

THE RELATIVE EFFICACY OF COPING SKILLS TRAINING  
AND GROUP DISCUSSION AS STRESS MANAGEMENT TECHNIQUES FOR  
FORENSIC PSYCHIATRIC PATIENTS,

by

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## Introduction

Coping with the stress of incarceration is a significant problem for prison inmates, jailed offenders, and patients involuntarily confined in security units of mental health facilities. Patients in forensic services of state mental institutions suffer from particular difficulties. These patients have previously demonstrated inappropriate coping with the demands of life, viewed from both a mental health and judicial perspective and are then exposed to many of the stressors inherent in living in prison (Toch, 1977).

This population includes persons charged with illegal acts whose "mental competency" is suspect, inmates who have failed to adjust to incarceration in correctional institutions, and those who have been adjudicated "not guilty by reason of insanity" after being tried for felonious acts. Most patients have a documented history of behavioral difficulties, including prior arrests as well as previous contacts with mental health agencies. In such settings reside mentally ill persons of various types who often receive little treatment beyond chemotherapy due to a seemingly endless parade of ethical, practical, legal, and security considerations facing staff. These patients' unique legal situations, their often inappropriate coping styles, their psychiatric conditions, and their involuntary confinement place them in a climate seemingly designed to elicit and maintain stress reactions.

The adverse effect of living in such a stressful environment upon this population of patients may include exacerbated psychiatric symptoms, additional legal problems due to inappropriate behavior, stress

related physical illnesses, and direct bodily injury inflicted by themselves or others. Frequent complaints of anger, anxiety, depression, frustration, and pain suggest the stressful nature of the setting. Indeed, psychological stress has been defined as the imbalance between situational demands and the coping capabilities of persons exposed to them (Novaco, 1979). Hokanson, Megargee, O'Hagan, and Perry (1976) reported that incarcerated men tend to exhibit a stress reaction pattern described as "anxious, acquiescent, self-demeaning, and depressive-like." Such a pattern serves to maintain stress reactions in response to interpersonal stress rather than reflect use of appropriate coping skills. The potential for permanent negative consequences for those institutionalized in such settings clearly indicates the need for provision of effective treatment methods to help patients better manage the stress of their confinement.

Fortunately, most patients in a forensic service are confined for relatively short periods of time as in the case of those undergoing pretrial "mental competency" examinations. A small chronic population remains there for years. A significant minority are held for a moderate amount of time, receive treatment, and are released from the forensic service. Those confined for at least a moderate amount of time may be candidates for psychotherapeutic treatments along with chemotherapy and exposure to the hospital milieu. Traditional treatment methods such as occupational therapy, recreational therapy, various group treatments as well as individual interventions are often offered. However, these approaches are most effective when provided on a consistent



basis and often months of treatment must be carried out before positive change is expected to occur. The delivery of such long-term treatment is frequently compromised in forensic service settings due to security concerns, limitations of professional time allotted for treatment, abrupt changes in patients' legal status, and unpredictable lengths of their hospitalizations. Further, such treatments are not usually focused on current specific patient concerns, such as stress management.

One set of techniques which might be appropriate for helping involuntarily confined patients better manage stress is coping skills training. Coping skills training refers to a group of techniques which focus on helping patients "to develop a repertoire of skills that will facilitate adaptation to a variety of stress situations" (Mahoney & Arnkoff, 1978). This set of techniques includes directive, focused, procedures that patients may learn to employ themselves. An additional advantage is that they may be delivered in a relatively short amount of time. These features suggest that coping skills training may be useful in a forensic service setting as an intervention aimed at helping patients better manage stress.

Coping skills training refers to a heterogeneous group of techniques which may include elements of cognitive restructuring therapies (Beck, 1976; Ellis, 1962; Meichenbaum, 1977), relaxation training (Bernstein & Borkovec, 1973; Jacobson, 1938), and combinations of these two general treatment approaches. Delivery of coping skills training programs is carried out in a problem solving context and may employ different specific formats which use imagery, role playing, or other

procedures to allow patients to experience and cope with stress during treatment sessions. Relaxation training is regarded as a self-control technique which results in a decrease in physiological arousal and subjective reports of anxiety (Paul, 1969). Cognitive restructuring therapies employ a major procedural technique termed self-statement modification whereby patients are taught to alter thoughts or self-statements which may be related to the provocation of feelings of anxiety, anger, or depression.

Different coping skills training treatment programs have been reported under various labels. Examples include anxiety management training (Suinn & Richardson, 1971), applied relaxation training (Goldfried & Trier, 1974; Zeisset, 1968), cue-controlled relaxation (Russell & Sipich, 1973), systematic rational restructuring (Goldfried, Decenteceo, & Wineberg, 1974), stress inoculation (Meichenbaum, 1977), and anger control (Novaco, 1975). Inspection of the procedures employed in these various programs reveals that each includes relaxation training, or self-statement modification, or some combination of these two procedures as major treatment components. The following outcome studies suggest the usefulness of these procedures in treatment programs aimed at helping people better manage stressful situations.

#### Relaxation Training

Relaxation training involves teaching patients to deeply relax themselves by attending to proprioceptive feedback from muscle groups (Jacobson, 1938). As a coping skill, relaxation training is presented to patients as a self-control procedure which will help them better

cope with anxiety. There are several variations of relaxation training, all of which have been reported to be effective in decreasing anxiety in stressful situations.

Sherman and Plummer (1973) assessed the specific and general effects of applied relaxation training in "well functioning" college students. The study compared the effectiveness of applied relaxation to no treatment as measured by several anxiety scales and subjects' self-reports about their actual use of relaxation as a self-control skill. Subjects received 9-12 individual treatment sessions. Relaxation training consisted of five stages. The first two stages involved the "tension release" method described by Jacobson (1938) where the subjects alternately tensed and relaxed muscle groups as they were instructed by the therapist. By this means, they learned to discriminate feelings of tension and relaxation. Stage three used an induction procedure whereby subjects relaxed themselves without first tensing their muscles. Stage four involved adding calming imagery, deep breathing, and counting breaths to the relaxation induction as "deepening techniques." Stage five involved training in "differential relaxation" (Davison, Note 1) which involved having the subjects relax all muscles not essential for carrying out any particular motor task.

Subjects who received applied relaxation training improved more on subjective ratings of anxiety than did control subjects. After treatment, subjects who had received relaxation training reported many instances where they felt they had used relaxation to help them cope with stressful situations. Results of this experiment suggest that applied

relaxation may be a useful technique to help well functioning people control tension and dysphoric emotions during stressful situations.

Additional support for the use of applied relaxation as a coping skill was reported by Snyder and Deffenbacher (1977). Text anxious college students were assigned to groups receiving either systematic desensitization, applied relaxation training, or no treatment. Both desensitization and relaxation training were presented in a group setting, seven subjects per group, with the groups meeting six times within a 3 week period. Relaxation training was presented as a coping skill in four stages. Stage 1 involved instructing subjects to become aware of personal cues associated with anxiety. Training in deep muscle relaxation was Stage 2 in the process. Stage 3 involved introduction to "deepening techniques" and practice in their use. Stage 4 involved practice at reducing tension under simulated testing conditions.

Results indicated that group relaxation training presented as an active coping skill was as effective as group desensitization in reducing test anxiety. Both treatments resulted in greater improvement than did no treatment. Thus, this study suggested that applied relaxation could be as effective as a modified desensitization procedure, an effective behavioral treatment, in decreasing both a targeted anxiety related difficulty and levels of generalized anxiety or anxiety not related to test taking.

The importance of presenting relaxation within a coping skills context was demonstrated in an experiment reported by Goldfried and Trier (1974). In that experiment, speech anxious college students received

relaxation training presented in one of two different formats or a discussion placebo treatment. In one relaxation condition, subjects were told that practicing relaxation techniques would more or less automatically decrease anxiety levels. In the other relaxation training condition, subjects were taught relaxation as an active skill to cope with stress. In the latter condition, subjects were instructed to use relaxation induction whenever they felt themselves becoming tense. Thus, they were given direct instructions about when to use the relaxation skills which they learned. In comparison to the placebo discussion condition, subjects receiving relaxation training presented within a coping skills context showed significantly more reduction in both measures of public speaking and generalized anxiety. Results of this experiment highlight the importance of instructing patients receiving relaxation training both how and when to use their relaxation skills.

Taken together, the results of the above experiments suggest that relaxation training presented within a coping skills context is a viable treatment for test and speech anxiety. However, controlled research assessing the effectiveness of this technique with more complex clinical problems is sparse. The following early report suggests the usefulness of applied relaxation training as a stress management technique for psychiatric patients.

Ziesset (1968) compared the effectiveness of applied relaxation training to systematic desensitization, employing attention, and no treatment controls aimed at decreasing anxiety of psychiatric patients during interviews. Grossly psychotic patients were excluded from the

experiment. The relaxation training was presented within a coping skills context. Both the "tension release" induction and induction without first tensing the muscles were used during training. Subjects were encouraged to use relaxation techniques in everyday stressful situations. Systematic desensitization was an abbreviated form of Wolpe's (1958) procedure. Results indicated that applied relaxation training was as effective as systematic desensitization in reducing anxiety during interviews as measured by both observer ratings and subjective ratings by subjects. Subjects in both applied relaxation and systematic desensitization treatment conditions improved more than subjects in both control groups. The groups did not differ on ratings of ward behavior as a function of experimental group assignment. The results of this experiment strongly suggest that relaxation training delivered in a coping skills context may be used as a stress management technique for disturbed psychiatric patients.

Treatment evaluation research using correctional populations is virtually non-existent. This void in regard to efforts at teaching incarcerated people coping skills is especially disappointing given the stress of imprisonment and the often maladaptive coping strategies used by inmates in correctional institutions (Reppucci & Clingempeel, 1978).

Recently, one study has appeared examining the use of relaxation training in a federal penitentiary setting. Toler (1978) investigated the effectiveness of relaxation training, both with and without stimulus control instructions, as compared to no treatment in the treatment of insomnia among incarcerated adult males. The two experimental groups

differed in that the relaxation plus stimulus control group received instructions designed to bring sleeping under the stimulus control of the inmates' sleeping area, while the relaxation only group received no such instructions. The stimulus control instructions involved directions for subjects to use their beds only when sleepy and not as a place for reading, writing, or worrying. Subjects in both treated groups received applied relaxation training delivered in a group setting. The groups met for 5, 2-hour sessions within a 2 week period. Training in relaxation involved an abbreviated form of progressive relaxation (Jacobson, 1938). All treated subjects were instructed to practice the procedure twice daily, once in the morning and once just before going to sleep. Results indicated that in comparison to the control group, subjects in both treated groups decreased their latency to fall asleep. The relaxation plus stimulus control group reported significantly fewer nightly awakenings than did the control group. Additionally, both treated groups showed a significant decrease in state anxiety at the post-treatment assessment. These gains, however, were not maintained at a 3 month follow-up.

The results of this experiment may be interpreted as indicating that relaxation training was an effective technique for anxiety reduction in the short term. Further, the data suggest that relaxation training augmented by stimulus control instructions enhanced the effectiveness of the relaxation training as a treatment for insomnia. The stimulus control instructions may have been another demonstration that it is very important to give instructions about when, or under what

stimulus conditions, to use relaxation skills, a notion reflected in the report of Goldfried and Trier (1974) noted above. The limited long term effectiveness of this use of relaxation training may have been due to a variety of factors as other reports have demonstrated more positive results (Kahn, Baker, & Weiss, 1968; Nicassio & Bootzin, 1974). One explanation might involve the potentially highly stressful prison environment in which the subjects lived. This climate may have made it more difficult to achieve deep muscle relaxation for the subjects. Alternately, the authors reported that the subjects, as a group, exhibited a "high degree" of psychopathology as measured by MMPI profiles. Thus, subjects may not have complied as well with experimental instructions as the subjects in other experimental reports. Despite the limited success reported in this experiment, these results suggest that relaxation training is a potentially effective treatment for anxiety and insomnia even when presented to psychologically disordered offenders living in a non-treatment oriented captivity situation. Thus, further investigation of the use of applied relaxation training with difficult patients in difficult settings is warranted.

In summary, relaxation training presented as an active coping skill has been shown to be an effective stress reduction technique among relatively intact individuals facing relatively mild stress situations. The efficacy of its use among more severely disordered populations has received less support. Further investigation must illuminate means of using relaxation techniques in treatment efforts aimed at involving such populations.



### Self-Statement Modification

Recently, behavior therapists have given considerable attention to cognitive variables in behavior change programs (Bandura, 1969, 1977). Much of the interest in coping skills training based on altering cognitive variables related to the generation and maintenance of unpleasant emotions has focused on two related cognitive processes. One process involves the relabeling of the nature and personal significance of problem situations, and the other concerns the modification of thoughts or self-statement which may elicit dysphoric emotions (Ellis, 1962; Meichenbaum, 1977; Novaco, 1975). The rationale for such approaches is that differential cognitive evaluation or labeling of situations in part determines personal emotional reactions to them. Thus, the basic notion involved is that the modification of thoughts may be a tool to control emotional arousal. This idea is hardly new, but scientific examination of this process in behavior change endeavors is a relatively recent focus of attention for behavioral scientists.

In consideration of clinical applications of self-statement modification, Albert Ellis was a pioneer formally introducing rational emotive therapy in Reason and Emotion in Psychotherapy (1962). More recently, many of Ellis' techniques have been incorporated into the rapidly expanding field of cognitive behavior modification (Beck, 1976; Meichenbaum, 1977). According to Ellis (1962), human emotional reactions are determined to a large degree by an individual's beliefs and expectations in regard to personally significant situations they encounter. Further, people are hypothesized to hold certain irrational

or self-defeating beliefs which mediate the generation of emotionally disturbing thoughts or self-statement. Examples of such irrational beliefs include:

1. That it is a dire necessity for an adult to be loved by everybody for everything h/she does.
2. That it is horrible when things are not the way one would like them to be.
3. That one has virtually no control over one's emotions and that one cannot help feeling certain things.

Positive change is hypothesized to occur by teaching patients to become aware of their emotionally disturbing thoughts, to recognize that such thoughts are related to irrational beliefs, and then to substitute more rational thoughts in the place of emotionally disturbing ones. The relationship between disturbing thoughts and irrational beliefs is proposed by the therapist who then attacks such beliefs in an attempt to change them. The final goal in rational emotive therapy is to persuade the patient to abandon self-defeating beliefs which he may hold and to replace them with more realistic alternative beliefs. By this means, the frequency of self-disturbing thoughts is decreased, and the patient has learned a coping skill by which h/she may deal more effectively with future stressful situations. It should be noted that in the actual practice of rational emotive therapy, behavioral homework assignments are also given to patients experiencing particular difficulties. Thus, rational emotive therapy does not consist totally of self-statement modification.

Newer cognitively oriented coping skills training approaches tend to focus more upon self-statement modification than on attempted alteration of hypothesized irrational beliefs. There is now a small body of outcome research which gives empirical support to the use of coping skills training programs which employ self-statement modification as a major component of treatment. In most instances, self-statement modification was presented within the framework of rational emotive therapy.

In an early attempt to assess the effectiveness of cognitively oriented coping skills training, Karst and Trexler (1970) examined the usefulness of brief rational emotive therapy and "fixed role" therapy for the reduction of public speaking anxiety, as compared to a waiting list control. All treated subjects met for three group sessions, a few days apart. Subjects receiving brief rational emotive therapy were introduced to the rationale underlying rational emotive therapy, were given homework assignments which provided practice in self-statement modification, and were challenged by the experiments in regard to reported irrational beliefs. Subjects receiving "fixed role" therapy were given the rationale that increased ease at public speaking could be achieved by construing the speaking situation in different ways. Specifically, subjects discussed various roles that could be taken when speaking in public with various roles being inferred from observing the behavior of other speakers. Subjects were instructed to sample several "roles" that appeared to be more adaptive than the ones they felt they had adopted. Finally, subjects in this condition practiced speaking while carrying out more adaptive roles which they had found personally

useful. Basically, this treatment involved modeling of unanxious speakers' behavior as well as covert modeling of the model's inferred "thoughts and feelings." The waiting list control group received no treatment. Results indicated that both experimental treatments resulted in significantly more improvement on subjective ratings of anxiety than was shown by the control group. On the other hand, observer ratings of subject's public speaking behavior showed no significant improvements among any of the three groups in regard to performance. While the results of this experiment can be explained in terms of demand characteristics or non-specific effects of treatment, this study was of interest as it was an early attempt to assess the effectiveness of cognitively oriented coping skills training, in a controlled manner, focusing on measurable target symptoms. Thus, this study utilizing experimental methodology was clearly an advance over case study reports attesting the effectiveness of cognitively based treatments.

In a more carefully designed study, aimed at the reduction of speech anxiety, Trexler and Karst (1972) compared the effectiveness of brief rational emotive therapy with attention placebo and no treatment controls. Brief rational emotive therapy was delivered in a similar manner described above by Karst and Trexler (1970). The attention placebo group received relaxation training which was not presented as an active coping skill. Results were mixed, generally suggesting that brief rational emotive therapy resulted in greater subjective improvement than did relaxation training or no treatment. However, again, behavioral observations of anxiety during speeches revealed no differences

among the groups. Results of these two experiments reflected improved methodology and added empirical support to the effectiveness of brief rational emotive therapy as a coping skill. The authors concluded their discussion with the suggestion that greater positive effects might be achieved by combining rational emotive therapy with "other proven behavioral methods."

Much greater support for the efficacy of coping skills training based on a rational emotive therapy was reported in a well designed study reported by Meichenbaum, Gilmore, and Fedoravicius (1971). In this experiment, involving the modification of speech anxiety, the effectiveness of rational emotive therapy, systematic desensitization, a combined desensitization and rational emotive therapy treatment package, and an attention placebo treatment were compared with no treatment. Therapy was carried out by two experienced clinical psychologists in eight group treatment sessions. The rational emotive therapy focused on changing self-defeating thoughts or self-statements reported by subjects when thinking about various anxiety provoking interpersonal situations including speech making. Thus, self-statement modification was the main focus of treatment. Group desensitization followed the general procedures of Wolpe (1958). The combined treatment condition utilized both desensitization and self-statement modification, but more group time was spent conducting the desensitization component. Subjects in the attention placebo group discussed neutral subjects after being given the rationale that their speech anxiety could be "unlearned

by speaking in the group." Subjects in the waiting list control group received no treatment.

Results of this experiment were clear-cut. Subjects in both the rational emotive therapy based group and the systematic desensitization group improved significantly more on both behavioral and subjective measures of speech anxiety than did subjects in the control groups. The combined treatment was somewhat less effective than either the rational emotive therapy or systematic desensitization treatments. Interestingly, the results suggested that subjects who reported more generalized anxieties before treatment tended to improve more if they received the rational emotive based treatment. These results have reflected the possibility that subjects receiving such treatment had learned a coping skill that was applicable to many different stressful situations. Further, results indicated that subjects who had received the rational emotive therapy based treatment reported reduced anxiety in other areas besides speech anxiety. This experiment, using sound methodology, yielded results that indicated that rational emotive therapy, employing self-statement modification as its principle treatment procedure, could be as effective as systematic desensitization, a proven behavioral treatment for anxiety based disorders.

Further empirical support for the effectiveness of self-statement modification as a coping skill was preported by Holroyd (1976) in an experiment focused on the treatment of test anxiety. In this experiment, the effectiveness of self-statment modification, systematic desensitization, and combined self-statement modification and

desensitization were compared to attention placebo and waiting list controls. Results indicated that on the basis of both performance and reported anxiety in a mock testing situation, as well as grade point average, subjects receiving self-statement modification training showed more improvement than the other groups. The failure for subjects who received the combined treatment to improve most, a result also reported by Meichenbaum et al. (1971) may have been due to insufficient time available to implement full delivery of either of the two procedures. This finding suggests that whatever particular coping skills training techniques are used, they should be delivered in a way that allows subjects to fully understand and practice the presented procedures.

In summary, self-statement modification delivered within the context of rational emotive therapy has been reported to be an effective technique for helping individuals to better manage stressful situations. However, as suggested by Goldfried (1977), both applied relaxation and self-statement modification may be differentially effective coping techniques relative to the particular difficulty facing the patient. Certainly, all stressors encountered are not the same in regard to their complexity, duration, or optimal solution. Thus, both strategies, used in combination with each other, may offer the greatest potential for helping different people manage the varied stressful situations with which they must cope. This idea has received experimental attention via outcome studies involving multi-component treatment packages which utilized both relaxation training and self-statement modification as major components.

Combinations of Relaxation Training  
and Self-Statement Modification

In an experiment focusing on test anxiety, Meichenbaum (1972) compared the effectiveness of a combined relaxation and self-statement modification treatment package with group desensitization, using a waiting list control group. Subjects receiving the combined treatment learned relaxation techniques, were presented with principles of self-statement modification given within a rational emotive therapy context, and then participated in imaginal coping with test taking. During the imaginal coping portion of this treatment, subjects practiced using both relaxation and self-statement modification to cope with imagined test taking induced anxiety. Systematic desensitization was a modification of Wolpe's (1958) procedure. Treatment was delivered in 8, 1-hour, weekly sessions. Both treated groups improved more than the waiting list control group as measured by objective ratings of test anxiety, reports of subjective anxiety, as well as improvements in grade point average. Results suggested superior effectiveness for the combined self-statement modification and relaxation treatment. Thus, this study gave empirical support to the contention that a treatment approach combining relaxation training with self-statement modification could be more effective than systematic desensitization alone in helping patients cope with stressful situations. Results of this experiment were consistent with those reported by Fremouw and Zitter (1978) who demonstrated that a combination of applied relaxation and self-statement modification was as effective as skills training consisting



of modeling, behavioral rehearsal, and videotape feedback in the reduction of speech anxiety. Both of the above treatments were superior to a discussion placebo treatment.

Meichenbaum (1977) has described a basic framework for the integration of self-statement modification and relaxation training which he termed stress inoculation. This procedure involves three phases: an educational phase, a training phase, and an application phase. The education phase involves providing patients with a conceptual framework with which to understand their personal reactions to stressful situations. The delivery of this phase is regarded as giving the patient a plausible explanation for his experience of stress in terms physical, emotional, and cognitive components, so that he will be more likely to actually implement specific cognitive and behavioral coping strategies which are presented to him. In the training phase, patients are taught potentially effective coping strategies including relaxation techniques and self-statement modification. The application phase of treatment involves instructing the patients to try out recently learned coping skills in real, role playing, or imaginal stressful situations. Outcome research involving this technique is only recently appearing, but the following reports suggest its utility.

Hussian and Lawrence (1978) compared two variations of stress inoculation training to discussion and waiting list control groups in an experiment focused on the reduction of test anxiety. One stress inoculation group received generalized stress inoculation training, while the other received "test specific" stress inoculation training. The

generalized stress inoculation treatment followed the format of Meichenbaum (1977) described above. The test specific stress inoculation procedure was different from the generalized procedure in that the self-statement modification component of the training phase focused on changing subjects' self-statements in reference only to test taking, preparation for tests, and grades. The discussion control group participated in discussions about the nature of the subject's anxiety in regard to tests. Also, the experimenters provided suggestions for subjects about proper study habits and other pretest preparation. The waiting list control subjects received no treatment. Results indicated that both stress inoculation procedures resulted in significant reduction of test anxiety relative to the waiting list control group, while only the test specific stress inoculation procedure resulted in significant reduction in test anxiety as compared to the discussion control group. Both stress inoculation variants resulted in significant reduction in state and trait anxiety relative to both control groups. These results support the use of the stress inoculation procedure in the treatment of test anxiety and suggest that the self-statement modification component may have stronger effects if it is focused on a particular target anxiety area. Further, the results indicate generalization of effects of treatment as both state and trait anxiety levels were reduced after exposure to the stress inoculation treatments. These results are particularly noteworthy considering that treatment was carried out in only three sessions.

The stress inoculation procedure has also been applied to the management of stressful situations other than anxiety inducing ones. In a brief report focusing on the treatment of chronic anger problems, Novaco (1976) found a stress inoculation based procedure to be more effective than self-statement modification alone or relaxation training alone as compared to an attention placebo control. The relative effectiveness of treatments, in descending order, was stress inoculation, self-statement modification, applied relaxation, and attention control. Results of this experiment support the use of the stress inoculation procedure, which includes self-statement modification and relaxation training, in treatment efforts aimed at helping patients control dysphoric emotions other than anxiety. Thus, this procedure may have significant clinical utility for persons experiencing a broad range of stressful situations, eliciting different types of unpleasant emotional reactions, such as might be encountered in a captivity situation where stressors may be situational, interpersonal, or self-generated.

In regard to the use of stress inoculation procedures in applied settings, Novaco (1977) has described a program aimed at helping police officers better manage stress induced anger. This program involved three stages: cognitive preparation, skill acquisition and rehearsal, and application plus practice. In the cognitive preparation state, analogous to Meichenbaum's (1977) educational state, officers were presented with a conceptual framework for understanding the determinants and functions of anger as a response to provocation. The role of cognitive factors in anger arousal was emphasized. The skill acquisition

and rehearsal stage involved having officers learn and practice adaptive self-statements for use in stressful situations such as might be encountered in police work. In the application and practice stage, officers role played participation in provocative situations which they might meet on the job. While this program appears to have potential as a coping skills training intervention to help police officers better manage stress and has been implemented in several locales, outcome research examining its effectiveness has not yet appeared.

One study assessing the effectiveness of a stress management program for police trainees has recently been reported. Sarason, Johnson, Berberich, and Siegal (1979) compared the effectiveness of a stress management program based on procedures developed by Novaco (1977) and Meichenbaum (1977) which were described above to a control procedure. Eighteen police trainees were assigned to groups of nine which received either the stress management program or a short course in abnormal psychology which served as a control condition. Both groups met for 6, 2-hour sessions. Subjects assigned to the stress management group learned progressive relaxation presented as an active coping skill and were taught techniques of self-statement modification. Additionally, these subjects engaged in role playing, modeling, and self-monitoring of responses during stressful situations such as might be encountered in police work. Dependent measures included assessments of state anxiety, trait anxiety, hostility, physiological responses, and performances in "mock scene" exercises which simulated actual police work scenarios.

Results indicated that on two of five "mock scenes" the performance of trainees who had received stress management training was rated by observers to be superior to that of subjects in the control condition. Interestingly, subjects who had received stress management training reported more difficulty controlling feelings of anger during "mock scenes" than did control subjects. Also, treated subjects increased, in comparison to controls, on measures of hostility and test anxiety. All other analyses of dependent measures yielded no significant differences between groups.

These results offered limited support for the efficacy of the stress management program in light of the relative superior performance of treated subjects on the "mock scenes." However, the increase in test anxiety and hostility reported by these subjects may be interpreted to suggest that the program was not an appropriate intervention with this population. There are at least two plausible interpretations of the mixed results. One is that subjects receiving the stress management training became more sensitized to their physiological and cognitive reaction to stress and hence reported higher levels of anxiety and hostility by posttreatment assessment. A second possibility involved an observation by the authors that many of the trainees exhibited a negative attitude toward the stress management program, as if addressing such issues as police stress might have suggested some weakness on their part. Such an attitude may have biased their responses on the self-report measures. While the above experiment offered only limited empirical support for the use of coping skills training in the form of

self-statement modification and relaxation training, it represented an attempt to objectively assess the effectiveness of such approaches in an applied setting with a more difficult population than used as subjects in most outcome studies involving coping skills training.

In summary, coping skills training programs which employ combinations of relaxation training and self-statement modification as principle components are beginning to receive experimental attention via controlled outcome studies. The efficacy of such approaches has received some support in the few reported studies focusing on applied problems not involving college student volunteers as subjects. However, the effectiveness of these treatments has not been examined in clinical disturbed populations such as involuntarily confined psychiatric patients who may routinely be involved in more highly stressful situations than college students faced with the stress of test taking or public speaking. It would seem that further research should be undertaken with more clinically significant problems in order to determine the parameters of the usefulness of coping skills training.

In an effort to extend the demonstrated range of effectiveness of the combined use of applied relaxation training and self-statement modification, the present experiment was designed to assess the efficacy of coping skills training utilizing involuntarily confined forensic psychiatric patients as subjects. By conducting the experiment in a forensic setting, it was possible to evaluate the potency of a coping skills training program in a more stressful environment than settings where most previous coping skills training has been evaluated. Fur-

Further, the target group of forensic psychiatric patients in this study were probably more psychologically disordered than subjects used in previous research. Thus, the present experiment used the most frequently reported effective coping skills training procedures, used a clinical population suffering from both psychiatric and legal difficulties as subjects, and was conducted in a setting where subjects were exposed to many of the stressors associated with incarceration. In addition to extending the demonstrated range of effectiveness of coping skills training, successful delivery of such a program would appear to have significant benefit for involuntarily confined persons provided such psychotherapeutic treatment. This benefit could be manifested both in terms of the individual's current subjective experience as well as in terms of his future adjustment.

Specifically, the purpose of the present experiment was to evaluate the effectiveness of coping skills training as compared to group discussion as stress management procedures for forensic psychiatric patients. Additionally, a no treatment control group was employed. Experimental conditions were: (1) exposure to a coping skills training program whose principle components were relaxation training and self-statement modification; (2) exposure to a series of group discussions focused on subject generated descriptions of hospital and personal stressors as well as their own means of coping, and (3) no treatment. In order to assess the effects of treatment, several indices of stress were measured both before and after treatment. These dependent measures were: two self-report anxiety measures, one self-report measure of physical

health, one self-report measure of mood, and an observer rating of ward adjustment. In order to assess the effects of the self-statement modification component of the coping skills training program, a self-report measure of subject endorsement of irrational beliefs (Ellis, 1962) was completed both before and after treatment. In an attempt to document equal credibility of the two treatments, all treated subjects completed a measure of treatment credibility.

The specific hypotheses of this investigation were: (1) subjects exposed to the coping skills training program would show more improvement on all dependent measures of stress than would subjects exposed to either discussion or no treatment; and (2) subjects exposed to the coping skills training program would decrease their endorsement of irrational beliefs after treatment, whereas subjects exposed to the group discussion and no treatment conditions would not change their endorsement of such beliefs.



## Method

### Overview of Design

Based on pretreatment levels of anxiety, 21 subjects were ultimately randomly assigned to one of three conditions: stress management training (SMT), stress discussion (SD), and waiting list control (WLC). Subjects were assessed during the weeks before and after treatment on two self-report measures of anxiety, one self-report measure of physical health, one self-report measure of mood, one self-report measure of endorsement of irrational beliefs hypothesized by Ellis (1962) to be associated with dysphoric emotional arousal, and one observer rating of ward adjustment. After the two experimental groups (SMT and SD) had received treatment and posttreatment assessment, subjects who had originally been assigned to the WLC condition were subsequently exposed to either the SMT or SD conditions. Such reassignment of WLC subjects served two purposes. First, all patients serving as experimental subjects were thus given an opportunity to participate in group treatments. Second, their reassignment to either the SMT or SD condition increased the number of subjects finally exposed to one of the two experimental conditions. Thus, the differential effects of the SMT and SD treatments could be examined using data obtained from a larger number of subjects than would have been the case if the WLC subjects had remained untreated. After each group completed treatment, subjects completed two self-report feedback measures indicating their reactions to treatment. All dependent measures are described in detail below and are presented in Appendix B.

### Experimenter

All therapeutic interventions were administered by a male graduate student enrolled in a Ph.D. program in Clinical Psychology at Virginia Polytechnic Institute and State University, Blacksburg, Virginia. The therapist had previous experience in behavior therapy, conducting stress management training, and with treatment and evaluation of forensic psychiatric patients. At the time of the experiment, he was employed as a psychologist at Central State Hospital, Petersburg, Virginia, but had no official assessment or treatment relationships with subjects beyond the scope of the experiment.

### Subjects

The subjects were 21 male patients hospitalized for psychiatric treatment at the Forensic Unit, Central State Hospital, Petersburg, Virginia. All subjects participated voluntarily, upon invitation, and received no remuneration or other inducement to become involved in the experiment. Each subject was advised that participation in this study would result in no entries in his medical chart except that he had agreed to be a subject in the experiment. Thus, extrinsic motivation for experimental participation was minimized. Subjects who were mentally retarded, psychotic, or showed evidence of Organic Brain Syndrome were excluded. From 33 potential subjects referred for possible experimental participation by professional staff, 21 who were not ruled out by the above criteria were selected.

### Dependent Measures

State-Trait Anxiety Inventory (STAI). The STAI (Spielberger, Gorsuch, & Lushene, 1970) was used to measure pretreatment and posttreatment anxiety levels. This measure yielded two self-report anxiety scores, one a measure of characterological anxiety proneness (Trait Anxiety Scale) and the other a measure of transitory anxiety (State Anxiety Scale). Research using these scales has indicated that individual scores on the trait anxiety measure are relatively stable and are little affected by exposure to transitory stress situations (Auerbach, 1973; Spielberger, 1972; Spielberger, Auerbach, Wadsworth, Dunn, & Taulbee, 1973). Conversely, scores on the State Anxiety Scale have been found to be reactive to exposure of subjects to various stress situations (Hodges & Spielberger, 1969; Kendall, Finch, Auerbach, Hooke, & Mikula, 1976). The A-State part of the STAI is a scale consisting of 20 statements that require subjects to endorse, on a 4-point scale (note at all, somewhat, moderately so, very much so), the degree that each statement characterizes their feelings at the time they are completing the measure. The A-Trait portion of the STAI is a 20 item scale that requires subjects to indicate how they generally feel in regard to various statements on a 4-point scale (almost never, sometimes, often, or almost always). This frequently used anxiety measure was employed in the present experiment as an index of stress as unpleasant emotional arousal is frequently experienced as anxiety, and complaints of tension are common among patients in a forensic unit setting.

Daily Rating Sheet. In order to quantify physical and cognitive responses of the subjects which might be related to exposure to stress situations, each subject completed the Daily Rating Sheet each day during the duration of the experiment. This self-report measure consisted of two checklists which allowed subjects to indicate which, if any, of 11 physical complaints and up to 30 adjectives reflecting mood which might be related to stress experienced each day. This sheet could be easily completed in a few minutes' time thus allowing subjects to report daily ratings of mood and physical health. Subjects were instructed to complete the sheets each night just before going to bed. Total numbers of stress reflecting adjectives and physical complaints reported during the 6 days prior to treatment and the 6 days after treatment were used as dependent variables. Subjects were provided with an envelope within which to seal their completed Daily Rating Sheets in an effort to insure the confidentiality of their responses.

General Beliefs Questionnaire. In order to assess the effects of the self-statement modification component of the SMT experimental condition, subjects completed the General Beliefs Questionnaire. This questionnaire allowed subjects to rate their endorsement of 10 statements which could reflect adherence to "irrational beliefs" hypothesized by Ellis (1962) to mediate generation of self disturbing thoughts. Subjects were instructed to rate their level of agreement, on a 5-point scale, with each statement. Total pretreatment and posttreatment scores yielded by this instrument were used as dependent measures. Changes in this measure from pretreatment to posttreatment would

require subjects to have at least learned the relationship of irrational beliefs to disturbing self-statements hypothesized by Ellis (1962) as presented by the experimenter.

Ward Rating Scale. In order to measure subjects' ward adjustment, each subject's ward behavior was rated weekly by two psychiatric aides who were assigned to wards on which the subjects were hospitalized. Ratings were completed by the aides via the Ward Rating Scale (Atrops, 1978), a scale previously employed to measure ward adjustment of mentally ill offenders. This scale consisted of 15 items which aides rated on a 5-point continuum according to frequency of occurrence. Items on the scale included such behaviors as "threatens to assault others," "complains of being anxious and uptight," and "easily annoyed or made angry." Observer ratings yielded by the Ward Rating Scale for the week prior to treatment and the week after treatment were used as dependent measures.

Treatment Credibility Questionnaire. In order to assess the credibility of the two experimental group treatments, all subjects completed a modified version of the Treatment Credibility Questionnaire (cf. Borkovec & Nau, 1972). This measure allowed empirical comparison between the perceived credibilities of the two experimental treatments. Thus, use of this measure allowed for assessment of relative effects of non-specific treatment factors such as participation in group meetings and contact with a therapist.

Perceived Curative Factors Questionnaire. In order to assess the relative importance of "curative factors" hypothesized to be operative

in group therapy by Yalom (1970), all subjects completed the Perceived Curative Factors Questionnaire. This 6-item rating scale allowed subjects to rate on a 5-point continuum the importance of specific curative factors in group therapy as reported by Yalom (1970) and as perceived by incarcerated men in a therapeutic community as reported by Steinfield and Malbi (1974).

### Procedure

The experiment consisted of seven phases: (1) preliminary referral to the experimenter and the obtainment of informed consent; (2) pretreatment assessment; (3) subject selection and condition assignment; (4) experimental treatment; (5) posttreatment assessment of all subjects; (6) treatment of subjects originally assigned to the waiting list; and (7) posttreatment assessment of subjects originally assigned to the waiting list.

Preliminary referral and obtainment of informed consent. Staff psychologists and psychiatrists employed at the Forensic Unit, Central State Hospital were asked to submit the names of all patients in the Forensic Unit who were not currently psychotic, were not mentally retarded, and who were likely to remain hospitalized in the Forensic Unit for at least 4 weeks. Thirty-three potential subjects were referred to the experimenter. Each potential subject was contacted by the experimenter and informed of his opportunity to participate in an experiment designed to help people better manage stress. Eight potential subjects indicated that they were not interested in participations for reasons unrelated to the nature of the experiment. However, 25 potential

subjects agreed to become involved in the experiment, signed the Consent Agreement (see Appendix A), and participated in pretreatment assessment.

Pretreatment assessment. The pretreatment assessment phase of the study was conducted approximately 1 week prior to the beginning of the experimental treatment phase. Immediately after each potential subject signed the Informed Consent Agreement, the experimenter answered any questions potential subjects asked in reference to their participation and then administered the Information subtest of the Weschler Adult Intelligence Scale to them. Of these potential subjects, 21 attained a scaled score of 7 or more on this measure and completed pretreatment assessment. The four potential subjects who did not attain at least a scaled score of 7 were thanked for their participation. They were also told that since all subjects would not be involved in all phases of the experiment, as had been explained to them in the Informed Consent Agreement, that they had completed all necessary participation. They were further advised that the experimenter would be available to them on an individual basis if they were interested in discussing stress management techniques. One potential subject who was excluded from the experiment on the basis of his WAIS performance met with the experimenter on three subsequent occasions and discussed stressful situations involving his hearing threatening voices.

The 21 subjects who had attained a scale score of 7 or more on the Information subtest of the WAIS completed pretreatment assessment as described below. Each subject was individually administered the STAI

and the General Beliefs Questionnaire. During the time the subject was recording his responses, the experimenter was not present in the room with the subject. After each subject completed the General Beliefs Questionnaire, the experimenter returned to the room and explained to each subject how to complete the Daily Rating Sheet.

Each subject read the directions at the top of the Daily Rating Sheet, and the experimenter answered any questions asked by subjects in regard to the directions or the items included on the sheet. Each subject was instructed to complete the Daily Rating Sheet just before going to bed. Subjects were informed that Daily Rating Sheets with their names on them would be available to them on their wards each night. They were instructed to complete the form by checking any of the physical complaints or feelings which they had experienced that day, to place the completed sheet into an envelope which would be provided, and to seal the envelope. They then gave the envelope to a ward aide who was assigned to their ward. Each subject was further advised that the sealed envelopes would be collected by the evening ward aide each night and sealed in a large brown envelope for delivery to the experimenter the next day. After any questions asked by subjects were answered by the experimenter, the subjects were thanked for their cooperation, told that they would be contacted about when their group meetings would begin within a week, and dismissed.

During the time period of pretreatment assessment, eight psychiatric aides, working on wards where subjects were hospitalized, were contacted by the experimenter. These aides agreed to rate subjects' ward



behavior via the Ward Rating Scale and to collect the Daily Rating Sheets from subjects on their wards. The experimenter explained the directions printed at the top of the Ward Rating Scale to each rater and answered any questions asked about the rating process or specific items on the scale. The aides were told that they should complete their ratings on Monday of each week and return them to a collection area located in the nursing station. These weekly ratings were promptly collected by the experimenter. Packets containing the Daily Rating Sheets were deposited daily by the aides in the same manner as the Ward Rating Scales.

Subject selection and condition assignment. The 21 potential subjects who had attained a scaled score of 7 or more on the information subtest fo the WAIS during pretreatment assessment were selected as subjects for the experiment. During the pretreatment week in which subjects were completing Daily Rating Sheets, the STAI forms were scored. According to the combined numerical scores yielded by adding each subject's A-State plus A-Trait anxiety scores, the subjects (N=21) were rank ordered and placed in blocks of three. In an effort to maximize homogeneity among subjects in differing treatment conditions, in terms of pretreatment state and trait anxiety levels, one subject from each block was randomly assigned to one of three experimental conditions: stress management training (SMT), stress discussion (SD), and waiting list control (WLC).

### Experimental Conditions

All treatments were conducted in a large conference room in the nursing station of the Forensic Unit, Central State Hospital, a room not used for pretreatment assessment. The room was furnished with a large, heavy, wooden conference table with wooden armchairs. Several paintings hung on the walls, and a small desk was located in one corner of the room. Treatment groups met for five, 2-hour sessions within a 2 week period in the evening after the subjects had finished supper. A male psychiatric aide was on duty outside of the conference room as were two female nurses normally working in the nursing station during the night shift. The content of the group sessions to which subjects assigned to the SMT and SD groups were exposed are described below.

Stress Management Training (SMT). Subjects assigned to the SMT experimental condition participated in five, 2-hour group treatment sessions. During the course of their treatment, they were exposed to three specific therapeutic procedures: (1) education designed to give subjects a conceptual framework with which to understand their reactions to stress situations; (2) training in applied relaxation (Bernstein & Borkovec, 1973); and (3) training in self-statement modification following the basic framework of Ellis' rational emotive therapy. In addition to the above specific interventions, "nonspecific treatment factors," such as exposure to a credible treatment, participation in group interaction, and ventilation of unpleasant emotions, may have contributed to changes achieved as a result of subjects' exposure to

stress management training. The specific content of the series of group meetings is presented below.

During the first session, subjects were presented with a conceptual framework with which to understand their personal stress reactions, which addressed the nature, sources, and effects of stress. Both physical and psychological components of the human stress reaction were discussed. This educational component was based on a syllabus distributed by Behavioral Consultants, Ltd., Seattle, Washington. This brief, initial treatment component, analogous to the educational component of Meichenbaum's (1977) stress inoculation procedure, was presented in order to provide a convincing rationale which might be expected to enhance subject compliance with directions to learn and practice the two specific coping skills which were about to be presented to them.

After the presentation of the educational component, during the first session, the rationale for relaxation training was given. The relaxation response was described as essentially the opposite of the stress reaction. The experimenter pointed out that most people have a well developed, almost automatic, integrated response pattern to stressful situations, but few people have acquired relaxation skills which they could use as self control techniques to decrease physiological arousal and feelings of tension. Subjects were told that use of relaxation skills could be employed to relax away tension that they might experience during their daily activities and that its use could be especially beneficial to people having difficulty sleeping. Thus, the

rationale was presented in a coping skills context according to the suggestion of Goldfried and Trier (1974).

At this point, the experimenter modeled for the group; he demonstrated how muscles of the various muscle groups should be tensed and relaxed. Next, the group was exposed to progressive relaxation based on Bernstein and Borkovec's (1973) relaxation package. Relaxation training was conducted by the experimenter using his own voice during each session in order to allow for repetition of instructions in reference to particular muscle groups which subjects appeared to have difficulty relaxing. During the first and second sessions, the procedure involved alternately tensing and relaxing 16 muscle groups. After discussion and feedback about the group's initial experience with relaxation training, two homework assignments were given: (1) to continue daily completion of the Daily Rating Sheet, and (2) to practice deep muscle relaxation at least once daily. At the end of the first session, subjects were informed that they would meet twice more during that week and on two more occasions during the following week.

The second SMT group followed a different format. The session began with a brief discussion of successes and difficulties encountered with relaxation practice. After all questions asked by subjects had been answered by the experimenter and suggestions given about reported difficulties, a second presentation of the 16 muscle group "tension release" method of relaxation training was given. After this second "in session" relaxation induction practice, any further problems in regard to the attainment and use of progressive relaxation were

addressed. The importance of daily practice was again emphasized, and verbal praise was given subjects who spontaneously reported practicing the procedure between sessions.

During the remaining hour of the second session, the concept of self-statement modification was introduced. The relationship between beliefs, thoughts, feelings, and the experience of stress was presented following the basic conceptualization of rational emotive therapy. This presentation was also based on the syllabus distributed by Behavior Consultants, Ltd. Next, a hypothetical, potentially stressful situation likely to be encountered by hospitalized subjects was presented to the group. Specifically, the experimenter described a situation of a patient who was not seen by a psychiatrist at the time the patient expected. The experimenter elicited from subjects thoughts and feelings that they would have if they were the patient in such a situation. Using one subject's reactions to the hypothetical situation, the experimenter fit the subject's reactions into the framework already presented involving the relationships between thoughts or self-statements and feelings. Various ways of appraising the situation were discussed by the group, and examples of self-statements likely to elicit positive and negative affect were presented by the experimenter. After the group largely had accepted that different self-statements could, to a large extent, determine feelings in stressful situations, the experimenter proposed relationships to already discussed irrational or self-defeating beliefs to the generation of disturbing self-statements. Thus, the second coping skill component of the SMT experimental condition was

introduced. The same two homework assignments were given at the end of session 2 as had been given at the end of session 1 (completion of Daily Rating Sheets and daily relaxation practice). Subjects were further advised that their checking of negative feelings on the Daily Rating Sheets might be helpful to them in the identification of hospital situations that were personally stressful and that these situations could be used in future group work focused on self-statement modification.

Sessions 3, 4, and 5 followed the same format. Relaxation training was presented during the first 45 minutes of the session. During these three meetings, seven muscle groups were used in relaxation induction. The remaining group time was used to examine stressful situations reported by subjects and focused on the use of self-statement modification as a means to lessen the impact of such situations on group members. Use of both self-statement modification and relaxation skills was encouraged by the experimenter. Specifically, subjects were told that the experience of stress or tension could be viewed as a signal for the use of one of these coping skills. For example subjects were told that they should take time for a period of deep muscle relaxation at any time during the day when they noticed themselves becoming tense. Also, they were instructed to attempt to become aware of thoughts they were having when they felt under stress, to try to relate these thoughts to irrational beliefs, and to substitute more adaptive self-statements for self-defeating ones. During the sessions, after the relaxation training portion of the meetings, the experimenter helped patients identify

self-defeating self-statements and related these statements to irrational beliefs. Such beliefs were attacked on a rational basis by the experimenter, and suggestions were given for realistic alternatives for irrational beliefs which could be substituted for them. During sessions 3, 4, and 5, there was considerable group interaction as group members themselves became involved in the process of relabeling situations faced by group members and attacking self-statements based on irrational beliefs. At the end of these last three sessions, subjects were always given the homework assignment to continue daily relaxation practice and completion of Daily Rating Sheets.

After completion of the last treatment session, subjects were thanked for their participation and instructed to continue completion of the Daily Rating Sheets for 1 week. They were encouraged to continue daily relaxation practice and to use their relaxation skills that they had learned whenever they felt themselves becoming tense. Further, subjects were encouraged to be alert to notice self-defeating self-statements and to replace them with more adaptive ones following the process that was involved in the group meetings. Finally, they were told that they would be contacted during the next few days to complete posttreatment assessment.

Stress discussion (SD). Subjects assigned to the SD, group discussion condition, participated in five, 2-hour group sessions which met in the same time period as the SMT group meetings. Thus, subjects assigned to the SD condition received equivalent contact with the experimenter in a treatment context. These subjects were provided with

a treatment rationale, engaged in group interaction, and ventilated unpleasant emotions as had subjects in the SMT condition. However, subjects assigned to the SD condition received no education about stress or relaxation training and were not exposed to concepts of self-statement modification. In all other ways, they were treated exactly the same as were subjects in the SMT condition.

The agenda of each meeting of the SD group was essentially the same. During the first meeting, the experimenter presented the rationale that the stress of incarceration could be reduced for group members by subjects sharing means that they had found effective to deal with the stress of incarceration and by identifying particular stressors inherent in living in the Forensic Unit. During all five group meetings, the subjects identified many stressful situations that they had experienced and exchanged suggestions for ways to decrease the stress of incarceration. A good deal of support was given by the group to members who reported being unduly upset about their situations. The experimenter acted as a moderator for the group in order to facilitate discussion but did not offer suggestions to subjects about potential coping strategies, nor did he attempt to focus the direction of the group's discussion. Group interaction was substantial, and a good deal of ventilation of angry feelings was noted by the experimenter. Group interaction was verbally reinforced, and group members that were slow to engage in discussion were often asked their views on topics of discussion by the experimenter. At the end of each group meeting, subjects were given the same instructions in regard to completing the



Daily Rating Sheets as had subjects in the SMT condition. They were also told that use of the sheet might be useful in helping them identify personally significant stressful situations for use in group discussions.

After completion of the five group sessions, subjects in the SD condition were thanked for their participation, asked to continue completing Daily Rating Sheets, and advised that they would be contacted by the experimenter during the next few days to complete posttreatment assessment. Thus, subjects in the SD condition were treated in the same manner as subjects in the SMT condition except that they were exposed to none of the specific treatment components of the treatment given SMT subjects.

Waiting list control (WLC). During the time period of the conduction of the first two groups, subjects assigned to the WLC group had no formal contact with the experimenter other than being informed that their group meetings would begin after the completion of the first two groups. Subjects in the WLC condition completed Daily Rating Sheets as had subjects in other experimental conditions. At the time of completion of the first two groups, subjects in the WLC condition were informed by the experimenter that they would be contacted within a few days to complete some additional questionnaires.

Posttreatment assessment of all subjects. Within 3 days after the termination of the first two groups, subjects in both actively treated groups completed the same measures they had completed prior to treatment, namely: the STAI and the General Beliefs Questionnaire. Additionally, these subjects completed the Feedback questionnaire which

included a modified version of the Treatment Credibility Questionnaire (Borkovec & Nau, 1972), as well as the Perceived Curative Factors Questionnaire. The administration of these measures was carried out in the same room as the pretreatment assessment, and the same procedures were followed by the experimenter as had been used in pretreatment assessments. At the end of posttreatment assessment, these subjects were again thanked for their participation and reminded to continue completion of their Daily Rating Sheets.

Subjects assigned to the WLC condition were contacted and completed the STAI and the General Beliefs Questionnaire. These assessments were carried out by the experimenter in the same manner described above. These subjects were instructed to continue completion of their Daily Rating Sheets and were told that they would be contacted in a few days and would be told when they would be starting their group meetings.

Treatment of subjects originally assigned to the WLC condition.

The subjects originally assigned to the WLC condition were assigned, on the basis of their combined STAI scores taken during their second assessment, to exposure to either the SMT or the SD experimental conditions. These subjects were then exposed to exactly the same procedures, relative to their assigned group, as were subjects who first received either the SMT or the SD experimental treatments.

Posttreatment assessment of subjects originally assigned to the WLC condition. After completion of their five group treatment sessions, subjects originally assigned to the WLC condition completed posttreatment assessment in exactly the same manner as subjects in the first

two actively treated groups. Daily Rating Sheets completed by these subjects after the end of their treatment were collected by a staff psychologist employed at the Forensic Unit and forwarded to the experimenter. The same staff psychologist collected the final week's Ward Rating Scales and forwarded them to the experimenter.

## Results

Of 21 subjects who were initially selected as subjects for the experiment, 18 completed participation. Three subjects, one from each the SMT, SD, and WLC groups withdrew from the study for reasons unrelated to the condition of their assignment. Thus, there were six subjects in each of the three conditions which were employed in the analyses.

The results of three types of statistical analyses will be presented. The first compares the relative efficacy of the stress management training program to stress discussion and a waiting list control. The analyses of seven dependent variables used during pretreatment and posttreatment assessments will be presented using a 3(Groups) X 2(Assessments) repeated measures framework. To determine whether the three groups were statistically similar before treatment on the seven dependent measures, analyses of simple main effects for groups at pretreatment will be presented where significant Groups X Assessments interactions occur. In order to detect pre to posttreatment changes, planned comparisons between pretreatment and posttreatment means for each dependent measure under each treatment condition are presented where significant Groups X Assessments interactions are found.

The second analysis examines the relative effectiveness of the stress management training program to the stress discussion condition. Such comparison was achieved by pooling scores of subjects originally assigned to the WLC condition, who later received exposure to either the SMT or SD conditions, with the scores of subjects who had received

the same exposure in the initial treatment phase of the experiment. This second analysis involves comparison of all subjects eventually exposed to either the SMT or SD conditions. As three of the six subjects assigned to the WLC condition were finally each exposed to either the SMT or SD conditions, the second analysis involves comparisons on the same seven dependent variables between subjects who received exposure to the SMT (n=9) and the SD (n=9) conditions. These results are presented using a 2(Groups) X 2(Assessments) repeated measures framework. Again, tests of simple main effects for groups at pretreatment will be employed to determine whether the two groups were statistically similar before treatment. Planned comparisons are then used to detect pre to posttreatment changes within groups.

Lastly, scores derived from the Treatment Credibility Questionnaire and the Perceived Curative Factors Questionnaire were analyzed via two completely randomized analyses of variance. This analysis involved comparisons of all subjects who received exposure to either the SMT or the SD condition in regard to the subjects' ratings of their group experiences.

### Three Groups X Pre-Post

The following sections are a presentation of results of the 3 (Groups) X 2(Assessments) repeated measures analysis of variance comparing the SMT, SD, and WLC groups. The pretreatment and posttreatment means of all dependent measures are presented in Table 1.

State Anxiety. Results of the 3 X 2 analysis, using scores derived from the A-State portion of the STAI, indicated no significant

Table 1

Means of Pretreatment and Posttreatment Scores for the SMT,  
SD, and WLC Groups on All Dependent Measures

Dependent Measure	SMT (n=6)	SD (n=6)	WLC (n=6)
<u>State Anxiety</u>			
Pretreatment	44.50	45.50	39.33
Posttreatment	38.33	47.50	42.00
<u>Trait Anxiety</u>			
Pretreatment	44.66	40.66	42.16
Posttreatment	40.50	43.50	40.50
<u>Physical Complaints</u>			
Pretreatment	5.66	5.33	5.50
Posttreatment	4.16	8.66	9.16
<u>Mood</u>			
Pretreatment	20.66	23.33	28.16
Posttreatment	10.16	28.66	27.50
<u>General Beliefs</u>			
Pretreatment	28.83	26.50	28.66
Posttreatment	19.16*	25.00	28.16
<u>Ward Rating Scale (Day)</u>			
Pretreatment	25.66	28.33	38.50
Posttreatment	21.50	25.83	24.50*
<u>Ward Rating Scale (Night)</u>			
Pretreatment	25.00	28.83	27.33
Posttreatment	22.66	30.16	23.50

\*Indicated significant,  $p < .001$ , pretreatment  
to posttreatment changes.

main effect for groups  $F(2,15) = 0.62$ , or assessments  $F(1,15) = 0.02$ . The Groups X Assessments interaction was also not significant  $F(2,15) = 0.70$ . These results indicated no differential effects among groups as a function of condition assignment.

Trait Anxiety. Results of the 3 X 2 analysis, using scores derived from the A-Trait portion of the STAI, indicated no significant main effects for groups  $F(2,15) = 0.02$ , or assessments  $F(1,15) = 0.28$ . The Groups X Assessments interaction was also non-significant  $F(2,15) = 1.19$ . These results indicated no differential effects among groups related to exposure to the different conditions.

Mood. Using scores derived from the adjective checklist portion of the Daily Rating Sheet, the 3 X 2 analysis of results indicated no significant main effects for groups  $F(2,15) = 0.48$ , or assessments  $F(1,15) = 0.39$ . The Groups X Assessments interaction was also non-significant  $F(2,15) = 2.17$ . These results indicated no differential effects among groups related to exposure to the different conditions.

Physical complaints. The 3 X 2 analysis of physical complaints checked by subjects during the 6 days before and after treatment indicated no main effects for groups  $F(2,15) = 0.38$ , or assessments  $F(1,15) = 2.14$ . The Groups X Assessments interaction was also not significant  $F(2,15) = 1.77$ .

General beliefs. The 3 X 2 analysis of scores derived from the General Beliefs Questionnaire indicated a significant main effect for assessments  $F(1,15) = 10.62$ ,  $p < .01$ , as well as a significant Groups X Assessments interaction  $F(2,15) = 5.92$ ,  $p < .05$ . There was no

significant main effect for groups  $F(2,15) = 1.99$ . Tests of simple main effects for groups at pretreatment indicated no significant differences among the groups  $F(2,26) = 0.48$ . Planned comparisons between within group means indicated a significant reduction of scores on the General Beliefs Questionnaire for only the SMT group  $F(1,15) = 21.88$ ,  $p < .001$ , while no such reductions occurred between times of assessment for the SD group  $F(1,15) = 0.53$  or the WLC group  $F(1,15) = 0.60$ . These results are depicted graphically in Figure 1.

These results indicate that there were no significant differences among the groups at the time of pretreatment assessment, but they indicated that subjects exposed to the SMT treatment condition significantly reduced their self-reported adherence to irrational beliefs between the time of pretreatment and posttreatment assessments.

Ward Rating Scale. This dependent measure, which was intended to provide objective behavior ratings of the subjects' ward adjustment became confounded by serious difficulties in collecting the data appropriately. Specifically, it is impossible for the same ward aides to provide ratings at both times of pretreatment and posttreatment assessments for most subjects. This difficulty was encountered due to changes in ward assignments of both aides and subjects due to practical considerations operative in the Forensic Unit which were beyond the control of the experimenter. Thus, interpretations of results derived from scores on the Ward Rating Scale are of extremely questionable validity. The results are presented, but they should be interpreted with caution because of the failure to obtain behavioral ratings from the same



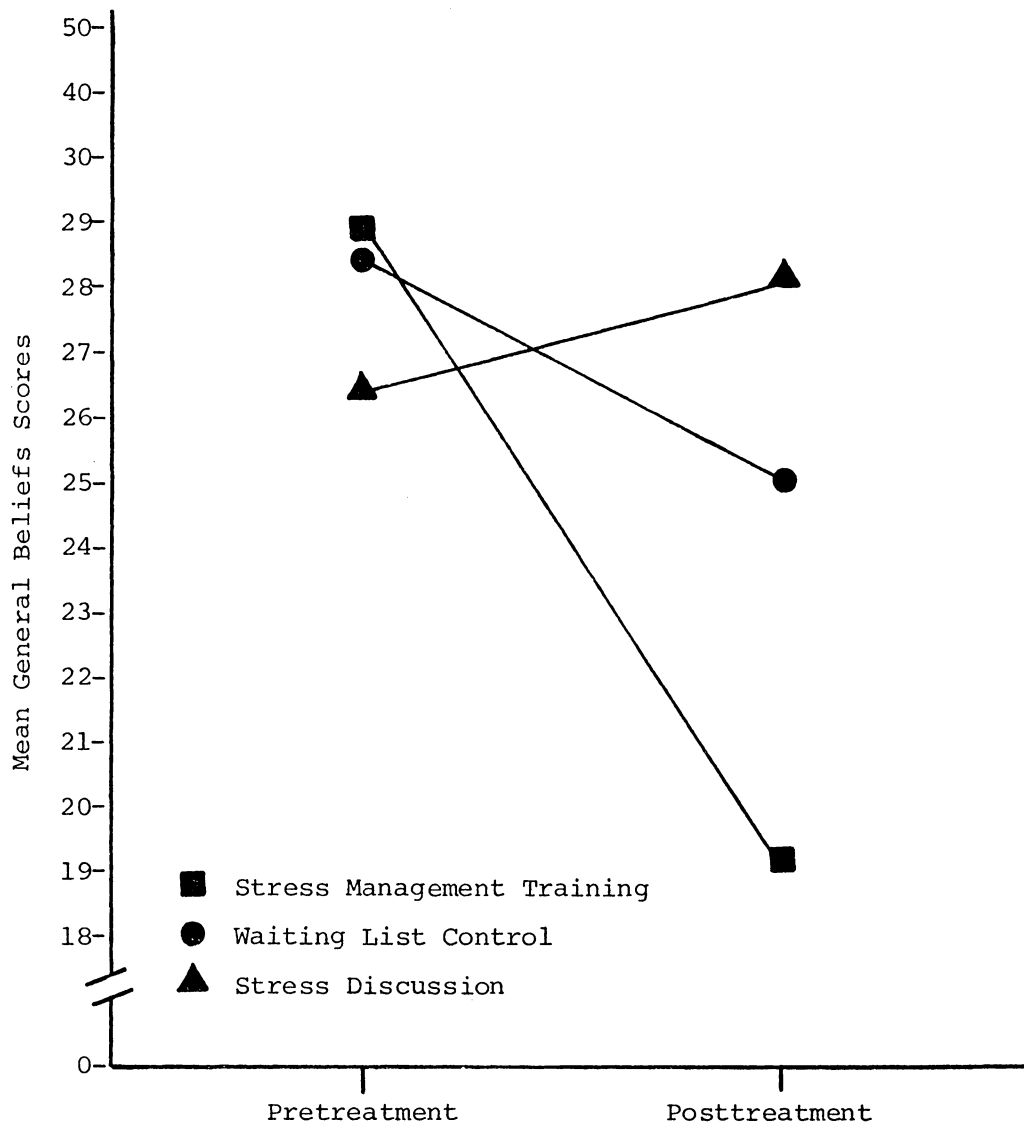


Figure 1. Pretreatment and Posttreatment mean scores from General Beliefs Questionnaire for the Stress Management Training, Stress Discussion, and Waiting List Control Groups.

observers at the two times of assessment. A further threat to the validity of obtained Ward Rating Scale scores was delays in recording of ratings by some observers. Despite these difficulties, results are presented separately for Ward Rating Scale results completed by aides assigned to day and evening working shifts.

Ward Rating Scale (Day). Results of the 3 X 2 analysis indicated a significant main effect for assessments  $F(1,15) = 14.14, p < .01$ , and a significant Groups X Assessments interaction  $F(2,15) = 3.84, p < .05$ . A trend was indicated for main effects of groups  $F(2,15) = 3.15, p < .10$ . Tests of simple main effects for groups at pretreatment indicated a significant difference among the groups prior to treatment  $F(2,27) = 6.10, p < .05$ . Using Duncan's New Multiple Range Test for analysis of pretreatment differences among groups, results indicated that the SMT and SD were not statistically different from each other before treatment, but the WLC group mean was larger than either of them. Thus, subjects in the WLC group were rated as displaying significantly poorer ward adjustment prior to treatment. Within group planned comparisons between the three groups' scores at pretreatment and posttreatment assessments indicated that subjects in the WLC group were rated as exhibiting significantly better ward adjustment at the posttreatment assessment,  $F(1,15) = 19.47, p < .001$ , while the subjects in the SMT,  $F(1,15) = 1.75, p > .05$ , and SD,  $F(1,15) = 0.62$  groups, were not.

Ward Rating Scale (Night). Results of the 3 X 2 analysis indicated a trend toward a main effect for groups  $F(2,15) = 3.21, p < .10$ . No significant main effects for assessments  $F(1,15) = 1.10$  was

indicated. The Groups X Assessments interaction was also non-significant  $F(2,15) = 0.99$ . These results indicated no differential experimental effects among groups.

Summary of the 3(Groups) X 2(Assessments) analysis. The results of the analyses show only two pre to posttreatment changes were significant. Subjects who received exposure to the SMT treatment condition demonstrated significantly less endorsement of irrational beliefs at posttreatment assessment than they had during the pretreatment assessment. Also, subjects in the WLC group were rated as displaying significantly better ward adjustment at posttreatment than at pretreatment assessments. However, it should be noted that this group was rated as displaying significantly poorer ward adjustment prior to treatment than were the SMT and SD groups. Thus, the significant pre to posttreatment change may have been due to relatively higher pretreatment scores for this group on the Ward Rating Scale.

#### Two Groups X Pre-Post

This section is a presentation of a 2(Groups) X 2(Assessments) repeated measures analysis of variance comparing scores of all subjects exposed to either the SMT (n=9) or the SD (n=9) conditions. These groups each include scores from subjects initially treated in groups of six plus subjects from the WLC group who were later treated in groups of three. Each of seven dependent variables measured before and after treatment are presented separately below. The pretreatment and posttreatment means of all dependent measures are presented in Table 2.

Table 2

Means of Pretreatment and Posttreatment Scores for All Subjects  
Exposed to the SMT and SD Conditions on All Dependent Measures

Dependent Measure	Groups	
	SMT (n=9)	SD (n=9)
<u>State Anxiety</u>		
Pretreatment	43.11	44.66
Posttreatment	36.88	42.33
<u>Trait Anxiety</u>		
Pretreatment	42.33	41.55
Posttreatment	38.66	44.44
<u>Physical Complaints</u>		
Pretreatment	8.44	5.00
Posttreatment	4.00*	7.00
<u>Mood</u>		
Pretreatment	28.55	19.11
Posttreatment	16.88*	24.11
<u>General Beliefs</u>		
Pretreatment	28.11	27.55
Posttreatment	20.11**	25.88
<u>Ward Rating Scale (Day)</u>		
Pretreatment	24.33	28.00
Posttreatment	23.33	27.66
<u>Ward Rating Scale (Night)</u>		
Pretreatment	24.11	27.11
Posttreatment	23.88	29.33

\*Indicates significant,  $p < .05$ , pretreatment to posttreatment changes.

\*\*Indicates significant,  $p < .001$ , pretreatment to posttreatment changes.

State Anxiety. Results of the 2 X 2 analysis indicated no significant main effects for groups  $F(1,16) = 0.58$  or assessments  $F(1,16) = 1.59$ . The Groups X Assessments interaction was also non-significant  $F(1,16) = 0.33$ .

Trait Anxiety. Results of the 2 X 2 analysis indicated no main effects due to groups  $F(1,16) = 0.21$  or assessments  $F(1,16) = 0.55$ . The Groups X Assessments interaction revealed a trend  $F(1,16) = 3.66$ ,  $p < .10$ . Tests of simple main effects for groups at pretreatment were non-significant  $F(1,19) = 0.02$ ,  $p > .05$  indicating no pretreatment differences between groups. Planned comparisons within groups at the two times of assessment indicated no significant pre to posttreatment changes for either the SMT group  $F(1,16) = 2.29$ , or the SD group  $F(1,16) = 1.42$ .

Mood. The 2 X 2 analysis of scores derived from the adjective checklist portion of the Daily Rating Sheet indicated no significant effects for groups  $F(1,16) = 0.14$  or assessments  $F(1,16) = 0.80$ . The Groups X Assessments interaction was significant  $F(1,16) = 4.96$ ,  $p < .05$ . Tests of simple main effects for groups at pretreatment were not significant  $F(1,16) = 0.86$  indicating no significant differences between the SMT and the SD groups before treatment. Planned comparisons within groups between the two times of assessment indicated that the SMT group showed a significant reduction in scores  $F(1,16) = 4.87$ ,  $p < .05$ , while the SD group did not,  $F(1,16) = 0.89$ . Thus, exposure to the SMT experimental condition resulted in a decrease in self-reported negative

mood, while exposure to the SD condition did not. These results are depicted graphically in Figure 2.

Physical complaints. Results of the 2 X 2 analysis indicated no significant main effects for groups  $F(1,16) = 0.01$  or assessment  $F(1,16) = 0.84$ . The Groups X Assessments interaction was significant  $F(1,16) = 5.82$ ,  $p < .05$ . Tests of simple main effects for groups at pre-treatment were not significant  $F(1,25) = 1.52$  indicating no significant differences between groups before treatment. Planned comparisons within groups between the two times of assessment indicated that the SMT group significantly decreased in their number of self-reported physical complaints  $F(1,16) = 5.33$ ,  $p < .05$ . While the subjects exposed to the SD condition did not,  $F(1,16) = 1.12$ . These results are depicted graphically in Figure 3.

General beliefs. The 2 X 2 analysis of scores derived from the General Beliefs Questionnaire indicated no significant main effect for groups  $F(1,16) = 2.30$ , but a significant main effect for assessments  $F(1,16) = 12.74$ ,  $p < .01$  was found. A significant Groups X Assessments interaction was also indicated  $F(1,16) = 5.47$ ,  $p < .05$ . Tests of simple main effects for groups at pretreatment were not significant  $F(1,30) = 0.06$ , indicating no significant differences between groups before treatment. Planned comparisons between SMT group means at the two times of assessment indicated a significant  $F(1,16) = 17.45$ ,  $p < .001$ , reduction in scores, while another planned comparison between SD group means indicated no significant change  $F(1,16) = 0.76$ . These results are depicted graphically in Figure 4. These results indicate that subjects

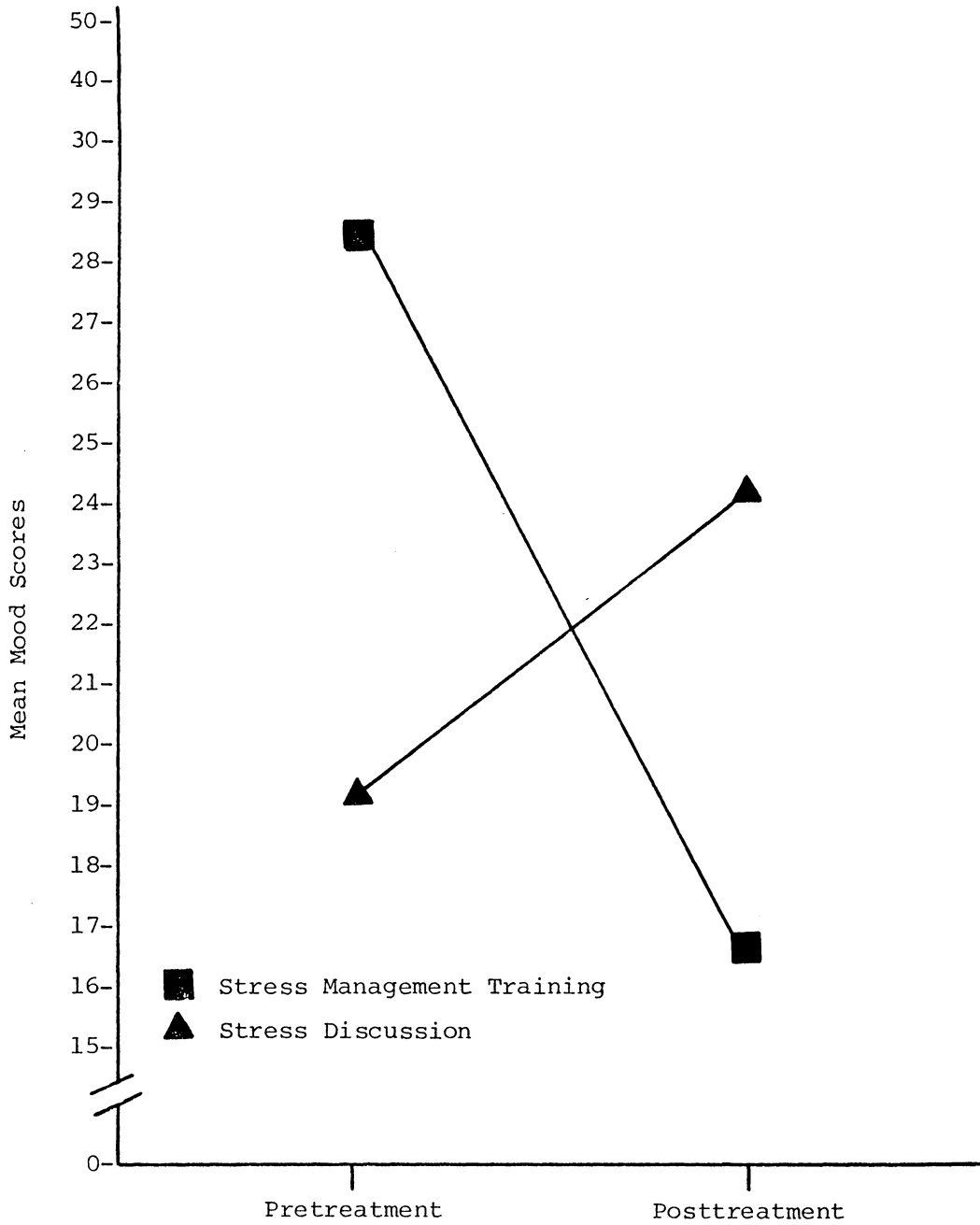


Figure 2. Pretreatment and postttreatment mean scores from mood adjective checklist of the Daily Rating Sheet for all subjects exposed to either Stress Management Training (n=9) or Stress Discussion (n=9).

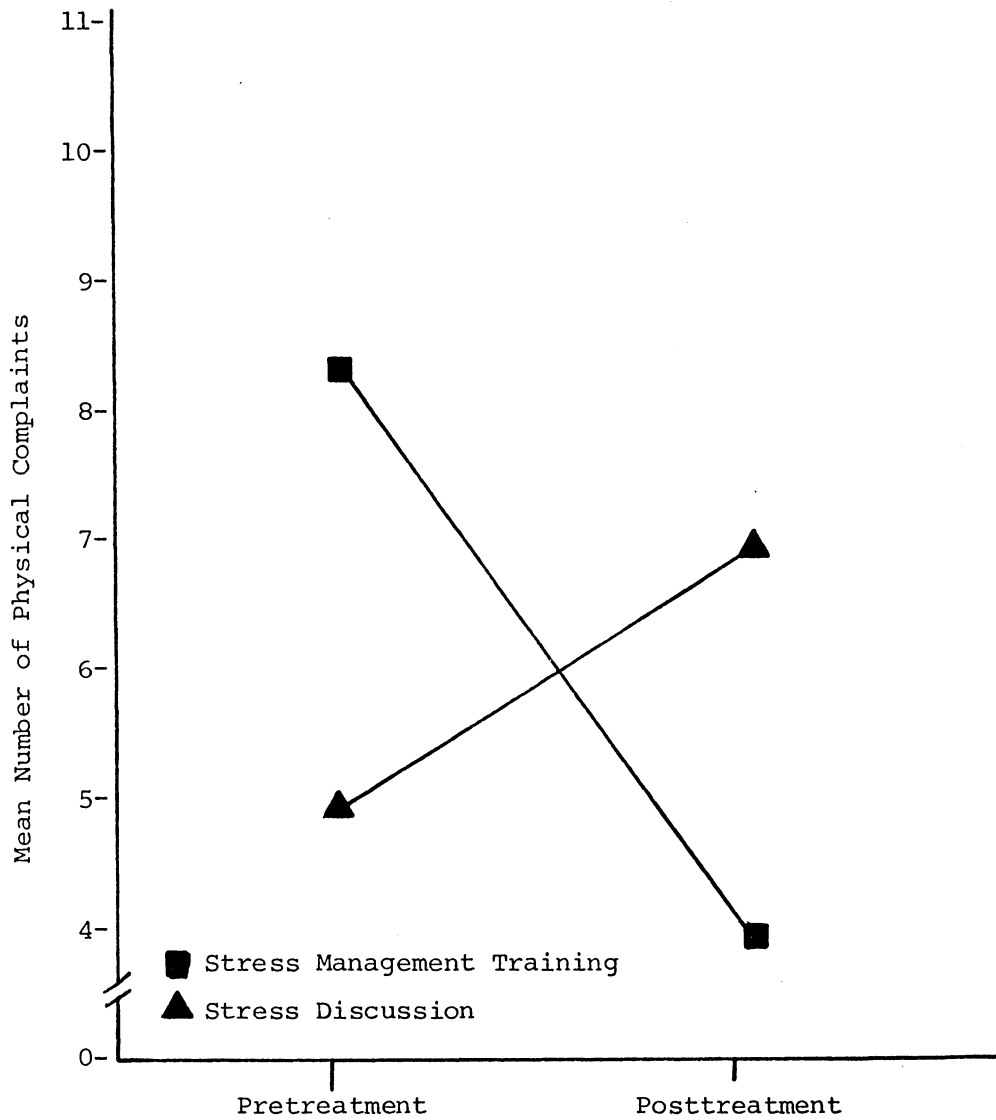


Figure 3. Pretreatment and posttreatment mean number of reported physical complaints derived from the Daily Rating Sheet for all subjects exposed to either Stress Management Training (n=9) or Stress Discussion (n=9).



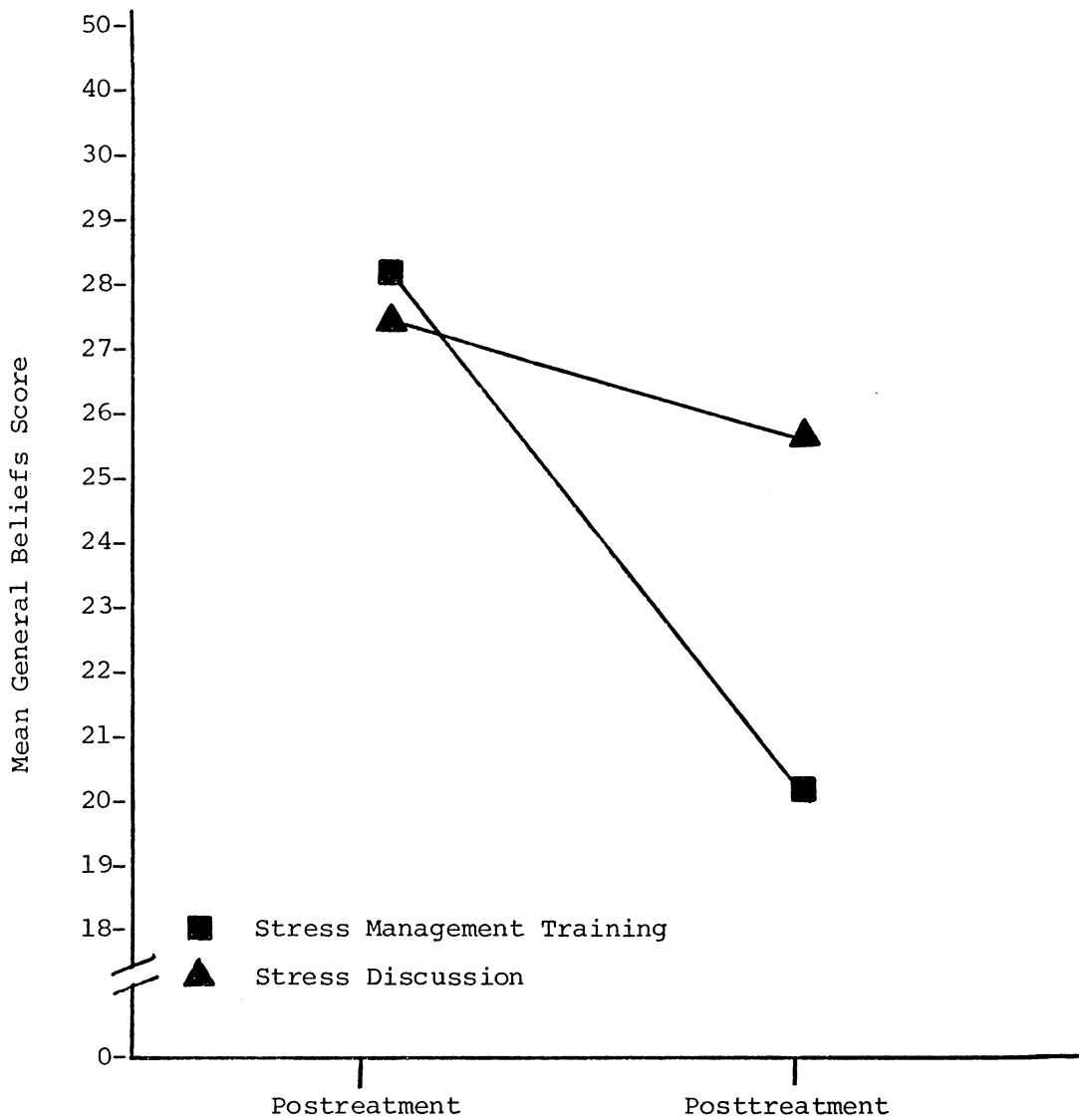


Figure 4. Pretreatment and posttreatment mean scores from General Beliefs Questionnaire for all subjects exposed to either Stress Management Training (n=9) or Stress Discussion (n=9).

exposed to the SMT experimental condition decreased their self-reported endorsement of irrational beliefs after treatment, while subjects exposed to the SD condition did not.

Ward Rating Scale. Results of the scores derived from the Ward Rating Scale are presented below. These results are presented separately for Ward Rating Scales completed by aides assigned to the day and evening working shifts. Again, there are serious difficulties in regard to interpretation of results from this dependent measure as previously described. As the same aides did not rate subjects at pre-treatment and posttreatment assessments, the results must be interpreted with caution.

Ward Rating Scale (Day). Results of the 2 X 2 analysis indicated a trend toward a main effect for groups  $F(1,16) = 3.65$ ,  $p < .10$ , but no significant main effect for assessments  $F(1,16) = 0.46$ . The Groups X Assessments interaction was not significant  $F(1,16) = 0.24$ .

Ward Rating Scale (Night). Results of the 2 X 2 analysis indicated a significant main effect for groups  $F(1,16) = 7.02$ ,  $p < .05$ . There was no significant main effects for assessments  $F(1,16) = 0.18$ . The Groups X Assessments interaction was also not significant  $F(1,16) = 1.03$ .

Summary of the 2 (Groups) X 2 (Assessments) analysis. As indicated in the above section, three measures indicated significant pre to post-treatment changes. Subjects exposed to the SMT experimental condition demonstrated significant decreases in self-reported negative mood, self-reported numbers of physical complaints, and self-reported

endorsement of irrational beliefs, while subjects exposed to the SD (discussion placebo) condition did not.

### Posttreatment Measures

Treatment Credibility Questionnaire. The Modified Treatment Credibility Questionnaire was constituted by the first five questions on the Feedback sheet which was administered to all subjects after their completion of experimental treatment. A completely randomized analysis of variance was performed between group means of scores of all subjects exposed to either the SMT (n=9) or the SD (n=9) group treatments. This analysis compared subjects' ratings of credibilities of the treatments to which they were exposed.

Results indicated no significant difference between group means  $F(1,16) = 0.01$ . These results indicate that subjects in the two groups did not differ on their perception of treatment credibility. Mean scores are presented in Table 3.

Inspection of group mean ratings for each item on the Treatment Credibility Questionnaire indicated that for all five questions subjects in both groups rated each item in a manner reflecting a high degree of credibility. Group means for each item on the Feedback sheet are presented for the SMT and SD groups in Appendix C.

Perceived Curative Factors Questionnaire (PCFQ). The PCFQ was administered to all subjects after they had completed their experimental treatment. This measure reflected subjects' ratings of the importance of curative factors hypothesized to be operative in group therapy. This analysis compared ratings of all subjects (N=18) who received

Table 3  
Mean Scores on the  
Treatment Credibility Questionnaire\*

Group		Mean
SMT	(n=9)	6.66
SD	(n=9)	6.55

\*Note: Possible range of scores on the Treatment Credibility Questionnaire is 5-25, with the lower scores reflecting more credibility of treatment.

exposure to either the SMT (n=9) or the SD (n=9) experimental treatments.

A completely randomized analysis of variance was performed between group means of the SMT and SD conditions. Results indicated that subjects in the two groups did not differ in their ratings of curative factors operative in their group treatments,  $F(1,16) = 0.08$ . Mean scores are presented in Table 4. Inspection of group mean ratings for each item on the PCFQ indicated that for all six items subjects in both the SMT and SD groups rated each item within the range of "important" to "very important." Group means for each item on the PCFQ are presented in Appendix C.

Table 4  
Mean Scores on the  
Perceived Curative Factors Questionnaire\*

Group	Mean
SMT (n=9)	7.88
SD (n=9)	8.22

\*Note: Possible range of scores on the Perceived Curative Factors Questionnaire is 6-30, with the lower scores reflecting greater importance.

## Discussion

The purpose of this experiment was to examine the effectiveness of coping skills training as a stress management technique for forensic psychiatric patients. Specifically, this study compared the efficacy of relaxation training plus self-statement modification to an equally credible group discussion condition and to no treatment. The results of the 3(Groups) X 2 (Assessments) and 2(Groups) X 2 (Assessments) analysis are discussed separately below.

The results of the 3 X 2 analysis indicated practically no significant pre to posttreatment changes on dependent measures. Indices of state anxiety, trait anxiety, physical health, and mood did not significantly change after exposure to any of the three conditions. These results demonstrate no experimental effects. This lack of significant results may be interpreted as indicating that the coping skills training program (SMT) was not an effective stress reduction intervention for forensic psychiatric patients. The failure to obtain positive results may have been due to any, or a combination of, the following factors: (1) the short duration of treatment, (2) the degree of psychopathology of the subjects, and (3) the stressful nature of the experimental setting. As noted previously in the 3 X 2 analysis, the finding of enhanced posttreatment ward adjustment of the WLC group appeared to be a function of pretreatment differences among groups. Only the results obtained from the General Beliefs Questionnaire were in the predicted direction. Thus, the sole predicted result in the 3 X 2 analysis was that subjects exposed to the SMT condition reported a decreased

adherence to "irrational beliefs" hypothesized by Ellis to be related to the generation of dysphoric emotions. While these limited significant results may have been due to the above mentioned factors, the extremely small cell size ( $n=6$ ) in the  $3 \times 2$  analysis resulted in very limited statistical power to detect pre to posttreatment changes. Thus, the results of the  $2 \times 2$  analysis, including all subjects exposed to either the SMT ( $n=9$ ) or the SD ( $n=9$ ) condition are probably more useful in evaluating the effectiveness of the coping skills training program.

Before discussing the results of the  $2 \times 2$  analysis, several factors must be considered. In the  $2 \times 2$  analysis, three subjects included in the SMT ( $n=9$ ) and the SD ( $n=9$ ) groups had originally been assigned to the WLC condition. These subjects had been completing Daily Rating Sheets for about 1 month prior to their active experimental participation. Also, they had received two pretreatment evaluations and had been rated weekly by ward personnel. Thus, it may be argued that these additional subjects were inappropriate for inclusion in the  $2 \times 2$  analysis due to their relatively long pretreatment waiting period. However, such minimal participation did not appear to significantly affect their scores on dependent measures in the  $3 \times 2$  analyses. Therefore, their inclusion in the  $2 \times 2$  analysis was carried out.

The results of the  $2 \times 2$  analysis support the hypothesis that the SMT coping skills training program was a more effective stress reduction technique than the SD discussion group as measured by self-reported mood and self-reported numbers of physical complaints. The results indicate that subjects exposed to the SMT condition decreased



their endorsement or irrational beliefs, while subjects in the SD condition did not. As treatment credibility as measured by the Treatment Credibility Questionnaire did not differ for the two treatments, the specific components of the SMT program, rather than "non-specific" factors" such as exposure to treatment, are regarded as behaviorally active factors. Also, obtained results from the Perceived Curative Factors Questionnaire suggest that the relatively superior results obtained by use of the SMT program may be explained in terms of specific treatment components other than general curative factors operative in group therapy. The similarity of subjects' ratings on each item of the Perceived Curative Factors Questionnaire further suggests the equivalence of general group therapy experiences for the two groups. Thus, the results are interpreted as supporting the use of coping skills training, consisting of relaxation training and self-statement modification, as a stress reduction intervention for forensic psychiatric patients.

The most striking result of the present study was the pre to post-treatment change in endorsement of irrational beliefs, as measured by the General Beliefs Questionnaire. Significant pre to posttreatment reductions were found in both the 3 X 2 and the 2 X 2 analysis of results. While it may be argued that such results were due to demand characteristics, the change in endorsement must indicate at very least that forensic psychiatric patients may be taught in a very short time period a basic component of Rational Emotive Therapy, the identification of hypothesized irrational beliefs. Thus, this finding supports

the use of self-statement modification as a component in stress management efforts in the future.

Regarding the numbers of self-reported physical complaints, the 2 X 2 analysis indicated that subjects exposed to the SMT treatment condition decreased the number of complaints after treatment, while subjects in the SD group discussion condition did not. This result supports the hypothesis that the SMT program is an effective treatment for stress related somatic complaints. Within the present experiment, it is impossible to determine which of the two major components of the SMT treatment condition may have contributed more to this improvement. Future experiments, involving clinical populations, examining these two components separately and in combination with each other should be undertaken to illuminate issues of differential effectiveness of the two procedures.

Further support for the hypothesis of superior effectiveness of the SMT treatment was yielded by the 2 X 2 analysis of mood. Subjects exposed to the SMT treatment condition significantly decreased the number of adjectives reflective of negative mood reported during the pre to posttreatment interval. The adjective checklist used in this experiment consisted of adjectives often used by involuntarily confined persons to describe their mood. All the adjectives are regarded as related to the experience of stress. However, different moods such as depression, anger, anxiety, and frustration may be individually assessed via this instrument. Thus, other instruments designed to measure

specific dysphoric moods other than anxiety should be employed in future studies.

Further support for this research direction is found in analysis of both the state and trait anxiety results. In neither the 3 X 2 nor the 2 X 2 analyses did state or trait anxiety scores change from pre to posttreatment in relation to condition of the subjects' assignment. Thus, from these results, it is concluded that the SMT group was not superior to the SD group in reducing anxiety levels. This finding was unexpected as two other studies using applied relaxation alone as a stress reduction technique among psychiatric patients (Ziesset, 1968) and incarcerated men (Toler, 1978) had demonstrated significant lessening of anxiety levels as a function of treatment in the form of applied relaxation. Thus, it would seem that the combined use of self-statement modification and relaxation training should have resulted in significant pre to posttreatment decreases in anxiety. It is possible that the SMT treatment procedure was of too short a duration to achieve such reductions. Thus, neither the self-statement modification nor relaxation training component may have been presented for a sufficient duration so that subjects may not have had time to achieve skill in their use.

However, the results of analyses of General Beliefs Questionnaire scores suggest a significant level of impact for the self-statement modification component of the SMT condition. Thus, an alternate explanation might be that the SMT program was effective in decreasing stress perceived as other emotions besides anxiety, such as depression, frustration, or anger. Again, future research should use specific measure

of various dysphoric emotions to determine differential effects of treatment components on various target negative emotions.

Further, subjects in this experiment were maintained on psychotropic medication. Therefore, it is possible that anxiety levels were largely maintained within comfortable limits by chemotherapy. Thus, feelings of anger and depression may be greater problems to forensic psychiatric patients than feelings of anxiety. Future research should examine the incidence of such mood states among involuntarily confined persons and select subjects experiencing high levels of dysphoric emotions.

The results of the Ward Rating Scale Measure are difficult to interpret due to the practical difficulties reported previously. The finding in the 2 X 2 analysis that neither the SMT nor the SD conditions resulted in significant pre to posttreatment changes suggested that neither condition affected changes in subjects' ward adjustment. This finding may be interpreted as indicating that such treatments impact more in subjective experience of stress rather than readily observable gross behavioral indices of stress. Alternatively, difficulties already mentioned involving difficulties with observers may have detracted from the sensitivity of the Ward Rating Scale. Future research might use various role playing situations evaluated by well trained pairs of observers to better ascertain the behavioral effects of stress management programs.

There are several limitations for interpretation of the results of this experiment. First, the number of subjects was small, even in the

2 X 2 analysis, and thus, results may not be validly generalized to other patients in other settings. Additionally, the inclusion criteria were broad, resulting in a heterogeneous subject population. Thus, future studies should examine the effects of patient characteristics, i.e., type of diagnosis, length of confinement, and legal status of subjects, upon outcome in order to better define good candidates for coping skills training based stress management programs. Again, subjects should be selected for inclusion who report high levels of discomfort and who might be more motivated for treatment.

Second, all treatments were carried out by a single experimenter, and self-report dependent measures were also administered to the subjects by the experimenter. Thus, experimenter bias cannot be ruled out in interpretation of results. Future research should use more than one experimenter, and dependent measures should be collected by experimenters uninvolved in other parts of the experiment.

Lastly, the long-term effects of the SMT treatment cannot be determined as there was no follow-up assessment of subjects. This is a difficult problem as forensic psychiatric patients often move from setting to setting within relatively short periods of time. Thus, they quickly may become dispersed widely from the treatment setting into various, extremely different settings, i.e., jails, prisons, other hospitals, or released from institutions. Thus, situational variations might be expected to affect greatly the dependent measures of stress. However, efforts in this area are encouraged. In sum, the results of this experiment yielded a moderate degree of empirical support for use

of relaxation training and self-statement modification as components of stress reduction programs for involuntarily confined clinical populations.

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## APPENDICES

APPENDIX A  
INFORMED CONSENT AGREEMENT

## INFORMED CONSENT AGREEMENT

Name: \_\_\_\_\_

Date: \_\_\_\_\_

I hereby agree to participate as a research subject in a project entitled: STRESS MANAGEMENT TRAINING.

I understand that the purpose of this research is to develop and measure different ways of managing stressful situations. If I am accepted for this study, I may be asked to discuss stressful situations I meet and my ways of dealing with them. Sometimes when discussing such matters with other patients such discussion may be personally uncomfortable. However, I also understand that I may have a chance to reduce the level of stress I feel as a result of my participation.

I realize that not everyone who is interviewed for this project will actually be involved with it for its full length, nor each person participate in the same way. The project includes several different steps and directions.

Step 1. Some patients will complete paper and pencil measures to estimate if the patient should be involved in the project.

Step 2. Those patients who have been accepted will be asked to complete other paper and pencil measures and will have their behavior rated by ward personnel on a weekly basis. They will be randomly assigned to one of three groups. Two of the groups will meet for five, 2-hour sessions within a 2 week period, participating in groups aimed at helping people to better manage stress. The third group will not meet in groups at first but may participate in group meetings after about a month has passed.

Step 3. All groups will continue completing paper and pencil measures for one week after their group meetings stop and will be rated a final time by ward personnel.

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I consent to participate in this study with the understanding that:

1. Any questions I have about the project or my part in it have been answered or will be answered to my satisfaction.
2. No agreements have been made by me in connection with my involvement in this project other than those specifically stated here.
3. The experimenter may have access to medical records to secure further information by which to measure the results of this study.

4. All information gained from me or my records as a result of my participation will remain confidential, will not be used for any purpose other than described herein, and my identity will never be revealed without my specific consent. No treatment notes will be entered into my medical record, except for the fact that I am participating in a research project. Thus, my participation in this project will have no negative effect on my legal situation as progress of any person in the study will be available only to the experimenter. However, positive change in my behavior as a result of group participation may be noticed and documented by staff who are uninvolved in this project.
5. I may withdraw from any part of this agreement in any way at any time without consequence or penalty to me.

I acknowledge receiving a copy of this agreement:

Date: \_\_\_\_\_ My Signature: \_\_\_\_\_

Date: \_\_\_\_\_ Experimenter: \_\_\_\_\_

APPENDIX B  
DEPENDENT MEASURES



# SELF-EVALUATION QUESTIONNAIRE

Developed by C. D. Spielberger, R. L. Gorsuch and R. Lushene

## STAI FORM X-1

NAME \_\_\_\_\_ DATE \_\_\_\_\_

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *feel* right now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm .....	①	②	③	④
2. I feel secure .....	①	②	③	④
3. I am tense .....	①	②	③	④
4. I am regretful .....	①	②	③	④
5. I feel at ease .....	①	②	③	④
6. I feel upset .....	①	②	③	④
7. I am presently worrying over possible misfortunes .....	①	②	③	④
8. I feel rested .....	①	②	③	④
9. I feel anxious .....	①	②	③	④
10. I feel comfortable .....	①	②	③	④
11. I feel self-confident .....	①	②	③	④
12. I feel nervous .....	①	②	③	④
13. I am jittery .....	①	②	③	④
14. I feel "high strung" .....	①	②	③	④
15. I am relaxed .....	①	②	③	④
16. I feel content .....	①	②	③	④
17. I am worried .....	①	②	③	④
18. I feel over-excited and "rattled" .....	①	②	③	④
19. I feel joyful .....	①	②	③	④
20. I feel pleasant .....	①	②	③	④



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**SELF-EVALUATION QUESTIONNAIRE**  
**STAI FORM X-2**

NAME \_\_\_\_\_ DATE \_\_\_\_\_

**DIRECTIONS:** A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant .....	①	②	③	④
22. I tire quickly .....	①	②	③	④
23. I feel like crying .....	①	②	③	④
24. I wish I could be as happy as others seem to be .....	①	②	③	④
25. I am losing out on things because I can't make up my mind soon enough ....	①	②	③	④
26. I feel rested .....	①	②	③	④
27. I am "calm, cool, and collected" .....	①	②	③	④
28. I feel that difficulties are piling up so that I cannot overcome them .....	①	②	③	④
29. I worry too much over something that really doesn't matter .....	①	②	③	④
30. I am happy .....	①	②	③	④
31. I am inclined to take things hard .....	①	②	③	④
32. I lack self-confidence .....	①	②	③	④
33. I feel secure .....	①	②	③	④
34. I try to avoid facing a crisis or difficulty .....	①	②	③	④
35. I feel blue .....	①	②	③	④
36. I am content .....	①	②	③	④
37. Some unimportant thought runs through my mind and bothers me .....	①	②	③	④
38. I take disappointments so keenly that I can't put them out of my mind ....	①	②	③	④
39. I am a steady person .....	①	②	③	④
40. I get in a state of tension or turmoil as I think over my recent concerns and interests .....	①	②	③	④

## DAILY RATING SHEET

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Of the physical symptoms listed below, please put a check mark by any you experienced today.

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. ___ fatigue or tiredness | 6. ___ skin disorder          |
| 2. ___ trouble sleeping     | 7. ___ stomach ache           |
| 3. ___ headache             | 8. ___ flu and/or cold        |
| 4. ___ backache             | 9. ___ ulcer pain             |
| 5. ___ muscle pain          | 10. ___ asthma                |
|                             | 11. ___ other (specify) _____ |

Of the feelings listed below, please check the ones you felt today.

- |                  |                     |
|------------------|---------------------|
| 1. ___ angry     | 16. ___ downhearted |
| 2. ___ depressed | 17. ___ forgotten   |
| 3. ___ lonely    | 18. ___ annoyed     |
| 4. ___ fed up    | 19. ___ disgusted   |
| 5. ___ mean      | 20. ___ stubborn    |
| 6. ___ afraid    | 21. ___ irritated   |
| 7. ___ upset     | 22. ___ ignored     |
| 8. ___ nervous   | 23. ___ neglected   |
| 9. ___ lively    | 24. ___ insulted    |
| 10. ___ helpless | 25. ___ startled    |
| 11. ___ jealous  | 26. ___ rebellious  |
| 12. ___ stupid   | 27. ___ vulnerable  |
| 13. ___ used     | 28. ___ jumpy       |
| 14. ___ worried  | 29. ___ hostile     |
| 15. ___ uptight  | 30. ___ shocked     |

## GENERAL BELIEFS

This survey consists of several statements with which you will tend to agree or disagree. Please indicate your reaction to each statement by circling the appropriate numbers.

- 1 = Strongly Agree  
 2 = Agree  
 3 = Undecided  
 4 = Disagree  
 5 = Strongly Disagree

Try to avoid using the undecided response. There are no right or wrong answers; this survey is only concerned with your opinions. Please answer every item.

	Strongly Agree			Strongly Disagree	
1. If one wants to, one can be happy under most circumstances.	1	2	3	4	5
2. It is awful when things don't go the way you want them to.	1	2	3	4	5
3. One must be almost perfect at everything to consider himself worthwhile.	1	2	3	4	5
4. Your feelings are influenced by your own view of what happens in life.	1	2	3	4	5
5. Having the respect of others is important but certainly not necessary.	1	2	3	4	5
6. One can't help getting down on oneself when one fails at something.	1	2	3	4	5
7. It is awful if one does not quickly find good solutions to life's hassles.	1	2	3	4	5
8. People are justified in refusing to forgive their enemies.	1	2	3	4	5
9. People can control their emotions.	1	2	3	4	5
10. Criticism is bound to make anyone very nervous and anxious.	1	2	3	4	5

## WARD RATING SCALE

Date: \_\_\_\_\_

Patient \_\_\_\_\_

Rater \_\_\_\_\_

Directions: Rate each item below according to the 5-point scale below.

1	2	3	4	5
Not at all	Several times	About once	Several times	Very Often
this week	this week	a day	a day	each day

Base your ratings upon what you have observed this past week. Beware of your personal feelings or wishes for the patient. There may be instances in which you record a behavior when another patient or staff member has reported it. Do not tell the patient that he is being observed.

Circle the appropriate number:

1 2 3 4 5 hits or assaults others

1 2 3 4 5 tolerant and considerate of others

1 2 3 4 5 threatens to assault others

1 2 3 4 5 behaves in an appropriately assertive manner

1 2 3 4 5 tends to keep feelings of hurt and resentment to himself

1 2 3 4 5 loses temper when dealing with people in positions of authority

1 2 3 4 5 deals constructively with problem situations

1 2 3 4 5 easily annoyed or made angry

1 2 3 4 5 humorous and good natured

1 2 3 4 5 tends to take things too personally

1 2 3 4 5 makes sarcastic remarks to others

1 2 3 4 5 expresses resentment over being mistreated

1 2 3 4 5 distrustful and wary of other people

1 2 3 4 5 complains of being nervous and uptight

1 2 3 4 5 appears anxious and restless

# FEEDBACK

This questionnaire consists of several items asking about your reaction to the group meetings you recently completed. Answer each question by circling the appropriate number.

- 1 = Very Much
- 2 = Some
- 3 = Undecided
- 4 = Little
- 5 = Very Little

Try to avoid using the undecided responses. There are no right or wrong answers; this questionnaire is only concerned with your opinions. Please answer every item.

	Very Much			Very Little	
1. How logical did your group treatment seem as a way to help people better manage stress?	1	2	3	4	5
2. How confident are you that this treatment would be effective in helping patients better manage stress?	1	2	3	4	5
3. How confident would you be in recommending this treatment to a friend who was having a hard time managing the stress of confinement?	1	2	3	4	5
4. How willing would you be to undergo such treatment again, if you found yourself having trouble controlling the tension of confinement?	1	2	3	4	5
5. How successful do you feel this treatment was in helping you to better manage stress?	1	2	3	4	5
6. How much do you feel that the course of the group's activity was guided by the group leader?	1	2	3	4	5
7. How important was group interaction between patients in terms of helping you learn better ways to deal with stress?	1	2	3	4	5
8. How important was it to you to learn different ways of looking at stressful situations?	1	2	3	4	5

	Very Much			Very Little	
9. How important was information about stress provided by the group leader in terms of helping you to better manage stress?	1	2	3	4	5
10. How important was learning to relax better to your treatment?	1	2	3	4	5
11. How much do you think increasing the number of the group meetings to 10 (instead of 5) would increase the effectiveness of treatment?	1	2	3	4	5
12. On the average, how comfortable did you feel while actually in the group session?	1	2	3	4	5
	Very Comfortable			Very Uncomfortable	

## PERCEIVED CURATIVE FACTORS QUESTIONNAIRE

Several factors that people may consider important in group therapy are listed below. Read each one and indicate how important each one was for you in your group.

- 1 = Very Important
- 2 = Important
- 3 = Undecided
- 4 = Of Little Importance
- 5 = Of No Importance

1. Discovering and accepting previously unknown or unacceptable parts of myself.

1            2            3            4            5

2. Being able to say what was bothering me instead of holding it in.

1            2            3            4            5

3. Other members honestly telling me what they think of me.

1            2            3            4            5

4. Learning how to express my feelings.

1            2            3            4            5

5. Learning that I must take final responsibility for the way I live my life no matter how much guidance and support I get from others.

1            2            3            4            5

6. Learning why I think and feel the way I do. (Learning some of the causes and sources of my problems).

1            2            3            4            5



APPENDIX C

GROUP MEAN SCORES FOR EACH ITEM ON FEEDBACK AND  
PERCEIVED CURATIVE FACTORS QUESTIONNAIRE

GROUP MEAN SCORES FOR EACH ITEM ON THE FEEDBACK SHEET  
FOR THE SMT (n=9) AND SD (n=9) GROUPS

	<u>SMT</u>	<u>SD</u>
1. How logical did your group treatment seem as a way to help people better manage stress?	1.33	1.11
2. How confident are you that this treatment would be effective in helping patients better manage stress?	1.33	1.00
3. How confident would you be in recommending this treatment to a friend who was having a hard time managing the stress of confinement?	1.33	1.22
4. How willing would you be to undergo such treatment again, if you found yourself having trouble controlling the tension of confinement?	1.22	1.33
5. How successful do you feel this treatment was in helping you to better manage stress?	1.44	1.88
6. How much do you feel that the course of the group's activity was guided by the group leader?	1.22	1.44
7. How important was group interaction between patients in terms of helping you learn better ways to deal with stress?	1.11	1.11
8. How important was it to you to learn different ways of looking at stressful situations?	1.11	1.22
9. How important was information about stress provided by the group leader in terms of helping you to better manage stress?	1.55	1.33
10. How important was learning to relax better to your treatment?	1.00	1.11

	<u>SMT</u>	<u>SD</u>
11. How much do you think increasing the number of the group meetings to 10 (instead of 5) would increase the effectiveness of treatment?	2.22	2.00
12. On the average, how comfortable did you feel while actually in the group session?	1.00	1.11

GROUP MEAN SCORES FOR EACH ITEM ON THE  
PERCEIVED CURATIVE FACTORS QUESTIONNAIRE FOR THE

SMT (n=9) AND SD (n=9) GROUPS

1. Discovering and accepting previously unknown or unacceptable parts of myself.	<u>SMT</u> 1.11	<u>SD</u> 1.22
2. Being able to say what was bothering me instead of holding it in.	1.11	1.55
3. Other members honestly telling me what they think of me.	1.77	2.22
4. Learning how to express my feelings.	1.44	1.22
5. Learning that I must take final responsibility for the way I live my life no matter how much guidance and support I get from others.	1.11	1.00
6. Learning why I think and feel the way I do. (Learning some of the causes and sources of my problems).	1.33	1.00

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THE RELATIVE EFFICACY OF COPING SKILLS TRAINING  
AND GROUP DISCUSSION AS STRESS MANAGEMENT TECHNIQUES FOR  
FORENSIC PSYCHIATRIC PATIENTS

by

Harry Albert McClaren

(ABSTRACT)

Based on pretreatment levels of anxiety, 21 involuntarily confined forensic psychiatric patients were assigned to one of three experimental conditions: stress management training, stress discussion, or no treatment control. Measures of anxiety, physical health, mood, adherence to "irrational beliefs" hypothesized by Ellis (1962) to be related to dysphoric emotions, and a measure of hospital ward adjustment were collected before and after treatment. Subjects originally assigned to the waiting list control group later received exposure to either the stress management training condition or the stress discussion condition. Measures of nonspecific treatment effects generally showed that both group treatments generated equivalent treatment credibilities. The self-report measures of mood and physical health demonstrated that exposure to the stress management training condition resulted in pre to posttreatment improvement, while exposure to the stress discussion condition did not. Also, subjects exposed to the stress management training condition decreased their endorsement of "irrational beliefs," while subjects exposed to stress discussion condition did not. Neither condition resulted in reduced pre to posttreatment changes in state or trait anxiety or improved ward adjustment. It was concluded overall

that the stress management training procedure was a moderately effective stress reduction technique for forensic psychiatric patients. Directions for future research are presented as interpretive limitations of the present results.