitating or performance-deteriorating anxiety.

Though not as numerous as investigations of debilitating test anxiety, empirical studies have yielded considerable evidence which supports the construct and effects of facilitating test anxiety (Alpert & Haber, 1960; Mandler & Sarason, 1952; Meichenbaum, 1972; Ruebush, 1960; Sarason, 1960; Sieber, 1969). In general, facilitating anxiety is evidenced by increased effort and attention to the task at hand, resulting in augmented performance.

The negative effects of debilitating test anxiety have been widely substantiated (Alpert & Haber, 1960, 1963; Hall, 1970; Kerrick, 1956; Mandler & Sarason, 1952; Meichenbaum, 1972; Paul & Eriksen, 1964; Sarason, 1960, 1971, 1972, 1975; Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960; Spielberger, 1972; Suinn, 1965, 1968, 1969). With respect to

prevalence, Hall (1970) determined that roughly fifteen percent of college undergraduates experience test anxiety to the extent that their grades are adversely affected.

Debilitating test anxiety has been found to manifest itself in at least three ways: an inability to think and remember (Suinn, 1968; Kostka & Galassi, 1974), tension (Easterbrook, 1959; Kostka & Galassi, 1974; Sarason, Pederson, & Nyman, 1968; Suinn, 1968), and worry (Doctor & Altman, 1969; Goldfried & Sobocinski, 1975; Liebert & Morris, 1967; Mandler & Watson, 1966; Marlett & Watson, 1968; Meichenbaum, 1972; Sarason, 1960, 1975; Sarason, Pederson, & Nyman, 1968; Wine, 1970). Taken in sum, debilitating test anxiety appears to adversely affect the performance capability of otherwise competent students (Alpert & Haber, 1960; Paul & Eriksen, 1964; Suinn, 1965, 1968).

The original theoretical formulation of test anxiety was advanced by Mandler & Sarason in 1952. They conceptualized test anxiety as a learned and habitual class of self-oriented interfering responses. Mandler & Sarason (1952) contended that the detrimental effects of anxiety are attributable to a diversion of attention from external task-relevant factors to internal task-irrelevant factors. The explicit concern is the manner in which the subject uses his task time--his cognitive activity, what is attended to and thought about (Wine, 1971). As complex tasks characteristically require full attention for adequate performance,

the test-anxious student's performance is subverted through attending to self-relevant cues at the expense of task-relevant variables.

Subsequent research has corroborated and elaborated upon this attentional interpretation. Primary components of test anxiety appear to be the student's self-centered preoccupation with present and potential evaluations of his/her performance, feelings of inadequacy, anticipation of punishment, and rumination over alternatives activated by evaluative situations (Mandler & Sarason, 1952; Mandler & Watson, 1966; Marlett & Watson, 1968; Sarason, 1975; Wine, 1971). Additional aspects of test anxiety appear to include diminished saliency and utilization of task-relevant cues, intrusion of task-irrelevant cognitions, self-deprecatory thoughts, and perception of autonomic arousal (Easterbrook, 1959; Mandler & Sarason, 1952; Mandler & Watson, 1966; Marlett & Watson, 1968; Meichenbaum, 1972; Sarason, 1960, 1971, 1972, 1975; Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960; Sarason & Ganzer, 1962, 1963). Finally, division of attention between task-relevant and self-relevant variables may be a function of conditioned maladaptive defensive reactions such as cautiousness and avoidance (Ruebush, 1960; Sarason, Davidson, Lighthall & Waite, 1958b; Spielberger, 1972; Suinn, 1968, 1969).

Differential performance between low- and high-test-anxious students would appear explicable via the attentional

focus theory. Multiple studies have determined that scores of subjects experiencing high levels of anxiety equal and often exceed the scores of their relatively non-anxious counterparts on simple tasks. An inverse relationship between anxiety and performance is evident as task complexity is increased, resulting in low scores for the highly anxious subjects and relatively higher scores for the less anxious subjects (Montague, 1953; Sarason, 1968; Spence, 1964; Standish & Champion, 1960). An attentional interpretation of these findings posits that complex tasks elicit self focus in anxious individuals and task focus in less anxious persons. Conversely, simple tasks do not evoke interfering levels of anxiety in anxious subjects, thereby allowing them to focus their attention at least as well as those with low levels of test anxiety.

Reviewing the available research, Liebert & Morris (1967) dichotomized the attentional deficit of the test-anxious student into two predominant factors: emotionality and worry. Emotionality is described as the autonomic arousal aspect of anxiety, and the worry component is defined as cognitive concern over performance. Worry is inversely related to situational expectations of success or failure. Liebert & Morris' formulation has engendered considerable evaluation in the recent past, most of which supports the validity and utility of the dual conceptualization (Doctor & Altman, 1969; Meichenbaum, 1971, 1972; Morris & Liebert,

1969, 1970; Spiegler, Morris, & Liebert, 1968; Wine, 1970, 1971). Two particularly significant studies (Doctor & Altman, 1969; Morris & Liebert, 1968) concluded that the worry component has a more consistent and pervasive negative effect on test performance than emotionality.

In summary, the literature supports an attentional interpretation of anxiety-related decrements in test performance. The test-anxious individual appears to engage in self-evaluatory, self-deprecatory ruminations at the expense of task-relevant variables. Cognitive concern over performance, possibly with concomitant autonomic arousal, diverts attention internally with a consequent deleterious effect on tasks requiring complete attention.

Test anxiety has been treated in the past exclusively by some form of behavior therapy. The diverse behavioristic approaches have, however, been uniformly single-faceted in treatment approach. Among these, systematic desensitization, implosion, covert reinforcement, cognitive modification, and modeling have received empirical support.

Predicated initially on Wolpe's (1969) reactive inhibition model, systematic desensitization has received the most empirical support as treatment for test anxiety. Standard form systematic desensitization, using individual hierarchies and a live therapist, has achieved a high rate of success in ameliorating self-reported test anxiety (Allen, 1971; Aponte & Aponte, 1971; Cohen, 1969; Cornish & Dilley, 1973;

Crighton & Jehn, 1969; Freeling & Shemberg, 1970; Garlington & Cotter, 1968; Ihli & Garlington, 1969; Johnson & Sechrest, 1968; Katahn, Strenger, & Cherry, 1966; Kondas, 1967; Laxer, Quarter, Kooman, & Walker, 1969; Mann & Rosenthal, 1969; Meichenbaum, 1972; Mitchell & Ingham, 1970; Mitchell & Ng, 1972; Ryan, Krall, & Hodges, 1976; Smith & Nye, 1973; Spiegler, Cooley, Marshall, Prince, & Puckett, 1976; Suinn, 1968; Taylor, 1971).

The use of standardized rather than individually developed hierarchies has been found to be expedient and economical with no appreciable decrease in effectiveness (Emery & Krumboltz, 1967; Kotska & Galassi, 1974). Even greater economy has been attained through automated desensitization with standardized hierarchies. The empirical validity of automated vis à vis standard form desensitization has been well established (Anton, 1976; Beck, 1972; Deffenbacher, 1974; Devine, 1973; Donner, 1970; Donner & Guernsey, 1969; Hall & Hinkle, 1972; Spinelli, 1972; Suinn, Edie, Nicoletti, & Spinelli, 1973). An additional variant form, "accelerated massed desensitization," has resulted in rapid reduction of test anxiety (Suinn, Edie, & Spinelli, 1970; Richardson & Suinn, 1974) and a related phenomenon, math anxiety (Suinn, Edie, & Spinelli, 1970; Richardson & Suinn, 1973).

Extending the principles of operant conditioning of overt behavior to private, covert events, "covert positive reinforcement" has been applied to test anxiety with

encouraging results (Guidry, 1973; Guidry & Randolph, 1974; Kostka & Galassi, 1974; Wisocki, 1971). The technique involves the pairing of test situation imagery with repeated imagined positive reinforcement contingent on nonanxious responses.

Implosive therapy has established some credibility as a viable interventive technique for test anxiety (Dawley & Wenrich, 1973; Smith & Nye, 1973). In implosive therapy, the client is inundated with test-anxiety-evoking stimuli without the accompanying aversive consequences until extinction of the anxiety response is attained. Though the procedure may be less effective than systematic desensitization (Morganstern, 1973), O'Brien (1976) demonstrated that implosion may rival desensitization when implosion is augmented by extinction of maladaptive anxiety response through massed practice.

Selective attention to task-relevant as opposed to self-relevant variables may be enhanced through the observation of a test-anxious but coping model who is ultimately rewarded for task-oriented behavior (Malec, Park, & Watkins, 1976; Meichenbaum, 1971a; Sarason, 1975; Sarason, Pederson, & Nyman, 1968; Wine, 1971). Modeled coping behavior ostensibly provides the observer with self-instructional training in attending to the task (Meichenbaum, 1972) and in finding adaptive ways of coping with stress (Sarason, 1975).

Cognitive concern over performance frequently results in task-incompatible "worry" characterized by irrational self-verbalizations (Ellis & Harper, 1975). Goldfried and Sebo-cinski (1975) found a positive correlation between adherence to "irrational" (e.g., self-sabotaging) attitudes and examination anxiety. Rational emotive therapy (RET), an active process of disputing self-defeating internal cognitions and redirecting attention toward rational and calming alternatives, provides a useful approach to managing "worry." Two studies (Knaus, 1975; Oliver, 1975) have supported RET's applicability to test anxiety reduction. Consistent with the theoretical formulation of Liebert & Morris (1967), "cognitive modification" combines RET-derived anti-worry techniques with modified systematic desensitization to combat excessive "emotionality" (autonomic arousal.) By simultaneously addressing both components of the anxiety, clients are expected to effect great control over counterproductive responses. Controlled studies by Hahnloser (1974), Meichenbaum (1972), and Wine (1970) have supported this expectation.

Summarizing the research to date, it would appear that a core of reliable and empirically validated approaches to test anxiety management has emerged. This core is comprised of systematic desensitization (including variant forms), implosion, modeling, covert reinforcement, and cognitive modification. Investigations of the comparative effectiveness of the aforementioned therapeutic approaches has, however,

yielded equivocal results. Only systematic desensitization has consistently demonstrated its superiority to competing procedures. Several ancillary techniques have been used as adjuncts to these core approaches. Most notable are "thought stopping" (Lazarus, 1971a) and study skill advising (Katahn, Strenger, & Cherry, 1966).

Systematic desensitization has thus emerged as the contemporary treatment-of-choice for test anxiety. This is, indeed, a curious eventuality for several reasons. First, an assumption which is implicit in the application of systematic desensitization to test anxiety is that test anxiety differs only in locus of anxiety from other specific phobic states (Wine, 1971). This assumption seems incongruent with the findings of Mandler and Watson (1966) and Marlett and Watson (1968). These investigators delineated definitive characteristics of the test-anxious individual which appear unique to this type of anxiety problem. These factors include worrying about the performance of self and others, ruminating over alternatives, and preoccupation with self-denigrating cognitions. Secondly, the focus of desensitization, i.e., training individuals to relax in the presence of increasingly more anxiety-provoking imagery, assumes that emotional arousal is the major defining characteristic of test anxiety. This assumption is in direct variance with research indicating that the effects of emotional arousal

are, at most, secondary to the contribution of cognitive concern over deteriorating test performance (Doctor & Altman, 1969; Meichenbaum, 1971; Morris & Liebert, 1970; Wine, 1970). The reported effectiveness of systematic desensitization seems paradoxical in light of its technical inconsistency with current empirical and theoretical trends.

The present analysis suggests that the singular use of desensitization may lead to limited treatment gains. Specifically, treatment gains may be limited to modification of emotional responses but not the accompanying cognitive experience of anxiety (Davidson, 1968; Johnson & Sechrest, 1968; Lang & Lazovik, 1963; Lang, Lazovik & Reynolds, 1965; Paul, 1966). In addition, no studies employing desensitization for the alleviation of debilitating test anxiety have resulted in a subsequent increase of facilitating anxiety. Conversely, cognitive modification, addressing the worry component of test anxiety, has consistently led to an augmentation of facilitating anxiety (Meichenbaum, 1972; Wine, 1970).

Implosion, modeling, and covert reinforcement would appear to be as theoretically untenable as desensitization. Used exclusively, these techniques focus on behavior and emotional arousal with inadequate attention to cognitive factors, thereby neglecting the pivotal "worry" component of anxiety. Additionally, none of these procedures incorporates an adequate instructional component capable of

facilitating client acquisition of appropriate alternative cognitions and responses. Failure to provide crucial instruction in this area may lead to incomplete treatment and thus to high rates of posttreatment relapse (Lazarus, 1976).

In a recent series of publications Lazarus (1976) has contended that the multidimensional nature of test anxiety mandates multifaceted treatment regimens for maximization of durable treatment effects. Concerned by relapse rates approaching 40% with single-modality behavioral treatments, Lazarus has advocated a technically eclectic "multimodal" approach. The anxiety response is perceived as a function of the concomitant effects of seven dynamic and inter-related modalities: behavior, affect, sensation, imagery, cognition, interpersonal relations, and drugs. Treatment is predicated on the assumption that "durable results are in direct proportion to the number of specific modalities invoked by any therapeutic system (Lazarus, 1976, p. 13)." Lazarus asserts that minimal requirements for comprehensive psychotherapy include the correction of malproductive behaviors, unpleasant feelings, irrational beliefs, stressful relationships, intrusive images, and undesirable sensations. To accomplish these ends, multimodal therapists use various techniques which enjoy, or at a minimum lend, to empirical validation. Among these are assertive training, behavior rehearsal, desensitization, relaxation, modeling, role playing, imagery

variations, rational emotive techniques, implosion, gestalt awareness exercises, operant shaping, etc. (Lazarus, 1976). Treatment technique combinations are infinite and client-specific, greatly enhancing the probability of client-therapy congruence.

The multimodal approach has intriguing implications for the long-term treatment of test anxiety. From a theoretical posture, multimodal treatment would appear of sufficient breadth to address the emotional and cognitive deficits believed to exert deleterious effects upon test performance. By intentionally addressing the diverse modalities of the anxiety experience, multimodal treatment has the potential for thorough and direct dealings with the cognitive aspects of "worry" as well as the correlated behavioral, imaginal, and interpersonal manifestations. The "emotional-ity" component of test anxiety may be sufficiently engaged through work in the sensory and affective modalities. Finally, multimodal's didactic emphasis lends easily to the direct teaching of effective study techniques.

According to the multimodal perspective, single and multimodal treatments may each achieve similarly rapid and significant short-term effects. The advantages of multimodal interventions should be manifest in the form of lower relapse rates at long-term follow-up assessments.

To date there has been only one controlled trial of

multimodal treatment for treatment of anxiety (Richardson, 1976). The findings of this initial report were quite promising. Specifically, the study found a multimodal-oriented test anxiety management program to be as effective as cognitive modification in reducing self-reported test anxiety among college students.

The purpose of this study is to compare a multimodal test anxiety management training program with the most successful single-modality treatment to date (systematic desensitization) and an untreated control group.¹ Logistical and budgetary constraints, endemic to institutions of higher learning, suggest obvious advantages of automization of effective treatments. Therefore, the relative efficacy of automated presentations of both multimodal and systematic desensitization treatments will be compared. The following experimental hypotheses are advanced:

1. There will be significant differences among the three groups in their responses to treatment as indicated by an analysis of variance performed on data derived from three independent measures of debilitating test anxiety. Further analyses will reveal similar significant baseline to end-of-treatment decreases in mean scores for the multimodal and

¹A follow-up assessment session will be held six months past treatment. These results will not be included in the present thesis but will be included in a published report of the present findings.

systematic desensitization groups on each of the three dependent variables measuring debilitating anxiety.

2. An analysis of variance will show a significant baseline to end-of-treatment difference among the three treatment groups on a self-report measure of facilitating test anxiety. Tests of simple main effects will reveal a significant increase in facilitating test anxiety for the multimodal group and not for the systematic desensitization group.

3. An equivalent and untreated control group will not evidence a significant change on any dependent variable.

METHOD

Subjects

The subjects were 36 undergraduate students (13 males, 23 females) ranging in age from 18 to 52, enrolled in a two-unit nontransferable course in "Test Anxiety Management Training" at Chaffey Community College, Alta Loma, California. Fourteen additional students enrolled in the course but failed to attend treatment sessions and therefore were excluded from the present study.

The first class meeting was devoted to standard college procedural matters such as attendance accounting and an explanation of the objectives and structure of the course. A sample of the course syllabus is provided as Appendix 1.

During the second class meeting, the pretreatment inventory battery was group administered to all subjects. While the subjects were completing the inventory, the experimenter thoroughly shuffled all student enrollment cards and randomly sorted them into three piles, thus constituting the three treatment groups. Subsequent to the subjects' completion of all pretreatment inventories, the experimenter assigned the subjects to their specific treatment group. The groups were simply denoted to the subjects as A (multimodal), B (desensitization), and C (control group.)

The experimenter met separately with each group to explain its responsibilities during the treatment segment of the course. The treatment groups were instructed in the use of their specific, automated treatment program and requested not to discuss any aspect of their treatment with members of another group. The control group was informed that only a limited number of treatment slots were available at that time and that by random selection they had been placed in a holding group. Control group members were assured that they would be treated shortly, so they need not seek another form of anxiety relief, and that their course standing would be in no way jeopardized by their assignment to the control group.

Experimental Design

A 3x2 factorial design was used. The first factor was the treatment variable consisting of three conditions: (a) Multimodal treatment; (b) Systematic Desensitization treatment; (c) Untreated control group. The second factor was baseline versus end-of-treatment assessments of test anxiety.

Assessment Measures

A battery of three independent measures of debilitating test anxiety and one measure of facilitating test anxiety was group administered to all subjects both pre- and post-treatment. The 50-item Suinn Test Anxiety Behavior Scale

(STABS) constituted the first measure of debilitating anxiety (Suinn, 1969). This questionnaire is included as Appendix 2. This questionnaire requires that the subject rate the amount of anxiety aroused by each of its items on a scale from "not at all" to "very much." A total test anxiety score is calculated by assigning a value from 1 to 5, corresponding to the level of anxiety checked. Total anxiety scores may range from a possible low of 50 to a high of 250.

The Alpert-Haber Achievement Anxiety Test (Appendix 3) is dichotomized to yield separate evaluations of debilitating (AAT-) and facilitating (AAT+) anxiety (Alpert & Haber, 1960). The 10 items of the debilitating scale are intermingled with the 9 items of the facilitating scale, resulting in a single questionnaire. Subjects respond to items of both scales by indicating the position on a 5-point Likert-type scale which is most consonant with their experiences of test anxiety. The debilitating and facilitating scales are scored independently. Scores for each scale are determined by assigning values of 1 to 5 to the subjects' responses on each item. High scores reflect greater levels of the type of anxiety, debilitating or facilitating, assessed by the particular scale. Scores on the debilitating anxiety scale range from a minimum of 10 to a maximum of 50. The facilitating anxiety scale scores may range from 9 to 45.

The fourth dependent variable consisted of a measure of debilitating test anxiety taken in an analogue test situation.

Between completing sections 1 and 2 of the Cattell Culture Fair Intelligence Test, subjects rated their immediate anxiety level on a 10-point Likert-type scale ranging from "not at all anxious" to "extremely anxious." Scoring was simply the numerical value of the response, with a score of 10 reflecting the maximal level of anxiety.

Procedure

Assessment Sessions

At the second class meeting, the pretreatment inventory battery was group administered to all subjects. Prior to distribution of the STABS and the AAT, subjects were informed that, "You will be taking two questionnaires which pertain to test anxiety. There are no right or wrong answers, nor is there a time limit. It is extremely important that your responses be as accurate as possible." The correct manner of responding on the two questionnaires was then illustrated. Upon completion of the first two questionnaires, Cattell Intelligence Tests were distributed to the subjects. Subjects were informed that, "This is one of the most prominent intelligence tests in use. Your IQ may be reliably determined from your score. Your performance on this test will be discussed with you at a later date." Immediately after completing parts 1 and 2 of section 1 of the Cattell, subjects were instructed to turn to the front cover of the test booklet, where a 10-point anxiety scale had been provided. Subjects

were told, "On this line you are to indicate the degree of anxiety which you are experiencing right now while taking this test. Your answer may range from 'not at all anxious' to 'extremely anxious.' Be very accurate."

The entire subject population reconvened during the week immediately following termination of treatment for group administration of the posttreatment inventory battery. Post-treatment inventories were administered precisely as were the pretreatment inventories, with the addition of a program evaluation questionnaire which was designed to elicit qualitative information about each treatment program (Appendix 4). All subjects agreed to participate in a follow-up assessment six months after the conclusion of the present study.

Experimental Treatment

Multimodal treatment. The multimodal treatment program consisted of eight 50-minute treatment modules recorded on cassette or videotape. Module tapes were accompanied by correlated consumable worksheets and bibliotherapy handout materials. Subjects engaged in two 50-minute sessions weekly for four successive weeks. Each subject arranged treatment sessions at his/her convenience.

Consistent with the eclectic nature of multimodal therapy, the program content was exceedingly diverse. The ultimate configuration of interventive techniques was formulated on the basis of a hypothesized composite modality profile for

test anxiety derived from the relevant literature (Appendix 5). Treatment techniques were selected via consideration of optimal strategies for ameliorating modality items that also lent to an automated delivery approach. Consistent with the above criteria, an attempt was made to assimilate treatment procedures which have empirical support as treatments for test anxiety. The precise content and sequence of therapeutic techniques is presented in Appendix 6. Subjects were encouraged to be selective in their interaction with the program, i.e., to emphasize practice and employment of elements which seemed beneficial and informative.

The "worry" component of anxiety, which has been previously defined as cognitive concern over performance, was addressed through four major approaches. First, several imagery procedures, suggested by the literature, were adapted for specific application to treatment of test anxiety. The imagery exercises were then provided to subjects to allow for development and practice of self-assured and appropriate imaginal responses to test-anxiety-provoking situations. The imagery exercises included positive and negative Rational Emotive Imagery (Ellis & Harper, 1975), Time Projected Success Imagery (Lazarus, 1971), and Coping/interpersonal Imagery with covert positive reinforcement (Guidry, 1973; Guidry & Randolph, 1974; Kostka & Galassi, 1974; Wisocki, 1971).

Second, extensive use was made of procedures principally

derived from Ellis' Rational Emotive Therapy (RET) (Ellis, 1973, 1975). RET techniques were initially implemented to assist test-anxious subjects in gaining insight into self-defeating and self-fulfilling attitudes, values, and beliefs. Particular focus was given to faulty cognitions related to categorical imperatives, perfectionistic standards, dire fears of failure, and illogical attributions to external circumstances. Training was then provided in (a) challenging and disputing irrational beliefs, (b) logico-empirical thinking, and (c) redirecting energy from self-castigation to the revision of environmental situations.

Third, cognitive modification techniques (Meichenbaum, 1972) were employed as mechanisms by which subjects could self-instruct rational thinking and task-oriented attention, ultimately "talking themselves" through stressful situations. Attentional focussing instruction was an integral part of the aforementioned procedures and was augmented by a "thought stopping" technique (Lazarus, 1971). As part of this component, several segments pertaining to efficient study skills and effective test-taking behaviors were included.

As a final assault on the "worry" component and selective attention deficits endemic to test anxiety, a videotaped self-disclosing coping model (Meichenbaum, 1971a; Sarason, 1975; Wine, 1971) was used. The model established credibility through sharing her experiences with test anxiety and then

proceeded to exemplify the anxiety management and attentional control techniques presented previously in the program.

Techniques for diminishing the deleterious effects of anxiety-induced autonomic arousal, or "emotionality," included sensory awareness exercises (Stevens, 1971) relaxation training (Lazarus, 1971), and accelerated massed desensitization (Richardson & Suinn, 1974; Suinn, Edie, & Spinelli, 1970). The sensory awareness exercises were designed to allow subjects to fully experience elements of the sensory modality in order to accrue maximal benefit from sensory-oriented techniques. Relaxation training was instituted because of relaxation's incompatibility with anxious responding and because it is an integral component of accelerated massed desensitization. Accelerated massed desensitization was included to rapidly substitute relaxation responses for anxiety responses in testing situations. Accelerated massed desensitization is distinctive from the standard form desensitization used in the other treatment group in its accelerated pace and in that scenes were not terminated upon the first experience of anxiety; subjects were required to actively relax away the anxiety. As an alternative to massed desensitization, subjects were trained in the use of an owning and self-acceptance procedure developed by Branden (1972).

Multimodal treatment components were reinforced through frequent homework assignments which required active application and rehearsal of the concepts and techniques presented

in the program.

Systematic Desensitization treatment. The systematic desensitization treatment was automated in the form of eight prerecorded cassette tapes. The number, schedule, and length of sessions were precisely equated with the multimodal treatment program. As a first step, training in deep muscle relaxation was provided (Lazarus, 1971). Subjects were then provided with taped and/or printed relaxation instructions and asked to practice relaxation at home twice a day for two weeks.

Upon attaining a sufficient level of relaxation, subjects were exposed to a standardized hierarchy of anxiety-evoking imaginal scenes developed and previously validated by Deffenbacher (1974). The hierarchy consisted of 18 discrete steps plus a final hierarchy item taken from Beck (1972) (Appendix 7). Hierarchy items were presented with short (6 to 12 sentence) elaborations in order to ensure complete visualizations. Subjects were instructed to visualize each hierarchy scene as vividly and as intensely as possible while the item was presented. Subjects remaining in a relaxed state, with no experience of anxiety, were instructed to advance themselves to the next item on the hierarchy. If any anxiety was experienced, subjects were instructed to terminate the arousing scene and return to a relaxed state. The arousing hierarchy item was then to be repeated until it no

longer elicited anxiety.

Control group. The untreated control group completed the same pre- and posttreatment inventories as the treatment groups. This group was included to control for (a) "non-specific therapeutic factors accruing from the environment" (Meichenbaum, 1971a); (b) "spontaneous remission" (Goldstein, 1960); (c) assurance of future treatment; and (d) effects of the assessment procedures.

RESULTS

Achievement Anxiety Test, Debilitating Anxiety Scale (AAT-)

Table 1 presents the mean scores of the experimental and control subjects on the Alpert-Haber Debilitating Anxiety Scale at baseline and end-of-treatment. Table 1 indicates that the multimodal and systematic desensitization groups decreased over treatment in debilitating anxiety by 5.50 and 4.67 scale points respectively. The control group conversely increased slightly (0.91 points) over treatment.

Table 1

Mean Scores of Experimental and Control Subjects
on the Alpert-Haber Scale of Debilitating
Anxiety at Baseline and End-of-treatment

Group	Assessment Sessions	
	Baseline	End-of-treatment
Multimodal	33.50	28.00
Desensitization	36.67	32.00
Control	31.67	32.58

A two-way analysis of variance was applied to subjects' scores on the AAT- scale at baseline and end-of-treatment (Table 2). Table 2 indicates that there were no overall differences among the treatment group levels. The analysis

further indicates that there was a significant decrease in group means over time, $F(1,33) = 6.91, p < .025$. Most relevant in the present context, there was a borderline significant interaction between the Treatment groups and Assessment Sessions $F(2,33) = 2.95, p < .10$.

Table 2

Analysis of Variance of Subjects' Scores on the Alpert-Haber Scale of Debilitating Anxiety

Source	df	MS	F
A (Treatment Groups)	2	78.43	1.06
B (Assessment Sessions)	1	171.13	6.91**
S(A)	33	73.99	
AB (Treatment Groups X Assessment Sessions)	2	73.04	2.95*
SB(A)	33	24.77	

* $.05 > p < .10$

** $p < .025$

Tests of simple main effects showed a significant decrease over treatment in debilitating test anxiety for both the multimodal $F(1,33) = 7.35, p < .025$, and the systematic desensitization groups, $F(1,33) = 5.28, p < .05$. The control group did not show a significant decrease in test anxiety.

Suinn Test Anxiety Behavior Scale (STABS)

The mean scores of the experimental and control subjects on the Suinn Test Anxiety Behavior Scale at baseline and

end-of treatment are presented in Table 3. Table 3 indicates that both treatment groups decreased substantially in reported anxiety over treatment; the decreases respectively were 48.59 scale points for the multimodal group and 55.83 scale points for the systematic desensitization group. The control group evidenced a smaller decrease of 16.92 points over treatment.

Table 3

Mean Scores of Experimental and Control Groups on the Suinn Test Anxiety Behavior Scale at Baseline and End-of-treatment

Group	Assessment Sessions	
	Baseline	End-of-treatment
Multimodal	147.75	99.16
Desensitization	160.50	104.67
Control	147.92	131.00

The results of a two-way analysis of variance performed on the subjects' scores on the STABS at baseline and end-of-treatment are shown in Table 4. Table 4 indicates that there were no overall differences among treatment group levels. The analysis further indicates significant decreases in debilitating test anxiety between assessment sessions, $F(1,33) = 44.45$, $p < .001$, and a significant Treatment group X Assessment Session interaction, $F(2,33) = 3.88$, $p < .05$.

Table 4

Analysis of Variance of Subjects' Scores
on the Suinn Test Anxiety Behavior Scale

Source	df	MS	F
A (Treatment Groups)	2	1546.13	.84
B (Assessment Sessions)	1	29443.56	44.45**
S(A)	33	1830.45	
AB (Treatment Groups X Assessment Sessions)	2	2569.85	3.88*
SB(A)	33	662.36	

* $p < .05$

** $p < .001$

Tests of simple main effects showed highly significant baseline to end-of treatment reductions in debilitating test anxiety for both the multimodal treatment, $F(1,33) = 21.38$, $p < .001$, and for the desensitization treatment $F(1,33) = 28.24$, $p < .001$. There was no significant decrease in anxiety for the control group.

Due to the significant Treatment X Assessment Sessions interaction, a Scheffé test for complex comparisons between means was performed on desensitization Assessment Sessions means in contrast with the multimodal Assessment Sessions means (Keppel, 1973). This analysis compared the relative baseline to end-of-treatment changes between the two groups. Comparison results indicated there was no significant difference in the effects of the two treatments as measured by

the STABS.

Anxiety Ratings in an Analogue Test Situation

Table 5 shows the mean scores of experimental and control groups on an analogue test situation measure of test anxiety at baseline and end-of-treatment. Table 5 indicates that the multimodal treatment group decreased in debilitating test anxiety by 4.17 rating points, compared to a decrease of 2.59 rating points for the systematic desensitization group. The control group demonstrated a slight increase (.50 rating points) over the treatment period.

Table 5

Mean Scores of Experimental and Control Groups
on the Analogue Test Situation Measure of Test
Anxiety at Baseline and End-of-treatment

Group	Assessment Sessions	
	Baseline	End-of-treatment
Multimodal	7.17	3.00
Desensitization	5.92	3.33
Control	6.08	6.58

A two-way analysis of variance was applied to the subjects' anxiety ratings in an analogue test situation at baseline and end-of-treatment (Table 6). Table 6 indicates that there were no overall differences among treatment group levels.

The analysis further indicates that there was a significant decrease in group means over time, $F(1,33) = 24.14$, $p < .001$. More relevant to the present study, there was a significant interaction between Treatment groups and Assessment Sessions, $F(2,33) = 10.44$, $p < .001$.

Table 6

Analysis of Variance of Subjects' Test Anxiety
Ratings in an Analogue Test Situation

Source	df	MS	F
A (Treatment Groups)	2	18.76	2.42
B (Assessment Sessions)	1	78.13	24.14*
S(A)	33	7.77	
AB (Treatment Groups X Assessment Sessions)	2	33.79	10.44*
SB(A)	33	3.24	

* $p < .001$

Tests of simple main effects revealed that the multimodal and systematic desensitization treatments produced significant reductions in debilitating test anxiety, $F(1,33) = 32.19$, $p < .001$ and $F(1,33) = 12.41$, $p < .01$, respectively. Again, the control group showed no significant change in level of test anxiety.

Complex comparisons between treatment means using Scheffe's tests indicated that the effects of the multimodal

treatment were not significantly different from the effects of the desensitization treatment in reducing debilitating test anxiety as measured in the analogue test situation.

Achievement Anxiety Test, Facilitating Scale (AAT+)

The mean scores of experimental and control groups at baseline and end-of-treatment on the Alpert-Haber facilitating anxiety scale are presented in Table 7. Table 7 indicates that the multimodal and systematic desensitization groups increased in facilitating anxiety over treatment by 3.25 and 2.42 scale points respectively. Control group means evidence a slight increase (.58 points) over treatment.

Table 7

Mean Scores of Experimental and Control Groups on the Alpert-Haber Scale of Facilitating Test Anxiety

Group	Assessment Sessions	
	Baseline	End-of-treatment
Multimodal	20.58	28.83
Desensitization	16.00	18.42
Control	20.00	20.58

A two-way analysis of variance was applied to the subjects' scores on the AAT+ at both assessment sessions (Table 8). Table 8 indicates there were significant differences among the treatment group levels, $F(2,33) = 4.35, p < .025$

and between assessment sessions, $F(1,33) = 5.78, p < .025$. Most relevant in the present context, the Treatment X Assessment Session interaction was not statistically significant.

Table 8

Analysis of Variance of Subjects' Scores on the Alpert-Haber Scale of Facilitating Test Anxiety

Source	df	MS	F
A (Treatment Groups)	2	152.72	4.34*
B (Assessment Sessions)	1	78.13	5.78*
S(A)	33	35.22	
AB (Treatment Groups X Assessment Sessions)	2	11.17	.83
SB(A)	33	13.52	

* $p < .025$

Program Evaluation Questionnaire

The program evaluation questionnaire revealed only two prominent differences between the two approaches from the subjects' perspective. First, subjects in the systematic desensitization group more often complained of the program's "repetitious" format than the multimodal subjects. Second, subjects in the multimodal group frequently indicated that the program was a bit "rushed." The treatment pace appeared relaxed for the systematic desensitization subjects.

DISCUSSION

As predicted in hypothesis 1, the results indicate that on the STABS and analogue measures of debilitating test anxiety (and marginally on the AAT-scale), there were significant interactions between treatment groups and assessment sessions. The results further indicate that both multimodal and systematic desensitization treatments resulted in significant reductions of debilitating test anxiety over treatment on all three dependent measures. There were no significant differences between the two treatment groups. Contrary to hypothesis 2, neither treatment group showed significant changes over treatment in facilitating test anxiety. Finally, as predicted in hypothesis 3, there was no significant change in test anxiety among the control group on any of the dependent measures.

Deviations from hypotheses as precisely stated appear to be a consequence of several identifiable factors. The first regards the marginal Treatment groups X Assessment Sessions interaction on the AAT-. As illustrated in Table 1, the initial variability of baseline group means provides a plausible explanation for the equivocal ANOVA results. The trends for multimodal and systematic desensitization imply affirmative therapeutic effects in reducing debilitating test anxiety.

Similar initial variability in baseline means may

account for the categorical failure to find support for the hypotheses related to increases in facilitating anxiety. Again, the baseline to end-of-treatment trends, as represented in Table 7, correspond in form to the predicted increases. In this, as well as in the previous case, the small sample may have had a profoundly adverse effect on the experimental outcomes. Nevertheless, the amorphous nature of facilitating test anxiety has been endemically problematical in test anxiety research (Alpert & Haber, 1960; Meichenbaum, 1972).

The stability of debilitating test anxiety among the control group means on the AAT- and the analogue test situation is consistent with previous findings (Emery & Krumboltz, 1967; Garlington & Cotler, 1968; Katahn, Strenger, & Cherry, 1966; Kondas, 1967; Meichenbaum, 1972). The slight but non-significant control group decrease in test anxiety on the STABS is consistent with previous data (Suinn, 1969), i.e., that anxiety scores drop due to nonspecific factors approximately ten points from pretest to posttest.

Concerning the major focus of the study, there were no statistically significant differences between the multimodal and desensitization groups over treatment. Group test anxiety means showed, however, consistently greater decreases for the multimodal group on all dependent measures except the STABS. Since the reliability and validity of retrospective questionnaires are always suspect, it is interesting

that the tendency toward superiority for multimodal treatment was most apparent on the sole prospective, real-life measure of anxiety (i.e., subjects' self-report of anxiety as they were taking the Cattell Intelligence Test.) On that measure, there was a 62% greater reduction in reported anxiety among the multimodal treatment subjects than among the desensitization subjects. The findings with respect to STABS may reflect the fact that this scale was specifically designed to evaluate desensitization; its items would appear to focus upon the specific type of "emotionality" reduction effects achieved by this treatment. In any event, the central focus of issue in single versus multi modality treatments concerns durability rather than innovation of treatment gains. An additional assessment at six months follow-up will allow for direct comparison of the two treatment modes with respect to the issue of persistence of treatment effects.

The subjects' subjective impressions of both treatments indicated that there were no appreciable qualitative differences between the two treatments except for fairly recurrent comments that the systematic desensitization procedure was "repetitious" and that the multimodal technique was a bit rushed. In future applications of the multimodal approach, it would be advisable to extend the treatment period by a minimum of one to two weeks.

The relatively short-term nature of the multimodal test anxiety treatment used in this study may have several

intriguing implications for educational institutions. First, the multimodal program constitutes an immediate and intensive response to urgent need for test anxiety relief. Ancillary effects of anxiety alleviation might include decreased attrition, enhanced class morale, and increased reinforcement of instructors' didactic efforts. Additionally, student personnel professionals could take advantage of automated programs as an alternative to time-consuming personal counseling, which might be best employed after the multimodal treatment to address residual complaints. Finally, the implementation of a viable means for diminishing test anxiety could ultimately change the characteristics of the student population.

The automated treatments used in this study have their most obvious applications in educational settings and as take-home adjuncts to conventional psychotherapy. The economy of the automated format is self-evident. Therapeutic benefits may be widely disseminated at the convenience of the clients, rather than being contingent on therapist availability. Psychologists in private practice could conceivably expedite therapy and reduce costs to the clients by using self-contained therapy packages to augment direct therapy when appropriate.

APPENDIX 1

COURSE SYLLABUS

GUIDANCE 60

TEST ANXIETY MANAGEMENT TRAINING

Course objectives: It is expected that this course will provide the student with a viable opportunity for learning to manage debilitating test anxiety. Additional advantages may include:

1. enhanced self-concept
2. increased knowledge of efficient study techniques
3. expanded self-awareness
4. acquired use of facilitating anxiety
5. ability to achieve deep relaxation
6. generalized anxiety management skills

Organization: Test Anxiety Management Training involves an integration of classroom, small group, and individualized instruction. A great deal of responsibility is placed on the student with respect to attendance participation.

Requirements: All students must complete pre- and posttest anxiety questionnaires as well as all eight hours of the individualized portion of the course. Attendance is a central requirement: students will be dropped upon the fourth absence. Each student will complete a brief questionnaire evaluating the individualized portion of the course. Students will be expected to actively participate in course activities.

Grading: Full completion of all course requirements will result in a grade of "B". Lower grades will be assigned for marginal participation. Aspiring students may receive an "A" through completion of any one of several options. All "A" projects will be graded pass or fail and must be completed by the last day of class.

General Schedule: Each class will be divided into three groups. Each individual group will receive a specific schedule for weeks 3-6 at the second class meeting.

The following general schedule pertains to all class members.

- WEEK 1 (4/5) Introduction to Test Anxiety Management Training and tour of the Learning Center.
- WEEK 2 (4/12) Administration of test anxiety questionnaires, assignment to groups, individual group meetings. (NOTE: it is absolutely critical that all students attend this class meeting! Should you find it impossible to attend, you must contact S. Wallace some time during week 2.)
- WEEK 3-6 (4/19 to 5/10) Individualized portion of the course. THERE WILL BE NO CLASS MEETINGS DURING THESE FOUR WEEKS. Students will follow the specific schedule for their group.
- WEEK 7 (5/17) Reconvene as a class, administration of posttest anxiety questionnaires, evaluation of the individualized portion of the course. (NOTE: It is absolutely critical that all students attend this class meeting! Should you find it impossible to attend, you must contact S. Wallace some time during week 7.
- WEEK 8-11 (5/24 to 6/7) Class and small group activities, related test taking, presentation of "A" projects.

APPENDIX 2

SUINN TEST ANXIETY BEHAVIOR SCALE (STABS)

The items in the questionnaire refer to experiences that may cause fear or apprehension. For each item, subjects place an X in the box that describes how much they are frightened by it. A five-point scale is utilized, ranging from "Not at all" to "Very much." There are fifty items in the questionnaire, as follows:

1. Going into a regularly scheduled class period in which the professor asks the students to participate.
2. Re-reading the answers I gave on the test before turning it in.
3. Sitting down to study before a regularly scheduled class.
4. Turning my completed test paper in.
5. Hearing the announcement of a coming test.
6. Having a test returned.
7. Reading the first question on a final exam.
8. Studying for a class in which I am scared of the professor.
9. Being in class waiting for my corrected test to be returned.
10. Seeing a test question and not being sure of the answer.
11. Studying for a test the night before.
12. Being called on to answer a question in class by a professor who scares me.
13. Waiting for a test to be handed out.
14. Waiting to enter the room where a test is to be given.
15. Waiting for the day my corrected test will be returned.

16. Discussing with the instructor an answer I believed to be right but which was marked wrong.
17. Seeing my standing on the exam relative to other people's standing.
18. Waiting to see my letter grade on the test.
19. Studying for a quiz.
20. Studying for a midterm.
21. Studying for a final.
22. Discussing my approaching test with friends a few weeks before the test is due.
23. After the test, listening to the answers which my friends selected.
24. Looking at the clock to see how much time remains during the exam.
25. Seeing the number of questions that need to be answered in the test.
26. On an essay exam, seeing a question I cannot answer.
27. On a multiple choice test, seeing a question I cannot answer.
28. Being asked by someone if I am ready for a forthcoming exam.
29. Being the first one to finish an exam and turn it in.
30. Being asked by a friend concerning my standing in a class.
31. Being asked by a friend concerning results of a test on which I did poorly.
32. Discovering I need an A or B on the next exam in order to pass the course.
33. Discovering I need an A or B on the final exam to maintain the grade point average necessary to remain in school.
34. Thinking about "warning slips" from the Dean's office.
35. Reading a "warning slip" from the Dean's office.

36. Remembering my past reactions while preparing for another test.
37. Seeking out the teaching assistant or instructor for advice or help.
38. Being told to see the instructor concerning some aspect of my class work.
39. Asking for a make-up exam after missing the scheduled exam.
40. Discussing the course content with the fellow students just before entering the classroom the day of the exam.
41. Being the last one to finish an exam and turn it in.
42. Reviewing study materials the night before an exam.
43. On the first day of the course, hearing the instructor announce the dates of the midterm and final examination.
44. Having the instructor ask a question of the class which deals with the course material, and then look in my direction.
45. Making an appointment to see the instructor regarding some course problems.
46. Thinking about a coming exam three weeks before its scheduled date.
47. Thinking about a coming exam one week before its scheduled date.
48. Thinking about a coming exam the weekend before its scheduled date.
49. Thinking about a coming exam the night before its scheduled date.
50. Thinking about a coming exam the hour before its scheduled time.

APPENDIX 3

ACHIEVEMENT ANXIETY TEST (AAT)

The statements in the questionnaire pertain to test anxiety. Following each statement are a range of possible responses. For each statement, subjects determine which response best fits their perception of their anxiety as it presently exists. There are nine statements in the Facilitating Anxiety Scale and ten in the Debilitating Anxiety Scale, as follows:

Facilitating Anxiety Scale

1. I work most effectively under pressure, as when the task is very important. Always--Never. (2)*
2. While I may (or may not) be nervous before taking an exam, once I start, I seem to forget to be nervous. I always forget--I am always nervous during an exam. (9)
3. Nervousness while taking a test helps me do better. It never helps--It often helps. (11)
4. When I start a test, nothing is able to distract me. This is always true of me--This is not true of me. (12)
5. In courses in which the total grade is based mainly on one exam, I seem to do better than other people. Never--Almost always. (14)
6. I look forward to exams. Never--Always. (16)
7. Although "cramming" under pre-examination tension is not effective for most people, I find that if the need arises, I can learn the material immediately before an exam, even under considerable pressure, and successfully retain it to use on the exam. I am always able to use the "crammed" material successfully--I am never able to use the "crammed" material successfully. (19)
8. I enjoy taking a difficult exam more than an easy one. Always--Never. (21)

* Numbers in parentheses indicate item numbers on the AAT.

9. The more important the exam or test, the better I seem to do. This is true of me--This is not true of me. (24)

Debilitating Anxiety Scale

1. Nervousness while taking an exam or test hinders me from doing well. Always--Never. (1)
2. In a course where I have been doing poorly, my fear of a bad grade cuts down my efficiency. Never--Always. (3)
3. When I am poorly prepared for an exam or test, I get upset, and do less well than even my restricted knowledge should allow. This never happens to me--This practically always happens to me. (5)
4. The more important the examination, the less well I seem to do. Always--Never. (6)
5. During exams or tests, I block on questions to which I know the answers, even though I might remember them as soon as the exam is over. This always happens to me--I never block on questions to which I know the answers. (10)
6. I find that my mind goes blank at the beginning of an exam, and it takes me a few minutes before I can function. I almost always blank out at first--I never blank out at first. (15)
7. I am so tired from worrying about an exam, that I find I almost don't care how well I do by the time I start the test. I never feel this way--I almost always feel this way. (17)
8. Time pressure on an exam causes me to do worse than the rest of the group under similar conditions. Time pressure never seems to make me do worse on an exam than others. (18)
9. I find myself reading exam questions without understanding them, and I must go back over them so that they will make sense. Never--Almost always. (23)
10. When I don't do well on a difficult item at the beginning of an exam, it tends to upset me so that I block on even easy questions later on. This never happens to me--This almost always happens to me. (26)

APPENDIX 4

PROGRAM EVALUATION QUESTIONNAIRE

The questions in the Program Evaluation Questionnaire asked subjects to indicate whether they were in Test Anxiety Program A or Test Anxiety Program B and then to state honestly what they thought about the program in which they participated. On all questions except the last, subjects answered the questions on a scale from "Very Much" to "Not at all." The last question required a one-word answer. There were nine questions, as follows:

1. How much did you like it?
2. What was it about the program that made you like or dislike it?
3. How much did you learn from this program?
4. Do you think you will do better in other classes because of this program?
5. Would you like to work on this program some more?
6. How boring was this program?
7. Was this program "just what you needed?"
8. How much do you feel that your test anxiety has decreased as a direct result of this program?
9. If you could think of one word to describe how you felt while working on the program, what would it be?

APPENDIX 5

MODALITY PROFILE

Behavior

diminished performance
poor attention to task
poor frustration tolerance
avoidance
withdrawal
indecision
over caution
irrelevant activity
frequent response errors
distractibility
insomnia
perseverance
excessive attention to others' behavior

Affect

anxiety
panic
depression
catastrophic reactivity
anger/hostility
inadequacy

Sensation

tremors
sweating
nausea
headaches
tension (shoulders, lower back, neck)
hypersensitivity (temperature, noise, etc.)
tachycardia
impaired breathing
fatigue
pain (stomach, lower back)

Imagery

ridicule from others
previous failures
parental reactions

interpersonal rejection
academic sanctions
terminal employment in menial job
instructor's contempt

Cognition

irrational, self-defeating private verbalizations
reindoctrination with negative past experiences
intrusive irrelevant thoughts
mind blanking
self-ruminations
reading comprehension decrements
indecision
self-denigration
anticipation of punishment, loss of status and
 esteem, humiliation, etc.
excessive time consciousness
overconcern with others' performances

Interpersonal

self-castigating statements
stronger response to reinforcement
comparison of preparation
rationalizing
avoidance/withdrawal
accentuated awareness of others
false interpretation of paralinguistic cues

Drugs

caffeine
tranquilizers
anti-depressants
malnutrition
insulin reaction
tachycardia

APPENDIX 6

CONTENT AND SEQUENCE OF THE MULTIMODAL TREATMENT

Module 1

<u>Side 1</u>	Program Objectives Nature and Symptoms of Test Anxiety
<u>Side 2</u>	Program Preview Relaxation Training
<u>Assignment</u>	Relaxation Practice (in print and on cassette tape)

Module 2

<u>Side 1</u>	Techniques for Preparing for Tests
<u>Side 2</u>	Sensory Awareness Exercise
<u>Assignments</u>	Exercise in Preparing for Tests Sensory Awareness Exercises (two) Continuation of Relaxation Practice

Module 3

<u>Side 1</u>	Test Taking Behaviors Imagery Training Relaxation Review
<u>Side 2</u>	Accelerated Massed Systematic Desensiti- zation (scenes 1 and 2)
<u>Assignment</u>	Exercise in Appropriate Test-taking Behaviors

Module 4

<u>Side 1</u>	Time Projected Success Imagery Accelerated Massed Systematic Desensiti- zation (scenes 3 and 4)
<u>Side 2</u>	Owning Exercise

Assignments

Desensitization Practice
Owning Exercise Practice

Module 5Side 1

Rational Emotive Theory (RET)
Rational Emotive Imagery (REI) (Negative)

Side 2

RET (theory continued)
Accelerated Massed Systematic Desensitization (scenes 5 and 6)

Assignment

Catalog of Rewarding Activities Worksheet

Module 6Side 1

RET Review
REI (Positive)
Thought Stopping Technique

Side 2

Cognitive Modification Training

Assignment

Disputing Irrational Beliefs Worksheet

Module 7Side 1

Disputing Irrational Beliefs (RET)
Coping/Interpersonal Imagery with Positive
Covert Reinforcement

Side 2

Accelerated Massed Systematic Desensitization (scenes 7 and 8)

Videotape

Self-disclosing Coping Model (videotaped)

Assignment

Environmental Reprogramming Worksheet

Module 8Side 1

Environmental Reprogramming
Sequential Review of Entire Program via
Imagery

Side 2

Sequential Program Review (continued)

APPENDIX 7

HIERARCHY FOR SYSTEMATIC DESENSITIZATION TREATMENT

1. You hear about someone else who has a test.
2. You are in your place of study. You are reading a regular assignment.
3. You are in class. The instructor announces a major exam for you in two weeks.
4. You are in your place of study. You are reading and studying for the exam which is a week away.
5. It is two days before the exam. You are in your usual place of study and are preparing for the upcoming exam.
6. It is the night before the exam. You are talking with another student about the test.
7. It is the night before the exam. You are at your place of study and are studying for the exam.
8. It is the day of the exam. It is one hour before the test and you are studying for it.
9. It is the day of the exam. You are now walking on your way to the exam.
10. You are standing outside the test room and are talking with others gathered there.
11. You are sitting in the exam room waiting for the test to be passed out.
12. You are leaving the classroom and are talking with others about the exam. Some of their answers do not agree with yours.
13. While waiting for the exam to be passed out, you hear a student ask a question which you cannot answer.
14. While the test is being passed out, you think about not being adequately prepared.

15. You are taking the important test. While trying to think of an answer, you notice everyone around you writing rapidly.
16. While taking the test, you come to a question which you are unable to answer. You draw a blank.
17. You are in this important exam. The instructor announces that 30 minutes remain, but you have an hour's work left.
18. You are in the important exam. The instructor announces that 15 minutes remain, but you have an hour's work left.
19. You are in an important exam. Time is running out, and the instructor is waiting impatiently for you to leave.

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