



1976

The Relative Efficacy of Three Short-term Analogues in the Reduction of Anxiety

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THE RELATIVE EFFICACY OF THREE
SHORT-TERM THERAPY ANALOGUES
IN THE REDUCTION OF ANXIETY

by

Michael Craig Rabin

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

June

1976

ACKNOWLEDGMENTS

I wish to express my deep gratitude to Drs. Michael O'Brien, Ronald Walker, and Alan DeWolfe for their many efforts, both in helping me prepare this dissertation and in teaching me the finer points of conducting an experimental investigation.

I am also indebted to my fellow students who gave up their time to help me conduct this study.

Beyond this study, I gratefully acknowledge my debt to my many teachers, both professors and fellow students, and especially to Dr. Frank Kobler and Dr. Merle Day, my internship supervisor.

I also thank my wife, Sharon, without whom I never would have completed this.

VITA

The author, Michael Craig Rabin, is the son of Martin Rabin and Mildred (Behm) Rabin. He was born February 23, 1946, in Chicago, Illinois.

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In September, 1968, he entered Roosevelt University, and in June, 1971, he was awarded the degree of Master of Arts in Psychology.

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THE RELATIVE EFFICACY OF THREE
SHORT-TERM THERAPY ANALOGUES
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Michael Rabin

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Major theories of anxiety were examined and their similarities noted. Progressive relaxation, non-directive therapy and attention shifting were examined in terms of the theoretical rationale for their effectiveness in reducing anxiety. The literature on the State-Trait Anxiety Inventory and on therapy analogue studies on the reduction of anxiety were reviewed. The following hypotheses were studied:

1. Progressive relaxation will produce the greatest reduction in measured A-state anxiety within sessions.
2. Attention shifting will produce the greatest reduction in measured anxiety between sessions.
3. A-trait anxiety scores will be stable.
4. The different techniques will account for a greater degree of variance than will any interactions between subjects and therapists.

Thirty-two male and female undergraduates enrolled in introductory psychology courses at Loyola University of Chicago, who scored 38 or more on the STAI-A-Trait inventory, were placed into one of four experimental conditions. They either had three sessions of therapy in one of the three therapy modalities; progressive relaxation, non-directive, or attention shifting, or played solitaire during three sessions

as a non-therapy control. They filled out the STAI-A-State Inventory before and after each session. The therapists, eight advanced graduate students, saw one student in each of the therapy modes, and filled out the A-state inventory after each session.

The results indicated that progressive relaxation was the most effective therapeutic modality in reducing anxiety in short term therapy, when measured over time, as this technique led to a significant decrease in anxiety, $p < .02$. Use of the other two techniques produced a non-significant increase in anxiety.

All therapies, as well as the control procedure led to a significant reduction in measured anxiety within sessions, $p < .0001$. While none of the modalities were significantly different, the Jacobson technique led to a decrease that approached significance, $p < .07$.

Trait anxiety proved unstable within this study and this variability did not seem associated with any of the other measurements made in this study.

While the subjects were homogeneous in regard to anxiety levels, the therapists were not. They showed individual differences in anxiety, were less anxious with female clients, and were less anxious while engaged in progressive relaxation.

Subject satisfaction with therapy was found to be slightly associated with success in therapy.

REVIEW OF RELATED LITERATURE

Anxiety is a pervasive disability in our society, and has often had a profound influence in major life decisions. For example, Bucky and Spielberger (1973) found when studying 316 student naval aviators, that the 68 students who voluntarily withdrew from the course had significantly higher scores on both the state and trait forms of the State-Trait Anxiety Inventory. They also found a strong positive correlation between the state anxiety index and the point at which the students dropped out, those with higher anxiety scores dropping out earlier. As anxiety seems to limit effectiveness, the effective alleviation of anxiety is a vital task for any method of psychotherapy.

THEORIES OF ANXIETY

Sigmund Freud (1930) saw anxiety as a specific unpleasurable sensation accompanied by motoric discharges, and thought that psychiatric symptoms were created to remove the unpleasurable sensations of anxiety. He posited two types of anxiety, reality anxiety, which was based on and proportional to an identifiable outside source of danger, and neurotic anxiety. Neurotic anxiety involves the same feelings of apprehension and physiological arousal. The difference is that the source of danger is internal and not consciously perceived because it has been repressed.

Freud (1949) first felt anxiety is substituted for unexpressed libido, saying that while objective anxiety is a flight reaction to

an external threat, neurotic anxiety is a flight reaction to one's own libidinal demands. Repression is a defense against anxiety and is seen as a flight by the ego from unacceptable libidinal demands.

Later, he changed this to say that it is not repression that causes anxiety but anxiety that causes repression, because he found that the removal of repression often failed to remove anxiety. The process is that the ego senses danger which elicits anxiety, and the dangerous stimuli is repressed as a defense against anxiety. (Freud, 1964).

Freud felt that the instinctual situation feared in neurotic anxiety is based originally on the perception of a realistic danger. Repression occurs when the ego realizes that the expression of a libidinal impulse will conjure up the memory of a dangerous situation and then the instinctual cathexis is stopped to prevent anxiety. If the impulse is id-directed and thus not amenable to ego control, the ego will call up the feelings that will occur if the impulse is satisfied, and these unpleasant feelings of anxiety associated with the satisfaction of the impulse will lead to the repression of the impulse. Thus, according to Freud, neurotic anxiety is based on the fear of what was originally a realistic external danger. The basis of neurotic anxiety in the present, however, is fear of the real or imaginary consequences of expressing a libidinal impulse. There are then two origins of anxiety, one being in a traumatic situation when libidinal energy is transformed to anxiety, and the other when the ego fears a repetition of a traumatic moment. (Freud, 1959).

As neurotic anxiety occurs when the repression is only partially effective, most of the stimulus is unconscious, and thus neurotic anxiety is displaced to other objects.

The shift in theory from repression causing anxiety to anxiety causing repression is an important one, and there are three main differences between the two. In the final formulation, as in the first formulation, the libido is the energy that becomes the anxiety and remains withdrawn from cathexis. The essential difference is that in the first formulation, the libido serves the ego which perceives danger and uses the libidinal energy to repress the potentially dangerous impulses, and in the final formulation the libidinal energy becomes the anxiety. The second major difference is that he first saw neurotic anxiety as a fear of one's own impulses, and changed this to a fear of the consequences of expressing these impulses. The final difference is that he saw anxiety causing repression, rather than vice versa.

Basowitz, Perszey, Korchin, and Grinker (1955) also see anxiety as an emotional state, defining it as "a conscious and reportable experience of intense dread and foreboding, conceptualized as internally derived and unrelated to external threat." (p. 3), a definition very similar to Freud's.

Lazarus and Averill (1972) see anxiety as having three components, unpleasant cognitive and affective states, and physiological arousal. They see the cognitive mediation of anxiety as most important, for it is this mediation of the stimuli which differentiates the emotions from each other.

Schachter and Singer (1962) focused on what they saw as the two major components of anxiety, physiological arousal and socially determined cognition. They studied the effect of epinephrine injections and concluded that identical physiological arousal states can be interpreted as a variety of emotions, depending on the labels the person

attaches. The emotion felt depends on the interaction between the autonomic arousal and the cognitive interpretation of their arousal in terms of the social situation in which it occurs. For example, a man may become anxious whenever he is alone with a woman, but may interpret it as sexual arousal.

The above formulations are different from Freud's, in that they emphasize the cognitive aspects of anxiety, which Freud ignored. Spielberger, reviewing the literature on transitory anxiety states, concluded that "anxiety states must be conceptually distinguished from the stimulus conditions that arouse them, and from the cognitive and behavioral mannerisms that are learned because they lead to anxiety reduction." (Spielberger, 1972, p. 29).

Cattell and Scheier (1961) stimulated anxiety research greatly when they isolated two factors in anxiety by a factor analytic procedure, a state component, (A-state), and a trait component, (A-trait).

The A-state versus A-trait distinction is central to Spielberger's formulation and he separates anxiety into these two components. He conceptualizes an anxiety state as a

transitory emotional state. . .that varies in intensity and fluctuates over time. This condition is characterized by subjective, consciously perceived feelings of tension and apprehension, and activation of the autonomic nervous system. (Spielberger, 1972, p. 39).

Although these states are transitory, they can reoccur whenever the evoking stimuli occur, and can be of long duration if the evoking stimuli endure.

Trait anxiety is seen as

relatively stable individual differences in anxiety proneness, that is, to differences in the disposition to perceive a wide

range of stimulus situations as dangerous or threatening and to respond to such threats with A state reaction. (Spielberger, 1972, p. 39).

It is based on previous learning that generates a response set of proneness to react with anxiety. It reflects individual differences in the frequency and intensity of previous A-state reaction and in the probability of future manifestation of A-states.

Spielberger's theory of anxiety states that

the cognitive appraisal of a stimulus as dangerous or threatening evokes an A-state reaction, which may then incite a behavior sequence designed to avoid the danger situation. An A-state reaction may also evoke defensive maneuvers which reduce A-state or alter the cognitive appraisal of the situation. Individual difference in A-trait, along with past experience, determine the particular stimuli that are cognitively appraised as threatening. (Spielberger, 1966, p. 17).

This theory assumes that the arousal of anxiety states involves a process initiated by the internal or external stimuli that signal a danger. When a stimuli is seen as dangerous, the A-state reaction occurs and its intensity depends on the degree of threat foreseen. The duration of the reaction depends both on the endurance of the evoking stimuli and the effectiveness of the person's coping mechanisms. The experience of anxiety is unpleasant and leads to coping behaviors designed to reduce the anxiety or remove one from the danger situations. Comparing Freud's concept of anxiety with the concept of state anxiety, it seems apparent that there has been little change in the conception of this aspect of anxiety.

Jacobson's relaxation therapy, Rogers' non-directive counseling, and Day's attention shifting therapy are three divergent techniques used to reduce anxiety.

Jacobson, in the theoretical background for his therapeutic

technique, defines anxiety as a feeling of muscular tension. Tension is defined as a reaction by muscular contraction. He says,

Anxiety. . .is demonstrably a tension disorder, which does not occur in isolation from other tension disorders. . . . Every instance of anxiety reaction is marked by concomitant spasticity or other form of overtension in the esophageal, stomach and colonic musculature. (1970, p. xix).

He feels that these tensions are not symptoms, as symptoms are what bother the patient and bring him into therapy. However, the patient is aware of these tensions, which are associated with the symptoms. Jacobson feels tension is neither the cause nor the result of anxiety, but merely an aspect of the anxiety state manifested in the neuromuscular system. According to Jacobson, emotion is a function of neuromuscular activity, and can be controlled by learning control over one's neuromuscular system.

He feels that anxiety is based on the awareness of muscular tension, regardless of the underlying primary cause, and that these muscular tensions and tension patterns are the continuing cause of anxiety, and thus learning to relax these tensions removes the continuing cause and the anxiety itself. He says that ". . .If the tension states can be effectively reduced, the symptom of anxiety states or other forms of psychoneurosis can take care of themselves." (Jacobson, 1970, p. xvii).

Jacobson (1938) is not interested in the causes of the etiology of anxiety, and seems to feel that they are unimportant. He feels that the muscular tension associated with anxiety is what causes the unpleasant sensation, and the removal of the tension frees the patient from the unpleasant sensations.

Wolpe (1958) sees the Jacobson deep motor relaxation exercises

as an anxiety inhibitor. He uses them in his systematic desensitization to inhibit anxiety and thus block phobic reactions.

Rogers, in his theoretical formulation of non-directive therapy, sees anxiety as an impending awareness of an incongruence, "a discrepancy between the actual experience of the organism and the self picture of the individual insofar as it represents that experience."

(Rogers, 1957, p. 96). Experience is defined as "both physiological and psychological events, all that is going on in the organism at a given moment in time. These events are potentially available to awareness." (Rogers, 1959, p. 196). Rogers defines anxiety as a "state of tension or uneasiness for which no known cause exists. Anxiety is likely to occur when the awareness of incongruence between the self and experience is impending." (Rogers, 1959, p. 198).

Rogers (1961) feels that as a person matures, he finds he needs his own self regard and he acquires conditions of worth, which means he develops a code of behaviors and attitudes which he must adhere to in order to perceive himself as a worthy person. Because of this need for self regard he may selectively perceive or fail to perceive certain elements of his experience. He may not perceive those elements of his experience that are contrary to his conditions of worth, or may misperceive these elements so that they seem to fit his conditions of worth, i.e., either deny or rationalize a contradiction between his experience and his self concept.

This incongruence between his self-concept, based on his conditions of worth, and his experience, leaves him vulnerable to anxiety, and he will become anxious if the misperception or lack of perception fails and he becomes conscious of this incongruency.

Rogers (1942) sees defensive behavior as an attempt by an individual to ward off anxiety by selectively limiting his perception of his experience to avoid becoming cognizant of the incongruence between his self concept and his experience.

Thus, conditions of worth are a necessary precipitating factor for anxiety. If a person is lacking in unconditional positive regard, both from himself and from others, he will adopt conditions of worth for himself and will then respond to his experience as more or less worthy of self regard, based on others' valuations. When his experiences are incongruent with these conditions, which are grafted onto his self structure, he is vulnerable to anxiety and will use defensive behaviors to distort his experience to fit these conditions of worth in order to escape anxiety. When these defenses prove inadequate, or when they break down, he suffers from anxiety.

Rogers (1957) feels the work of therapy is to dissolve these conditions of worth, so the person can have unconditional positive regard for himself, and can achieve a self concept congruent with his experience, using his intrinsic judgment as his regulator of behavior, rather than others' expectations or values.

If the therapist communicates worth and acceptance, and is supportive of the client's effort to explore his feelings, this will communicate to the client that he is worthy of regard and caring, and that he is not as bad as he pictures himself, thus lowering his anxiety. Rogers also feels that if the therapist fails to be warm, accepting and permissive, this will raise the client's anxiety. (Rogers, 1957).

Levison, Zax and Cowen (1961) see non-directive therapy as reducing anxiety in the following way. The anxiety cues are reinstated

during the conversations and the expression of affect involved removes the anxiety provoking power from the cues.

Acceptance and support are two key aspects of Rogers' therapeutic technique which Dollard and Miller (1950) also believe to be effective. They feel that being supportive will lower anxiety in the same way that a child feels less anxious if a parent is present to defend or rescue him. They say that "the moral support of the therapist as a prestigious person may produce a considerable reduction in the strength of a patient's fear." (1950, p. 389). They also say that

by encouraging the patient to talk and consistently failing to punish him, the therapist creates a social situation that is the opposite of the one originally responsible for attaching strong fears to talking and thinking. . . Since he is not punished, his fears are extinguished." (1950, p. 230).

In discussing his therapeutic technique, Day (1972) hypothesizes that anxiety is a result of an excess of self-focused attention, involving ruminative, obsessional thinking, usually focused on a painful subject. The patient focuses on his own thinking to the exclusion of outside stimuli and this imbalance in the attentional process leads to anxiety. The patient is stuck on a particular thought or idea or concept, like a record stuck in a groove and plays it over and over to himself. He cannot let go of the idea, as he has fallen in love with his thinking, and he finds his ability to function decreased, and his sleep disturbed in proportion to the degree of this narcissistic self-absorption. Day feels that the underlying thought or event is not the problem as much as the narcissistic self-focus, the continual self-directed attentional flow. This self-absorption involves a continual mulling over of the thought, without any behavior effectively directed at resolving the problem or dealing with the feelings involved.

Two elements must be present for the patient to focus on himself to the degree that he can be seen to have become trapped within himself. One is a narcissistic orientation so the patient can fall in love with his own thinking. The other is what Day calls "stinking thinking", by which he means obsessional or compulsive thought patterns similar to what Ellis calls irrational thinking, which form the repetitive thoughts the patient is focused on. (Day, 1969a).

One of the primary methods Day suggests for dealing with the anxiety engendered by this self-focus is to teach the client to give attention to other people, rather than himself, since while he is attending to other people, he cannot be engaged in repetitive thinking. Thus, attending to others is a technique the patient learns to aid him in lessening the repetitive thinking that Day feels is the cause of his anxiety. (Day, 1969b).

This is similar to a technique that Dollard and Miller (1950) suggest. They feel that one of the more effective techniques of controlling anxiety is to suppress the thinking involved. They suggest that suppression should be used when the problems preoccupying a patient can be postponed or are insoluble. They suggest focusing one's attention on outside or distracting stimuli, as this will lower or prevent anxiety and will "drive your troubles right out of your mind." (1950, p. 450).

Day's theory is derived strongly from Sullivan's idea of selective inattention. Since only those stimuli that are attended to are within one's experience, if certain stimuli or thoughts cause anxiety, one can consciously choose not to attend to them and thus eliminate them from one's experiential field. (Day, 1969c).

In addition to the lack of agreement on the definition of anxiety, there have been numerous problems related to measures of anxiety. Sarason (1962) feels that psychology does not have construct validity for anxiety measures, and thus the most positive statement that can be made is that anxiety scales "measure the extent to which subjects admit anxiety in certain situations." (1962, p. 409).

Spielberger agrees that self-report scales are influenced by a variety of mechanisms, e.g., response sets and defensiveness, and states that their use depends on the acceptance of the premise that people are both willing and able to correctly describe their own feelings and behavior. Most objective tests are based on this premise, and this assumption is not unreasonable, and may be the lesser of two evils, as physiological measures of anxiety have generally proven unsatisfactory. (Dustin, 1969).

The State-Trait Inventory (STAI) was devised to provide a short and stable self-report measure of state and trait anxiety. Spielberger, Gorsuch and Lushene (1971) developed the STAI from existing anxiety inventories, using a series of item analyses to reduce their pool of 177 items to 20 items for each form of anxiety.

Spielberger (1972) reports certain characteristics that determined the construction of the A-state inventory. One is that each item was expected to reflect the subject's level of anxiety at the particular time. The second was that the items have a high reliability, as the primary use of the test in research was to compare difference scores. As difference scores contain error components of both administrations, unless the reliability is high, the resulting difference scores will

have low reliabilities. The third was to have the inventory both brief and easy to administer, because a long test would be less sensitive to rapid fluctuations in state anxiety. The A-state scale consists of twenty statements that ask the responder to describe how he feels right now by rating himself on a four point scale.

The A-trait scale also consists of twenty items which the responder answers by rating how he generally feels on the same four point rating scale. The items were selected on the basis of significant correlations with other anxiety scales that were widely accepted as measuring individual differences in A-trait, specifically the Taylor Manifest Anxiety Scale (TAMS), and the IPAT Anxiety Scale. The items were also selected for their stability over time and their relative insensitivity to situational stress.

Spielberger reports that adolescents and adults of at least dull normal intelligence are both capable of describing their feelings and willing to reveal these feelings in therapeutic settings or while engaged in a research project, providing the experimenter makes a reasonable effort to motivate them to do so. In the manual Spielberger (1971) reports the following reliability and validity data. He tested the normative sample at intervals of one hour, twenty days and 104 days and the test retest correlations ranged from .73 to .86 for males and from .75 to .77 for females on the A-trait inventory. On the A-state inventory, the correlation ranged from .33 to .54 for males and from .16 to .31 for females. The high correlations on A-trait seem to indicate that it does test a stable personality characteristic, while the low correlation for A-state reflect the transitory nature of the factor being tested. Alpha coefficients, which measure the internal

consistency of a tool, ranged from .83 to .92 for the A-state inventory.

The STAI-A-trait inventory correlates .75 with the IPAT, .80 with TMAS, and .52 with the Affect Adjective Checklist, but this reflects the fact that items for the A-trait scale were taken from the first two. When given with the standard instructions, the correlations between the two STAI scales ranged from .44 to .55 for females and from .51 to .67 for males. Spielberger feels this indicates that males high in trait anxiety are more prone to anxiety states than females high in trait anxiety.

Dustin (1969) says that the STAI was designed according to the following principles: that A-trait measures should be stable while A-state measures should be sensitive to stress, and that A-trait should be correlated with an increase in A-state under stress for a given subject pool. He feels it is a well designed and well constructed anxiety inventory.

Gillette (1972) criticizes the test on the following basis. He says that the major source of variance investigated is individual subject differences in trait anxiety, and individual orientation in responses regarding state anxiety are not adequately studied. The state anxiety inventory is tied to specific situations and variance from situations and individual differences is masked. Also, neither the A-trait nor A-state inventory measures the effect of the variance in responses to anxiety.

Newmark (1972) studied the stability of state anxiety and trait anxiety, as measured by the STAI. He tested 98 males and 94 females from a normal college population four times over a ten month period. He found low Pearson product moment test-retest correlations on A-state,

the range being from .28 to .85, with the mean being .52. There was considerable inter and intra subject variation present, as would be expected from a measure of transitory emotional state. The test-retest correlation for A-trait ranged from .68 to .95, with a mean of .86, with minimal intra and inter subject variability, showing the test is a reliable measure of stable individual differences. The difference between the two mean reliability coefficients was significant at the $p < .01$ level.

Examining the role of individual differences in trait anxiety as they relate to the magnitude of A-state responses, Lamb (1973) studied fifty speech students exposed to an ego stressor, which was defined as giving a speech, and a physical stress, which was defined as blowing up a balloon. He used the STAI, a speech anxiety state questionnaire, heart rate, and ratings on a behavioral checklist as his dependent measures. He found a significant difference ($p < .05$) between the high and low trait anxiety subjects in their magnitude of A-state measures on the ego-stressor, but no significant difference between the groups on the physical stressor, although it significantly raised the A-state scores.

Spielberger (1972) notes that this has been a consistent finding in the literature, that people who score high on trait anxiety will show a greater increase of state anxiety when placed in an ego-stressful situation. He says that when self-esteem is threatened, high A-trait subjects will show a greater increase in state anxiety, and that ego-involving instructions are more detrimental to high A-trait subjects than to low A-trait subjects. He posits a fear of failure in high A-trait subjects, who tend to be more self depreciating. This difference

is not seen when the stressor is physical danger, and it seems that subjects with a high level of trait anxiety are more sensitive to shame or failure than low-trait anxious subjects, but that there is no difference in their reaction to a threat of physical harm.

Looking for possible differences between high, medium and low anxiety subjects, Sanders (1973) studied six groups of seven undergraduates who scored high, medium, or low on the STAI A-trait scale, one male and one female group for each of the three conditions. He found significant differences between the three groups on the A-state inventory before and after two interviews, with the groups falling in the same order, i.e., high state anxiety associated with high trait anxiety, etc. While males scored consistently higher on the state anxiety measure, the results were stable across sex.

Allen (1970) gave a battery of anxiety inventories under three conditions, during class time, just before a test, and when told to role play a student worried about an exam. The results indicated that the anxiety inventories were easily fakable, as the role playing condition was responsible for most of the overall variance. He also found that state anxiety was relatively stable over the first two conditions. He concluded that the tests do test what they are supposed to, but that the experiment must depend on the cooperation of the subjects.

Interested in two factors of anxiety, cognitive anxiety or worry, and emotionality, Morris and Liebert (1973) evaluated the concept that high A-trait subjects exhibit more state anxiety in an ego-threatening situation than do low A-trait subjects, but that no differences are found in a situation where the stressor is pain. They found that the high A-trait subjects were significantly higher ($p < .05$) than the low

A-trait subjects in all three conditions, ego-threat, shock threat and no-threat. They concluded that high A-trait subjects have elevated A-state levels across all conditions, when compared with low A-trait subjects, and they were not able to confirm previous research that indicated a difference would be found only under the ego-threat condition.

By measuring state and trait anxiety in 48 VA psychiatric patients before and after a stressful interview, where they were asked to describe their reaction to fear and their most frightening experience or a non-stressful interview, where they were asked about their favorite hobbies and sports, Johnson (1968) sought to study the effect of stress on measured anxiety. Before each interview the subjects underwent a ten minute session of Jacobson relaxation exercises. The A-state measures were heart rate, systolic blood pressure, and the Zuckerman Adjective Checklist, today form. The A-trait measures were the Taylor Manifest Anxiety Scale and the Zuckerman general form. He found that the measures of A-state differed significantly ($p < .01$) between the stress and non-stress interviews, but the A-trait measures were stable. He felt this supported the concept that A-states are transitory and situationally dependent, and that A-trait is a stable measure of individual differences independent of situational factors.

Studying the nature of state anxiety, Wachtel (1968) evaluated the hypothesis that one effect of anxiety is the reduction of the attentional field, with a heightened focus on central cues and a reduced responsiveness to cues incidental to the anxiety engendering problem. His procedure was to have students do a tracking task under one of three conditions; the first group was to track as fast as they could, and also to turn off flashing lights when they appeared; the second group

was given the identical task, but warned that they would be randomly shocked and the magnitude of the shock would depend on the elapsed time between shocks; and the third group was told they could escape the shocks by a good performance on the task. He was interested in the reaction time of the subjects to the lights, as, by definition, they were incidental cues to the primary task of tracking. No significant differences were found in tracking time, but the difference in the reaction time to the lights was significant at the $p < .001$ level. Group two, which had no control over the shocks, had a slower reaction time to the lights than either of the other two groups. Wachtel concluded that this supported his hypothesis that the anxiety due to an uncontrollable threat reduces the attentional field, despite the fact that the increased attentional focus on the tracking problem cannot lead to avoidance of shocks. He also found that when the threat can be controlled by a proper coping behavior, no restriction of the attentional field results, and he concluded that this is the difference between anxiety and realistic fear, that anxiety impairs functioning and fear does not.

Using a repeated measure R-technique factor analytic procedure, Bartsak and Nesselrode (1973) investigated the State-Trait anxiety distinction. They found a stable trait division, and that stress situations had a different effect on state anxiety than did neutral situations. They did not find the expected positive correlation between state and trait anxiety, probably because the first experiment produced high state anxiety, which was reduced by continued exposure to the situation.

Therapy analogue experiments, according to Zytowski (1966, p. 235), are

a mode of research wherein the behavior of the experimenter is designed to stimulate in some relevant dimension(s) that of a psychotherapist while S(s) is brought in some way to feel a distress or symptom which approximates that brought by a patient to a real therapy.

Cowen (1968) felt that analogue experiments are the most useful technique for investigating psychotherapeutic processes.

Cattell, Rickels, Weise, Gray and Yee (1966) studied patients in therapy and an equivalent sample not in therapy, matched on the basis of age, sex and social status. They found the patients in therapy had significantly lower anxiety scores ($p < .03$). They concluded that therapy reduces anxiety, but did not differentiate the types of therapy used. They also failed to spell out how the subjects were selected and it is possible that a difference in test taking attitudes existed.

Wine (1971) suggested that the adverse difference in test scores between high and low test anxious subjects may be due to attentional interference in that highly anxious subjects divide their attention between self-relevant variables while low anxiety subjects have a greater percentage of their attention focused on the task. She cited literature that suggests five possible origins for this behavior. One is that highly anxious subjects are generally more self preoccupied than low anxiety subjects. Another is that stressful situations differentially activate increased self focus, the degree dependent on the initial anxiety. Thirdly, the test situation differentially activates anxiety and self focus in high trait anxiety subjects and increased task focus in low trait anxiety subjects. Also, anxiety reduces the range of task

cues available for use. Lastly, worry is an attention demanding activity that adversely affects performance by reducing the amount of attention focused on the task to a level insufficient for good performance, and worry has a more adverse effect than autonomic arousal has.

Wine felt high test anxiety subjects are internally focused on self-evaluative and self-depreciatory thinking, and/or on perceiving their autonomic functioning, and thus cannot give their full attention to the task. She stated that people scoring low on anxiety inventories respond to threatening situations with increased effort and attention, while high scorers respond with self-orientated, repetitive, personalized thinking. She concluded that high scorers tend to be more self-preoccupied and self-depreciating than low scorers.

Wine also reported empirical evidence that subjects can be trained in attention directing, i.e., to ignore irrelevant, self-focused stimuli and to focus on task orientated stimuli. To test these theories she compared attention directing training coupled with test taking practice, attentional training combined with relaxation training, and a "self-explorational therapy" in their effectiveness in reducing test anxiety. After six one hour sessions, she compared the subjects on self report measures and standardized performance measures and found attentional training to be significantly better on both. Attentional training coupled with relaxation also lead to improvement, but no more than attentional training itself, and the self-explorational therapy led to no improvement. She concluded that "it is possible to define test anxiety attentionally. If a person is not attending to his test anxiety, it, in effect, does not exist." (Wine, 1971, p. 102).

Paul (1966) studied anxiety reduction, using behavioral anxiety manifestations and a self report measure, in students giving a practice speech in a speech class for speech majors. Each student spent five hours in one of five conditions, insight orientated therapy, modified systematic desensitization, attention-placebo, no treatment and no interaction. He found all three therapies more effective than no treatment on the Behavioral Checklist and the Anxiety Differential, but that only desensitization led to improvement on the measures of physiological arousal and that desensitization was significantly more effective ($p < .05$) on all of the measures.

Comparing systematic desensitization with study counseling techniques in their effectiveness in reducing test anxiety, Allen (1971) assigned 75 subjects to either a systematic desensitization group, a study counseling group, a combination of the two, or a placebo group called "attention focusing", where the subjects participated in a quiz game. He found that the combined therapy group was significantly more effective in reducing anxiety and increasing test performance than either one alone. Desensitization and counseling were not reliably different from each other or from the placebo procedure. These results are interesting, as they are very different from the results usually reported, but his procedure was not given in enough detail to adequately evaluate the methodology of this study.

Hyman and Gale (1971) studied three groups of females with snake phobias. One group received systematic desensitization with relaxation, another without relaxation, i.e., only the exposure to the phobic visualization, and the third only received relaxation. The samples were matched according to how close the subjects would approach to the phobic

object.

They found that systematic desensitization was significantly more effective ($p < .05$) followed by relaxation and then phobic visualization. The GSR's showed the most rapid habituation for desensitization. They concluded that these results supported a counter conditioning explanation of the effectiveness of systematic desensitization, with relaxation as the mediator in the counter conditioning. By this they mean that the relaxation response is reciprocally inhibiting to anxiety responses. They see relaxation as a self control technique, hypothesizing an interaction between the cognitive and physiological aspects of fear response, where the lowering of one aspect of the response leads to a lowering of the total response.

In a similar experiment Johnson and Sechrest (1968) studied college students with high test anxiety under three conditions, systematic desensitization, relaxation only, and no treatment. They predicted on the basis of the counter conditioning model that systematic desensitization would be the most effective. Their measures were grade improvement, test scores on an anxiety scale, and two trace manifestations of anxiety on the test answer sheet. The only significant difference found was in the final grades, but they concluded that this supports their hypothesis. I feel this is unjustified as they found no significant differences on the direct measures of anxiety, and other variables influence test grades, including study habits and initial ability.

Perseley and Leventhal (1969) compared anxiety imagery by itself and coupled with relaxation training, and therapeutically orientated or neutral instruction. They found the group which had anxiety imagery coupled with relaxation and therapeutically orientated instructions to

be significantly better ($p < .05$). They concluded while the pairing of anxiety imagery and relaxation training does have a therapeutic effect supporting the counter conditioning model, this model does not totally explain the process and that cognitive elements are present.

Using the Eysenck Personality Inventory, Stoudenmire (1974) separated 36 female undergraduates into two categories, introverts and extroverts. These subjects were defined as highly anxious as their scores were a half a standard deviation above the mean on the STAI. He used two measures of state anxiety, the STAI state form and the Zuckerman Multiple Affect Adjective Checklist, and three of trait anxiety, the STAI trait form, the TMAS and the Eysenck Personality Inventory. The subjects each received three hours of relaxation training. Stoudenmire found that the relaxation produced no effect on trait anxiety, but did produce a significant reduction in state anxiety for introverts, although not for extroverts. He concluded that longer treatment would be needed to affect trait anxiety and that introverts condition faster than extroverts. State anxiety is expected to fluctuate rapidly, and with only three testings and a small sample, there may be a difficulty in replicating his results.

Trexlar and Horst (1972) gave either rational-emotive therapy (RET), attention placebo therapy (relaxation training), or no treatment to 33 college students reporting high test anxiety. They found RET to be significantly more effective on two variables, but this study has a number of serious flaws. The therapist obviously was in favor of RET, i.e., calling relaxation training a placebo, and it may have been communicated to the subjects, especially in that all other studies report relaxation training at least superior to no treatment. Their

conclusions may have been overgeneralized as one of the significant differences supported relaxation and only two supported RET, and three showed no significant effect.

Predicting that muscle relaxation would lower state anxiety but not effect trait anxiety, and that the passage of time would randomly affect state anxiety but not trait anxiety, Johnson and Spielberger (1968) exposed hospitalized psychiatric patients to relaxation training exercises. The subjects were tested, given relaxation training, allowed to rest and instructed to think pleasant thoughts for ten minutes and then retested. This caused serious flaws in the research, as the subjects were hospitalized psychiatric patients and it is questionable if they were all equally able to think pleasant thoughts for ten minutes.

They found that relaxation training produced a significant reduction in A-state scores on all three measures used, systolic blood pressure, heart rate and the Zuckerman Affect Adjective Checklist, with $p < .001$ on both of the physiological measures and $p < .05$ on the Zuckerman. They found passage of time to produce no significant differences on A-state, but the high variability leads to the conclusion that random variations may have balanced each other. This is the danger of group measures, in that if one subject increases ten units, and another decreases ten units, no overall change is reported. The only difference found in measures of A-trait was a reduction over time, which may have been due to therapy or recovery from an acute psychiatric disturbance. They concluded that relaxation therapy reduces state anxiety but has little effect on trait anxiety.

Edelman (1970) compared the effectiveness of brief relaxation therapy with several control procedures designed to effect minimal

autonomic changes. He studied the heartbeat of forty male undergraduates assigned to one of four groups:

1. An experimental group who listened to a tape of progressive relaxation prepared by Wolpe and Lazarus;
2. The first control group, who only heard the portion of the tape providing suggestions, to relax without exercise instructions;
3. The second control group, which only heard the exercises with the instruction to relax omitted;
- and 4. The third control group, who were exposed to classical music.

He found no significant difference between the groups, but he had no measure of relaxation and thus did not know if any had achieved a relaxed state. Also, he had not controlled for individual differences in anxiety.

He redid the experiment with the following features added. He tested forty subjects on the STAI, and divided them into either high or low on the A-trait form. He then tested A-state before and after each session. He again found no significant differences on the physiological measures and concluded that while progressive relaxation does reduce systolic blood pressure, so do the control procedures. The STAI indicated that progressive relaxation did reduce perceived A-state more than the other measures. He concluded that progressive relaxation has no unique effect on the autonomic nervous system and that suggestions to relax or music work equally well. However, as Dustin (1969) points out, physiological variables have proven unsatisfactory in anxiety subjects, because the high variability in individual differences may mask experimental effects, and Day (1969a) suggests that people may differ in the direction of autonomic changes under stress and no-stress conditions. Therefore, it may have been a failure of the dependent variables, rather than a failure of the therapy, that no significant

results were found.

As he hypothesized that underachievement was due to high anxiety, Andrews (1971) compared a combination of desensitization and reinforcement procedures to client centered therapy in their relative effectiveness in the reduction of anxiety in 32 highly anxious high school males. Each subject received two sessions. On the basis of the results on the IPAT anxiety scale, he found the behavior therapy more effective than the client centered approach, ($p < .05$). He also found that while the behavioral technique was significantly more effective than the control procedure, ($p < .01$), the client centered approach was not significantly different from the procedure used in the control group.

Keet (1948) selected subjects who showed a block on one word of an association task, defining this as an indication of anxiety. He placed the word in a complex memory task and if the subject again failed the word, he was placed either in interpretive or client-centered counseling. He found all receiving non-directive therapy failed to recall the word on repeating the task, and all but one subject who received interpretive therapy recalled it. Keet was the therapist for each group, however, and knew the criterion response for each subject. In the interpretive therapy, he could point out the blocked word, in a way that could not be done in Rogerian therapy. Also, the blocking on a word seems a better test for repression than for anxiety per se, and finally, Zytowski (1966) reports that two attempts to replicate this study failed.

Setting up a conditioned anxiety response to the word chair by means of a buzzer, Levinson, Zax and Cowen (1961) used the GSR to measure a responsiveness they defined as anxiety. They had three treat-

ment conditions: a control group where the subject was escorted to an empty room and asked to wait for twenty minutes, a talk group which spent twenty minutes talking to a therapist about innocuous subjects, and a therapy group, which was given non-directive counseling. After the therapy the conditioned stimulus was extinguished by the usual procedures. When they compared anxiety reaction scores on the GSR between conditioning and extinction trials, the therapy group showed a slight decrease and the talk group a slight increase, and the control group a large increase. The differences were not significant, however, due to the large individual variability in the GSR, which masked any possible therapy effects. They did not report the number of trials needed for extinction, which may have provided a measure of anxiety reduction.

Blumberg (1973) studied the interaction between therapist style and client personality, in terms of two personality factors, dogmatism and dependency. The dependent variable was the client's perception of his problem after a therapy analogue session, as measured by the Problem Pathological Potential Scale. He found a significant interaction. Dogmatic clients show positive change with directive therapy and negative change with non-directive therapy, while for non-dogmatic clients, the opposite holds true.

As reassurance is one of the commonest methods used to reduce anxiety, Sarason (1958) tried using this technique to lower anxiety in students learning nonsense syllables and meaningful words. He found reassurance helped highly anxious subjects but hindered subjects with low anxiety. He concluded that reassurance lowered anxiety and this lowered drive level, to a point where the low anxiety subjects no longer had enough anxiety to activate drive.

Weiner (1955) studied the effects of stress on performance and the effects of counseling stressed subjects on performance. He gave each subject the Rorschach and then to create stress he told them their Rorschachs were abnormal and indicated a need for further testing. He then assigned them to one of four groups: Reassurance-interpretive, when they talked about their feelings about their Rorschach results, and where he reassured them as to the appropriateness of their feelings and interpreted for deeper levels of feelings; emotive-reflective, where he only reflected expressed feelings; a talk group; and a rest group. The non-stress group was told only that he was looking for correlations between test scores. The pre and post tests were the TAT cards 1, 2, 3bm, 3gf and 10, the Wisconsin Card Sort, the Mirror Tracing test and the Discomfort Relief Index. He found that the stress groups seemed more improved than the non-stress group but the only significant difference was on the Discomfort Relief Index. He also found increased variability in the stress group as compared with the non-stress group. Within the stress group, he found counseling more effective than in the control groups ($p < .06$) but no differences between the counseling groups. He suggests that the reason for the poor differences was that the stress was not strong enough and suggests that the study be done using a greater stress. There are three other possible explanations of the lack of success of the therapy. One is that the therapy session only lasted twelve to twenty minutes. Another is that Weiner acted both as the stressor and as the therapist and it is doubtful whether he could have gained the subject's trust and cooperation after telling them they had abnormal Rorschachs. The third is that he failed to use sensitive tests for what would be relatively minor differences, considering the subjects

were a relatively healthy college population. Also, the deception used may not have been effective, and thus may have only alienated the subjects.

Comparing psychotherapy with two mock-therapeutic control groups, Martin, Lundy and Lewin (1960) assigned high scorers on the Forced Choice Manifest Anxiety Scale to either psychotherapy, therapy in which the therapist responded non-verbally, or therapy via talking into a tape recorder. They found anxiety, as measured by the GSR, increased throughout the five half-hour sessions for both the control groups, while for the therapy groups it increased the first three sessions and dropped slightly for the last two. On the Adjective Checklist, anxiety decreased for therapy and non-verbal therapy, as compared with tape recorder therapy. It is not clear what they were studying, or what the results mean, but it is interesting that the self report shows decreased anxiety at the same time the GSR shows increased anxiety.

Hypnotically inducing repression of a conflict over parental conflicts in college students, Gordon, Morton, and Lundy (1959) tested the effects of verbalization of the conflict and emotional catharsis, versus suppression or repression, in a forty-five minute interview, using the GSR as a measure of anxiety. They found that the GSR increased in all cases, but at a lower rate for catharsis, leading them to conclude that the expression of conflictual feelings leads to lesser anxiety than does suppression or repression of the conflict. However, the GSR was their only measure of anxiety and, due to the lack of clear-cut differences and the poor effectiveness of the GSR in previous research, the confidences one may place in those results are questionable.

HYPOTHESES

This study compared the effectiveness of three therapeutic modalities in the reduction of anxiety, as measured by the STAI. The first method, Jacobson's Progressive Relaxation, a behavioristic technique designed to block the perception of the physical aspects of anxiety, was designed to lead to an immediate reduction of anxiety. It is the easiest of these three techniques to learn, and so was expected to have the most rapid effect. As it requires practice, it was expected to have a measurable between sessions effect. However, as the literature on this technique does not report long term effects, and because the strongest effects tend to be limited to during and immediately after the use of this technique, the between sessions effect was not expected to be strong.

The second method, Day's Attention-Shifting Technique, theoretically blocks the perception of anxiety through the intervention of a cognitive exercise. It is more difficult to learn than progressive relaxation, and takes more practice, so it was expected to take longer than the above technique to effect a reduction in anxiety. However, Wine (1971) using a similar technique, indicated that the procedure she used was more effective than the other two. Since Wine's technique and Day's technique are almost identical, it was hypothesized that the Attention-Shifting Technique would have the strongest effect over time.

Rogers' Non-Directive Therapy, which alone among these therapies

is not specifically designed to lower anxiety, requires a cognitive change in the evaluation of anxiety producing stimuli. Also, of these three methods, only Rogerian therapy does not have practice built into the system, and will not benefit from any positive effects practice may provide. For these reasons, non-directive therapy was expected to have the weakest effect of the three therapies.

While A-state scores were expected to vary greatly, A-trait scores were expected to be stable, on the basis of previous research, and because of what the A-trait test is thought to measure, i.e., stable personality differences in proneness to anxiety.

While the personal variables of the subjects and therapists, and the interactions between these variables may have an influence on the results, it was assumed that these variables were randomly distributed, and that the techniques themselves would have the greatest effect on the results.

The following hypotheses were made on the basis of the research previously cited, and the formulations about the therapies given above.

1. Muscle relaxation will produce the greatest reduction in measured anxiety within sessions, followed by attention shifting and then non-directive counseling.
2. The attention shifting technique will produce the greatest reduction in anxiety over time as measured by the reduction in anxiety between sessions, with progressive relaxation more effective than non-directive therapy.
3. A-trait will be a stable characteristic of the subjects.
4. Techniques will account for significantly more variance than will interactions between therapists and subjects, therapist and subject

levels of anxiety, or sex of subjects and sex of therapists.

The first hypothesis was evaluated by means of a repeated measures analysis of variance, using pre-post difference scores with subjects nested within therapists. The second was measured similarly, using difference scores from after session one to before session three. The third hypothesis was evaluated using difference scores between the initial and second A-trait scores and the second and final A-trait scores in a repeated measures analysis of variance design with subjects nested within therapists. The fourth variable was evaluated on state measures only. The STAI state score prior to the first session was compared with the score after the third session in a repeated measures multiple nesting design, with therapist anxiety, high or low, nested with therapists and sex and same or different sexed therapists nested within subject.

EXPERIMENTAL PROCEDURE

Subjects: The study used 32 psychology undergraduates preselected on the basis of their being above average on the Trait version of the STAI. Students scoring over 38 were selected as subjects, as only 45% of the normative sample of college undergraduates scored this high or higher. Twenty-one male and 11 female subjects were randomly assigned among the four conditions. This resulted in six males and two females in the control group, three males and five females in the Jacobson modality, four males and four females in the Rogerian modality, and eight males in the Day modality.

Therapists: Eight advanced male and female graduate students with a minimum of 500 hours of supervised experience were used as therapists. They received a one hour training session in each of the three methods of therapy used and each saw three subjects three times each for thirty minutes, i.e., one subject in each of the three therapies.

Materials: The materials used were both versions of the STAI, State and Trait, and the therapist ratings of preferred therapy modality.

Procedure: The students were given the STAI and all students who scored 38 or higher were urged to participate in the experiment.

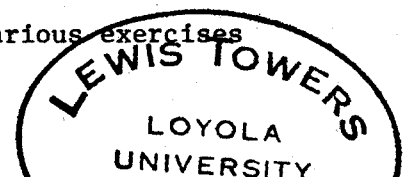
The subjects were given the STAI when they reported, first the State version and then the Trait version, as this is the recommended procedure. (How to use the STAI, 1974). Then they were assigned to an experimental procedure, randomly from each group, for their first

half hour session. At the end of this session they were retested with the STAI, State version and the next appointment scheduled. All testing was performed by the experimenter (MCR) who did not do any of the therapy.

The therapists also took the A-State inventory after each session, so any interaction between anxiety states of the therapist and subjects could be evaluated. The experimenter explained to the students that they were participating in an experiment concerned with anxiety reducing therapies and that we were trying to evaluate the therapies and therapist variables, not the students, but we hoped they might learn something useful from them. They were asked to cooperate with their therapists to the best of their abilities and to answer the questionnaires as accurately as they could. This was designed to lower anxiety due to the testing situation as research indicates a positive correlation between the degree of ego involvement and the arousal of state anxiety.

CONDITION 1: Control Group. Students in the control group were taken to an empty room, given a deck of cards and asked to play solitaire for 30 minutes. Solitaire was chosen for the control activity because it was considered to be a relatively neutral task, neither anxiety provoking, which sitting and doing nothing would be, nor anxiety reducing, such as interactions with another person could be. Those subjects in the control group were offered three sessions of anxiety therapy at the conclusion of their participation.

CONDITION 2: Jacobson Relaxation Techniques. The basic view of anxiety in this therapy is that anxiety and muscular tension are related, and if muscular tension is reduced, anxiety will be reduced. Those subjects in this group were asked to perform various exercises



for 30 minutes in each session.

First Session: The following procedures were followed.

First five minutes of first session: Therapist introduced himself and discussed subject's anxiety, in terms of what situations cause his anxiety and how long existing and how debilitating the anxiety problem was. It was assumed that on the basis of their scores on the STAI, the subjects would feel they had an anxiety problem.

Second five minutes: Explanation of the rationale of therapy and course of therapy; i.e., this therapy is based on the premise that anxiety and muscular tension are related, and if one reduces his muscular tension, he will be feeling less anxious. Therefore, I am going to introduce you to a number of exercises designed to reduce muscular tension. I will have you tense various systems of muscles until I say "relax" at which point you will let go immediately. If muscles are first tensed, they will relax more fully. I want you to focus all of your attention on each system as we work through the muscle system so that you will learn the feel of deep relaxation. I hope you will practice these during the next week and will find them to be an aid to you. You may find yourself becoming drowsy as you relax, and if so you will arise refreshed and clear-headed as if you had slept. The therapist answered any questions and then began the experiment.

Last twenty minutes: The following exercises (taken from Paul, 1966) were used. After the subject had been comfortably seated with the therapist off slightly to one side, the therapist would recite the following directions:

1. "Make a fist with your dominant hand. Tensing the muscles

of your hand and forearm until they tremble, feel the muscles pull across your fingers and the lower part of your forearm." Have the subject hold this for five to seven seconds and then say "relax", "pay attention to the muscles of your hand and forearm as they relax. Note how the muscles feel as relaxation flows through them." (1--29 sec.) "Again tense the muscles of your hand and forearm. Pay attention to the muscles involved." (5--7 sec.) "O.K., relax, attend only to those muscles and note how they feel as relaxation takes place, becoming more and more relaxed, more relaxed than ever. Each time we do this you will relax more and more until your arm and hand are completely relaxed, without tension, warm and relaxed." (Continue until subject reports complete relaxation, usually 2-4 times.)

2. "Tense your (right) biceps, leaving your hand and forearm on the chair." (Proceed as above, until biceps are as relaxed as hand and forearm.) Proceed to following muscle groups in the same fashion, repeating the same statement, "Note how the muscles feel as they relax, feel the relaxation and warmth flow through these muscles, pay attention to the feel of relaxation so you can recall and achieve it again. (Do not move on until the current system is relaxed as the previous.)

3. Non-dominant hand and forearm.
4. Non-dominant biceps.
5. Frown hard, tensing muscles of forehead and top of head.
6. Wrinkle nose, feeling muscles across top of cheeks and upper lip.
7. Draw corners of mouth back, feeling jaw muscles and cheeks.
8. Tighten chin and throat muscles, feeling two muscles in front of throat.

9. Tighten chest muscles and muscles across back, feel muscles pull below shoulder blades.

10. Tighten abdominal muscles, make abdomen hard.

11. Tighten muscles of right upper leg, feel one muscle on top and two on bottom of upper leg.

12. Tighten right calf, feel muscles at bottom of calf.

13. Push down with toes and arch right foot, feel pressure as if something was pushing up under the arch.

14. Left upper leg.

15. Left calf.

16. Left foot.

Stop about three minutes before end of session and let subject sit in relaxed state for one minute. Then if necessary awaken him, as he may be in a semi-hypnotic state. Awaken by saying, "I am going to count from one to four. When I say one, move your legs, two, your fingers and hands, three, move your head, four, open your eyes and sit up. Check to see if subject feels well, alert, etc., before ending the session. Ask the subject to practice for fifteen minutes twice a day.

Sessions Two and Three:

First five minutes: Inquire about practice experiences during the previous weeks.

Second twenty-five minutes: Go through exercises. When finished with one run-through, ask if any system is not relaxed and go over that system. End in same way.

CONDITION 3: Nondirective counseling. This therapy takes the position that anxiety is due to a discrepancy between one's ideal self

and one's experience, i.e., the person does not accept himself, because his ideals are unrealistic, his performance is not adequate, or a combination of the two. The way to deal with this, in this system, is to explore oneself in the company of a person who experiences and understands with the subject while remaining objective himself. An accepting therapist will aid the client to see more clearly into himself and help him verbalize and look at his basic feelings and attitudes, by the therapist communicating accurate empathy and unconditional positive regard through warm and accurate reflection of the client's experiences. This allows the patient to discard his inappropriate conditions of worth and develop the appropriate relationship between his self perception and his self ideal.

First Session:

First five minutes: Same as above as in previous condition.

Second five minutes: Rationale of therapy: I would like to get to know you and understand you and I can best do this if you will tell me about yourself. People often feel anxious things that they never get off their chest as they have no one with whom they feel comfortable discussing these things, or about things they do not understand about themselves. If this is true you may find it helpful to talk to me, as I am not as directly involved with you as your friends and find it easier to be objective. If you would like to, I would be happy to explore with you any subject that is on your mind.

Last twenty minutes and following sessions - Continuation of non-directive therapy.

CONDITION 4: Attention Shifting. The basic premise of this

therapy is that anxiety is due to excessive self-focused, ruminative thinking and excessive concern with oneself, and the way to stop this is to teach the clients to shift their attention off themselves and onto other people or subjects. Thus, the problem is not so much what they are thinking about as it is the excessive mulling over of the problem, without any useful activity. (Day, 1974).

First Session:

First five minutes: Same as in the previous condition.

Second five minutes: Rationale of therapy.

"Would you agree that anxiety is a problem for you? In that it blocks activity and occupies a large portion of time that could be put to better use? I would like to present to you a concept about anxiety and a technique to reduce it, so we could discuss it and you could see whether or not it could be useful to you. The basic concept is that attention is a volitional activity, you can either focus on the sensations, or you can choose not to attend to them. If you do not attend to them, you will not feel anxious as you will no longer be perceiving anxiety. With your permission I would like to amplify on this, and demonstrate what I mean by use of some role playing techniques. I would then like you to try this idea out when you feel anxious and tell me if it proves useful for you."

Second twenty minutes and subsequent sessions - Amplify concept and demonstrate attention shifting, and work with the client's experience in using this technique.

The following points should be covered. Giving oneself attention seems to be innate, but attending to others must be learned and prac-

ticed. People tend to attend too much to themselves, especially when they are worried, which produces an imbalance in their attention; focusing on one's uncomfortable thinking and sensations leads to anxiety and depression and often causes physiological upsets. One solution is to focus on things outside oneself, on other people. The way to do this is to ask others questions about how they think and feel. This focus on trying to get to know and understand others has two major effects. One is that since you are focusing on other people, rather than yourself, you are not attending to your own thinking, and thus will feel less anxious. The second is that people will see you as friendly and sociable. Also, since much anxiety in social situations is based on being unsure of the other's reaction to you, this focusing on them, and finding out how they feel, allows you to resolve this anxiety.

You can either focus attention on yourself or others, and people do both all the time. It seems that people focus primarily on themselves, it may be the nature of the animal, as it comes naturally, while giving attention must be learned, but if you work at giving others attention, you may feel better and they may feel better toward you. Do not worry about giving too much attention, as this does not prove to be a problem, as it never happens, it is always not giving enough attention that is a problem. (Day, 1968).

Giving others attention can be seen as caring, as it seems basic to caring. How can you care about someone if you do not care enough to find out how they think and how they feel, and the most efficient way to determine this is to ask them.

The following techniques may be used to accomplish this. After presenting the concept, ask the subject if he will allow you to try

and demonstrate this. Then ask him if he can find out how you feel about it. He will probably say he does not know, or try to tell you. Say he is wrong and encourage him to try until he asks you how you feel. Then give him an ambiguous answer, where he must ask again. If he does not, ask him if he understands and if not, if he knows how to find out.

Ex. T. Can you find out how I feel about football?

C. How do you feel about football?

T. I like the game very much but I would not go see it played.

C. Why not?

T. Thank you for asking. It is because I would rather watch at home. After getting the client to do this, check out how he feels, and if he understands it better now. He will probably have difficulty the first time and you should point out that this is hard to learn and takes practice, but you are surprised that he had never learned this before and somewhat sorry for him that he has this disability. Bring up topics and have him give you attention. When he can do this, tell him to give you attention no matter what you say, and then say, "I think you are stupid." If he says why, congratulate him. If not, ask him why he failed to give attention.

Another practice statement is, "My wife beat me up today." If he expresses sympathy, express bewilderment. If he asks why, say because she had to. When he finally asks how you meant that, say she had to get up an hour earlier and beat you up out of bed.

At this point, when he has been giving attention for about fifteen minutes, ask him if he now feels less anxious. Also ask him if he has trouble sleeping, and tell him if he practices this often enough,

he probably will stop worrying instead of sleeping at night. At the end of the session ask him to practice this every day as often as he can. When he reports the following week ask him about his experience with it, in terms of how he felt and how others responded and if he is sleeping better.

In summary, 32 psychology undergraduates, selected as high anxiety subjects on the basis of their scores on the A-trait scale of the STAI, were assigned to one of four conditions. Eight of the subjects were assigned to the control group, where they played solitaire for 30 minute sessions between administrations of the A-state version of the STAI. Solitaire was hypothesized to be a neutral activity. They also filled out the A-trait version of the STAI before the first session, and after the third and last session. Thus each student had six administrations of the A-state version, and three of the A-trait version.

Eight advanced graduate students each saw three of the remaining students in individual therapy, one student in each of the three therapy conditions. The students in the therapy conditions completed the same anxiety inventories in the same order as those students in the control condition, and, in addition the therapists each filled out the A-state version of the STAI after each 30 minute therapy session. The subjects were randomly assigned to the four conditions, and the order of therapy conditions was varied for each of the therapists.

The first therapy condition was progressive relaxation. In this method the therapist, after explaining the procedure, led the subject through muscle relaxation exercises and had the subject practice these exercises at home. The second condition was non-directive therapy, and in this condition the therapist, after explaining the procedure, en-

couraged the subject to speak on any matter he wished, and responded according to the precepts of non-directive therapy. In the third condition, attention shifting, the therapist explained the procedure and taught the subject the technique of shifting attention. After having the subject practice this technique, he instructed the subject to practice on his own and report back his successes and difficulties.

RESULTS

State Anxiety: The first hypothesis was that the Jacobson Therapy modality would provide the greatest degree of anxiety reduction within the sessions. This hypothesis was rejected. The results of the univariate and the multivariate analyses of variance, covariance and regression of the various administrations of the two scales of the STAI as shown in Table 1 indicate that while all three therapies produced a significant decrease in anxiety within sessions, $F(1,14) = 31.9138$, $p < .0001$, the groups did not differ significantly. However, Table 2 shows these group differences did approach statistical significance, $F(3,14) = 2.2339$, $p < .07$, one-tailed, and, by inspection of Table 3, the Jacobson technique had the strongest effect of the three therapy modalities.

The second hypothesis was that the Day technique would provide the strongest relief in anxiety between sessions. This was assessed in two ways. The first way was a comparison of anxiety levels from after the first therapy session to before the second session and after the second session to before the third session, to test the effects of the therapies during a resting time. The second comparison was from before the first therapy session to before the third therapy session, to test the effects of the therapies over time. The measure was taken before the third session to eliminate the immediate effects of the therapy sessions themselves and to avoid confounding this measurement

Table 1

Main Effects for Change in A-State Measures Across Therapy Modes and Therapists

<u>Variable</u>	<u>MS</u>	<u>F</u>	<u>P</u>	<u>df</u>
1. A-St mean	290941.0208	580.2781	<0.0001	1 and 14
2. Before 3 - Before 1	66.0156	2.2674	<0.1544	"
3. Within Sessions	1496.333	31.9138	<0.0001	"
4. Decrease Between Sessions (i.e., post 1 to pre 2 plus post 2 to pre 3)	0.0260	0.0006	<0.9806	"

Table 2

Effects of Therapy Mode on Change in A-State Measures

Variable	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. ST mean	564.9742	1.1168	<0.3719	3 and 14
2. Before 3 - Before 1	138.8410	4.7687	<0.0172	"
3. Within Sessions	104.6958	2.2339	<0.1295	"
4. Between Sessions	8.3143	0.1976	<0.8963	"

Table 3

Group Means and Standard Deviations by Variables

Variable	Overall Means	Control Group Means	Non-Directive Modality Means	Relaxation Modality Means	Attention-Shifting Modality Means	Standard Deviations
State Mean	97.11	102.60	102.60	87.47	95.84	22.39
Before 3rd Session/ Before 1st Session	-0.74	0.00	2.45	-6.36	0.97	5.40
Within Sessions	-4.61	-1.74	-7.22	-10.51	1.02	6.85
Between Sessions	0.58	0.36	-0.84	1.14	1.66	6.49
Trait Mean	73.48	80.73	78.06	66.97	68.15	14.59
Trait Linear	-2.88	-0.71	-2.50	-6.45	-1.85	6.78
Trait Quadratic	1.28	1.57	0.82	0.05	2.67	2.72

with the effects of the first hypothesis, i.e., the measurement of within session A-state anxiety reduction.

This second hypothesis was rejected, as the comparison of reductions in A-state levels show no significant difference between the therapies and the control group between sessions, and only the Jacobson technique significantly reduced anxiety in the period from before session one to before session three as indicated in Tables 2 and 3.

Inspection of this comparison shows the control group virtually unchanged. Table 2 indicates that only the Jacobson technique produced a significant change in anxiety scores, $F(3,14) = 4.7687$, $p < .02$, and Table 3 indicates that this change was a decrease of about six points in their A-state scores. Table 3 indicates that the Rogerian and Day therapies produced a small, non-significant increase in anxiety levels in this comparison. The subjects in the Rogerian therapy increased an average of 2.5 points and those in the Day modality increased an average of 1 point.

Trait Anxiety: The third hypothesis was that A-trait measures will show no significant changes over time. This hypothesis was rejected as all of the modalities, including the control group, exhibited a marked reduction in anxiety. The $F(1,14)$ was 813.6855, $p < .0001$, as shown in Table 4. Also, the decrease between the first administration, when selecting the subjects, and the second administration, prior to the start of the therapy sessions, was greater than the decrease between the second administration and the third administration, after completion of the therapy experience. The $F(1,14)$ was 8.3753, $p < .02$ as shown in Table 4.

Table 4

Main Effects for Change in A-Trait Measures Across Therapy Mode and Therapists

Variable	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. Trait Mean	173145.0937	813.6855	<0.0001	1 and 14
2. Trait Linear	385.1406	8.3753	<0.0118	"
3. Trait Quadratic	16.9211	2.2934	<0.1522	"

Interaction Effects: The fourth hypothesis stated that the techniques would have a greater effect than the interactions between the therapists and subjects. All possible interactions up to and including 3-way interactions were analyzed. Since only two of the 20 interactions were significant, this hypothesis was accepted.

State Anxiety in Therapists: While subject groupings did not differ in anxiety, Table 5 shows the therapists did display individual differences in anxiety levels, $F(6,14) = 6.0593$, $p < .003$. In addition, Table 6 shows the therapists were significantly less anxious with female clients, $F(1,14) = 30.5954$, $p < .0001$, regardless of their own sex. The anxiety regression for therapist anxiety had a different function for male and female clients. The therapists not only showed a greater initial anxiety with male subjects, but their anxiety decreased faster with female clients than with male clients. The $F(1,14)$ was 4.5729, $p < .05$, as shown by Table 6. By inspection of Tables 6 and 7, the regression over sessions was linear for males and both linear and quadratic for females.

The therapists habituated in the therapy experience in that there was a sharp decrease in therapist A-state scores between the first two sessions and a leveling off between the second and third session. Table 8 indicates the effect was significant, $F(1,14) = 14.0238$, $p < .002$.

Therapist anxiety levels depended partially on the type of therapy they were doing. Therapists, as a group, were most anxious with Rogerian therapy, less anxious while doing attention-shifting therapy, and least anxious with Jacobson relaxation techniques. The $F(3,14)$ was 310.7124, $p < .0001$, as shown in Table 9.

Subject Feedback: After completion of the experiment, the subjects were asked to write a short paragraph describing their reaction to the

Table 5

Individual Differences in Therapist A-State Anxiety Levels
and Orthogonal Polynomials Trend Analysis of These Differences

Variable	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. Therapist Mean	124.8969	6.0593	<0.0027	6 and 14
2. Therapist Linear	13.6182	0.9242	<0.5069	"
3. Therapist Quadratic	38.5421	1.7117	<0.1908	"

Table 6

Effects of Subject Sex on Therapists' A-State Anxiety Levels
and Orthogonal Polynomials Trend Analysis of These Effects

Variable	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. Therapist Mean	30.7540	30.5954	<0.0001	1 and 14
2. Therapist Linear	4.9676	0.3371	<0.5708	"
3. Therapist Quadratic	102.9665	4.5729	<0.0506	"

Table 7

State and Trait Means and Difference Score Means by Sex of Subjects

	St. Mean	Before 3rd- Before 1st	Within	Between	Trait Mean
Male Subjects	93.20	-1.518	-8.039	-1.144	72.10
Female Subjects	101.0	.0472	-1.184	2.313	74.86
	Therapist Mean		Therapist Linear		Therapist Quadratic
Male Subjects	41.30		-1.574		-.3914
Female Subjects	44.32		-3.115		-3.1880

Table 8

Main Effects for Therapists' A-State Anxiety Level Across Therapy Modes
and Orthogonal Polynomials Trend Analysis of These Effects

Variable	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. Therapist Mean	59004.1667	2862.0608	<0.0001	1 and 14
2. Therapist Linear	206.6406	14.0238	<0.0022	"
3. Therapist Quadratic	115.6302	5.1354	<0.0399	"

Table 9

Effects of Therapy Mode on Therapists' A-State Anxiety Levels Variable
and Orthogonal Polynomials Trend Analysis of These Effects

	<u>MS</u>	<u>F</u>	<u>P</u>	<u>df</u>
1. Therapist Mean	6405.6408	310.7124	<0.0001	3 and 14
2. Therapist Linear	32.6500	2.2158	<0.1316	"
3. Therapist Quadratic	29.0899	1.2919	<0.3160	"

the therapy experience. As one measure of "success" in therapy is client satisfaction, it was decided to codify these responses and correlate them with the subjects A-state and A-trait changes. The responses were scored on a five-point scale, from "very positive" to "very negative" and these results were correlated with the change between the first and last administration of the A-state inventory and the A-trait inventory. The intra-judge reliability co-efficient was .93, $df = 22$. The Pearson Product-Moment correlation between decrease in A-trait and client satisfaction was .24, $df = 22$, while the correlation between A-state reduction and client satisfaction was .19, $df = 22$. Neither of these are significant correlations.

DISCUSSION

A-Trait Anxiety: The most surprising result was that all four groups showed a significant decrease in A-trait scores. Previous research, e.g., Johnson (1968), Bartsak and Nesselrode (1973), Stoudenmire (1974), and Spielberger (1972), has reported that A-trait scores are stable over time. Spielberger (1972) has defined A-trait anxiety as a relatively stable individual difference in anxiety proneness, based on previous learning and manifested as a difference in the frequency and intensity of A-states.

Johnson and Spielberger (1968) also found that A-trait anxiety decreased over time. In their study of hospitalized mental patients they concluded that this may be due to recovery from a psychotic break. However, as the subjects of this study were not suffering from psychosis, perhaps A-trait is not as uniformly stable as previously thought.

Table 4 shows a significant change in A-Trait scores as a main effect. There were sharp decreases between the first administration of the A-trait inventory, when selecting the subjects, to the second administration, before session one, and a smaller decrease from the second to the third administrations, from before session one to after session three. Thus, it is unlikely that therapy influenced this result, because there was no significant differences between the groups and because the greatest magnitude of change occurred in the time period before therapy began.

Howard (1964), and Howard and Diefenhaus (1965) found that the first measurement of any variable is often unusually unstable, for a variety of reasons, and researchers should consider the possibility that the first results may be invalid. However, the increased variability often found in the first measurement is not a sufficient explanation of the unexpected variability of A-trait, as previous researchers have not had this problem with this measure.

It appears that A-trait is not a stable characteristic for this sample and varies depending on unknown situational factors. However, the validity of any change depends on the accuracy of the sample in reporting the way they usually feel and this evaluation may be colored by the way they feel at the time. Thus, the fact that the screening was done during mid-term week may have affected the students scores. Also, the purpose of the questionnaire is not hard to decipher, and some subjects may have emphasized their anxiety originally in order to be selected for the experiment, and deemphasized it later in gratitude for being allowed to participate in the experiment, either consciously or unconsciously.

A-State Anxiety: The finding that A-state Anxiety decreased within sessions is similar to Edelman (1970), who found the decrease of A-state scores in subjects undergoing progressive relaxation did not differ significantly from subjects in three control groups, one hearing only suggestions to relax, the second hearing only the relaxation exercises, and the third listening to classical music. From the feedback of the students, it seems many of them approached the sessions with heightened state anxiety, especially those in the non-directive modality, and this anxiety decreased once they were in the experimental

session. Of the three therapy modalities, progressive relaxation tended to be more effective than the other techniques, but the differences only approached significance, $F(1,14) = 2.2339$, $p < .07$ as indicated in Tables 2 and 3.

Progressive relaxation proved more effective than the other modalities in reducing state anxiety over time, when comparing the A-state score obtained before the first session with the A-state score before the final session. The previous research on this point is varied. Wine (1971) found that attentional training, which is similar to Day's attention shifting, to be more effective than non-directive therapy. Both Johnson and Spielberger (1968), and Stoudenmire (1974) found relaxation therapy effective in reducing state anxiety. Andrews (1971) compared non-directive therapy with behavior therapy and found while behavior modification reduced anxiety, non-directive therapy was no more effective than the control procedure. Thus, it was expected that the Jacobson modality would lead to lowered anxiety scores, and that the Rogerian modality might not lower anxiety. On the basis of Wine's study, the only reported study using a similar technique, Day's attention shifting was expected to lead to decreased anxiety.

While Jacobson's relaxation method produced a decrease in anxiety, and the control group's change was effectively zero, both Rogerian and attention-shifting therapy lead to a slight increase in anxiety. One reason for this could be that the process of therapy itself can be anxiety producing, i.e., exploring oneself is uncomfortable even while it leads to positive change, for the patient becomes aware that he is not as good as he could or should be in some regard or is confronted with previously threatening events and information. Both attention-

shifting and non-directive therapy are intrapsychically orientated and call for self-exploration and self-evaluation, which can heighten anxiety, while progressive relaxation does not.

The therapists used had limited therapy experience, and also had limited experience with these three techniques. As progressive relaxation is a very structured therapy, it is easier to learn and to use than the other two, which demand more practice, skill, and theoretical knowledge. If expert practitioners of the three techniques had been available, different results might have been obtained. Also, both non-directive and attention-shifting therapies seek a cognitive change, as opposed to progressive relaxation, which seeks only a behavioral change. If cognitive change is more difficult to achieve, then the former methods may require more time before having an effect. This would not affect the validity of the comparison, nor does the fact that of the three only non-directive therapy does not specify or require practice between sessions, for these differences, be they defects or virtues, are built into the systems. Also this study did not evaluate the possibility that slow acting therapies may lead to effects of greater duration.

Therapist Factors: While a priori, it was thought that therapists' comfort in the session, as measured by their anxiety levels, might affect the success of therapy, the results do not bear this out. All of the possible interactions between therapist anxiety level and subject measures proved non-significant and none even approached significance. This is despite the fact that therapists differed in anxiety levels and the interactions between therapist anxiety and other factors were significant in a number of cases.

Tables 9 and 10 indicate the therapists were significantly less anxious with the Jacobson modality than with the other therapy modalities, $F(3,14) = 310.7124$, $p < .0001$. However, progressive relaxation was the therapists' least preferred method of therapy. Rogerian therapy was the preferred method of most of the therapists, but the therapists were also most anxious while using this method, thus, the therapists' preferred method was both the least effective and the one that was associated with the highest level of anxiety for them.

One possible explanation for this may be that beginning therapists may believe for theoretical reasons that intrapsychic therapies, such as Rogerian therapy are more correct, superior, or of higher status, even though they feel less comfortable with them and less able to do them.

This result may also stem from the therapists' relative lack of experience with the therapies. While they were at least acquainted with Rogerian theory and technique, most of them were unfamiliar with Jacobson theory and technique and had never heard of attention-shifting. So Rogerian therapy may have seemed cognitively more familiar. But since they had little experience they may have found it difficult, which caused them more anxiety while engaged in it.

These therapies make different demands on the therapists. The depth of involvement and the type of interaction are very different in Rogerian therapy than in progressive relaxation. Putting the therapies in a continuum between behavioral therapy and intrapsychic therapy, progressive relaxation is the most behavioral, seeking only a change in behavior, Rogerian the most intrapsychic, seeking a cognitive change and restructuring of the ego-ideal, and attention-shifting is in the

Table 10

Therapist Mean Anxiety Scores by Therapy Mode

	Therapist Mean A-State Scores
Rogerian Modality	59.39
Jacobson Modality	53.44
Day Modality	54.92

middle, seeking behavioral change through cognitive change. Behavioristic therapy entails more "doing to" a client, while intrapsychic therapy involves more "doing with" a client. This deeper and closer involvement, as opposed to the distance between client and therapist inherent in progressive relaxation, may be more frightening, more difficult to achieve, and these factors can increase anxiety levels.

The finding that therapists are less anxious with female than male clients is not easily explained, as it did not depend on the sex of the therapist or of the clients' anxiety level, and the male and female clients did not significantly differ in anxiety. However, Table 6 shows that in this study the therapists were significantly less anxious with female clients, $F(1,14) = 4.5729$, $p < .05$. The first effect may be due to the cultural stereotype and sex role expectations in that the female client might be expected to be less aggressive and challenging than the male client and thus less threatening to the inexperienced therapist. The second effect may be due to this stereotype proving true in this sample, in that the female clients were seen as more cooperative, or less threatening or doing better in therapy. If this was not the case, i.e., if female and male clients did not differ in degree of cooperation or perceived threat, the finding that therapist anxiety decreased at different rates for male and female subjects would be difficult to account for at this time. However, female and male clients were not uniformly distributed among the conditions. With random assignments of both clients to therapists and order of therapy, five of the nine women assigned to a therapy modality were in Rogerian therapy while the other four underwent progressive relaxation. The observed interaction between sex of client and therapist anxiety level

may be confounded with the interaction between therapy mode and therapist anxiety level, but this is difficult to interpret since female clients were not present in all therapy conditions.

In this study female therapists proved significantly less anxious than male therapists. The $F(1,14)$ was 6.5456, $p < .02$, as shown in Table 11, but the small sample size prevents generalization. Also, the female therapists tended to have had more experience in therapy and more patient contact, which probably confounded this result.

It was expected that therapists might differ in anxiety levels, as they were not preselected on this factor as were the subjects. A priori, however, one might expect an interaction between therapist anxiety and subject anxiety, but this interaction proved non-significant. Different people characteristically function at different levels of state anxiety, so the same level of anxiety in two therapists may not manifest itself as equal in either level of subjective anxiety or of behaviorally communicated anxiety. It may be that the difference between the therapists' level of anxiety while engaged in therapy and their usual or resting anxiety would correlate with the subjects' anxiety levels. Unfortunately, this hypothesis was not made until after the study, and no measures of therapist usual anxiety levels were taken.

Subject Feedback: The subjects were asked to give feedback on their therapy experience. The subjects' comments were primarily favorable, but the flavor of comment varied according to the type of therapy they had participated in. Those subjects in Jacobson relaxation spoke about learning a technique to reduce anxiety. The subjects in attention-shifting therapy talked primarily about learning communication skills

Table 11

Therapist Sex Differences in Therapists' A-State Anxiety Levels

	<u>MS</u>	<u>F</u>	<u>p</u>	<u>df</u>
1. Therapist Mean	410.9695	19.9345	<0.0006	1 and 14
2. Therapist Linear	12.8071	0.08692	<0.3670	"
3. Therapist Quadratic	147.3837	6.5456	<0.0228	"

and secondarily about reducing anxiety. Those in a Rogerian setting primarily talked about being allowed to talk with supportive, interested listeners about whatever came to mind. Also, all but one of the negative comments were about the unstructured procedure and the lack of direction inherent in non-directive therapy, which could support a hypothesis that the anxiety increase in the Rogerian modality was due to subjects' reaction to lack of structure.

To be more specific, in the Jacobson modality, one subject felt, while the sessions were relaxing, they were not useful. Another felt that the technique was of only limited usefulness, as the effects wore off quickly. Two subjects stated that they enjoyed the sessions and felt the technique could be useful, while another added that the session clarified principles of which he had previously been vaguely aware.

The remaining three subjects said they had been using the techniques they had learned and found it to be an effective method of controlling anxiety and combating fatigue and tension.

One subject in the Day modality stated in addition to learning to communicate better, he realized the need for further therapy, the only subject to say this. Three other subjects saw the experience as positive but the technique to be of limited effectiveness because while it aided them to get their minds off their problem, this effect soon faded, and the problem did not. One subject was very positive about his increased communication skills, but did not see this technique as reducing anxiety. The other three subjects reported both that they had learned social and communication skills they had lacked, and that the practice of these skills reduced their anxiety levels and increased their confidence. These three were also the most positive about the therapy experi-

ence.

Two subjects in the Rogerian therapy felt that the sessions were interesting but that they would not want to continue in similar therapy. Three others felt that the therapy was helpful or relaxing, but were disappointed that the therapy was non-directive. Two of these, however, said that they were surprised how effective supportive or non-directive therapy could be. The remaining three subjects felt that the experiences were very positive because they were able to communicate about important subjects to people who were interested in them, but not involved in their lives. They felt this aided them in resolving their problems, and one of them wished that the sessions were longer.

As a measure of the relationship between the clients' satisfaction in therapy and their success in therapy, the clients' feedback was rated on a five point scale from "very positive" to "very negative" and this rating correlated with the reduction of A-state and A-trait levels of anxiety. The Pearson Product Moment Correlation for A-state was .19, $df = 22$, and for A-trait was .24, $df = 22$. As these correlations are not significant, it seems that although client satisfaction may be related to success in therapy, it is not the most important factor.

Summation and Conclusion: In summation, the results indicate that the progressive relaxation was the most effective in reducing anxiety in a short term therapy analogue, and had the quickest positive effect. Both the Day and Rogerian therapies did not have a significant effect over the three sessions, and, although the effect was non-significant, they tended to raise anxiety rather than lowering it. This indicates that either these therapies take longer to show a positive effect, or

call for more skill in the technique than the therapists had.

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All therapies reduced anxiety within the session, as did the control procedure, so either just being in the session reduced anxiety or the subjects approached the sessions with heightened anxiety.

Trait anxiety proved variable in this study and this variability did not seem associated with any other variable.

While subjects were homogeneous in regard to anxiety, the therapists were not. They were different in anxiety levels, and less anxious with female clients and while engaged in Jacobson therapy.

Subject satisfaction with therapy is not significantly correlated with the amount of anxiety reduction.

If this study was to be redone, a number of changes would be made in light of the results obtained. First of all, experienced therapists would be used, and they would be matched as closely as possible in terms of equal experience and approval of each therapy modality. They would also be matched on usual or resting A-state level. A-state measures would be taken before and after each session, rather than only after, to determine the effect of therapy on the therapists. Resting A-state measures would be taken on the subjects between sessions, to determine if the reduction of anxiety within sessions is due to the sessions themselves, or an artifact of heightened initial anxiety due to apprehension about the therapy session. Also, an equal number of female and male subjects would be used, and the samples in each therapy modality, and for each therapist, would be matched on this variable. Thus, each therapist would see six subjects, a male and a female in each therapy modality. Various measures of personality would be made on the subjects, to see if the clients differed according to their sex, and the therapists'

impressions of and reactions to the clients would be obtained.

The final change would be to extend the length of therapy, with a number of pre-determined measuring points. Also, the clients would be followed up over time to determine what, if any, lasting effects the therapy has.

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APPROVAL SHEET

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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