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I am submitting herewith a dissertation written by Kevin W. King entitled "A Comparative Analysis of Two Treatment Methodologies for Anxiety Reduction." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Psychology and Guidance.

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A COMPARATIVE ANALYSIS OF TWO TREATMENT METHODOLOGIES FOR ANXIETY REDUCTION

A Dissertation

Presented for the

Doctor of Education

Degree

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Kevin W. King

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ABSTRACT

This study investigated the differential effectiveness of self-directed guidance (SDG), anxiety management training (AMT) and a waiting list control group (WLCG) in the reduction of specific and generalized anxiety. The subject/clients in this study were drawn from the extant clientele of a university counseling center. These clients had previously verbalized a number of complaints about anxiety, and they were also identified by their counselors as having a variety of problems with both specific and generalized anxiety. They were clients for whom some form of instruction, which assisted them in modifying their anxiety, was the preferred mode of treatment.

A diagnostic interview was used to assess the appropriateness of the clients' presenting problem for the treatment program. Participation in the program was offered to 15 clients who presented appropriate anxiety problems. All 15 clients volunteered for the anxiety management program. They were randomly assigned, five to a group, to one of three groups: (1) SDG; (2) AMT, or (3) WLCG.

The SDG and AMT clients self-monitored anxiety producing target behaviors for a week pre- and post-treatment. All clients were pre- and post-tested on the Anxiety Symptom Checklist and the S-R Inventory of Anxiousness. The SDG and AMT clients received treatment over a period of 14 days.

The results indicated that the first Null Hypothesis: That there would be no significant difference between the treatment outcomes of SDG, AMT, and WLCG was rejected. The results clearly indicated that

SDG and AMT were significantly better than the WLCG in the reduction of both specific and generalized anxiety. The second Null Hypothesis: That there would be no significant difference between the treatment outcomes of SDG and AMT was also rejected, but the results served to substantiate the second research question and served to show that SDG was equal to AMT in reducing both specific and generalized anxiety. The pre- and post-self-monitoring data correlated highly with the statistical results. Suggestions for further research and design considerations are included.

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CHAPTER I

INTRODUCTION

The typical counselor is concerned with providing services for a naturally occurring, walk-in population. Client intake and process procedures at university counseling centers vary greatly--from no waiting list to sizable waiting lists, from formal intake procedures to very informal ones. In an effort to provide the best service for clients, the conscientious counselor is continually seeking the treatment modality of best fit for his/her clientele. Within this context, the counselor is confronted by research which he/she deems to be creditable for practical application. The problem confronting the counselor then becomes one of choosing a single method (often from among many). A model which accommodates this process is one in which the counselor takes the additional role of researcher--providing service (through techniques known to be effective), while at the same time studying the nuances of techniques placed in juxtaposition to his or her treatment population--a process of continual refinement.

One such area of treatment modality concern is that of Anxiety Management. There are a number of techniques amply reported in the literature as being effective in remediating anxiety. In reviewing the research in the areas of anxiety-reduction and self-management skills, two particular treatment modes, anxiety management training (AMT) and self-directed guidance (SDG), indicated that they would be the most effective and accommodating for training client groups at The University

of Tennessee Student Counseling Center (UTSCC). This conclusion was derived on the basis of results reported by researchers who compared these two treatments with other proven techniques. However, the question remained regarding which one might be the most effective training program of the two. Research has been accumulated indicating that both AMT and SDG are both proven techniques but they had never been directly compared to determine which, if either, was the most effective anxiety reducer and which was the most effective self-management technique. This research was undertaken in a developmental vein, to initiate the first in a series of studies directed to the goal of obtaining the best assessment, treatment, and outcome evaluators for use with the naturally occurring clientele of a university counseling center.

The present study is an attempt to maintain, as closely as possible, the naturalistic conditions of an ongoing, service-oriented Student Counseling Center, while at the same time conducting a developmental research program aimed at evaluating appropriate treatment methodology for a selected client population. This is the necessary type of research that must be conducted to re-evaluate and modify treatment methodologies which have already been developed. However, the generalized application of these methodologies is all too often limited by the narrow scope of their original application. Therefore, it is necessary for indigenous research and modification to be continually undertaken in an effort to maximize the counselor's re-educative and behavior change services to clients.

I. THE PROBLEM

The present study is an attempt to investigate the effectiveness of both AMT and SDG in the alleviation of specific and "generalized" anxiety. Previous research has indicated that AMT is effective in the reduction of specific and "generalized" anxiety and that SDG is effective in the reduction of specific anxiety. However, there is no indication as to which of these two treatments is the best for the reduction of both specific and "generalized" anxiety, the typical presenting complaints of clients in a group anxiety reduction program.

II. OVERVIEW OF THE RESEARCH DESIGN

The study employed a pre-test, post-test control group design (Campbell & Stanley, 1963). The subjects for this study were randomly assigned to one of three groups: (1) self-directed guidance; (2) anxiety management training; (3) waiting list control. The subjects in the AMT and SDG groups self-monitored target behaviors for one week of baseline data immediately prior to treatment and for one week of follow-up immediately following treatment. Subjects were tested on the two behavior change measures, the Anxiety Symptom Checklist (Edie, Nicoletti & Spinelli, 1972) and the S-R Inventory of Anxiousness (Endler, McV. Hunt & Rosenstein, 1962). Gain scores were computed by comparing the pre-test and post-test scores of the three groups and these scores were then compared using one-way analyses of variance. The Tukey HSD was then used to indicate exactly where the significant differences lay after significant F-ratios had been obtained in the one-way analyses of variance.

III. LIMITATIONS

This study is limited to the subjects included as samples, male and female graduate and undergraduate students who were clients at the Student Counseling Center, The University of Tennessee, at Knoxville (UTK). Furthermore, the study is limited to the dominant social and cultural group represented at UTK, which is white, middle-class students. These were also students who had self-referred themselves for counseling and who had been determined, by their own self-evaluation and by their counselor's evaluation, to be highly "anxious."

IV. REVIEW OF THE LITERATURE

The two anxiety treatment methods examined in this study were self-directed guidance (SDG) and anxiety management training (AMT). One technique, referred to as self-directed guidance (SDG), was first reported by Meichenbaum (1969), who trained a group of hospitalized schizophrenics to emit "healthy talk" in an interview setting and found that the effects of "healthy talk" generalized over time. Settings to which this behavior generalized were: (1) a follow-up interview; (2) a post-test interview by a patient confederate; (3) to other verbal tasks such as the proverbs test administered under neutral conditions. He also found that these patients actually emitted the directive "give healthy talk, be coherent and relevant" (p. 112), while they were being tested on the generalization measures, and he hypothesized that these self-instructions were mediating generalization by keeping the patients tuned into the task. This ability to stay task-relevant apparently

prevented the patients from emitting other internal mediations which could have distracted them from the task and interferred with language behavior.

Meichenbaum then carried his SDG research into work with impulsive children. Insofar as these children also utilize private speech in an ineffective manner, he hypothesized that the use of verbal self-instructions would have the same positive results as it did with the schizophrenics. He tested this hypothesis in two studies: the first (Meichenbaum, 1971a) was a naturalistic study in which he found that 64 percent of these impulsive childrens' speech was composed of immature self-stimulatory content such as animal noises, word repetition and singing. He also found that this behavior did not change in goal-oriented tasks. In the second study, Meichenbaum and Goodman (1969b), trained these children in the use of covert self-instructional words (whispering "push" and "don't push" (p. 788) with the results indicating that impulsive children exhibited significantly less verbal control of inhibitory motor behavior and a greater number of errors than did the reflective children, as measured on a Luria-type verbal control task. From these results, he concluded that these children might also benefit from a training program designed to teach them to talk to themselves in a directed self-regulatory manner, as he had instructed the schizophrenics to do.

As Meichenbaum (1973) reports, his work is the culmination of efforts in the area of cognitive control of verbal behavior as proposed by Vygotsky (1962) and Luria (1961), both of whom proposed that in a child's early development the speech of others, adults in particular,

has a great deal of influence in controlling and directing the child's behavior. As the child matures his own overt speech becomes an important controlling factor in his behavior while, still later in the child's development, this overt speech is established as an effective regulator of his behavior. Meichenbaum operationalized the paradigm of using speech as a regulator of behavior in the training procedures which he developed to change behavior and to control anxiety.

The procedure which Meichenbaum used was to model appropriate behavior and self-speech for impulsive children. These children were slowly shaped to control their gradual internalization of speech processes (Meichenbaum & Goodman, 1969). The results indicated: (1) that this internalized SDG increased task completion; (2) raised performance IQ on the WISC; and (3) was maintained through a one-month follow-up. Meichenbaum (1973) also reported success with another group of schizophrenics who were trained to use interpersonal cue reactions to activate a set of self-instructions "to be relevant and coherent, to make oneself understood" (p. 23).

From the results it appears that these two groups of subjects were able to develop what Luria (1961) referred to as the "internalization of language" (p. 117). However, it is important to note that subjects were not void of self-instructions, rather the existing self-instructions were functioning in a maladaptive fashion. The significance of these studies lies in the finding that subjects were able to be trained to emit self-instructions (SDG) which mediated their behavior in a socially appropriate fashion.

There are a large number of currently existing therapies, some old, some new, which are cognitively oriented and which have focused on reducing negative self-instructions (Coué, 1922; Ellis, 1963; W. Johnson, 1946; Kelly, 1955; Korzybski, 1933; Phillips, 1957). Shaffer (1947) summarized this position when he stated that: "It seems probable that most of normal behavior is mediated through self-signaling processes" (p. 463). Furthermore, he defined therapy as a "learning process through which a person acquires an ability to speak to himself in appropriate ways so as to control his own conduct" (p. 463).

V. THERAPIES FOCUSING ON CLIENT INTERNAL VERBALIZATIONS

Coué (1922) recognized the importance of internal thought or verbalization in controlling behavior and presented this idea in his conceptualization of spontaneous autosuggestion: "Every idea which enters the conscious mind, if it is accepted by the unconscious, is transformed by it into a reality and forms henceforth a permanent element in our life" (p. 54). He reasoned that a person does what they think they can do and that behavior is controlled by thought. In short, therapy is simply a process of pointing out the person's negative thoughts about themselves and illustrating the limitations this places on their behavior. In turn, the person is instructed to counter any negative thoughts by thinking the phrase "day by day, in every way, things are getting better and better" (p. 79).

Another process of therapy which stresses the importance of a client's self-instructions is Albert Ellis's (1963) Rational Emotive Therapy. Ellis strives to make the client aware of how he/she "can

maximize his/her rational and minimize his irrational thinking" (p. 36). The task of the therapist, according to Ellis, is to show clients who are using negative self-instructions, what it is that they are telling themselves and how those self-instructions work against them. The client is then trained to rationally analyze what he is saying about himself and to implement positive self-instructions to bring about new behavior. Ellis uses persuasion, reinforcement, and education to induce client "insights" and to then have the client operationalize those "insights."

A study (Meichenbaum, Gilmore & Fedoravicus, 1971) to assess the relative effectiveness of group "insight" versus group desensitization with speech-anxious clients, indicated that clients who experience high multisituational social distress benefitted most from the "insight" treatment, while those clients who experienced anxiety only in a speech situation benefitted most from desensitization. The authors theorized that, because the "insight" treatment identified negative self-verbalizations and showed the clients how to construct more effective ones, the clients who benefitted most from this treatment were those experiencing anxiety in a variety of interpersonal situations.

Test-anxiety has been researched in a number of studies (Liebert & Morris, 1967; Mandler & Watson, 1966; Wine, 1972) which have found that high test-anxious clients in evaluation situations have self-verbalizations and evaluations that divert their concentration from the task at hand. These off-task thoughts and behaviors are: (1) worrying about their performance and about how well others are doing; (2) ruminating over alternatives; (3) preoccupation with feelings of inadequacy; (4)

anticipation of punishment; (5) loss of status or esteem; and (6) heightened somatic and autonomic reactions. According to Osgood (1954), the evaluative task becomes a mediational stimulus which results in poor task performance. The problem is that the client divides his attention between his own self-verbalizations of worry, and the task at hand. In a study (Meichenbaum, 1974) to evaluate the relative effectiveness of a cognitive modification (CM) treatment with that of standard desensitization (SD) and a waiting list control group, it was found that the CM group was significantly more effective than the SD group in reducing test-anxiety. The authors hypothesized that CM was more effective than SD because the students in the CM group were trained in self-verbalizations of mastery or coping with the situation. The CM group was also the only group to report a post-treatment increase in facilitative anxiety as measured by the Alpert-Haber anxiety scale (Alpert & Haber, 1960). Following treatment, it was significant that the CM group identified arousal as: (1) facilitative; (2) a cue for them to be task-relevant; and (3) a signal for them to improve their performance. These findings are supported by the results of other studies (Davidson, 1968; Lang & Lazovik, 1963; Paul, 1963) which found that desensitization results in behavior change, but does not necessarily decrease self-reported fear and anxiety. More significantly, a study (Johnson & Sechrest, 1968) using standard SD to treat test-anxious students, failed to report any changes on the Alpert-Haber scale, and the authors reported that the verbal behavior of identifying oneself as test-anxious is not directly dealt with by SD. However, the CM treatment process, or what they say to themselves, is modifiable. Wine (1970) also found

positive results in using attentional training, composed of modeling and behavioral rehearsal, to self-instruct high test-anxious college students in a task-relevant manner. All of this research indicates that it is possible to modify what test-anxious clients say to themselves, and that when this is done it also has an effect on their behavior and on their feelings. This research also indicates that a behavior modification technique, systematic desensitization, was improved in its effectiveness by the addition of an "insight" procedure (CM) and coping imagery.

A number of studies (Meichenbaum, 1971b, 1971c, 1973), in which self-directed guidance (SDG) was added to the behavior modification techniques of modeling, anxiety relief, and aversive conditioning, and compared to the standard application of each of those treatments, showed that the addition of SDG strengthened each technique. These results are supported by researchers (Davidson, 1968; Geer & Turtletaub, 1967; Valins & Ray, 1967) who have respectively attempted to reduce behavior through treatment with: (1) SD; (2) modeling; and (3) altering cognitions. These researchers all postulated that the self-instructions which clients told themselves following treatment were the true mediators of the behavior change. There have also been a number of other researchers who have had success in training clients to modify what they say to themselves (Cautela, 1966, 1967; Dean, Martin & Steiner, 1968; Homme, 1965; Kahn, Baker & Weiss, 1968; Yates, 1964; Zanna, Kiesler & Pilkonis, 1970). From the research that has been accumulated, self-directed guidance (SDG): (1) has been shown to be an effective treatment modality;

(2) can be combined with behavior modification techniques to strengthen their effectiveness; and (3) is an effective anxiety relief for specific anxieties.

VI. ANXIETY MANAGEMENT

Anxiety has been an extensively discussed and researched area. Ideas or conceptions about anxiety have covered a broad spectrum from the conceptual discussions of Freud (1936), to Horney's (1945) basic anxiety, to Sullivan's (1953) state of tension which results from the individual's threats to security. May (1950) also saw anxiety as a reaction to threat, while Mowrer (1950) felt that anxiety was the result of an individual's guilt resulting from regretted actions. There have been many studies (3,500 from 1950-1964) conducted in this area (Spielberger, 1966) and many tests and measurements (120) constructed to measure it (Cattell & Shier, 1958).

Research by Yerkes and Dodson (1908) indicates that there is a curvilinear relationship between anxiety or fear and learning. In other words, high drive levels on simple tasks facilitate or improve performance, but impede performance on complex tasks. High levels of anxiety distract or reduce task-relevant behavior, while low levels of anxiety help to focus or increase task-relevance.

Wolpe (1958) described a more objective definition of anxiety, which he described as an autonomic response pattern that was characteristically a part of the organism's response to noxious stimuli. Other researchers have hypothesized a two-factor theory of anxiety (Cattell & Schier, 1961; Heath & Korchin, 1963; Lazarus, 1966; Spielberger, 1966).

Typically, the first factor refers to a condition which Lazarus (1966) calls "chronic anxiety," and which Spielberger (1966) refers to as "trait anxiety." This chronic or trait anxiety is a learned perception illustrated by the individual who perceives a wide range of typically non-threatening stimuli with various autonomic responses (Spielberger, 1966). A cyclical reaction pattern is then set off as the autonomic responses become stimuli or cues for further increases in anxiety (Lang, 1969).

The second factor refers to "acute anxiety" (Lazarus, 1966) or "state anxiety" (Spielberger, 1966). This factor is exemplified by subjective, consciously perceived feelings of anticipatory anxiety or tension which are elicited by a specific unidimensional stimulus or stimuli from either internal or external cues. This type of anxiety is more situational.

There have been a large number of studies conducted to investigate the effect of particular therapies on anxiety (Nicoletti, 1972). Most of this research, however, has lacked controlled studies of a nonbehavioral psychotherapeutic treatment approach specifically for anxiety. There has, however, been extensive research on the pharmacological approaches to anxiety. Davis (1965) identified 410 controlled studies of the effects of different tranquilizers on anxiety. Of 125 double-bind design studies reviewed, Davis found the results indicating that the major tranquilizers proved to be more effective than the placebo in 91 of those studies. These results are in comparison to the paucity of literature in the use of psychotherapy as a treatment mode for anxiety, even though anxiety is purported to be treated by all major psychotherapeutic

orientations. Although tranquilizers are effective in treating anxiety, they do not provide the individual client with an increase in his own ability to exercise self-control in the management of anxiety.

A number of behavioral techniques have been developed to treat anxiety, such as systematic desensitization (Wolpe, 1958), covert sensitization (Cautela, 1966c, 1967), group desensitization (Katahn, Strenger & Cherry, 1966; Lazarus, 1961; Paul, 1966; Paul & Shannon, 1966; Rachman, 1965; Robinson & Suinn, 1969; Suinn, 1968; Suinn & Hall, 1970), accelerated massed desensitization (Suinn, Edie & Spinelli, 1970), marathon group desensitization (Suinn & Hall, 1970), and rapid deconditioning (Wolpin & Pearsall, 1965). However, like chemotherapy these techniques alleviate a specific form of situational anxiety, but are inappropriate for generalized anxiety, and are time consuming for both the client and the therapist. There has also been little or no generalization from these techniques. Once a particular hierarchy is completed the person does not have a technique available that they can implement as a self-control technique.

Suinn and Richardson (1971) reported the results of a technique for non-specific, free-floating anxiety, which they termed Anxiety Management Training (AMT). The results of their study indicated that AMT was as effective as automated SD in the treatment of mathematics anxiety. AMT is a technique which appears to respond to Cautela's (1969) charge that:

> . . . the behavior therapist has not, to any extent, attempted to make the individual less susceptible to the development of future maladaptive behaviors; neither has he provided means for the individual to eliminate any such maladaptive behavior without the aid of the therapist. For the most part, the behavior therapist has concentrated exclusively on removing the maladaptive behavior when the individual comes for treatment . . . (p. 333).

Anxiety management training is a partial attempt at preparing the client for coping with future tensions when they arise and might, therefore, be considered a form of self-control therapy, which Cautela supports (Suinn & Richardson, 1971).

The process of training in AMT involves the use of instructions and autonomic and environmental cues to arouse anxiety responses, and the training of the client to develop incompatible responses to these cues, such as relaxation or competency feelings.

At first glance, AMT seems very similar to SD, but the primary difference is in the first part of training. In AMT, clients are not exposed to anxiety hierarchy items as they are in SD, instead, they are trained to visualize a past event which elicits anxiety. In this way, clients are taught that anxiety responses can be the discriminative stimuli for an incompatible response--relaxation. In AMT, clients are trained to respond with a relaxation or a competency response when they discriminate the onset of an increasing level of anxiety. The AMT client learns to respond to the onset of autonomic or skeletomuscular cues and then to initiate relaxation, whereas in SD, the client applies relaxation only to environmental or situational cues.

The theory of AMT (Suinn & Richardson, 1971) is: (1) emotions like anxiety act as cues which can be paired with new responses; (2) and these new responses may be incompatible with the old anxiety responses,

so that the new relaxation response can reciprocally inhibit the anxiety. Some support for this theory can be drawn from motivational theorists who have theorized that fear is an acquired drive or that fear can possess stimulus qualities (Brown, 1961; Dollard & Miller, 1950; Mowrer, 1950). Bandura (1969) has also addressed the possibility that autonomic arousal states can act as stimuli. Other research has indicated that fear is learnable (Miller, 1941), that fear can act as a cue mediating secondary generalization (May, 1948), and that stimulus generalization principles apply to drive states (Miller, 1937; Miller, 1948; Webb, 1948). Other relevant studies indicate that conditioned stimuli produce emotional effects partly through intervening self-arousal systems (Vallins & Ray, 1967), that autonomic reactions can aid in establishing or maintaining avoidance behavior (Wynne & Solomon, 1955) and that interoceptive conditioning can occur to produce conditioned responses to unconscious visceromotor cues (Razran, 1961). Since AMT posits that internal or autonomic body states can act as cues, Miller's (1969) results demonstrating that system deviation from homeostasis (excess of water or salt) can serve as a stimulus, which leads to behaviors which return the animal to a more optimal level, are significant. Male rats have been trained operantly by DiCara and Miller (1968) to "attend" to differential activity of the vascular system. These rats learned to discriminate and respond with greater vasodilation in one ear as compared with the other by receiving brain electro-stimulation as a reward. Research with human subjects has also shown evidence that major physiological functions such as blood pressure (Benson, Shapiro, Turskey & Schwartz, 1971; Sroufe, 1971), and heart rate (Brener & Hothersall,

1966), can also be brought under conscious control. All of this research indicates that consciously cued control can be exerted over physiological functions.

AMT was compared in a study (Suinn & Richardson, 1971) with automated desensitization to determine the effectiveness of both for the treatment of college students with mathematics anxiety. The results indicated that there was a significant reduction in reported anxiety as measured by the Mathematics Anxiety Rating Scale (MARS) and the Differential Aptitude Test (DAT), for both the AMT and the automated desensitization group as compared to the non-anxious control group. However, there was no significant difference between the two treatments indicating that AMT was as effective as SD in treating mathematics anxiety.

However, Richardson (1971) attempted to replicate these results using test anxious students. He compared AMT, SD, and accelerated massed desensitization (AMD) as treatment modes. Outcome was assessed by the Suinn Test Anxiety Behavior Scale (STABS) and the Fear Survey Schedule (FSS). The results indicated that both the AMD and the SD groups decreased significantly in test-anxiety as measured by the assessment devices, while the AMT group did not decrease significantly in test-anxiety. These results are in contrast to those obtained by Suinn and Richardson (1971).

Nicoletti (1972) attempted to determine the effectiveness of AMT in the treatment of both generalized and public speaking anxiety. AMT was compared with a waiting list control group and a no-problem control group. The results, as measured by the IPAT Anxiety Scale (IPAT), the Taylor Manifest Anxiety Scale (MAS), the Anxiety Symptom Checklist (ASC),

and the Public Speaking Anxiety Inventory (PSI), indicated that AMT was effective in reducing both public speaking anxiety and generalized anxiety.

Edie (1972) investigated the effectiveness of three variations of AMT: AMT I--physiological cues only; AMT II--physiological cues plus scenes; and AMT III--scenes only. The three treatments were each applied to a group of college students who were experiencing generalized anxiety. The results indicated that all three methods of AMT were effective in alleviating generalized anxiety as well as reducing public speaking anxiety to a lower level than that reported by a non-anxious control group.

In conclusion, the research in the area of AMT has shown that it is an effective treatment mode for the relief of both generalized and situational anxiety. There are also a number of advantages, for both the counselor and the client, to be gained by its use rather than other behavior modification techniques such as SD, implosion, covert sensitization, etc. These advantages are: (1) total treatment time is brief; (2) AMT is effective in reducing non-situational anxiety; and (2) AMT is a technique which allows the client to gain self-control and to implement treatment without aid of the counselor when future anxiety problems occur.

VII. STATEMENT OF THE PROBLEM

The present study investigated the differential effects of two methods of assisting clients who are having problems with anxiety. This study differs from much of the research previously conducted in the area

of anxiety management insofar as it studied separate treatment modalities within the naturally occurring and ongoing function of a major university student counseling center. Subjects for the study were drawn from the extant clientele of that counseling center who, over their course of treatment, verbalized a number of complaints about anxiety, and who were identified by their counselors as having a variety of problems with both specific and generalized anxiety. They were clients for whom it appeared that some form of instruction which assisted them in managing their anxiety was the preferred mode of treatment. The subjects/clients were identified by the staff of the counseling center and discussed with the researcher as possible candidates for participation in the treatment/research program.

A counseling center continually seeks the most effective treatment modalities for use with its clientele. The two treatment modalities which were investigated in this study were variations of anxiety management: (1) self-directed guidance; and (2) anxiety management training.

When compared with other behavior modification treatment modalities, self-directed guidance (SDG) has been shown to be highly effective in increasing the beneficial character of the treatment outcome. Furthermore, SDG has been found to be very effective in outcome when used as a single modality for task-specific anxieties. However, although SDG has been compared with some methods of treating anxiety (e.g., SD), it has not, to date, been compared with Anxiety Management Training as a possible ingredient to include in an anxiety management treatment package. In addition, a service center, such as a university counseling center, attempts to provide the best service for its clients,

and it continually seeks the better treatment package. Criticism of counseling and psychotherapy by Cautela (1969) stresses placing a treatment emphasis on those modalities which teach people how to care for themselves--after leaving the counselor's/therapist's office. Passive treatment modalities such as systematic desensitization (passive in the sense of client involvement), have not been demonstrated to pervasively effect client lives. Rather, as Cautela contends, and this researcher agrees, behavioral counselor/therapists, must strive for treatment modalities which can, and do, effectively generalize into client self-application with a variety of anxiety-related problems experienced throughout life. Both SDG and AMT place major emphasis upon providing clients with life-management skills--specifically, the management of anxiety. Therefore, the questions raised by the present researcher are: (1) is SDG an effective treatment modality to be used singularly with clients who express high levels of both specific and "generalized" anxiety? and (2) when compared with a standard AMT model, is SDG as effective as AMT in reducing high levels of both specific and "general anxiety?"

VIII. HYPOTHESES

The following hypotheses, stated in null form, were tested in this study:

1. There will be no statistically significant difference between the treatment outcome of clients who are provided with SDG or AMT and a waiting list control group of subjects.

2. There will be no statistically significant difference between the treatment outcome of clients provided with either SDG or AMT.

CHAPTER II

PROCEDURE

This chapter presents the procedure used to determine the differential effectiveness of self-directed guidance (SDG) and anxiety management training (AMT).

I. SUBJECTS

The subject/clients were fifteen undergraduate and graduate students (five per group) attending The University of Tennessee, Knoxville, during the Spring Quarter, 1974. All clients were referred to the AM program by their counselors at the Counseling Center (CC). Counselors were notified of the AM program and were requested to refer to it clients for whom, in their judgment some form of anxiety management would be the preferable mode of treatment. They were told that clients referred to the program should be those who were experiencing either generalized or specific anxiety to such a degree that it interferred with some aspect of their performance.

II. SELECTION OF SUBJECTS

In addition to being referred by counselors, all clients were processed through an in-depth interview by the counselor who acted as treatment agent for the study or by the researcher. This was done in an effort to further determine the appropriateness of each client for this program. A copy of the Client Interview Form can be found in Appendix A.

Volunteers were accepted for the program only if the two treatment modalities were appropriate for their concerns--i.e., they were experiencing either generalized anxiety or some specific situational anxiety to a degree which they reported as interfering with performance or causing them general discomfort. Those clients selected for the program who were engaged in individual counseling were asked to temporarily discontinue individual sessions until the program was completed. Provisions were made for exceptions to this rule if the client and the counselor determined that abscence from counseling would be detrimental or if a crisis situation necessitated a return to counseling. Fortunately, no such problem occurred and all problems experienced by the treatment clientele were handled within the limits set forth by these specific research/treatment modalities.

The clients who were selected for treatment were those who were experiencing either generalized or specific anxiety not related to any known medical etiology. Clients selected for treatment were also those experiencing specific anxiety related to a particular situation such as public speaking, standardized testing, etc.

Insofar as there was a considerably high request for entry into the groups, not all clients could be accommodated. The large request also allowed for randomization of clients to the groups. The clients were randomly distributed by giving them numbers selected from a table of random numbers and then assigning, based on the rank order of their numbers, every successive number to either: (1) SDG; (2) AMT; or (3) the waiting list control group, in that order. This procedure was repeated until all subjects had been assigned to a group, with five subjects/clients per group.

III. TREATMENT COUNSELOR

The treatment counselor was an experienced counselor who had eight years of extensive counseling experience in both cognitive and behavioral counseling, especially in the areas of systematic desensitization, cognitive restructuring, and anxiety management training.

IV. CLINICAL INTERVIEW

All clients were screened in an initial 20-30 minute interview by either the treatment counselor or the researcher. The interview was conducted according to the guidelines outlined in the intake form in Appendix A. The purpose of the interview was to establish how appropriate the client's anxiety was for the treatment modalities. Other important assessments were made to determine the longevity of the anxiety, the specificity of anxiety arousal cues, the client's ability to identify their physical and cognitive anxiety cues, and the degree to which these cues interfered with normal functioning. A brief client history was also taken to determine any previous steps which the client had taken to reduce anxiety and the degree of success which they experienced in reducing anxiety.

V. MEASUREMENT INSTRUMENTS

Self-monitoring has been demonstrated to be an effective behavior change technique (Mahoney, 1972). Self-monitoring was employed in both groups in an effort to balance the effects of self-monitoring equally.

The measurement instruments used in the study were: (1) behavioral self-monitoring (daily record sheet); (2) the Anxiety Symptom Checklist (Edie, Nicoletti & Spinelli, 1972); and (3) the S-R Inventory of Anxiousness (Endler, McV. Hunt & Rosenstein, 1962). All clients were pre- and post-tested immediately before and after treatment using the Anxiety Symptom Checklist (ASCL) and the S-R Inventory of Anxiousness (S-R). The clients in the SDG and AMT groups also self-monitored target behaviors using the daily record sheet (see Appendix B) for one week prior to, and following treatment.

VI. THE ANXIETY SYMPTOM CHECKLIST

The Anxiety Symptom Checklist (ASCL) is a scale which was designed to measure the physical symptoms reported by people who experience tension. The assumption upon which the scale is based is that, when people report feelings or perceptions of anxiety or tension, they are responding to the physical changes due to sympathetic or para-sympathetic arousal. The scale is comprised of forty anxiety related symptoms which are measured in terms of the experienced frequency, intensity and interference.

The frequency dimension refers to <u>how often</u> the individual experiences that symptom. The individual rates the frequency on a scale graded from one (never or very infrequently) to five (all the time). The intensity dimension refers to <u>how strong</u> the symptom appears when it occurs and is also rated on a scale graded from one (don't notice it) to five (very intense). The interference dimension refers to <u>how much</u> the symptom interferes with the typical behaviors or activities of the

individual and is also rated on a graded scale from one (doesn't interfere) to five (interferes to the point of incapacitation). The scale reports four anxiety scores: (1) total frequency score; (2) total intensity score; (3) total interference score; and (4) an overall total score. An example of the ASCL is in Appendix C.

Normative data on the ASCL reports a mean total anxiety score of 196.64. Nicoletti (1972) reported pre-test correlations of the ASCL with the IPAT (.58), the Taylor Manifest Anxiety Scale (.60) and the Public Speaking Inventory (.30). He also reported post-test correlations between the ASCL and the IPAT (.65), the Taylor Manifest Anxiety Scale (.73), and the Public Speaking Inventory (.41).

VII. THE S-R INVENTORY OF ANXIOUSNESS

The S-R Inventory of Anxiousness is a series of scales designed to measure the degree to which an individual would experience anxiety in a variety of situations. Altogether eleven situations are rated on the standard inventory: (1) You are just starting off on a long automobile trip; (2) You are going to meet a new date; (3) You are going into a psychological experiment; (4) You are crawling along a ledge high on a mountain side; (5) You are getting up to give a speech before a large group; (6) You are going to a counseling bureau to seek help in solving a personal problem; (7) You are starting out in a sail boat onto a rough sea; (8) You are entering a competitive contest before spectators; (9) You are alone in the woods at night; (10) You are going into an interview for a very important job; and (11) You are entering a final examination in an important course. Subjects in this study were

presented with the option of rating up to three additional scales. These scales were directed at the idiosyncratic target behavior which each client identified during their self-monitoring baseline period.

All of these situational scales were rated on fourteen physiological responses. These fourteen responses were chosen: (1) to represent positive as well as negative excitement or drive; (2) to sample the manner in which subjects perceived physiological responses; and (3) to include some physical diagnostic complaints from the MMPI (Endler, McV. Hunt & Rosenstein, 1962).

Like the ASCL, the S-R Inventory also uses a five-point rating scale, with responses ranging from one (none) to five (very much). Each client was instructed to indicate the degree of intensity, for each physical response, which they would experience in the given situation. The scale yields a total anxiety score for each situational scale as well as a total anxiety score. A copy of the S-R Inventory is contained in Appendix D.

Normative data gathered at The University of Illinois (N=67) reported a total Mean score of 353.46, and data gathered at Penn State (N=169) reported a total Mean score of 330.69 (Endler, McV. Hunt & Rosenstein, 1962). In correlations between: (1) the MMPI scales K and L; (2) the PSI post-stress; (3) the IPAT; (4) the Taylor MAS; (5) the Mandler and Sarason (TAQ); and (6) the S-R Inventory, the tendency is for all measures to correlate significantly, but "for scores from the various instruments to show somewhat higher correlation with total scores on the S-R Inventory than with each other"(Endler, McV. Hunt & Rosenstein, 1962, p. 17).

VIII. SELF-MONITORING

At the initial meeting of both the SDG group and the AMT group, the clients were instructed in self-monitoring. They were each given a Self Observation Notebook (Appendix B), which was a ring-bound notebook containing: (1) Instructions for Using the Daily Record Sheet; (2) a completed example of the Daily Record Sheet (DRS); (3) a supply of DRS's separated by the day of the week; (4) a completed example of a target behavior graph; and (5) three blank graphs for daily graphing of target behaviors. An hour and one-half at the first meeting was devoted to an explanation of: (1) a target behavior; (2) the use of the DRS; and (3) graphing target behaviors. Each client reported back to the researcher after they had self-monitored for two days of baseline and two days of follow-up, to serve as a check on their understanding of self-monitoring and to further clarify target behaviors.

IX. TESTING PROCEDURES

The pre-testing, treatment and post-testing were completed within a fourteen-day period for all three groups. The self-monitoring occurred for seven days prior to, and seven days following treatment for the SDG and the AMT groups. For the two treatment groups pre-testing was completed in the first session prior to training, and post-testing was completed following the sixth and final treatment session, fourteen days later. The waiting list control group was administered the pre- and post-test on the same days and under the same conditions as the treatment groups. However, the waiting list control group was informed that the

two treatment groups were full and that their training program would begin following the completion of the current training program. Both the ASCL and the S-R Inventory were administered in the same order (ASCL, S-R) for all Ss by the researcher. Clients were asked to answer each item according to how they felt "right now."

X. TREATMENT PROCEDURE

As explained previously, the control group was comprised of five randomly assigned clients. These clients met with the researcher on the day that all treatment procedures began. During this meeting it was fully explained to them that there had been an unexpectedly large number of clients requesting anxiety management and that, by necessity, the treatment groups could only accommodate five clients each. Consequently, to be as fair as possible, the total group had been randomly assigned to one of three groups: The two AM treatment groups or a waiting list group. They were told that they would have an opportunity to join an AM group as soon as the present AM groups had completed their training. In addition, it was explained to them that research was being conducted in the general area of AM, and they were asked if they would be willing to take a number of instruments which would assist in this research effort. All five of the waiting list control clients agreed to be tested. Lastly, they were told that they were certainly free to return to their individual counseling sessions. All waiting list clients returned to their individual session status, and continued some counseling contact as prescribed by their individual counselors. All referring counselors were informed of the procedures involved in client selection

so that they would understand why some clients were chosen and some were not. They were also told that those clients placed on a waiting list would be accommodated in an AM group upon the termination date of the present groups. Upon follow-up, the mode of individual contact of the waiting list control group was assessed with the primary goal of attempting to discover whether specific individual anxiety relief modalities had been employed. All counselors of the waiting list control group clients maintained that they had employed no specific anxiety relief modality during that period with those clients.

The first session of the anxiety management (AM) program was approximately one and one-half hours (90 minutes) in length. This session, as were all others, was pre-planned for time sequencing. This pre-planning was necessary to ensure that all clients received full and equal coverage of the program materials. This being the case, the first session, which was the same for both treatment groups (SDG & AMT) was time sequenced as follows:

I. The treatment counselor presented a general introduction to anxiety management and to the program (15 minutes).

   A. Personal introduction of group members.

   B. The counselor placed emphasis upon the educational and contractural nature of the client—counselor relationship; e.g., the clients were expected to attend each session, to be on time, and to have completed the home work assignment for that session. The counselor, likewise, contracted to be on time for each session, to provide an accommodating room, and to provide the best positive professional atmosphere for client behavior change.

C. The goals of the program were specifically spelled out with an emphasis placed on positive outcome expectancies. The counselor presented examples of favorable outcomes which were experienced by previous anxiety management groups.

D. The time flow chart of when the sessions would meet was presented and explained, with emphasis placed upon the goal directed (performance increment), time-limited nature of the group.

E. At this time, clients were asked to confine their counseling experiences to their particular AM group for the duration of the AM program. It was explained to the clients that were they to experience a crisis or if they felt that they needed to talk with their counselor, that they could, but that they should try first, to do two things: (1) to check it out with themselves and/or the AM counselor to see if the problem might be appropriate for resolving in the AM group; (2) if they had to see their counselor, to inform the AM counselor of the fact that they were intending to do so. This procedure was presented to the clients because the researcher: (1) felt that problem containment and focus was very important to this program and especially to highly anxious clients; and (2) to control and account for the possible contamination effects of alternate treatment modes.

II. Explanation of the nature of anxiety (15 minutes).

A. Anxiety is a learned response and simplified examples of learned anxiety were presented and discussed.

B. The three correlates of learned anxiety were presented with an emphasis placed upon the individualized nature of anxiety as experienced differently by each client. The three anxiety correlates presented were: (1) the setting of anxiety; (2) the physical reactions (cues); and (3) the typical performance decrement which accompanies anxiety.

C. The counselor also attended to the typically gradual onset of anxiety and its "snowballing" effect. This gradual onset was coupled with the physical cues which signal anxiety onset.

III. Self-Monitoring (30 minutes).

A. The counselor carefully presented and explained the concept and purpose of self-monitoring (SM). He emphasized the importance of SM as a procedure for discovering exactly what the parameters of each client's anxiety were. He also demonstrated how SM could provide each client with a measure of where they were starting (pre-test) on a target behavior and how much they had changed it (post-test) at the end of the AM program.

B. The self-monitoring notebooks (Appendix B) were distributed to the clients and its use was methodically explained.

C. Each client was asked if he/she understood the use of the self-monitoring notebooks and how they were to be used. The clients were told that both the researcher and the AM counselor were available to them to resolve any SM problems that might arise. In addition, all clients were requested to check with the researcher after two days of self-monitoring (both pre- and post) to insure that they understood the SM procedure.

IV. Personal attention to each client's target behaviors (25 minutes).

A. The clients were systematically apprised of their anxiety as they had reported it in their clinical interview. The counselor asked for a volunteer to begin talking about his/her problems with anxiety.

B. The principal purpose of this exercise was to provide a model for the discussion of anxiety. Initial emphasis was placed on putting the volunteer client at ease in discussing their anxiety situation. An equally important purpose was to assist the clients to structure their own presentations of the anxiety so that the important characteristics of the anxiety were brought out to them and understood. Within this treatment framework the important characteristics of anxiety were considered to be: (1) the learned nature of anxiety; (2) its history and duration; (3) the specific physical (cue) manifestations experienced, which when lumped together illustrated each client's "anxiety"; and (4) the setting events (situations) in which anxiety was experienced.

V. Discussion of homework (5 minutes).

A. All of the SM topics covered were summarized and briefly presented.

B. Clients were instructed to self-monitor and record their target behaviors for the next seven days and to report in to the researcher after they had completed two days of recording.

XI. AMT TREATMENT PROCEDURE

I. Introduction and Setting

A. The AMT treatment consisted of six sessions of approximately one and one-half hours each. The group was conducted in the evenings from 7:00 to 8:30 P.M. The treatment sessions were held on Monday, Tuesday, Thursday, and Friday of the first week and the following two Mondays. The treatment sessions were spaced to maximize generalization effects. The first four meetings were scheduled within one week to mass the exposure to the treatments and to provide for some immediate treatment benefits. The fifth and sixth treatment sessions were spaced to provide for a greater amount of exposure time to anxiety situations which did not necessarily have a high frequency of occurrence, therefore, presenting a greater likelihood of generalization. All meetings were conducted in a comfortable, air-conditioned, carpeted room. The clients were provided with foam rubber pillows for the relaxation and training phases of AMT. All of the training for AMT was conducted with the clients lying on their backs on the floor with the pillows supporting their heads and shoulders.

II. Session One

A. Introduction and background of AMT (30 minutes).

1. Anxiety is a learned response which is, therefore, capable of being modified, blocked or circumvented.

2. The purpose of AMT was to provide the clients with a viable skill which would enable them to modify and control anxiety through the use of self-monitoring physical cues and self-induced relaxation.
3. The clients then stated their goals for themselves in the AMT group.
4. The theory and training methodology of relaxation was explained to the clients. The emphasis was on the skill acquisition of relaxation and the generalization of this skill to everyday situations.
5. The differences between AMT and other techniques such as SD, yoga, hypnosis, meditation, implosion, etc., were then explained.
6. The importance of AMT as a self-control technique with the essential ingredients of self-monitoring physical cues and setting events and then controlling their responses was explained.
7. Illustrations of successful applications of AMT were made and the clients were given the expectancy that they could make their own positive applications by following the training procedure and practicing the steps.

B. Relaxation exercises (45 minutes).

1. The clients were taught standard relaxation exercises, with the lights dimmed, the clients in relaxed positions and contact lenses and glasses removed. The clients repeated each exercise three times to ensure that they

experienced a difference between tension and relaxation.

C. Discussion (10 minutes).

1. The relaxation exercises were discussed and the importance of daily practise in relaxation was emphasized.

D. Homework (5 minutes).

1. Homework was assigned to assist in the skill acquisition of relaxation.

2. The clients were instructed to practice the relaxation exercises for a minimum of 10 minutes once a day or a maximum of 15 minutes twice a day.

III. Session Two

A. Homework review (15 minutes).

1. The counselor checked on the progress of the previous homework assignment by soliciting volunteers to talk about their successes. The emphasis was on positive behaviors, which were always positively reinforced, while the counselor did not attend to negative statements.

B. Scene development (40 minutes).

1. The counselor used examples from the clients' reported target behaviors to illustrate that anxiety is an internally cued response which can be controlled through imagery.

a. Emphasis was placed on using all of the senses in scene development.

b. It was requested that clients imagine the scene as vividly as possible.

c. Clients were requested to construct a relaxation scene.

d. Clients were requested to construct a competency scene.

e. Construction of first two anxiety scenes which both relate to one setting event.

i. The first scene should be a low level one which just makes the client aware that they are in an anxiety situation; one in which there is no mistaking that anxiety is there, but well under control.

ii. The second scene should bring forth some stronger anxiety cues--the anxiety should be on the brink of "snowballing," but it is still controllable. In other words, that point in the person's anxiety level (situationally) wherein if they took one more "step"--anxiety would be in control of them--not them in control of the anxiety.

C. Relaxation practice (20 minutes).

1. Review of the exercises already learned.

D. Scene practice (3-5 minutes).

1. While still relaxed the clients were instructed to alternately imagine their relaxation and competency scenes.

E. Discussion (5 minutes).

1. Discussion of successful scene imagining and ways to make them even more vivid.

F. Homework (5 minutes).

1. The clients were instructed to practise relaxation for the same time periods.

2. They were also to begin using their relaxation and competency scenes to increase their level of relaxation.

IV. Session Three

A. Homework review (15 minutes).

1. Same as in session two.

B. Scene development (10 minutes).

1. A review and enhancement of the two anxiety scenes constructed in session two.

C. Scene presentation (45 minutes).

1. The goal was to learn to monitor and control anxiety when the physical cues signal anxiety onset. In order for further generalization to be learned, the counselor emphasized the need to take small steps when entering an anxiety situation; proceeding only when a step was successful. If a step was unsuccessful, the clients were instructed to step back, regain control (relaxation or competency), and then to take a smaller step forward until they had mastered the situation.

a. The anxiety cues should act as a signal to "turn on" relaxation.

b. The clients signaled the counselor by raising their right index finger.

c. During the first three presentations of the first (low-level) scene, the clients allowed themselves to experience the manifestations of anxiety.

d. Following the anxiety scene presentation the client, induced relaxation or competency to block out the manifestations of anxiety.

e. For successive anxiety scene presentations the clients' goal was to maintain either a feeling of relaxation or competency during anxiety scene presentations.

f. The time duration of each presentation was gradually increased as clients could imagine the scene while relaxed (20 seconds, 30 seconds, 45 seconds).

D. Discussion (15 minutes).

1. Once again the purpose and procedure were explained to the clients and they were praised and reinforced for their success at imagining the anxiety scene while relaxed.

E. Homework (5 minutes).

1. Practise relaxation at home, using the relaxation and competency scenes to increase the level of relaxation.

2. Practise the anxiety scene completed in this session: (1) while relaxed in a chair; and then (2) in a real-life situation if practical, to further generalization.

V. Session Four

A. Homework review (15 minutes).

1. Same as in sessions two and three.

B. Scene development (10 minutes).

1. A review and enhancement (creating as much of an imagery analogue to the real-life situation as possible) of the second scene developed in session two.

C. Scene presentation (45 minutes).

1. The same as in session three, only the clients focused on the second (higher level) scene.

D. Discussion (15 minutes).

1. Same as in session three.

E. Homework (5 minutes).

1. Practice relaxation at home but try to relax fully without tensing before relaxation so that generalization and shaping of the new response (relaxation) for the real-life situation can occur.

2. Practice the anxiety scene completed in the session: (1) while relaxed in a chair; and then (2) in a real-life situation if practical, thus building on generalization.

3. From their increased awareness to anxiety-producing situations the clients were instructed to identify another area with two additional anxiety scenes related to that area for the next session.

VI. Session Five

A. Homework review (15 minutes).

1. Same as in sessions two, three, and four.

B. Scene development (10 minutes).

1. A review and enhancement of the first scene developed for the second anxiety-producing situation.

C. Scene presentation (45 minutes).

1. Same as in session three.

D. Discussion (15 minutes).

E. Homework (5 minutes).

1. The clients were instructed to practice relaxing (again with the purpose of slowly shaping generalization to the real-life situation): (1) in a chair, with their eyes closed; (2) in a chair with their eyes open; (3) in a regular non-comfortable position (walking, standing, etc.). The eventual goal was to be able to maintain feelings of relaxation in their everyday anxiety situations by using anxiety cues to elicit the newly acquired response of relaxation.

2. The clients were then instructed to practice the anxiety scenes completed up to, and including, this session at least twice while relaxed at home, and twice in real-life situations.

3. The clients were requested to constantly monitor their physical cues for any signs of anxiety.

VII. Session Six

A. Homework review (15 minutes).

1. The clients shared their success stories of positive generalization from the AMT sessions to real-life situations with the counselor praising their work. For further

generalization the counselor emphasized the need to take small steps when entering an anxiety situation, proceeding only when a step is successful. If a step is unsuccessful, the clients were instructed to step back, regain control, and then to take a smaller step forward until they had mastered the situation.

B. Scene development (10 minutes).

1. A review and enhancement of the process of scene development. The second scene was embellished and the clients were asked to relax and visualize that scene as one in which they felt relaxed and competent. They were encouraged to maintain this skill on their own--seeing themselves as relaxed and competent in any undertaking.

C. Scene presentation (45 minutes).

1. The same as in previous sessions.

D. Discussion (15 minutes).

1. A general discussion of the continued use of AMT as a self-control technique to monitor and implement feelings of relaxation and competency when anxiety cues were detected.
2. The importance of maintaining their relaxation practice was emphasized.
3. They were encouraged to keep dropping out their reliance on comfortable settings in which to relax. They were asked to keep slowly and progressively confronting anxiety situations with competency and relaxation.

4. They were instructed that they could continue using AMT by using imagery, taking small steps, while at the same time being relaxed.

XII. SDG TREATMENT PROCEDURE

I. Introduction and Setting

A. The SDG treatment consisted of six sessions of approximately one and one-half hours each. The group was conducted in the evenings from 5:00 to 6:30 P.M. The treatment sessions were held on Monday, Tuesday, Thursday, and Friday of the first week and the following two Mondays. The treatment sessions were spaced to maximize generalization effects. The first four meetings were scheduled within one week to mass the exposure to the treatment benefits. The fifth and sixth treatment sessions were spaced to provide for a greater amount of exposure time to anxiety situations which did not necessarily have a high frequency of occurrence, therefore, presenting a greater likelihood of generalization. All meetings were conducted in a comfortable, air-conditioned, carpeted room. Clients were provided with foam rubber pillows for the relaxation-cue awareness portion of their training; during all other meetings, the clients were seated comfortably in a large circle facing one another.

II. Session One

A. Introduction and background of SDG (40 minutes).

1. Anxiety is a learned response which is capable of being modified, blocked or circumvented.
2. Inhibiting anxiety, regardless of the "type"--specific or free-floating--always interferred with some aspect of performance. Here, "performance" was understood (and explained) to mean everything from doing well on a multiple choice exam to feeling free from the physical discomfort of pervasive anxiety.
3. The purpose of SDG was to provide the clients with a viable skill which would enable them to modify and control anxiety through the use of both self-monitored physical cues and task-relevant speech (TRS).
4. The relationship between TRS (task oriented statements which people habitually say to themselves while in an anxiety provoking situation) and improved performance in anxiety provoking situations was explained.
5. The theory and training methodology of SDG (Meichenbaum, 1973) was explained. Emphasis was placed upon the identification of TRS and task-irrelevant speech (TIS-non-task related statements which people habitually say to themselves in anxiety provoking situations) which occurred before, during, and after the occurrence of an anxiety provoking situation.
    a. It was explained that TIS led to performance decrements, whereas TRS led to performance increments.

6. The importance of SDG as a self-control technique containing the essential ingredients of self-monitoring physical cues, delineation of setting events, and the analysis of TRS and TIS, and finally--the construction of the new habit of TRS--was explained and emphasized.
7. The essential ingredients of TRS vs. TIS were emphasized: First, TIS was presented as notoriously false; that is, it typically reflected something that was not true but believed to be true by and about the person who emitted it, and that TIS typically had a long history and was therefore a strong habit. Secondly, TRS was already part of the person's "self-talk" repertoire, but it usually went unnoticed by the individual because he/she dismissed it as "unbelievable."
8. Illustrations of successful applications of SDG were presented, and the clients were provided the expectancy that they could make their own positive applications by following the training procedure and practicing the steps in SDG.
9. The clients then stated their goals in the SDG group.

B. Cue Awareness Training (35 minutes).

1. Clients were asked to write down on a 5 x 8 index card their most anxiety provoking scene. They were then requested to write down what they thought was the principal thing(s) they said to themselves while in the anxiety situation. Clients were then given 3-5 minutes to memorize their anxiety scene and their "self-talk."

2. Clients were then put through a standard relaxation sequence and while in the relaxed state, they were asked to imagine their anxiety scene as vividly as possible, and also to emit their typical "self-talk." Emphasis was placed upon the clients noticing their physical reaction. Relaxation was again administered following the scene presentation.

C. Discussion (10 minutes)

1. The physical reactions of each client were discussed, with emphasis placed upon the specific character of the reaction, and its association with the scene and self-talk, as well as the disruptive nature of these events.

D. Homework (5 minutes).

1. Homework was assigned to assist in the skill acquisition of TRS.
2. Clients were instructed to experience their chosen anxiety situation if not in reality, then by imagining it.
3. While imagining or experiencing the anxiety, they were instructed to make a list of the TIS associated with that situation.

III. Session Two

A. Review of Homework (20 minutes).

1. The counselor reviewed the progress of the homework by eliciting volunteers to talk about their successes in the identification of TIS.

2. Individual attention within the group was provided for those clients who had experienced difficulties in the identification of TIS.

B. Development of TRS (25 minutes).

1. Clients were asked to volunteer to work on individual anxiety problems within their anxiety situation(s). Specifically, each clients' list of TIS was discussed and analyzed with an emphasis placed upon the demonstration of the inaccuracy of TIS as it related to performance decrements.

2. Each client was asked to generate TRS pertaining to their individual anxiety situations. Five-by-eight index cards were provided upon which they were requested to list their TRS's.

   a. Three criteria for TRS were emphasized: First, the TRS must be true and not unrealistic relative to the performance task; secondly, it should be as brief and as simple as possible; thirdly, it must be performance related.

3. The counselor used examples employed successfully by previous clients as models in this effort.

4. Emphasis was again placed upon an accurate description of the setting event(s) for anxiety, and the onset of the physical cues indicating that the "point of no return" for anxiety was approaching.

5. Each client was then asked to focus on discussing his/her TRS with the counselor and the group.

C. Practice in Emitting TRS (30 minutes).

1. Clients were requested to memorize their task relevant speech. Following this, each client was asked to state that speech--out loud--with the instructions not to deviate from the repetitive statement of that speech regardless of what the counselor did.

a. During each clients' presentation of TRS, the counselor read--out loud--their TIS. This was done for three reasons: First to act as an artificial inhibitor of the TRS; secondly, to demonstrate the typical resistance of new habit formation (emitting TRS) when confronted with older habits (TIS); thirdly, to give them practice in emitting TRS under the duress of TIS.

D. Discussion (10 minutes).

1. Emphasis was again placed upon the necessity of simplifying the TRS.

2. Again, the need for identifying the earliest warning signals both in setting event cues and in physical reactions was emphasized.

E. Homework (5 minutes).

1. Clients were instructed to further specify their self-talk/TIS and TRS.

2. In addition, clients were requested to lengthen their lists of task relevant speech, keeping in mind the two essential

criteria: (1) their task relevant speech had to be believable--true, and (2) the self-speech had to be simply stated.

IV. Session Three

A. Homework Review (25 minutes).

1. The counselor reviewed aloud, each of the clients lists of TRS and TIS.

a. The two principal criteria of task relevant speech were restated: it had to be true and it had to be simple.

B. Specification of TRS (30 minutes).

1. The counselor (along with positive input from the group) worked with each client in specifying TRS.

a. Emphasis was placed upon speech which was task-specific; generalities were avoided.

b. Efforts were also focused upon lengthening the list of TRS, by placing the lists of TIS and TRS side by side until the TRS list was at least equal to that of the task irrelevant speech.

c. Clients were consistently reinforced by positive counselor statements for emitting accurate TRS.

C. TRS (20 minutes).

1. The counselor selected three clients with whom to practice the TRS.

a. These clients were asked to memorize their lists of task relevant speech (3-5 minutes). They then handed their lists of TIS to the counselor.

b. The counselor then asked one client to read aloud his/her TRS. As the client read, the counselor read aloud his/her TIS. The goal of the practice was to overcome the interfering influence of the TIS (the stronger habit). When the client was able to complete this task without verbal mistakes or verbal hesitation, he/she was asked to put the TRS list aside and emit the list from memory. Again, the counselor read aloud the TIS, and as before, the client was encouraged to continue his/her verbal behavior until the behavior occurred without error.

c. Following the practice with the first client, the remaining two clients were engaged in the same fashion as the first.

D. Discussion of Practice (10 minutes).

1. Each client was provided praise for successfully completing the practice session.
2. Inquiry was made into the specific difficulties experienced by each client.

E. Homework (5 minutes).

1. Clients were asked to further specify their TRS and to lengthen their lists of TRS.
2. Memorize their list of task relevant speech.
3. Clients were encouraged to attempt to confront their fear (anxiety) situations and at the same time emit TRS.

4. Emphasis was also placed upon having clients describe the "early warning signals" of impending anxiety--i.e.,--the feeling of physical discomfort and setting event cues.

V. Session Four

A. Homework Review (15 minutes).

1. Same as session three.

B. TRS Practice (25 minutes).

1. The remaining two clients were asked to participate in the same practice sequence which the three previous clients had completed.

C. TRS Practice--Role Playing (25 minutes).

1. Clients who had reported a problem with interpersonal anxiety were paced through a role playing sequence appropriate to that anxiety.

i. The counselor acted as principal reactor with support from the group.

ii. Clients who participated in this experience were requested to, again, emit aloud their TRS as the role playing took place.

D. Discussion of TRS--Role Playing Practice (15 minutes)

1. Same as Discussion in Session Three.

E. Re-Emphasis of Anxiety Cue Detection (20 minutes).

1. It was explained to clients that effective circumvention of anxiety was facilitated by discovering the earliest warnings which indicated that uncontrollable anxiety was "on its way."

2. The early warning signals were--setting events (external cues), anxiety (physical discomfort), and TIS.
3. Emphasis was placed upon emitting TRS upon the earliest detection of anxiety.
    i. It was explained to clients that TIS very often accompanied the early warning cues, and that often it was slightly different from that emitted during the height of the anxiety.

F. Homework (5 minutes).
1. Same as 1, 2, 3, and 4 of Session Three.
2. In addition, clients were asked to identify TIS and TRS which accompanied their early warning cues.

VI. Session Five

A. Homework Review (30 minutes).
1. Clients shared their success at employing SDG in anxiety situations.
2. Each client was assessed of their successful identification of early warning cues and the TIS accompanying those cues.

B. Task Relevant Speech Practice (40 minutes).
1. This practice was the same as in the previous practice sessions, but it involved the clients' additional areas of anxiety which they had identified during the Self-Monitoring phase.

C. Discussions of Practice (15 minutes).
1. Same as in previous sessions.

D. Homework (5 minutes)

1. Same as in previous four sessions.

VII. Session Six

A. Homework Review (25 minutes).

1. Same as in previous sessions.

B. TRS Practice--Role Playing (30 minutes).

1. Same as session four.

C. Discussion of Practice (15 minutes).

1. Same as session four.

D. Discussion of Total Program and Methods for Generalizing the SDG Skill (20 minutes).

1. Emphasis was placed upon employing the method of SDG in future areas of anxiety which clients might encounter.
2. The stepwise progression of the SDG program was reviewed with the clients and presented to them as a process easily converted into self-modification.
3. Questions regarding the future application of SDG to other areas of their life were solicited and answered.

CHAPTER III

RESULTS

Three one-way analyses of variance (ANOVA) were used to test the two hypotheses, which stated in null form are: (1) There will be no statistically significant difference between the treatment outcome of clients who are provided with self-directed guidance (SDG), anxiety management training (AMT), and a waiting list control group (WLCG); and (2) There will be no statistically significant difference between the treatment outcome of clients provided with either SDG or AMT. Insofar as these two hypotheses were tested six different times, each was subdivided into three sub-hypotheses. Hypothesis 1 was divided into: (1) sub-hypothesis 1 (tested by the ASCL ANOVA); (2) sub-hypothesis 3 (tested by S-R Inventory ANOVA); and (3) sub-hypothesis 5 (tested by S-R Target Behavior Inventory ANOVA). Hypothesis 2 was divided into: (1) sub-hypothesis 2 (tested by the ASCL Tukey); (2) sub-hypothesis 4 (tested by the S-R Inventory Tukey); and (3) sub-hypothesis 6 (tested by the S-R Target Behavior Inventory Tukey).

All one-way ANOVA's were tested for at the .01 level of significance. All statistical analyses were performed on mean gain scores, determined as the difference between the pre- and post-test scores. Gain score means were used because the focus of the study was centered on the amount of change in the experimental groups as compared with that in the control groups (Guilford, 1965). The three groups consisted of fifteen graduate and undergraduate students who were clients at the Counseling Center.

The Tukey HSD was used as a multiple comparison test. It was used to determine the location of the significant differences between group means. The Tukey was chosen because it is a moderately conservative, pair-wise, multiple comparison test, therefore, it increased the likelihood that significance would be reached only when the means were actually far apart. The .05 level of significance was used in testing the Tukey.

Behavioral self-monitoring was also used to compare (pre- and post-) the changes in positive outcome frequencies and SUD levels. Although one of the primary purposes of the self-monitoring was to focus on target behaviors, the clients also learned to specify environmental and internal contingencies. These contingencies were: (1) setting events; (2) physical feelings of discomfort (cues); (3) self-verbalization (internal speech); (4) evaluative outcome; and (5) specified ideal behaviors. While not all of these contingencies were used in data analysis, the researcher and treatment counselor received many positive statements from the clients which indicated that it was very helpful for them to record these behaviors.

The means and standard deviations for the SDG, AMT, and waiting list control groups, pre- and post-tests are presented in Table 1.

I. TREATMENT OUTCOME

All clients were pre- and post-tested on the ASCL and the S-R Inventory. T-Tests were used to compare the pre-test means of all three groups and the calculated F ratios were not significant at the .05 level of significance. These results indicated that all three

TABLE 1

Pre-test and Post-test Mean Scores and Standard Deviations for AMT, SDG, and Waiting List Control Group on the ASCL and S-R Inventory

Group	Scales	Pre-test		Post-test	
		Mean	S.D.	Mean	S.D.
AMT	ASCL	291.00	65.91	190.60	45.69
	S-R	378.00	32.21	303.00	49.91
SDG	ASCL	306.00	73.39	198.40	37.61
	S-R	385.00	44.79	290.60	39.39
WLCG	ASCL	264.00	51.77	288.60	64.89
	S-R	341.00	44.54	397.20	49.85

groups were drawn from the same population.

A one-way ANOVA was used to test for significance among the three groups (AMT, SDG, and WLCG) with respect to their mean gain scores (post-test minus pre-test) on the Anxiety Symptom Checklist. The means were found to differ significantly ($P < .01$) on this measure, thereby, sub-hypothesis 1 was rejected. The results of this one-way ANOVA are shown in Table 2. The Tukey HSD test (Myers, 1966) was employed to determine which of the group means differed significantly. The results shown in Table 3 indicated that significant differences ($p < .01$) existed between the mean gain scores of both treatment groups (AMT and SDG) and the WLCG gain score mean, but there was no significant difference between the AMT and SDG gain score means. Therefore, the results lead to the conclusion that sub-hypothesis 2 must be accepted. That is, SDG was as effective as AMT in reducing anxiety.

A second one-way ANOVA was used to test for significance among the three groups (AMT, SDG, and WLCG) with respect to their mean gain scores on the S-R Inventory of Anxiousness. Here the means were also found to differ significantly ($p < .01$) on this measure of anxiety. These results support the results of the ASCL ANOVA, therefore, sub-hypothesis 3 was rejected. The results of this one-way ANOVA are presented in Table 4. A Tukey HSD presented in Table 5 indicated that significant differences ($p < .01$) existed between the gain score means of both treatment groups (AMT and SDG) and the waiting list control group gain score mean, but there was no significant difference between the AMT and SDG gain score means. Therefore, the results of the S-R Tukey HSD failed to reject sub-hypothesis 4. Consequently, SDG was

TABLE 2

Analysis of Variance for the AMT, SDG, and Waiting List Control Group Anxiety Symptom Checklist Gain Scores

Source	df	SS	MS	F
Between Groups	2	71212.80	35606.40	15.28**
Within Groups	12	27950.80	2329.23	
Total	14	99163.60		

**$p < .01$.

TABLE 3

Tukey HSD Test of Multiple Comparisons of
Mean ASCL Gain Scores

Groups	WLCG	SDG	AMT
Means	-16.80	108.00	144.00
-16.80	------	124.80**	160.80**
108.00		------	32.00(ns)
144.00			------

**$p < .01$.

TABLE 4

Analysis of Variance for the AMT, SDG, and Waiting List Control Group S-R Inventory of Anxiousness Gain Scores

Source	df	SS	MS	F
Between Groups	2	52976.94	26488.47	39.03**
Within Groups	12	8142.00	678.50	
Total	14	61118.94		

**$p < .01$.

TABLE 5

Tukey HSD Test of Multiple Comparisons of Mean S-R Gain Scores

Groups	WLCG	AMT	SDG
Means	-32.00	75.40	106.80
-32.00	------	107.40**	138.40**
75.40		------	31.40(ns)
106.80			------

**$p < .01$.

as effective as AMT in reducing anxiety.

A third one-way ANOVA was used to test for significance among the three groups with respect to their mean gain scores on the S-R Target Behavior Inventories. These means were also found to differ significantly ($p < .01$) on these measures of specific anxiety. In reporting these results, fictitious names were substituted to protect the clients confidentiality. These results, which are presented in Table 6, support the results of the ASCL and the S-R ANOVA's. Therefore, on the basis of the self-report anxiety inventories, sub-hypothesis 5 was rejected. A third Tukey HSD was used to determine which of the Target Behavior group means differed significantly. The results of this Tukey HSD which appear in Table 7, indicated that a significant difference existed between: (1) the waiting list control group gain score mean and the AMT gain score mean ($p < .05$); (2) the waiting list control group gain score mean and the SDG gain score mean ($p < .01$); but (3) that there was no significant difference between the gain score means of the AMT and the SDG groups. Again it was found that SDG <u>was</u> as effective as AMT; in addition a trend is evident in which SDG appeared slightly, but not significantly, more effective than AMT in the reduction of anxiety. Note that the AMT mean was significant at the .05 level while the SDG mean was significant at the .01 level.

The results of the behavioral self-monitoring were illustrated by three line graphs and three tables. Figures 1 and 2 illustrate the difference between the AMT and the SDG groups (pre- and post-), in the levels of the self-reported subjective units of disturbance (SUD) which were experienced while the clients engaged in their target behaviors.

TABLE 6

Analysis of Variance for the AMT, SDG, and Waiting List Control Group S-R Inventory of Anxiousness: Target Behavior Gain Scores

Source	df	SS	MS	F
Between Groups	2	766.32	383.11	8.03**
Within Groups	12	572.39	47.69	
Total	14	1338.62		

**$p < .01$.

TABLE 7

Tukey HSD Test of Multiple Comparisons of Mean S-R Target Behavior Gain Scores

Groups	WLCG	AMT	SDG
Means	-1.90	12.86	13.62
-1.90	-----	14.76*	15.52**
12.86		-----	.76(ns)
13.62			-----

*$p < .05$.

**$p < .01$.

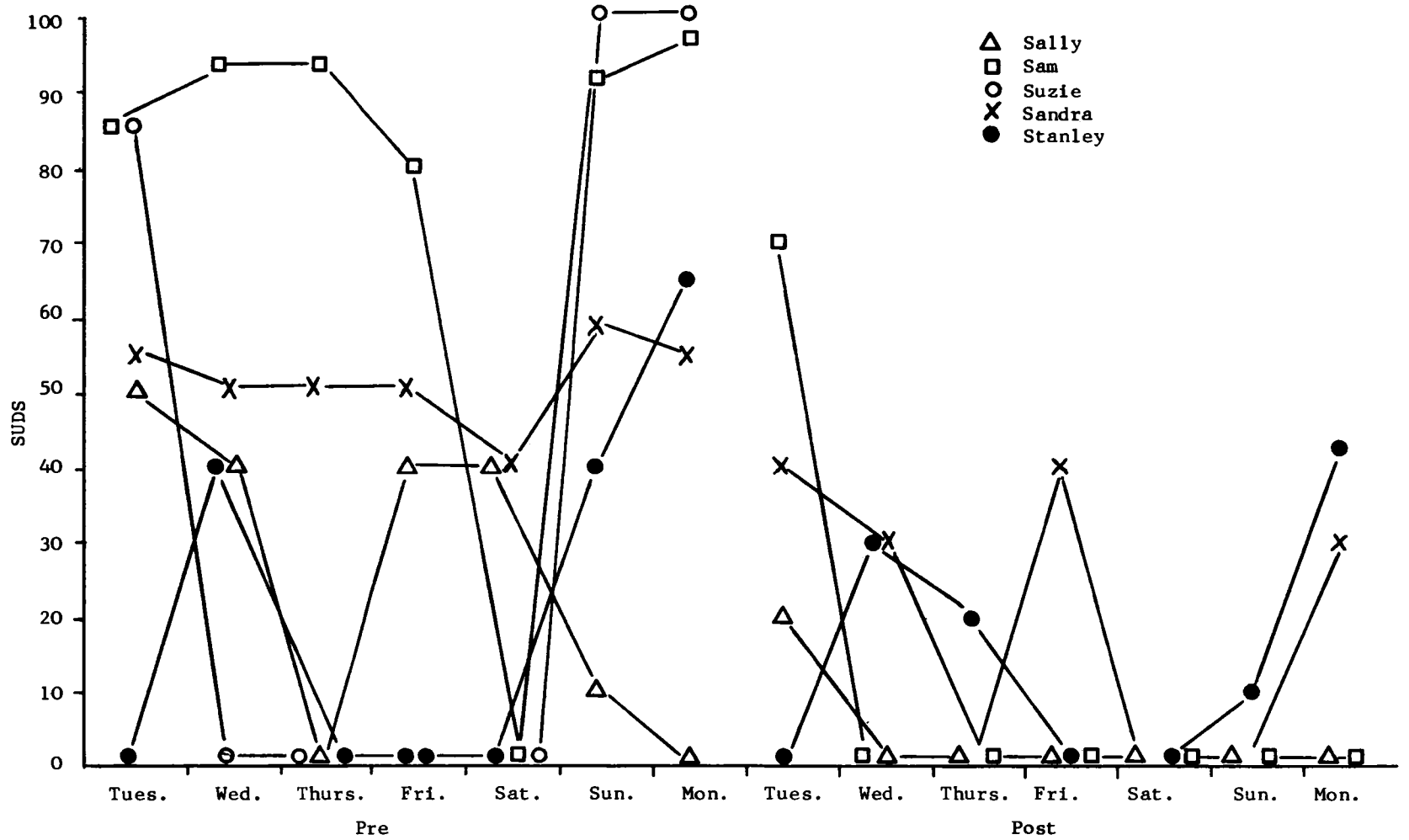

FIGURE 1. SDG Group: Self-reported SUD level experienced during self-monitoring pre-post.

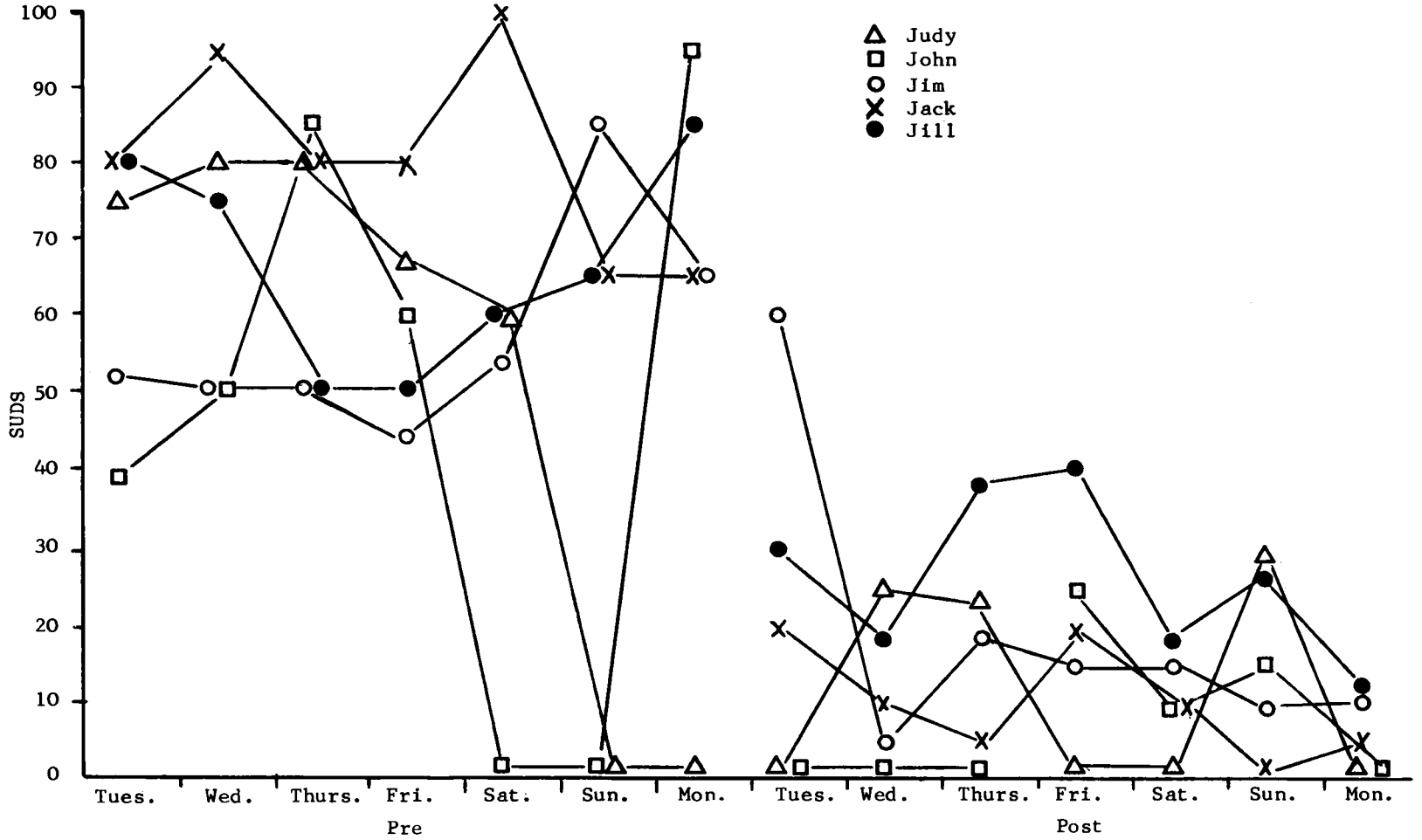

FIGURE 2. AMT Group: Self-reported SUD level experienced during self-monitoring pre-post.

It can be noted that the clients' SUD levels for both groups were higher during the pre-program baseline period than they were during the program period. Therefore, a correlation is indicated between the treatment programs (AMT and SDG) and the significant decline in the clients' SUD levels following treatment. While this decline in SUD levels failed to reject Hypothesis II, a slight trend is apparent for SDG to reduce SUD levels more consistently than AMT.

The third line graph (Figure 3) of self-monitoring results illustrated the pre- and post-differences in the frequencies of positive outcomes for the clients' target behaviors. The number of positive outcome frequencies were plotted for the baseline and follow-up periods. As Figure 3 illustrates, the number of positive outcomes increased significantly for every client in both groups. Therefore, the self-monitored gains in positive outcomes failed to yield any large difference between the groups on this measure. Again, however, the trend indicated that the SDG clients increased their frequency of positive outcomes slightly more than did the AMT clients.

Tables 8 and 9 present the anxiety setting events and the target behaviors of clients for both the SDG and the AMT groups. It clearly demonstrates the wide variety of behaviors upon which the clients in both groups chose to work. Anxiety setting events as well as the individually specific target behaviors varied dramatically within each group as well as between groups, although there are some categorical similarities--such as "interpersonal" situations, and academic situations (classroom, library, exams, studying, public speaking).

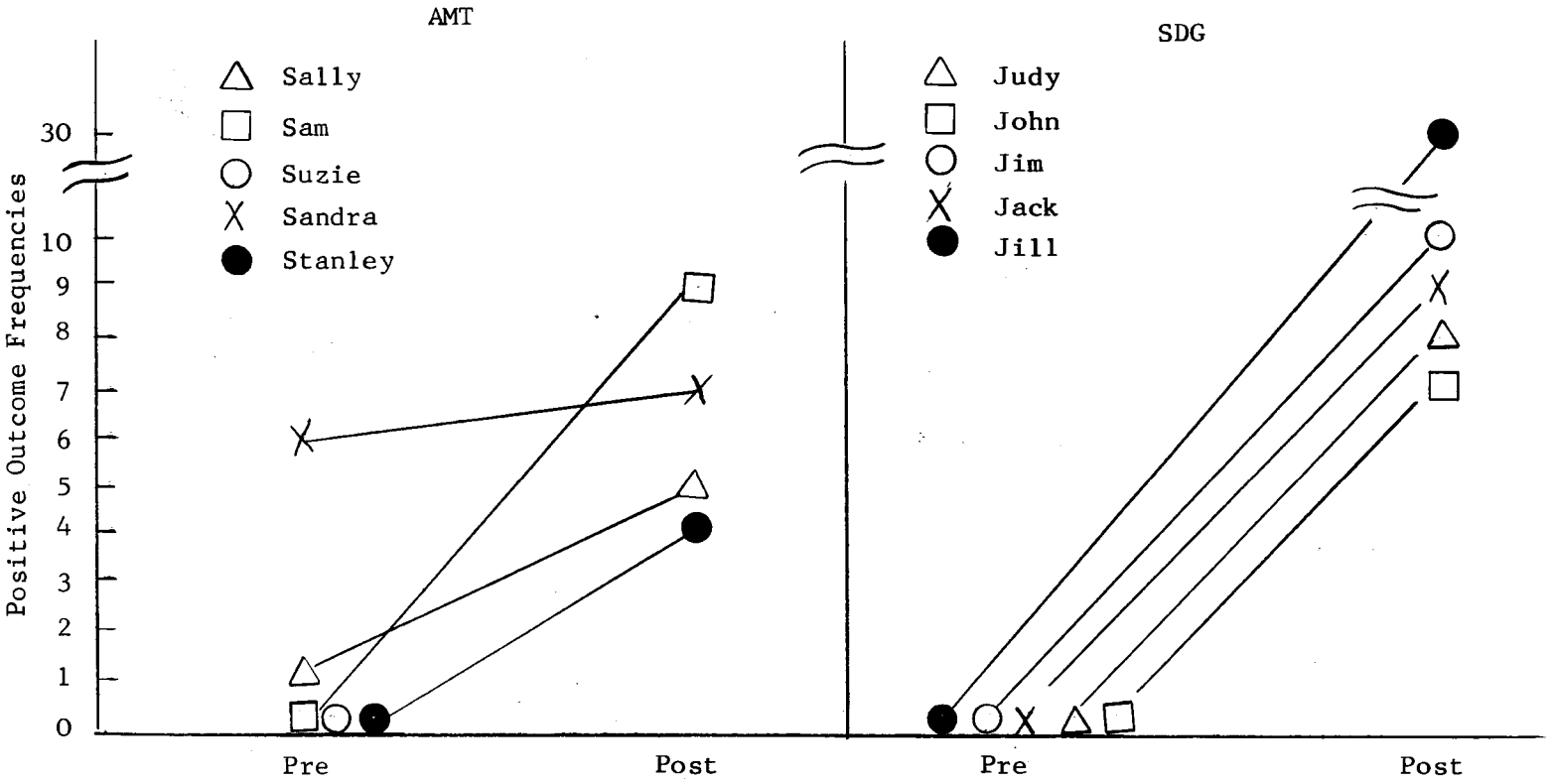

FIGURE 3. Pre- and post-positive outcome frequencies.

TABLE 8

Anxiety Setting Event(s) and Target Behavior(s)
for AMT Group Clients

Clients		Anxiety Setting Events	Target Behaviors
AMT	Sam	(1) Studying	Being able to read a text book without feeling anxious.
		(2) Interpersonal	Being able to receive criticism without feeling anxious.
	Sandra	(1) Exams	Being able to feel comfortable while taking exams.
		(2) Anticipating Exams	To feel more comfortable while studying for an exam.
	Stanley	(1) Classroom	Being able to attend class without feeling sick to stomach.
	Sally	(1) Library	Being able to go to and remain in library without feeling anxious.
	Suzie	(1) Public Speaking	Being able to comfortably make a class presentation.

TABLE 9

Anxiety Setting Event(s) and Target Behavior(s)
for SDG Group Clients

Clients		Anxiety Setting Events	Target Behaviors
SDG	Jim	(1) Studying (in library)	Being able to concentrate.
		(2) Sex with wife	Being able to initiate sex.
		(3) Interpersonal	Being able to talk to classmates.
	Judy	(1) General (targeted as "a" below)	"Uptight most of the time"
		(a) "Messy" Apartment	Clean apartment--reduced anxiety.
	Jack	(1) Communication with close friends.	Being able to talk without stuttering.
		(2) Father	Being able to talk without "tearing up."
	John	(1) Writing	Being able to write overdue papers.
		(2) Interpersonal	Being able to speak comfortably with authority figures.
	Jill	(1) Eating comfortably with others	Reducing fear of vomiting in public eating places.
		(2) Alone	Reducing the discomfort of being alone in apartment.
		(3) With friends	Reducing the physical discomfort of being with close friends.

Table 10 presents the pre- and post-frequencies of the self-reported occurrence of target behaviors per client across the pre- and post-self-monitoring periods. The first aspect of these data which is worthy of note is the obvious difference between groups on the single dimension of self-monitoring. The clients in the SDG group reported occurrences of target behaviors both pre- and post- much more frequently than the AMT group clients. It is also interesting to note, that both groups maintained a reasonable rectangularly distributed recording. That is, the target behaviors appeared to be recorded reliably across the self-monitored periods by both groups. Clients in both groups evidenced a decline in the self-reported occurrence of their target behaviors. Interestingly, this decline was, on the average, almost exactly the same (.9 for the AMT and .8 for the SDG). Any explanation of why both groups reported fewer frequencies of occurrence of target behaviors in the post-period than they did in the pre-period can only be left to speculation. It may have been a function of their becoming more focused in their attention to the target behavior. This hypothesis appears to be confirmed by a content analysis of the specific individual records. That is, clients in both groups were considerably briefer in their recordings of post-treatment target behaviors.

II. HYPOTHESES

The first null hypothesis stating that there would be no statistically significant differences between the treatment outcome of clients who were provided with SDG, AMT, and a waiting list control group was clearly rejected. There was a clear difference between the

TABLE 10

Pre- and Post-Treatment Frequencies of Self-Reported Occurrence of Target Behaviors Per Recording Day

Client		Pre T	W	R	F	Sa	Su	M	Σ	$\bar{X}$	Post T	W	R	F	Sa	Su	M	Σ	$\bar{X}$
AMT	Sally	1	2	0	1	1	1	0	7	1.0	1	2	0	1	0	1	1	6	.9
	Suzie	3	0	0	0	0	1	1	5	.7	No post-no occurrence of setting events or TB								
	Stanley	0	3	0	0	0	3	2	8	1.1	0	1	1	0	0	1	1	4	.6
	Sam	3	3	3	2	1	1	1	14	2.0	2	0	1	2	1	2	1	9	1.3
	Sandra	4	3	1	2	1	4	5	20	2.9	4	1	0	1	0	1	1	7	1.0
		Pre AMT Group $\bar{X}$ = 1.6									Post AMT Group $\bar{X}$ = .7								
SDG	Jack	3	3	2	1	1	1	1	12	1.7	2	2	2	2	2	2	2	14	2.0
	Jill	3	6	6	4	3	5	5	32	4.6	3	5	6	6	5	5	6	36	5.1
	Judy	3	5	4	1	1	0	0	24	3.4	2	6	2	1	2	2	0	15	2.1
	John	3	2	4	1	0	0	4	14	2.0	0	0	0	2	1	2	1	7	1.0
	Jim	4	4	2	5	5	7	4	31	4.4	1	2	3	2	2	1	1	12	1.7
		Post SDG Group $\bar{X}$ = 3.2									Post SDG Group $\bar{X}$ = 2.4								

treatment outcome of the three groups on all measures.

The second null hypothesis stating that there would be no statistically significant differences between the treatment outcome of clients who were provided with SDG or AMT failed to be rejected. The results conclusively demonstrated that SDG was as effective as AMT in reducing anxiety. Although there were no statistically significant differences, there was a slight trend for clients in the SDG group to experience more positive outcomes than those clients in the AMT group.

III. DISCUSSION OF THE RESULTS

The major purpose of this study was twofold: (1) to compare the differential effectiveness of two methodologies for anxiety reduction (SDG and AMT) against a waiting list control group; and (2) to determine the differential outcome effects of AMT as opposed to SDG; that is, was SDG (a new anxiety modality) as effective as AMT (a more traditional anxiety relief modality) in reducing anxiety. Also of interest were any trends which might develop out of the AMT or SDG treatment modalities. In order to present a time sequenced perspective, the discussion of the results will be presented as the components of the study actually occurred.

The first results were actually obtained in the diagnostic interview that was conducted with each potential subject/client prior to client selection. One interesting phenomenon that occurred with client after client was that even those clients who had originally stated that they experienced only "free-floating" generalized anxiety could identify at least one specific setting event (situation) which made them more or

less anxious. This discovery was often actively resisted by clients during the interview. In some cases, it was only after much probing and reality testing on the part of both the interviewer and the client that the specificity of their anxiety was identified. However, the identification of specific setting events and target behaviors was not always a positive experience for the client because it usually brought them to a decision point--they now had a behavior which they could actively modify. The questions for them then became: how much effort would the change process take; how much of their time did they want to invest; and how successful could they be in modifying their own behavior. This finding runs somewhat counter to those positions which hold to the validity of a concept of "free floating" anxiety, particularly as the concept relates to specific treatments. In short, it was found that "free floating" anxiety or "pervasive" anxieties could be reduced simply by aiding the clients in focusing his/her attention upon the most stressful areas of their lives. All of the clients who were offered entrance into the research program chose to participate.

During the week of baseline monitoring, it became obvious (Tables 8 and 9, pages 69 and 70, respectively), that there were distinct differences in the manner in which the clients reported their experienced anxiety. Some clients had targeted behaviors with a high probability of occurrence. Others had targeted behaviors which occurred very rarely, but which were the most important to them to modify. However, due to the high levels of anxiety experienced by these clients, they typically reported that the self-monitoring was at first a very aversive experience for them, aversive in the sense that they became more aware of negative

aspects of their behavior. As a result, they stated that it boosted their anxiety to self-record.

Even though clients reported the self-monitoring as elevating their anxiety, they persisted in recording the target behaviors which they had selected. Interestingly, they appeared very motivated to continue and to improve on their recording skills. This observation agrees with that of Mitchell and Ingham (1970) who found strong trends relative to students experiencing high levels of general anxiety. These subjects actually maintained their desensitization to a specific anxiety situation (test anxiety) longer than students experiencing lower levels of generalized anxiety. These results indicate that clients who experience high levels of anxiety become more motivated when they are provided with a method for reducing anxiety.

The primary purpose of the self-monitoring baseline period was to provide a more graphic illustration of each client's anxiety. The major purposes of self-monitoring were to identify: (1) when, where, and how often anxiety occurred; (2) how intensely they experienced physical discomfort; and (3) to identify their self-verbalizations relative to the performance of the target behavior. Another important self-rating was taken for the outcome (positive or negative) of the target behavior. Finally, the identification of an ideal behavior was requested in an effort to facilitate the client in building an image of competency.

At the completion of the baseline monitoring period, the clients returned their Self-Observation Notebooks. This enabled the treatment counselor to evaluate the differences in anxiety as experienced by each client. This was necessary information for the counselor to know so that

any treatment problems could be predicted and modified within the specific treatment group. It also allowed him to anticipate the client problems voiced in the initial sessions for both groups.

The three groups differed significantly on two of the measures employed in this study--the ASCL and the S-R Inventory. Comparisons among the group mean gains indicated that these differences were largely due to significant gains of the AMT and SDG groups, with the standard counseling waiting list control group remaining basically the same. These results indicated that both AMT and SDG are significantly more effective in the reduction of generalized and specific anxiety than a waiting list group which received standard counseling. The AMT and SDG groups mean gains were further compared and were not found to be significantly different. These results indicated that both modalities appeared to be equally effective in the reduction of generalized anxiety. However, the second principal research question was conclusively answered; that is, the question was posed--is SDG (a relatively recent anxiety relief modality), as effective as AMT (a reasonably well "tried" and well researched anxiety relief modality) in reducing specific and general anxieties? The data of this study support the conclusion that SDG is as effective as AMT as a group method of reducing specific and general anxieties.

The three groups also differed significantly on the measure of specific anxiety reduction: the S-R Inventory for target behavior anxiousness. Comparisons among the group mean gains revealed that these differences were largely due to significant gains by the AMT and SDG groups, with the waiting list control group not changing significantly.

These results indicated that both AMT and SDG were significantly more effective in the reduction of specific anxiety than was a waiting list control group receiving standard counseling. A further comparison of the AMT and SDG group mean gains revealed no significant difference between the two treatments on the S-R Target Behavior Inventory. Again, SDG appeared to be as effective as AMT. However, a slight trend was indicated for SDG to be the better of the two treatments since it was significantly better than the control group at the .01 level of significance, while the AMT group was better than the control group at the .05 level of significance.

The AMT and the SDG groups both self-monitored their target behaviors for a week of baseline and a week of follow up. Both groups experienced substantial reductions in the SUD levels which they experienced when they engaged in their target behaviors. The target behaviors for each client were combined in an effort to facilitate reporting an average SUD level per day of monitoring. Again, some individual differences were indicated. Even though clients reported that they had many more positive outcomes following treatment, some clients still reported that they experienced physical discomfort in the performance of their target behaviors. This indicated that it was not necessary to eliminate anxiety completely to produce performance increments. Clients could still feel some discomfort (although significantly less) while they effectively produced positive outcomes.

In general, the total number of reported frequencies of target behaviors declined significantly during the follow-up period for both groups. This suggested that, insofar as clients were less anxious, they

were not as "sensitized" to as many environmental stimuli as they had been prior to treatment. And in addition, the clients were less likely to record low levels of the same target behaviors which had disturbed them during baseline. Following SDG and AMT, clients were better able to focus on their anxiety. Apparently, they were not as distracted by extraneous stimuli and therefore they recorded target behaviors more precisely. One client, Suzie, was not able to engage in her target behavior following treatment because it was related to an academic situation which no longer existed. However, she did confront analog of this behavior successfully, but because the actual behavior did not occur, no follow-up data appear for Suzie in Figure 1, page 64.

In general, the results from the clients' self-monitoring data indicated that the clients who were the best recorders and monitors of their target behaviors made the most consistent gains in anxiety reduction. On the average, the SDG clients were "better" self-monitors in the description and detail of their reporting than were the AMT clients. It appears that the AMT group, which focused primarily on physical relaxation noticed and recorded fewer positive outcomes, and they also reported fewer frequencies of occurrence of the target behaviors. These results suggest that a more general level of relaxation may lead to a more casual outlook on life. This lessened anxiety level makes it more likely that clients would no longer attend to situations which were previously anxiety producing, thereby, resulting in fewer frequencies of recording.

The self-monitoring data were very descriptive in the analysis of the effectiveness of the two treatment modalities and as such, were

complementary to the statistical results. They did not discern that one group was significantly better than the other in effectively reducing anxiety. They did, however, complement the statistical results which definitely answered the second research question--that SDG was equal to AMT in effectively reducing anxiety.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

I. SUMMARY

This study investigated the differential effectiveness of self-directed guidance (SDG), anxiety management training (AMT) and a waiting list control group (WLCG) in the reduction of specific and generalized anxiety. The subject/clients in this study were drawn from the extant clientele of a university counseling center. These clients had previously verbalized a number of complaints about anxiety, and they were also identified by their counselors as having a variety of problems with both specific and generalized anxiety. They were clients for whom some form of instruction, which assisted them in modifying their anxiety, was the preferred mode of treatment.

A diagnostic interview was used to assess the appropriateness of the clients' presenting problem for the treatment program. Participation in the program was offered to 15 clients who presented appropriate anxiety problems. All 15 clients volunteered for the anxiety management program. They were randomly assigned, 5 to a group, to one of three groups: (1) SDG; (2) AMT, or (3) WLCG.

The results indicated that clients in the two treatment (SDG and AMT) groups improved significantly in the reduction of their specific and generalized anxiety levels in comparison to the WLCG. There was no significant difference between the two treatment groups (AMT and SDG) in the reduction of anxiety.

II. CONCLUSIONS

The results of this study indicate: (1) that self-directed guidance (SDG) and anxiety management training (AMT) are more effective in reducing both specific and generalized anxiety than a waiting list control group; (2) that there is no significant difference between SDG and AMT in reducing both specific and generalized anxiety. The results of this study indicate that there is little support for differentially diagnosing clients as to type of anxiety. The type of anxiety which a client experiences is apparently unimportant. As long as the client's chief complaint is anxiety, either of these two treatments (SDG and AMT) appear to be equally effective in reducing anxiety.

III. SUGGESTIONS FOR FURTHER RESEARCH

1. In order to establish reliability for the findings of this study, a replication should be conducted.

2. To determine if the SDG technique has greater long term effects than AMT, both techniques should have a longer baseline and follow-up self-monitoring period. In addition a control group should also be included which self-monitors.

3. AMT and SDG should be combined and compared as a single treatment modality to standard AMT and SDG.

4. A comparison of SDG and AMT as effective treatment modalities for different types of clients should be conducted. Questions remain as to which, if either, is the most effective treatment for different personality types, different sex and age groups, and for people who experience anxiety differently (repressors versus sensitizers).

5. The present study may be criticized on the grounds that the waiting list control group should have employed a self-monitoring modality and a similar group-time-counselor composition as did the two treatment groups. A legitimate argument would allow for an extended baseline (self-monitoring) period for all groups until such time that the clients demonstrated discernable treatment trends in their recorded behaviors (Wahler, 1974). Under these conditions, differential effects of treatment may be ascertained. Furthermore, treatment effect <u>per se</u> may be partitioned apart from such variables as client time spent with counselor or simply having clients record their behavior.

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APPENDICES

APPENDIX A

COUNSELOR OBSERVATION INTERVIEW

Confidential

Client: _____

Date: _____

Counselor: _____

Etiology of Client's Anxiety:

Behavioral observations of client's anxiety"

Client's stated cues at onset and at peak:

Precipitating situations:

Client presenting problem with anxiety:

Client's physical symptomatology as related to anxiety (headaches, nausea, lack of sleep, etc.):

Normal activities in which client's anxiety interferes:

How has client alleviated anxiety, tension (medication, exercise, etc.):

Previous counseling or phychological contact (extent of past and present):

APPENDIX B

INSTRUCTIONS FOR USING THE DAILY RECORD SHEET

In your Self-Observation Notebook you will find a number of Daily Record Sheets (separated by the day of the week) and at the back of the Notebook there is a special Graph section containing several Graphs. This is where you will be recording your self-observations.

How to record a Target Behavior (TB) on your Daily Record Sheet (DRS):

1. Record the Time of Day that the TB occurred, i.e., when it began and when it ended.
2. Record the Setting Events associated with the TB. Use as many lines as necessary.
3. Record the Physiological Cues which occurred in conjunction with the TB, in their order of appearance, giving the rating for the Subjective Unit of Disturbance (SUD) accompanying each cue.
4. Record your Self-Verbalizations (thoughts which you were having about the TB) for just before, during, and just after the TB. Next, indicate how often they occurred and for how long they occurred.
5. Record the Outcome of the behavior in terms of what you did, what others did, and rate the Outcome for each as to whether it was positive (+) or negative (-).
6. Record your Ideal Behavior in terms of what you had wanted to do or say.

All recordings should be made as soon after the occurrence of the Target Behavior as possible. Use as many lines of the DRS as are necessary to describe your Target Behaviors.

A separate piece of Graph paper is provided and should be used for each Target Behavior to graph the frequency of the occurrence of the TB for one week. The daily frequency for each behavior should be entered on the graph at the end of each day's recordings.

There are two examples of the correct usage of both the Daily Record Sheet and the weekly graphs. The example for the DRS is at the beginning of the first day's (Tuesday) recording section. The example for the weekly graphs is at the beginning of the section which contains the graphs.

It is extremely important that these recordings be done and that they be done correctly. Therefore, if you have any questions about the use of the Self-Observation Notebook, please contact either Kevin King or John Edgerly at the Student Counseling Center, 974-2196, or at home--King: 577-8437; Edgerly: 693-2669.

EXAMPLE

DAILY RECORD SHEET

PAGE 1 OF 1

Target Behavior: Speaking out in class

Time of Day (A.M. or P.M.) (Begin, End)	Setting Events (People, Things, Places)	Physiological Cues (Sequence of Occurrence) (SUD Rating 10-100)	Self-Verbalizations (Before, During, After)	Outcome (What you did) (What others did) (Rating-- + or -)	Ideal Behavior (What you wanted to do) (What you wanted to say)
2:10 -3:00 PM	108 Clayton, classmates, Dr. Smith-instructor	1. rush of adrenalin - 10 2. sweating forehead - 20 3. rapid breathing - 50 4. tense throat - 70 5. dry mouth - 90 6. face blushes - 100	1. Before - I will sound stupid; people will think I'm a jerk. 2. During - My voice sounds hollow and weak; 3. After - That was awful, people are looking at me; I look and feel uptight	I finally spoke out in class, but I felt and looked uptight Others appeared bored, and uncomfortable with my anxiety	I wanted to speak out in a relaxed, self-confident manner. I wanted to disagree with what the previous student had said because a journal article that I had just read disagreed with her statement.

DAILY RECORD SHEET

PAGE___OF___

Target Behavior:_____

Time of Day (A.M. or P.M.) (Begin, End)	Setting Events (People, Things, Places)	Physiological Cues (Sequence of Occurrence) (SUD Rating 10-100)	Self-Verbalizations (Before, During, After)	Outcome (What you did) (What others did) (Rating-- + or -)	Ideal Behavior (What you wanted to do) (What you wanted to say)

Behavior: _____

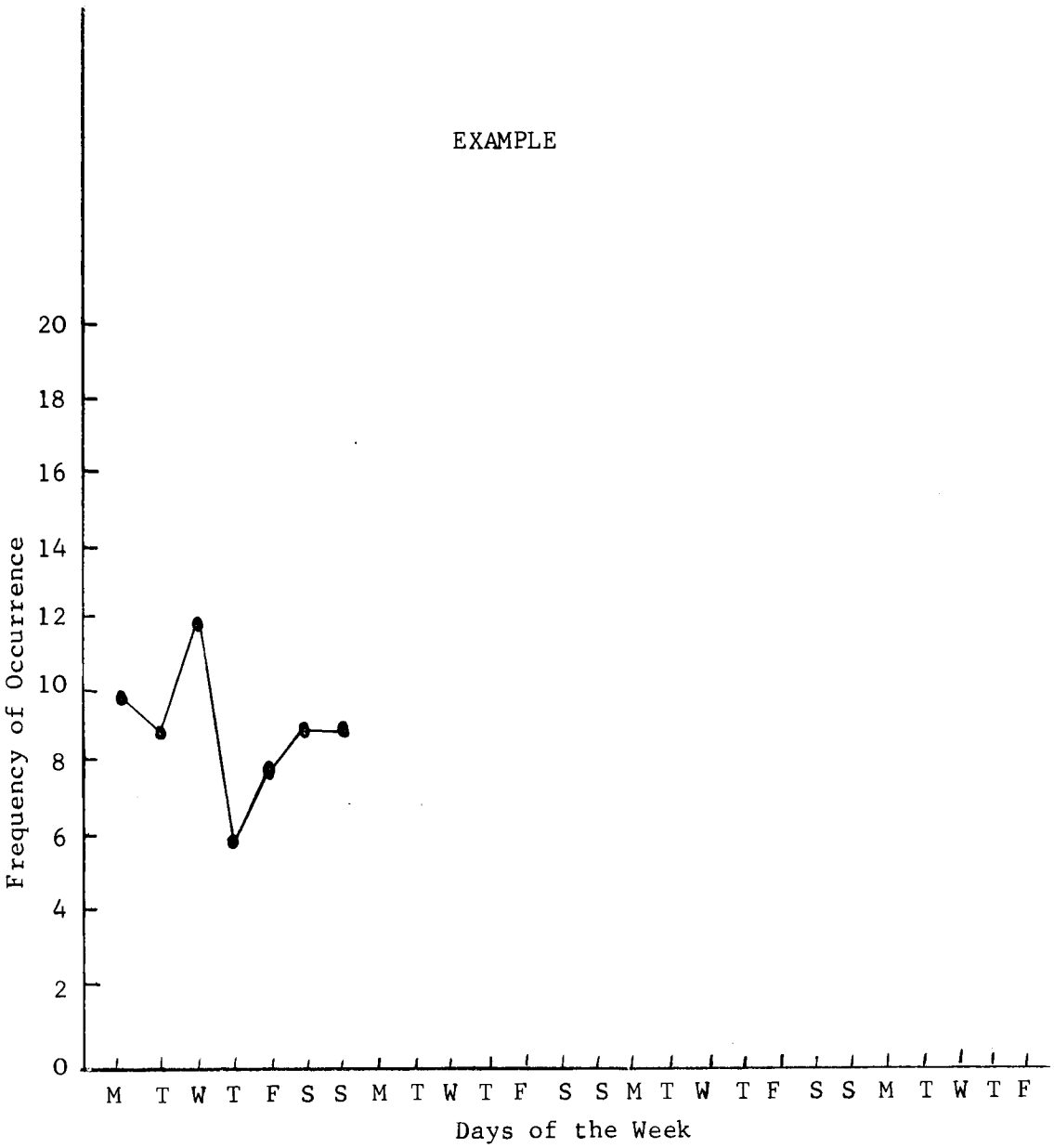

FIGURE 4. Target behavior example graph.

APPENDIX C

SYMPTOM CHECK LIST

NAME _____ Date _____

The following is a list of the ways in which people report that they are emotionally or psychologically experiencing some tensions. While one may not experience all of these signs, it is not uncommon to find several or many of them present when one is tense. Please indicate the extent to which each sign is experienced by you in terms of the three dimensions of FREQUENCY, INTENSITY, and INTERFERENCE. Frequency refers to HOW OFTEN the sign is experienced by you while intensity refers to HOW STRONG the sign is and Interference refers to HOW MUCH the symptom interferes with your activities or behaviors. Base your ratings on emotionally related symptoms and not on situations with known physical cause or other states. Use the following scales as a means of making the ratings.

FREQUENCY

1. never or very infrequently
2. once every two weeks
3. once a week
4. several times a week
5. all of the time

INTENSITY

1. don't notice it
2. weak but aware of it
3. mild
4. intense
5. very intense

INTERFERENCE

1. doesn't interfere
2. interferes
3. interferes somewhat
4. interferes greatly
5. interferes to the point of incapacitation

Circle the appropriate number following each symptom for each scale.

1.	nausea					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
2.	constipation					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5

3.	frequent urination					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
4.	stomach in knots					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
5.	increased sensitivity					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
6.	dizziness					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
7.	chills					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
8.	restlesness					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
9.	irregular eating habits					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
10.	difficulty in sleeping					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
11.	rapid, pounding heart					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
12.	feelings of foreboding					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
13.	muscle tension					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
14.	clammy hands					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
15.	headache					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5

16.	listlessness					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
17.	difficulty in concentration					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
18.	dryness of mouth					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
19.	cold hands					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
20.	extreme changes in skin temperature					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
21.	feeling tired all the time					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
22.	excessive eating					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
23.	stomach cramps					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
24.	trembling					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
25.	forgetfulness					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
26.	diarrhea					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
27.	neck pain					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5

28.	itching					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
29.	irritability					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
30.	weakness in legs					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
31.	rash					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
32.	blushing					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
33.	excessive perspiration					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
34.	chest pain					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
35.	difficulty in swallowing					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
36.	irregular breathing					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
37.	tingling feelings					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
38.	stammering					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
39.	feeling hurried					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5
40.	tightness in throat					
	a. frequency	1	2	3	4	5
	b. intensity	1	2	3	4	5
	c. interference	1	2	3	4	5

APPENDIX D

AN S-R INVENTORY OF ANXIOUSNESS

Mark on the ANSWER SHEET one of the five alternative degrees of reaction or attitude for each of the following 14 items.

1.	Heart beats faster	1	2	3	4	5	
		Not at all				Much faster	
2.	Get an "uneasy feeling"	1	2	3	4	5	
		None				Very strongly	
3.	Emotions disrupt action	1	2	3	4	5	
		Not at all				Very disruptive	
4.	Feel exhilarated and thrilled	1	2	3	4	5	
		Very much				Not at all	
5.	Want to avoid situation	1	2	3	4	5	
		Not at all				Very much	
6.	Perspire	1	2	3	4	5	
		Not at all				Perspire much	
7.	Need to urinate frequently	1	2	3	4	5	
		Not at all				Very frequently	
8.	Enjoy the challenge	1	2	3	4	5	
		Enjoy much				Not at all	
9.	Mouth gets dry	1	2	3	4	5	
		Not at all				Very dry	
10.	Become immobilized	1	2	3	4	5	
		Not at all				Completely	
11.	Get full feeling in stomach	1	2	3	4	5	
		None				Very full	
12.	Seek experiences like this	1	2	3	4	5	
		Very much				Not at all	
13.	Have loose bowels	1	2	3	4	5	
		None				Very much	
14.	Experience nausea	1	2	3	4	5	
		Not at all				Much nausea	

APPENDIX E

COUNSELING/RESEARCH WAIVER

Student Counseling Center
The University of Tennessee
Knoxville, Tennessee

Student's Name:

It has been explained to me that all material relating to my participation in group anxiety management training is strictly confidential, and I hereby give my permission to use such material for research purposes only with the understanding that my name and other identifying information will not appear in written form in any research report.

_____
Signature

_____
Date

_____
Witness

VITA

Kevin W. King was born December 1, 1946, in Stamford, Connecticut. He attended elementary and high school in Stamford, graduating from Stamford Catholic High School in 1964. He then attended Iona College in New Rochelle, New York, and transferred to the University of Connecticut at Storrs, where he received a Bachelor of Arts in History in January, 1969. From February, 1969 to June, 1970, he was a residence area coordinator at the University of Connecticut. In June, 1971, he received a Master of Education in Secondary Counseling from the University of Hartford. He continued his graduate studies at the University of Hartford, receiving a Certificate of Advanced Graduate Study in June, 1972. He is married to the former Evlyn J. McEvoy of Brisbane, Australia. He has been employed by the University of South Carolina as a Counseling Psychologist in the Counseling Bureau, and will begin his duties there August 1, 1974. He will receive his Doctor of Education degree with a major in Educational Psychology and Guidance in August, 1974 from The University of Tennessee.