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ABSTRACT

Anxiety management training (AMT), developed by Suinn and Richardson, is a short-term treatment procedure for alleviating a variety of manifestations of anxiety. It is based on the theory that anxiety or fear responses themselves can become discriminative stimuli and that clients can be conditioned to respond to those stimuli with antagonistic responses of relaxation and feelings of competence which remove the anxiety through reciprocal inhibition. This study investigated the efficacy of three variations of AMT--physiological cues only, physiological cues plus scenes, and scenes only. Subjects were college students who were seeking help for "free-floating" anxiety problems. Questionnaire data were obtained on the Manifest Anxiety Scale (MAS) and the Anxiety Symptom Check List (ASCL). Post-treatment interview data were also obtained. Data were analyzed by separate analysis of variance designs. In addition to comparing AMT groups to each other, data from a waiting list control group and a no-problem, no-treatment control group were obtained and compared to the treatment group data. The results indicated that all three variations of AMT were effective in alleviating "free-floating" anxiety. (Author)

THE USE OF THREE VARIATIONS OF ANXIETY MANAGEMENT TRAINING IN THE TREATMENT OF GENERALIZED ANXIETY[1]

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ABSTRACT

Anxiety management training (AMT), developed by Suinn and Richardson, is a short-term treatment procedure for alleviating a variety of manifestations of anxiety. It is based on the theory that anxiety or fear responses themselves can become discriminative stimuli and that clients can be conditioned to respond to those stimuli with antagonistic responses of relaxation and feelings of competence which remove the anxiety through reciprocal inhibition. Anxiety management training involves the steps of: 1) training in deep muscle relaxation; 2) training in visualizing a pleasant scene, an anxiety scene, and a success scene of each client's own choosing or focusing on the physiological cues associated with each of the situations if scenes are not used; and 3) learning to inhibit feelings of anxiety through the use of a control cue and by switching to feelings of relaxation and feelings of competence. This procedure differs from systematic desensitization in that no hierarchies are necessary and once the technique is learned, clients can use if for coping with future sources of anxiety without the necessity of returning to therapy.

This study investigated the efficacy of three variations of AMT: 1) AMT I, physiological cues only; 2) AMT II, physiological cues plus scenes; and 3) AMT III, scenes only.

Subjects were college students who were seeking help for "free-floating" anxiety problems. The clients were seen in groups for a pretesting and relaxation training session, three treatment sessions, and a posttesting and termination session within a 19-day period of time. Questionnaire data were obtained on the Manifest Anxiety Scale (MAS) and the Anxiety Symptom Check List (ASCL). Post treatment interview data were also obtained.

Data were analyzed by separate analysis of variance designs. In addition to comparing the AMT groups to each other, data from a waiting list control group and a no-problem, no-treatment control group were obtained and compared to the treatment group data. The results indicated that all three variations of AMT were effective in alleviating "free-floating" anxiety.

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The purpose of this paper is to present an evaluation of three variations of a new behavior therapy technique, anxiety management training (AMT), in the treatment of "free-floating" or generalized anxiety. The technique was introduced by Suinn and Richardson (1971), as a response to three areas of deficit associated with desensitization practices. First, it requires a great deal of time to construct anxiety hierarchies for each type of client undergoing treatment. Even with the event of standard hierarchies (Katahn, Strenger & Cherry, 1966; Lazarus, 1961; Paul, 1966; Rachman, 1965; Suinn & Hall, 1970) the therapist must maintain a file of these, and the individual client may therefore be exposed to some items which do not suit his exact problem. The second deficit is the relatively long time required to complete treatment by traditional systematic desensitization. Even the more recent short-term treatment techniques (Suinn, Edie, & Spinelli, 1970; Suinn & Hall, 1970; Wolpin & Pearsall, 1965) continue to rely upon anxiety hierarchies and must contend with constructing and maintaining a file of anxiety hierarchies. A final area of deficiency with current

desensitization practices has been discussed by Cautela (1969). That is, the behavior therapist has not developed techniques to prevent or make the individual less susceptible to future maladaptive behaviors or to provide the client with a means of eliminating such behavior without the need for returning to therapy. As noted by Suinn and Richardson, AMT is the first step in attempting to correct the above deficits in behavior therapy.

Anxiety management training is a two-step process which involves: 1) the use of scenes or physiological cues to arouse anxiety; and 2) teaching the client to use competing responses such as relaxation or feelings of competency to inhibit anxiety responses. Clients are not trained to visualize anxiety hierarchy items but, rather, are asked to arouse anxiety by visualizing a past anxiety situation, by focusing on physiological cues which accompany feeling anxious, or a combination of the two.

The AMT technique is based on the theory that fear or anxiety responses themselves are discriminative stimuli and, through a conditioning process, can become conditioned stimuli for relaxation or feelings of competence. Through the process of reciprocal inhibition the anxiety evoking stimuli themselves become inhibitors of further anxiety responses. A review of the literature from motivational theorists which supports this theoretical position can be found in Suinn and

Richardson (1971). Of note are the works of Brown (1961), Dollard and Miller (1950) and Howrer (1950) which view fear as an acquired drive or as possessing stimulus qualities.

Method

Subjects. The subjects in this study were university students from two state schools who were seeking treatment for "free-floating" anxiety (N = 40) and a control group composed of students participating as volunteers from an introductory psychology course (N = 20). All treatment Ss were seen for a brief 20-30 minute intake interview to determine that AMT was appropriate for their problem. No S was accepted for therapy if his problem was other than "free-floating" anxiety. In this case, the term "free-floating" anxiety is used to mean anxiety for which the client is unable to identify explicit stimulus conditions, anxiety that is triggered off by a wide variety of vague unrelated stimulus situations, or anxiety that may be triggered off by internal stimulus conditions which the client is unaware. The 40 treatment Ss were assigned to three AMT treatment conditions and a waiting list control group. The resulting research design included three AMT treatment groups of 10 Ss each, a waiting list control group of 10 anxious Ss, and a no-problem, no-treatment control group made up of 20 non-anxious Ss.

Treatment. Three variations of AMT were used to treat Ss in this study. The treatment program for all Ss consisted of two sessions per week for a total of five sessions across a 19-day period of time. The first session was two hours long and was used to train Ss in the deep muscle relaxation technique (Jacobsen, 1938). The relaxation instructions were those presented by Wolpe and Lazarus (1966). The second, third and fourth sessions were treatment sessions and were approximately one and one-half hours long. The final session was a two-hour session used for posttesting and to provide clients an opportunity to exchange ideas with one another. During treatment, Ss in all three AMT variations underwent anxiety induction and the anxiety control procedure the same number of times (three times per treatment session) in order to hold the practice dimension of treatment constant for comparative purposes. The three variations of AMT were as follows:

AMT I, physiological cues only. Subjects receiving this form of treatment were first relaxed then underwent anxiety induction by focusing on the physiological cues each associated with anxiety while the therapist described the physical sensations. Examples of the physiological cues were heart starting to pound, shallow and irregular breathing, jittery stomach, muscle tension, and dry mouth. The anxiety induction segment lasted two to three minutes and was terminated by

the use of an anxiety control cue and switching back to relaxation. The anxiety control cue used in all three AMT variations consisted of taking a deep breath, holding it a moment, and breathing out slowly. The use of the control cue served a dual purpose. It breaks up some of the autonomic processes associated with anxiety and, with repeated trials, becomes a conditioned stimulus for relaxation. The actual use of an anxiety control procedure under the control of the client has the advantage of providing clients with a means of inhibiting their own anxiety outside of the therapy setting. Following the first anxiety induction and control procedure of each treatment session Ss were awakened and interviewed briefly to determine if they could experience the physical symptoms of anxiety and if they could become relaxed again following the anxiety control cue. The three treatment sessions were essentially the same with Ss being relaxed and being presented the sequence of anxiety induction and anxiety control three times. More emphasis was placed on Ss' ability to control their own anxiety with each session and at the end of the second treatment Ss were encouraged to try to identify their anxiety at lower levels and to make use of the anxiety control procedure in their daily lives. Subjects were also urged to continue practicing the deep muscle relaxation on their own and to continue using it after treatment.

AMT II, physiological cues plus scenes. This AMT treatment was similar to AMT I. In addition to the focus on physiological aspects of anxiety, Ss were trained to visualize a pleasant scene which was paired with the relaxation segments of treatment, an anxiety scene which was visualized during anxiety induction, and a success or competency scene which was visualized after the control cue was presented and Ss were switching back to relaxation. The scenes were of each S's own choosing. The format of AMT II was the same as that of AMT I.

AMT III, scenes only. In the AMT III procedure the descriptions of physiological symptoms of anxiety were eliminated and Ss visualized the pleasant scene, the anxiety scene, and the success or competency scene along with relaxation, anxiety induction, and anxiety control respectively. Otherwise, the AMT III procedure was basically the same as that of AMT I and II. During the interview segments of AMT II and III Ss were also interviewed to determine whether each was able to visualize appropriate scenes.

Suinn and Richardson's (1971) AMT techniques was the model for AMT II. The main changes in the original technique were the elimination of all automated aspects of treatment, lengthening treatment from three to five sessions, and the introduction of the anxiety control cue. The AMT condition using physiological cues only (AMT I) was included based on

the reasoning that if autonomic responses can become conditioned stimuli for other responses (Miller, 1955; Suinn & Richardson, 1971; Wynne & Solomon, 1955) then using physiological cues as discriminative stimuli to inhibit anxiety should be as effective in inhibiting anxiety as counter-conditioning to visual imagery. The AMT condition using scenes only (AMT III) was included as an analogue to desensitization. Visualizing anxiety situations while in a relaxed state is sufficient for reciprocal inhibition of anxiety responses in the desensitization model of treatment. The scenes only condition was included to determine if it would also be effective in the AMT model of treatment.

Measures. The instruments used to assess Ss' anxiety level were the Taylor Manifest Anxiety Scale (MAS) and the Anxiety Symptom Check List (ASCL). The MAS is made up of 50 MMPI items in a True-False format. The 50 statements are open admissions of anxiety usually with a physical manifestation of it such as headaches, nausea, or loss of sleep as examples. In this study only the 50 scorable items were administered and the usual 175 distractor items were dropped. The MAS in this form was also administered to a normative sample of 72 Ss attending Colorado State University. Subjects were retested two weeks later. The mean score for the first testing was 17.53 with a standard deviation of 8.08. At the second testing the mean was 16.36 with a standard

deviation of 8.84, resulting in a decrease of 1.17 points. The test-retest reliability coefficient was .88.

The ASCL is made up of 40 frequently reported symptoms of anxiety such as "stomach in knots", "muscle tension", "feelings of foreboding", and "feeling hurried". Subjects are asked to rate each symptom on three five-point scales: Frequency, Intensity, and Interference. Frequency refers to how often the symptom is experienced and ranges from one (never or very infrequently) to five (all the time). Intensity refers to how strongly the symptom is experienced and ranges from one (don't notice it) to five (very intense). Interference refers to how much the symptom interferes with the S's activities and ranges from one (doesn't interfere) to five (interferes to the point of incapacitation). The ASCL is scored by summing each item score for each of the three subscales. A total score can also be obtained. The subscale scores can range from 40 to 200 resulting in the total score range of 120 to 600 points. The test-retest reliability study (N = 72) of total scores was conducted. At the first testing the mean was 216.11 with a standard deviation of 51.33. Two weeks later at the second testing the mean was 191.13 with a standard deviation of 53.24. The test-retest reliability coefficient was .85. The mean decrease was 24.98 points.

Results

The results were evaluated by analysis of variance

designs. The three AMT groups were compared to the waiting list control group and the no-problem, no-treatment control group at pretesting and again following treatment. Means, standard deviations, and differences between means for all groups are summarized in Table 1.

Prior to receiving treatment the AMT groups were not significantly different from the waiting list control group on the MAS and ASCL (MAS: AMT I, $F = .0398$; AMT II, $F = .0110$; AMT III, $F = .0514$; ASCL: AMT I, $F = .2306$; AMT II, $F = 1.4118$; AMT III, $F = .4584$). Also at pretesting the AMT groups were significantly higher than the no-problem, no-treatment control group on the MAS and ASCL (MAS: AMT I, $F = 25.1679$; AMT II, $F = 12.8184$; AMT III, $F = 10.7519$; ASCL: AMT I, $F = 24.2265$; AMT II, $F = 22.1438$; AMT III, $F = 19.6115$). The F values were significant at the .001 level except for the MAS for AMT III which was significant at the .01 level.

Following treatment the three AMT groups were not significantly different from the non-anxious no-problem, no-treatment control group on the MAS (AMT I: $F = 2.4454$; AMT II: $F = 1.5444$; AMT III: $F = 2.8959$). The post treatment results on the ASCL were unexpected. Even though the mean scores decreased a great deal, the three AMT groups were still significantly higher than the no-problem, no-treatment control group (AMT I: $F = 10.8305$, $p < .01$; AMT II: $F = 4.7392$, $p < .05$; AMT III: $F = 5.2245$, $p < .05$). Further

analysis of the subscale scores revealed that only the AMT II treatment procedure resulted in any significant reductions on the ASCL. The Frequency and Intensity subscales decreased significantly ($p < .05$) while the Interference subscale approached but did not reach significance at the .05 level.

The three AMT groups were compared to each other at pretesting and again at posttesting on the MAS and ASCL. There were no significant differences between the groups indicating that the effects of the three variations of AMT were similar on the MAS and ASCL total scores.

Discussion

The data offer support for the effectiveness of all three variations of AMT on reducing "free-floating" anxiety, as measured by the MAS, to a level similar to that reported by non-anxious Ss. The substantial but non-significant reductions in ASCL total scores bear further scrutiny. By examining the ASCL subscales it becomes clear that only AMT II, the combination of physiological cues and scenes, resulted in statistically significant reductions in anxiety on two of the three subscales, Frequency and Intensity. However, the same two subscales approached statistical significance in the AMT I and II treatment groups. It seems likely that these results mean that AMT has some substantial effect in reducing the number of times clients experience anxiety and the intensity of it when it does occur; but that when anxiety occurs it

continues to interfere with clients' activities as much as before treatment. The reasons why AMT II is more effective in reducing Ss' physical manifestations of anxiety are not directly explicable but the results do suggest that AMT II may be the best of the three procedures. The AMT II procedure also has the advantage of using physiological cues to inhibit anxiety for those clients who cannot visualize clearly and, conversely, uses visual imagery to inhibit anxiety for those clients who tend to deny or be unaware of physical manifestations of anxiety.

Some very limited follow-up data on 13 Ss in this study were obtained. The follow-up consisted of a brief 10 to 15 minute interview conducted at a median of two weeks following the completion of treatment. Subjects were asked to respond to how things had gone after treatment and were encouraged to give behavioral report data. Two Ss stated that they did not feel any different and four Ss said that they no longer felt anxious but attributed that to not being in any anxiety provoking situations. The remaining seven Ss felt that they could use the anxiety control in many situations and that it was becoming more effective the more it was used. Four Ss mentioned that they felt more socially secure and attributed the feeling to the loss of their previous fear that they might lose control of their anxiety at any moment. To these Ss the experience of control over a previously uncontrollable response was an extremely rewarding event. By the termination

sessions some Ss were less inhibited about expressing feelings and revealing more of a personal nature about themselves. It seems plausible that the use of AMT to reduce anxiety may prove to be a useful adjunct to insight-oriented therapy and could lead to relevant expression and self-understanding more quickly than the current approach of allowing the client to progress slowly on the work of therapy.

Cautions should be taken in the application of AMT until further research is completed. The use of a technique of deliberately inducing high levels of anxiety in clients in order to teach the control cue and to countercondition the anxiety is a risky procedure. A limited number of Ss in this present study actually experienced fairly severe anxiety attacks during anxiety induction. However, those same clients were able to control their anxiety and switch back to relaxation without further difficulty. Nevertheless, therapists should be well trained in the use of the AMT technique and be able to judge when to terminate the anxiety induction without pushing clients too hard.

Even though the AMT technique appears to hold promise for the treatment of "free-floating" anxiety, additional research is needed and more extensive follow-up data should be gathered. An area of theoretical research might include studies designed to determine whether the effects of treatment are attributable to counterconditioning, experimental extinction,

reactive inhibition, aspects of instrumental conditioning or other principles of learning. If the studies in this area by Davidson (1968), Lomont (1965), and Nawas, Mealiea, and Fishman (1971) can be taken as indicators of the interest in theoretical learning issues, AMT offers a good testing ground to resolve some of the theoretical issues. It seems likely that AMT may be a complex process made up of a number of learning principles being applied at the same time. The process of asking Ss to experience high levels of anxiety and to switch if off only when the therapist requests may involve fatiguing the response as well as experimental extinction. The pairing of physiological cues for anxiety with anxiety reduction involves counterconditioning. Finally, the use of the anxiety control cue in extra-therapy situations may involve instrumental conditioning as well as counterconditioning.

FOOTNOTE

[1]The data presented in this paper are a part of the author's doctoral dissertation submitted to the Psychology Department, Colorado State University, Fort Collins, Colorado 80521.

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Table 1

Means, standard deviations, and differences between means for the three variations of AMT and the two control procedures: the waiting list control group and the no-problem, no-treatment control group.

Group	Scales	Pre		Post		Differences between means
		Mean	S.D.	Mean	S.D.	
AMT I (N = 10)	MAS	32.20	7.39	23.30	7.78	- 8.90
	ASCL	291.00	68.84	250.50	62.65	-40.50
AMT II (N = 10)	MAS	31.00	6.25	23.70	10.25	- 7.30
	ASCL	285.20	65.84	225.10	46.48	-60.10
AMT III (N = 10)	MAS	30.50	7.18	23.30	5.91	- 7.20
	ASCL	273.40	56.91	231.60	59.90	-41.80
Waiting List Control (N = 10)	MAS	31.40	10.30	33.20	9.73	+ 1.80
	ASCL	296.00	88.89	291.60	98.04	- 4.40
No-problem, no-treatment Control (N = 20)	MAS	20.95	7.67	18.90	7.01	- 2.05
	ASCL	201.15	32.88	192.10	35.13	- 9.05