

PROGRESSIVE RELAXATION ANXIETY REDUCTION AND COPING STYLE  
IN TWENTY-SEVEN STUDENT NURSES

by

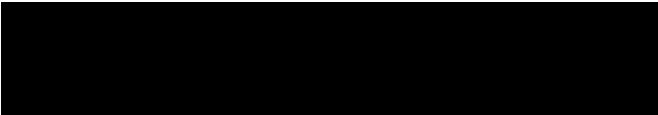
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CHAPTER I  
INTRODUCTION

In this day and age the reduction of anxiety is a matter of great importance. It is of special concern to those who, like the psychiatric nurse, are directly involved in assisting individuals to adapt effectively to the stresses of daily living (17, 18, 19). To accomplish this task, the nurse must be able to cope effectively with her own feelings of anxiety. The nurse who presents a good role model can more adequately demonstrate techniques designed to reduce anxiety (10).

Some authorities (11, 13) have claimed that although anxiety is a common experience, its precise nature and function are not known. Attempts to differentiate among kinds of anxiety have been less than completely successful. The term "anxiety" usually refers to a subjective experience of intense discomfort with both a somatic and a psychological aspect. The somatic aspect involves muscular contraction and changes in body functions mediated by the autonomic nervous system. The psychological aspect involves (1) internal and/or external stimuli that evoke the anticipation of



imaginary or real threat usually directed toward one's self and (2) the mobilization of efforts to control or deny the existence of the threat.

Rycroft (24) indicated that the threat may also be directed against a significant other. He cited the example of the worried husband who wishes to do something to alleviate his wife's suffering. Rycroft also maintained that anxiety is not always distressful. He explained this statement on two grounds. First, as a consequence of the physiological changes during a state of anxiety, alertness and heightened perception are produced, thus eliciting feelings of pleasure and exhilaration. Second, anxiety motivates the individual to plan for personal and social security, thus serving an adaptive function.

Anxiety, as defined by Rycroft, occurs whenever one is faced with the unknown, the new, or the untried. Preparation for the unknown through reflective worrying or emotional role-playing can minimize anxiety (12). Both the presence of trusted others and encounters with familiar situations tend to reduce anxiety (24). Sex and age appear significantly to affect levels of anxiety. Females consistently exhibit slightly higher levels of anxiety than do males. With respect to age, anxiety level is very high in adolescence, drops sharply toward the end of the teens,

levels off at ages 20 through 25, then remains constant until ages 50 through 60; and after 60 tends to rise sharply again.

Whenever anxiety is aroused by verbal communication or by direct encounter with signs of danger, the person becomes motivated to get rid of the unpleasant emotional state. If the cues that arouse the distressing state do not promptly disappear as a result of environmental changes, the emotionally aroused individual will physically (for example, turn off a distressing newscast) or psychologically (for example, distract himself by pleasant daydreams), attempt to control, or escape from, the anxiety-provoking stimulus (12). Thus when anxiety is evoked, a shift in the individual's fantasies, plans and actions follow. These shifts may lead to marshalling of defenses and/or constructive planning. These tendencies over time may become characteristic of the individual.

Janis (12) has offered a paradigm of anxiety based on the "inverted U-function," so-named in reference to the curve obtained when intensity of fear is related to adequacy of performance. The paradigm illustrated three alternative modes of adjustment: (1) when threat cues are weak the person utilizes denial, is unresponsive to threat, and does not make plans to cope with the threat; (2) when threat cues are moderate, an individual utilizes discriminative

vigilance, seeks information and forms an adaptive type of compromise to deal with the threat; and (3) when threat cues are strong, an individual utilizes indiscriminate vigilance or extreme forms of avoidance, leading to decreased mental efficiency and ineffective performance. In support of this paradigm Janis (12) has provided empirical evidence that the individual performs best at some moderate level of arousal, rather than at either very low or very high levels of arousal.

From the above discussion it is clear that anxiety serves to warn the individual of potential danger so that he can take appropriate action. At the primitive level an organism attacks or runs away from danger. However, the dangers become more complex as the individual ages and finds, usually by trial and error, that it is socially inappropriate to react by fight or flight. Through this process of trial and error, the individual develops a series of mechanisms to deal appropriately with anxiety. These mechanisms are known as "defense," "mental mechanisms" or "coping style" (26).

Seager (26) emphasized that coping mechanisms are unconscious activities carried out without reference to the conscious ideas of the individual concerned and above which no information can be given even when requested. Coping mechanisms involve a process by which the individual seals off some anxiety-provoking stimulus. If the coping mechanism is successful, anxiety is reduced. If the mechanism

is unsuccessful, anxiety remains, discomfort and conflict result, and behavior changes to the form of a neurotic or a somatic disorder. Rycroft (24) and Janis (12) have mentioned that a coping style characterized by vigilance is mobilized by an individual who is experiencing increasing amounts of anxiety.

Lomont (14) and others have also studied the relationship between coping style and anxiety. Lomont found a significant relation between the scores of 25 neuropsychiatric patients on the Repression-Sensitization scale and their scores on the IPAT Anxiety Inventory Scale. Thus, he demonstrated that the more anxious individuals tended to use sensitization or vigilance to cope with anxiety-provoking stimuli. Byrne and Sheffield (4) noted a similar response in that male sensitizers judged themselves more anxious than did their repressor counterparts. In her study of 64 women who underwent surgery, Delong (6) recorded that sensitizers reported a greater increase in anxiety than did the repressors. Thus, the studies of Lomont (14), Byrne and Sheffield (4) and Delong (6) all seem to confirm Rycroft's (24) and Janis' (12) theories that the individual who becomes more anxious tends to use vigilance in approaching or controlling threatening stimuli.

Jacobson (11) has speculated that since time immemorial men have exerted great effort to divert the discomfort

experienced with anxiety. Some individuals have resorted to religion and philosophy, others have sought help from psychologists and psychiatrists. Some individuals have engaged in self-hypnosis or self-analysis, others in strenuous exercises. Some have used sex, others alcohol and drugs. Jacobson (10) suggested the use of a technique he devised known as progressive relaxation to reduce anxiety. He claims that this technique bypasses drawbacks of techniques such as psychoanalysis and drug use (i.e., necessity for long-range planning and adverse psycho-physio-sociological consequences). Progressive relaxation takes less time to plan and master and its effect is almost instantaneous. The technique can also be used while either in action or at rest and in a variety of situations.

The technique of progressive relaxation is based on the observation that during an anxious state, motor changes occur. The motor changes are mediated through the pyramidal and extrapyramidal nervous system manifested by spasticity or increased contraction of the body's musculature (11). Relaxation is based on the assumption that tension can be controlled by learning how to identify tension and to relax muscle groups while at rest or in action (11). It is Jacobson's (10) belief that the muscles and brain proceed together in a "one effort circuit." This implies that a

relaxed musculature leads to a "relaxed mind," allowing an individual to cope better with threatening situations.

The use of relaxation as a method to reduce anxiety has proved to be effective, either alone or in combination with other techniques in reducing snake phobia (14), test anxiety (9, 12) and spider phobia (23). It also has proved effective in dealing with problems involving sex, psychosomatic disorders and even barbiturate habituation (10, 11).

Rachman (23) investigated the separate effects of relaxation and desensitization in four groups of spider-phobic subjects. The subjects were allocated among the following treatments: Wolpe's systematic desensitization (desensitization with relaxation), desensitization without relaxation, relaxation and no treatment. The effects of these four conditions were assessed by subjective reports of avoidance tests and fear estimates. Marked reduction in fear was obtained only for the members of the group treated with desensitization plus relaxation.

Lomont (16) investigated the role of relaxation in systematic desensitization. His subjects consisted of two groups of female snake-phobic college students. One group received systematic desensitization. The other group received the same treatment but without relaxation. The former group reported a significantly greater fear reduction

as measured by three out of five tests, than the latter group. Thus, the findings of Lomont and Rachman seem to concur.

It should be noted here that progressive relaxation is an integral part of systematic desensitization which is a three-step method to decondition a person suffering from anxiety symptoms. The three steps are progressive relaxation training, building a hierarchy of anxiety-provoking stimuli, and imagining the stimuli while performing the relaxation technique until such time as the individual becomes insensitive to the stimulus (12).

Giblin (8) studied the relative effects of systematic desensitization as conducted in group versus individual settings. The Anxiety-Differential Test by Husek and Alexander and the Personal Report of Communication-Apprehension for College Students were selected as instruments to measure the effects of the treatment. A significant reduction in anxiety was noted in the group treated as a group. Quinlan (24) used systematic desensitization to reduce anxiety in 24 test-anxious subjects. His results indicated that systematic desensitization was effective in reducing test anxiety as measured by the Test-Anxiety Questionnaire, the Achievement Anxiety Test and the Otis Intelligence Quotient tests. Nash (19) reported the greater effectiveness of systematic

desensitization as opposed to participation in insight therapy groups in reducing mathematics phobia measured by the Aiken Attitude Toward Mathematics Test.

Hampton (9) studied the effects of systematic desensitization, flooding and relaxation training as treatments for test anxiety. Self-report measures of test anxiety and self esteem were administered before and after each treatment period. Analysis of the data did not reveal any significant difference in the ability of the three methods of treatment to reduce test anxiety. However, Hampton noted that of the three methods, relaxation required the least time to institute, thus substantiating Jacobson's claim of the relative efficiency of that technique.

Several studies on desensitization or relaxation have utilized the State-Trait Anxiety Inventory Form (A-State scale) by Spielberger et al. (27) to distinguish between state and trait anxiety. Trait anxiety refers to the intrinsic or underlying tendency of an individual to be anxious. State anxiety refers to that uncomfortable experience during stress as a result of situational factors. The present study has utilized the scale devised by Spielberger et al. to measure state anxiety. The work of Stone (28) may be cited as one example of a previous study investigating state anxiety. He noted a reduction of state anxiety



and irrational ideation in the group treated with relaxation as opposed to those groups treated with rational-emotive and group counseling intervention techniques.

Aiken and Henricks (2) attempted to use relaxation as a nursing intervention technique with 15 male patients who underwent open heart surgery. Fewer psychiatric complications were noted in the group trained in relaxation technique. However, the differences in reduction of anxiety were not statistically significant.

The focus of the present investigation is on the state anxiety of students in psychiatric nursing. As Muller (18) has observed, students in such a setting suffer from anxiety on several counts. Some may fear psychiatric patients since they do not know what behavior to expect from them. Others may not know how to react to the behavior presented by the patients or may be concerned with their ability to cope as well as other students in resolving the problems presented by such patients. Students may exhibit anxiety in various ways that lead to a non-therapeutic and unsatisfactory psychiatric nursing experience. Some students may avoid contact with patients and busy themselves in many unrelated activities. Other students may find it difficult to appreciate how emotional factors deeply rooted in fears form barriers to communication. Others may not

readily understand the instructor's evaluation when it may reflect a negative estimate of themselves. Finally, some students may blame other people for failing to help them feel more confident.

The two studies by Tobiason (29) and Walsh (31) were concerned with the reduction of anxiety levels of students in psychiatric nursing. Walsh (31) studied the relation between instruction in psychiatric nursing, anxiety reduction and direction of attitude change toward the mentally ill. She found that instruction and familiarity with the actual theory and mechanics of psychiatric nursing decreased students' anxiety while in their psychiatric nursing course.

Tobiason (29) studied the use of individual and group systematic desensitization to reduce the anxiety levels of two groups of female student nurses regarding their anticipated experience in a psychiatric hospital. The first group received two individual desensitization sessions. The second set of students received two group instead of individual sessions of relaxation. Prior to and after the treatment, all the subjects were individually shown a stress film involving situations simulating the students' psychiatric experience. Following each showing the A-State scale was administered. The subjects treated with group desensitization reported a statistically significant decrease in

anxiety levels. This result seems to indicate that group desensitization is preferable to individual desensitization for reducing the anxiety of psychiatric nursing students.

#### Statement of the Problem

The foregoing review of the literature seems to indicate that although anxiety is necessary in moderate amounts, it does interfere with proper functioning if absent or excessive. Anxiety is usually associated with a feeling of dread and muscular tension. The method chosen by the individual to minimize the unpleasant feelings associated with anxiety is in part influenced by his coping style. One well-recognized method to reduce such unpleasantness is Jacobson's progressive relaxation.

The present investigation was concerned with the reduction of anxiety of student nurses, especially those in the stressful area of psychiatric nursing. Whereas Tobiasson (29) and Walsh (31) utilized systematic desensitization and instruction respectively to reduce the students' anxiety, the present experiment utilized relaxation. In addition, the effects of the students' coping style on their utilization of the technique and on their level of anxiety were examined.

### Purpose of the Study

The purpose of this investigation was to explore the use of progressive relaxation as a method of reducing anxiety state as experienced by students during a course in psychiatric nursing. The specific hypotheses tested were:

1. The level of anxiety in a group of Associate Degree nursing students will be significantly reduced following progressive relaxation training.
2. Students who are sensitizers will differ from those who are repressors in showing a significant reduction in anxiety as a result of progressive relaxation training.

Additional data were gathered regarding the frequency with which students utilized relaxation after a period of training, the circumstances in which they resorted to the technique, and the subjects' subjective evaluation of the effectiveness of the technique.

## CHAPTER II

### METHODOLOGY

#### Setting of the Study

The investigation was conducted in the nursing department of a community college located in a city of approximately 83,000 people. At the time of the investigation, 29 students were enrolled in a six-week introductory course in psychiatric nursing. The focus of the course was on developing communication skills and problem-solving techniques useful in coping with the behavior presented by a psychiatric patient. The course was developed through group discussions, lectures, and role-playing in both classroom and clinical situations. In addition, 15 hours of clinical experience per week were obtained in a federal hospital located 70 miles away from the school. Theoretical and clinical content was introduced gradually to the students. Progressive relaxation as an integrated component of the course content was made possible by the dual role of the author as both investigator and course instructor.

### Subjects

The subjects were students beginning their second year of study in a two-year Associate Degree nursing program. The instructor of the course was new both to the school and the students. Of the 29 students enrolled in the course, one refused to participate in the study. Another dropped out of the program the second week of the term which was also the second week of the experiment. The final sample consisted of five males and 22 females. The subjects ranged in age from 20 to 51 with 19 or a majority falling between the ages of 20 and 30. The same number of students had some college background prior to their admission to the program; two had earned baccalaureate degrees. All of the subjects were Caucasian except for one Mexican-American. They were predominantly Protestants. In these respects, the present sample appears similar to the samples of community college nursing students described in two other studies (1, 30).

The subjects generally lacked knowledge and experience in progressive relaxation. There were only four who were familiar to any considerable degree with the procedure. Only one had used the technique with some regularity.

Prior to this experiment, the students utilized a gamut of techniques to reduce anxiety. The methods most frequently mentioned were prayer or meditation, deep

breathing, and exercise. Others mentioned techniques that varied from yoga, alcohol, sex, eating, drinking coffee to resting on a couch.

### Data-Collecting Tools

Three data-collecting tools were used: (1) State-Trait Anxiety Inventory Form X-1 (A-State scale, see Appendix A) to measure anxiety state, (2) Revised Repression-Sensitization scale (R-S scale, see Appendix B) to measure coping style, and (3) anecdotal notes kept by the subjects of the instances in which they utilized relaxation following a training period, together with their evaluation of the technique's effectiveness.

The A-State scale measures the individual's level of anxiety at any given time. It is a sensitive indicator of situational or transitory anxiety. The essential qualities tapped by the scale include feelings of tension, nervousness, worry and apprehension. The A-State scale has been shown to possess both face and concurrent validity, with a high degree of internal consistency. However, the stability coefficient is low as might be expected in view of the purpose of the test, which is to determine variations in anxiety state (27).

The Revised Repression-Sensitization scale (R-S scale) is based on Byrne's (4) conception of coping style

as a continuum ranging from the tendency to use repressive defense mechanisms at one extreme to the use of sensitization defense mechanisms at the other. Repressive defense mechanisms include denial and many types of rationalization which in essence involve the avoidance of anxiety-provoking stimuli. Sensitization includes defenses such as intellectualization, obsessive behavior and persistive worrying. These defenses involve attempts of the individual to approach or control anxiety-provoking stimuli and their consequences. Byrne's (4) studies seem to suggest that this scale is one valid and reliable measure to assess coping style.

A frequency count of the number of times that students utilized relaxation following the training period was made to determine which categories of individuals (repressors versus sensitizers; anxious versus non-anxious) benefit most from the technique. Students were also requested to describe briefly the instances in which they utilized relaxation and their subjective evaluation of the technique.

#### Design and Data Collection Procedure

In essence, two different designs were utilized to test the two related, but separate hypotheses. The question posed by the first hypothesis was: Does relaxation training



tend to reduce anxiety on the part of students enrolled in a course in psychiatric nursing? The answer to this question required a longitudinal or "panel" design, so the anxiety levels of the subjects might be compared before and after relaxation training. Accordingly, the A-State scale was administered to the entire sample at three points in time: Time 1 - before the initiation of relaxation training (Day 1); Time 2 (Day 14) which was immediately after the completion of relaxation training; and Time 3 (Day 21) which was one week following the completion of relaxation training.

The question posed by the second hypothesis was: Do students differing in coping style also differ significantly in the extent to which relaxation training reduces anxiety? To arrive at an answer to this question, the design utilized a pre- and post-test with comparison groups. Thus, the anxiety levels of two groups of student nurses (repressors versus sensitizers) were compared at three points in time--before the initiation of relaxation training (Time 1) and after the completion of the training (Time 2), and again on Day 21 (Time 3).

The order in which data were gathered and training given is shown in Table 1. On the first day, two tests (R-S and A-State scales) were administered to the entire

TABLE 1  
DESIGN AND PROCEDURE OF STUDY

Procedure and Design	Time Periods*		
	Time 1	Time 2	Time 3
R-S Scale	X		
A-State Scale	X	X	X
Instruction in Relaxation (oral and written)	X		
Relaxation Training**	Initiated	Concluded	
Recording of Anecdotes on Relaxation Practice		Started	Terminated

\*Time 1 - Day 1; Time 2 - Day 14; Time 3 - Day 21.

\*\*Total of 4 Supervised Group and 14 Unsupervised Individual Sessions.

sample. Following completion of these tests, instruction in relaxation training was initiated and continued from Day 1 to 14. Instructions (see Appendix E) in the technique were delivered in both oral and written form. Immediately after the first session, the subjects were directed to continue practicing the technique at least once a day, in addition to that required in the classroom. Overall, each student received four supervised group and presumably 14 unsupervised individual practice sessions. At the end of the training period (Time 2) the investigator recommended that the students utilize the technique whenever they felt it might prove

beneficial. At the same time, the students were requested to keep a record of all the circumstances in which they resorted to relaxation together with a description of its effects from Time 2 to 3. The A-State scale was then administered for the second time. Data gathering was concluded at Time 3, with the third administration of the A-State scale and with the collection of the students' records concerning their use of relaxation during the preceding week.

## CHAPTER III

### RESULTS

#### Anxiety Reduction

The A-State scale was used to measure anxiety state. The raw scores were converted into standard T-Scores normalized for undergraduate college students (27). The mean scores for each time period were 55.26 (standard deviation = 8.60) at Time 1 or the initiation of relaxation training; 54.52 (standard deviation = 12.73) at Time 2, or the completion of relaxation training; and 51.89 (standard deviation = 6.93) for Time 3 or one week following the completion of relaxation training. From these results the following conclusions may be drawn. First, the anxiety state of this sample of psychiatric nursing students appears higher especially at Time 1, than that of the college students tested by Spielberger et al. (27) to establish their normative data. Second, there was a steady decline in the mean scores between the three periods. However, an analysis of the data with the aid of the t-test (see Table 2 for the results) favors the acceptance of the first hypothesis only with reference to the decrease from Time 1 to 3. The decrease

TABLE 2  
 CHANGES IN A-STATE SCALE SCORES  
 AND t-TEST RESULTS

Change in Mean Scores	t	df	p
A. Time 1 and Time 2	.46	26	NS
B. Time 2 and Time 3	1.07	26	NS
C. Time 1 and Time 3	2.04	26	.05*

\*One-tailed Test

over adjacent time periods did not prove significant. This implies that over a longer period of time the practice of relaxation may decrease anxiety state as measured by the A-State scale. In addition, the subjective accounts of the subjects attested to a decrease in anxiety in 90 per cent of the cases in which the technique was utilized between Times 2 and 3. The latter finding strengthens the conclusion that anxiety state is reduced by relaxation after a training period.

#### Coping Style and Anxiety Reduction

The enduring coping style of each subject was identified by his score on the R-S scale. As may be seen from Table 3, the majority of the subjects obtained scores at the repressor end of the R-S continuum. The scores

TABLE 3  
 FREQUENCY DISTRIBUTION OF R-S SCALE SCORES  
 OF 27 STUDENT NURSES

R-S Scale Scores	N
71 - 96	1
47 - 70	1
23 - 46	13
1 - 22	12
	Total 27

ranged from 5 to 77 with a median of 23, a mean of 26.5 and a standard deviation of 13.45.

To proceed with the analysis of the data, this sample was arbitrarily dichotomized into two groups according to the median score on the R-S scale. The two categories were (1) sensitizers--those students with scores on or above the median (N = 15), and (2) repressors--those with scores below the median (N = 12). The mean scores and standard deviation of these two groups on the A-State scale are shown in Table 4.

Apparently, the overall level of anxiety of the sensitizers was much higher at Time 1 than that of the repressors. The decrease in anxiety state over the three

TABLE 4  
 MEAN SCORES AND STANDARD DEVIATIONS ON THE A-STATE  
 SCALE OBTAINED OVER THREE TIME PERIODS BY  
 REPRESSORS AND SENSITIZERS

	Mean A-State Score and Standard Deviation(SD)					
	Time 1	SD	Time 2	SD	Time 3	SD
Repressors	51.50	10.28	48.33	12.40	50.17	7.99
Sensitizers	58.27	5.47	59.47	10.58	53.27	6.21

periods from Times 1 to 3 was also greater for the sensitizers than the repressors. Of particular interest is the sizeable decrease in anxiety reported by the repressors on Time 2 as compared to the slight increase of anxiety state experienced by the sensitizers. Note that the review of the literature did not suggest that sensitizers report an increase in anxiety when provided with a tool to control or approach an anxiety-provoking stimulus.

The sign test result confirms that a significant decrease in anxiety state was reported by the sensitizers from the beginning (Time 1) to the end (Time 3) of the testing periods. However, the repressors did not exhibit a similar tendency. These results (see Table 5) may be interpreted as supporting the second hypothesis of this study, namely that sensitizers benefit more than do repressors from the use of the relaxation technique in terms of reduced anxiety.

TABLE 5  
A-STATE SCALE AND SIGN TEST RESULTS OF SENSITIZERS\*

Time Periods	Numbers of Errors**	N	p
A. 1 and 2	8	15	NS
B. 1 and 3	3	14	.05
C. 2 and 3	3	14	.05

\*No significant decrease in anxiety was noted among the repressors.

\*\*This means the number of changes counter to the hypothesized direction.

#### Utilization of Progressive Relaxation

The use of relaxation by this sample of psychiatric nursing students was measured by a frequency count of the situations in which they practiced the technique between Times 2 and 3 (see Table 6 for the results and Appendix D for selected anecdotal reports). In 161 of the 168 (90 per cent) instances recorded, the students stated that the technique proved effective in helping them cope with stress situations. Relaxation was cited as being most beneficial in relieving tension while driving to and from the clinical area and while studying. It was used very frequently before bedtime. They also reported using the technique in the actual clinical situation as well as in the classroom and



TABLE 6  
CIRCUMSTANCES AND FREQUENCIES OF THE USE OF  
RELAXATION BY THE SUBJECTS TOGETHER WITH  
SUBJECTIVE EVALUATIONS ON ITS EFFECTIVENESS

Situation	Times Used		Times Effectively Used	
	N	%	N	%
Before Bedtime	32	19	32	100
Driving	23	14	23	100
Anticipating a Future Event	19	11	18	95
Studying	18	11	18	100
Fatigue after Class or Work	18	11	17	94
Family Encounters	18	11	16	89
Clinical Experience	15	9	15	100
Social Encounters	10	6	8	80
Class	6	4	6	100
Body and Head Aches	5	3	4	80
House Work	3	2	3	100
Prior to Test	1	1	1	100
After Test	1	1	1	100
TOTAL	168	160	161	90

in every instance they reported satisfactory results. The technique was least effective when used to combat severe body aches, or during a stressful social encounter or when anticipating an uncertain future event.

According to the data of Table 7, 21 (78 per cent) of the sample reported using relaxation between Time 2 and 3 but six students did not. Those who utilized relaxation reported its use from 1 to 22 times.

TABLE 7  
FREQUENCY OF STUDENT NURSES' USE OF RELAXATION  
BETWEEN TIMES 1 AND 3

Frequency by which each Subject used Relaxation	Subjects	
	N	%
17 - 24	1	4
9 - 16	9	33
1 - 8	11	41
0	6	22
Total	27	100

Sensitizers practiced relaxation more frequently (mean = 7.80) than repressors (mean = 3.92). In addition, four repressors in contrast to two sensitizers chose not to practice relaxation at all. According to the t-test, the difference in means was significant ( $t = 2.32$ ,  $df = 25$ ,  $p < .05$ ). The literature seems to indicate that the more anxious the individual the more he tends to search for a means either to escape from, or achieve control over

threatening situations. With this idea in mind, the present sample was dichotomized into High-Anxious and Low-Anxious subjects on the basis of performance on the A-State scale at Time 1. Subjects were assigned to the High-Anxious group if they had attained scores exceeding the mean established by Spielberger et al. (27) as standard for college undergraduates. Subjects were assigned to the Low-Anxious group if they had attained scores at or below that mean (50). On analysis, it was found that the High-Anxious subjects (N = 18) experienced a significantly greater reduction in anxiety over the total experimental period (Time 1 to 3) than did the Low-Anxious group (N = 9). For the High-Anxious group, anxiety decreased slowly at first, and then dropped dramatically. For the Low-Anxious group, the greatest reduction in anxiety occurred during their first few days in the new setting and then leveled off. See Table 8 for findings and their significance by the sign test.

A resume of the coping style, initial anxiety state, and reduction in anxiety state of the High- as opposed to the Low-Users of relaxation is shown in Table 9. Among the High Users (N = 15; those reporting the use of the technique four or more times after Time 2), it was noted that sensitizers outnumbered repressors 2 to 1; that High-Anxious subjects outnumbered Low-Anxious subjects 11 to 4;

TABLE 8

SIGN TEST RESULTS AND SIGNIFICANCE OF CHANGES ON THE  
A-STATE SCALE SCORES OF HIGH-ANXIOUS AND LOW-ANXIOUS  
SUBJECTS BETWEEN TIME PERIODS

Time Periods	High-Anxious			Low-Anxious		
	Number of Errors*	N	P	Result	N	P
A. 1 and 2	13	18	NS	1	9	.05
B. 1 and 3	5	16	.05	3	8	NS
C. 2 and 3	2	17	.005	6	9	NS

\*This means number of changes counter to the hypothesized direction.

and that overall anxiety levels tended to decline from Time 1 to 3. (This last finding was significant according to the sign test.) Among the Low-Users (N = 12; those reporting the use of relaxation 3 or fewer times) there was a more even division as between sensitizers (N = 5) and repressors (N = 7); and also a more even division between High-Anxious (N = 7) and Low-Anxious subjects (N = 5). In addition, these subjects did not shift significantly in the direction of lesser anxiety over the three periods. From these data it may be concluded that the most frequent users of relaxation tend to be sensitizers who are initially highly anxious, and that these individuals report a gradual decrease in anxiety state as relaxation was practiced over a longer period of time.

TABLE 9

COPING STYLE, INITIAL LEVEL OF ANXIETY, REPORTED REDUCTION OF A-STATE SCALE SCORES OF HIGH- AND LOW-USERS OF RELAXATION FOLLOWING A TWO-WEEK TRAINING PERIOD

High-Users* N=15						Low-Users** N=12							
Subject	Coping Style	Initial A-State	A-State Reduction Between Times:			Subject	Coping Style	Initial A-State	A-State Reduction Between Times:				
			1 & 2	1 & 3	1 & 3				1 & 2	1 & 3	2 & 3		
A	S	H	+	+	+	P	S	L	+	+	+		
B	S	L	+	+	-	Q	R	H	+	-	-		
C	S	H	-	+	+	R	S	H	-	+	+		
D	R	L	+	-	-	S	R	H	-	+	+		
E	S	H	+	-	-	T	S	L	+	-	-		
F	R	H	-	-	+	U	R	H	-	-	+		
G	S	H	-	+	+	V	S	H	-	+	+		
H	R	L	+	o	-	W	S	H	-	o	+		
I	S	H	-	-	o	X	R	L	+	o	+		
J	S	H	+	+	+	Y	R	L	+	-	-		
K	S	H	-	+	+	Z	R	H	-	+	+		
L	S	H	+	+	+	Aa	R	L	+	+	o		
M	S	H	-	+	+								
N	R	H	-	+	+								
O	R	L	+	+	-								
Total:													
15			S=10 R= 5	H=11 L= 4	+=8 -=7	+=10 -= 4	+=9 -=5	12	S=5 R=7	H=7 L=5	+=6 -=6	+=6 -=4	+=8 -=3

\*Subjects who practiced relaxation 4 or more times after Time 2.

\*\*Subjects who practiced relaxation 3 or less times after Time 2.

S = Sensitizers

- = A-State Scale Score reduced.

R = Repressors

+ = A-State Scale Score increased.

H = High-Anxious (Score on A-State Scale above Standard mean at Time 1).

L = Low-Anxious (Score on A-State Scale below Standard mean at Time 1).

O = No change in A-State Scale score

CHAPTER IV  
DISCUSSION

The students in this investigation reported an initial mean score on the A-State scale that was higher than that observed for college undergraduates (27). This seems to substantiate the observation that psychiatric students tend to exhibit a high level of anxiety (18). Rycroft (24) reasons that high anxiety levels may be attributed to threat experienced with the unknown, the untried or the new role. At Time 1 of this investigation, the subjects were faced with just such a situation. They were starting the second year of their study in nursing and their first experience in psychiatric nursing. They had no knowledge of what to expect in the way of behavior from psychiatric patients nor how to cope with that behavior. Their anxiety may have been further compounded by the fact that the instructor was new to the school.

Hypothesis I

The hypothesis that the level of anxiety experienced by a group of Associate Degree nursing students will be significantly reduced following progressive relaxation training was accepted on the basis of the following findings: (1) a significant reduction in A-State scale mean score between the

initiation of relaxation training (Time 1) and the completion of the study (Time 3), and (2) written testimonials (see Appendix D) which affirm the effectiveness of relaxation. Stone (28) noted a similar result in his study. Progressive relaxation was noted to have significantly reduced the anxiety state of a group of students as compared to the use of rational-emotive and group counseling intervention techniques. However, the subjects in Stone's study were of a different population of students from the present study since his subjects were Black multi-occupational trainees.

A closer look at how the course in psychiatric nursing was presented while relaxation was being instituted, brings to mind Wolpe's systematic desensitization. Several previous studies (2, 9, 10, 11, 15, 21, 28) have empirically demonstrated the effectiveness of systematic relaxation in minimizing anxiety. The process of teaching relaxation in the early part of the course can be considered analogous to the first step in systematic desensitization (i.e., relaxation training). The plan of the instructor to gradually introduce course content to the students parallel the second step in systematic desensitization which is the formation of a hierarchy of stimuli arranged according to the intensity of discomfort evoked. The practice of relaxation by the students after relaxation training while engaged in the activities of

a psychiatric nursing student nurse may also be considered as parallel to the third step of Wolpe's method (namely, the sequential pairing of relaxation with the hierarchially graded anxiety-provoking stimulus). The difference between systematic desensitization and the procedure of this investigation is that instead of imagining a stimulus, the subject was faced with the real situation. Thus in this study, one can strongly suggest that an in-vivo systematic desensitization may have been responsible for the significant reduction in anxiety state of the students. One must be reminded, however, that progressive relaxation is a very important component of this method (12).

There are other factors that may have helped lower the students' anxiety state. Rycroft (24) has postulated that anxiety can be reduced in the presence of trusted significant others. With the passage of time (Day 1 to 21) the students may have developed a more or less trusting relationship with the instructor and the hospital staff. Janis (12) has postulated that reflective worrying does minimize anxiety. The presentation of the course content through assignments given ahead of time, lectures, and group discussions may have given the students time to mull over the content. Role-playing has also been mentioned by Janis (12) as alleviating anxiety. The didactic group process resembles the experience of patients



in therapy, and the use of role-playing to problem-solve may have aided in minimizing the students' anxiety. The three factors just mentioned are methods of providing the students with tools to deal with the unknown in the practice of psychiatric nursing. Janis, Rycroft, and Jacobson (12, 11, 24) have emphasized that the development of skills or tools or the knowledge of where to obtain them when needed are forms of approaching or controlling the unknown thus reducing anxiety.

However, there were factors that could have also increased anxiety to a considerable degree. One, with the passage of time the course content became more complex so that the students had to spend more time in studying. The time spent on this endeavor may have usurped some of the prime time that the students would have ordinarily spent elsewhere. This may have caused some conflict within the individual thus increasing anxiety (17, 18, 26). Two, the increasing awareness of the complexity of patients with whom the students would be interacting may have made them realize that solving the patients' problems is more complicated and possibly beyond their scope. This may have created still more frustration and anxiety. Three, had the A-State scale been administered immediately before and after each practice session more significant reduction in scores might have been noted in this study.

In that case our findings may have been more in line with those of other investigators (27).

The lack of a control group for comparison purposes may statistically weaken this paper's position in holding that relaxation was for the most part responsible for the students' significant reduction in anxiety. However, the results of this study suggests the possibility that a reduction in anxiety in one situation does not carry through to the next as shown by the differences in means and scores obtained over the three time periods. This implies that the individual who wishes to maintain a comfortable level of anxiety should incorporate in his personality the habit of using relaxation each time an anxiety-provoking situation occurs. When the individual is able to do that a more or less uniform level of anxiety can be maintained.

### Hypothesis II

The sensitizers are described by Bryne (4) to be individuals who tend to be perceptive to anxiety cues which are either repressed or denied by the so-called "repressors." In this study, sensitizers reported a higher mean score on the A-State scale than did the repressors. It was hypothesized in this study that the level of sensitizers' anxiety would be reduced following relaxation training to a significantly greater extent than the level of those students who

tend to be repressors. This hypothesis was accepted on the basis of significant sign tests (see Table 5) computed for changes in anxiety between Times 1 and 3 and Times 2 and 3.

The significant findings that support the acceptance of the hypothesis might be interpreted as follows: First, the sensitizers experience more anxiety and more muscle tension; second, progressive relaxation was suggested to the students as an effective method to reduce stress which may have been augmented by a positive experience with the technique during the training period (Time 1 and 2); and third, repressors tend to report low or no feelings of anxiety and therefore no or little muscle tension. From these statements one can expect sensitizers to report a greater reduction in anxiety state as compared to repressors.

#### Utilization of Relaxation

The subjects in this study were taught that relaxation was an effective tool to reduce anxiety. They were encouraged to utilize the technique. The question of whether the frequent use of the technique did in fact reduce anxiety state was confirmed by the significant reduction in A-State scale scores obtained by the sensitizers and High-Anxious groups. However, when the High Users of relaxation were compared to the Low-Users, the sign test was only suggestive ( $p < .10$ ).

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Sensitizers and High-Anxious individuals reported practicing the technique more frequently than did the repressors and Low-Anxious group. Other studies (4, 5, 6, 14) noted that the sensitizers who reported themselves to be more anxious than the repressors also tended to utilize or seek methods to approach or control threatening situations. This may explain the above finding of this experiment.

The dual role of the investigator as instructor may have made her an authority figure to the students and thereby influenced a number of them to practice relaxation at least once to please her. The students' curiosity and the novelty of the idea may have encouraged some of the students to try the technique at least once. It would be interesting to know whether similar results would be obtained by a neutral investigator who would run the experiment for a longer period of time.

The results of this study point to the usefulness of relaxation as a technique to reduce anxiety in the classroom and in the clinical area as well as in day-to-day activities of living (see Table 6). These findings uphold Jacobson's (11) claim that relaxation can be used in a variety of situations, either while the individual is engaged in some physical activity or is at rest.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Summary

The purpose of this investigation was to explore the use of progressive relaxation as a method to reduce anxiety experienced by psychiatric nursing students in a two-year nursing program. The sample consisted of 22 female and 5 male student nurses who were relatively naive to the theory and practice of psychiatric nursing in general and progressive relaxation in particular. Two hypotheses were tested. The first hypothesis investigated was: the level of anxiety in a group of nursing students in a course in psychiatric nursing will be significantly reduced following progressive relaxation training. This hypothesis was accepted on the basis of (1) a significant reduction in A-State scale mean score between the initiation of relaxation to the conclusion of the study, and (2) students' written testimonials affirming the effectiveness of the technique.

The second hypothesis tested was: the students who are sensitizers will differ from those who are repressors in showing a significant reduction in anxiety as a result of

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progressive relaxation training. This hypothesis was accepted on the basis of significant changes in A-State scale scores supported by sign-test results between (1) Time 1 (initiation of relaxation training) and Time 2 (completion of relaxation training); and (2) Time 1 and Time 3 (conclusion of the study).

The data-collecting tools used were (1) A-State Scale to measure anxiety state; (2) Revised Repression-Sensitization scale to measure coping style; and (3) descriptive records of the circumstances in which relaxation was utilized by individual students during the time between the completion of relaxation training to a week after. The procedure in this study was as follows. On Day 1 the R-S and A-State scales were administered followed by instructions and initiation of relaxation training. On Day 14, the A-State scale was again administered and the relaxation training concluded, followed by instructions to the students to record anecdotes of circumstances in which relaxation was used. On Day 21, the A-State scale was administered for the last time, and the anecdotal notes were collected.

### Conclusions

Due to the small sample size it must be recognized that valid generalizations cannot be made from these findings. Acceptable inferences drawn from the study include:

1. Students who choose to practice relaxation after a training period will report a greater reduction in anxiety state than will those who practice it less frequently.
2. Students who tend to be sensitizers will choose to utilize relaxation more frequently than will repressors, and will also report a greater reduction in anxiety state.
3. Students can use relaxation to reduce anxiety experienced in the process of learning about psychiatric nursing as well as in a variety of day-to-day activities of living.
4. Psychiatric nursing students will exhibit higher levels of anxiety state than will the average college undergraduate.
5. Students who tend to be sensitizers will report a greater amount of anxiety as compared to the repressors.

### Recommendations

As a result of this investigation, it is recommended that the following be considered for further study:

1. The study should be repeated involving a larger population of psychiatric nursing students. A control group should be included for comparison.

The subjects in each group should be matched according to age, sex, coping style, anxiety trait to facilitate data-analysis. The procedure of the investigation should be tightened to insure that all subjects in a given group are receiving the same treatment to increase the validity of the results obtained. The time spent for the whole study should be extended beyond three weeks to permit the full effect of the technique to be manifested.

2. It would seem important to investigate the effects of relaxation training on the students' performance in dealing with psychiatric patients.
3. The benefits of relaxation training for student nurses in clinical areas other than psychiatric nursing might be explored, as for example in medical or surgical nursing with freshmen student nurses.

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APPENDICES

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APPENDIX A  
STAI FORM X-1

REPRODUCED FROM THE NATIONAL ARCHIVES

# SELF-EVALUATION QUESTIONNAIRE

Developed by C. D. Spielberger, R. L. Gorsuch and R. Lushene  
STAI FORM X-1

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

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

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



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APPENDIX B  
R-S SCALE

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## REVISED R-S SCALE

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to mark your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the letter T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the letter F.

Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces if you can avoid it.

In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet.

For example:

If question 201 were true, on the answer sheet you would circle T.

201. T F

If question 202 were false, circle F.

202. T F

NOW OPEN THE BOOKLET AND GO AHEAD.

## REVISED R-S SCALE

1. I wake up fresh and rested most mornings.
2. My hands and feet are usually warm enough.
3. My daily life is full of things that keep me interested.
4. There seems to be a lump in my throat much of the time.
5. Once in a while I think of things too bad to talk about.
6. At times I have fits of laughing and crying that I cannot control.
7. I feel that it is certainly best to keep my mouth shut when I'm in trouble.
8. I find it hard to keep my mind on a task or job.
9. I seldom worry about my health.
10. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."
11. My sleep is fitful and disturbed.
12. Much of the time my head seems to hurt all over.
13. I am in just as good physical health as most of my friends.
14. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.
15. I am almost never bothered by pains over the heart or in my chest.
16. I am a good mixer.
17. I wish I could be as happy as others seem to be.
18. Most of the time I feel blue.
19. I am certainly lacking in self-confidence.
20. I usually feel that life is worthwhile.

21. It takes a lot of argument to convince most people of the truth.
22. I think most people would lie to get ahead.
23. I do many things which I regret afterwards (I regret things more or more often than others seem to).
24. I have very few quarrels with members of my family.
25. My hardest battles are with myself.
26. I have little or no trouble with my muscles twitching or jumping.
27. I don't seem to care what happens to me.
28. Much of the time I feel as if I have done something wrong or evil.
29. I am happy most of the time.
30. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
31. Often I feel as if there were a tight band about my head.
32. I seem to be about as capable and smart as most others around me.
33. Most people will use somewhat unfair means to gain profit or advantage rather than to lose it.
34. Often I can't understand why I have been so cross and grouchy.
35. I do not worry about catching diseases.
36. I commonly wonder what hidden reason another person may have for doing something nice for me.
37. Criticism or scolding hurts me terribly.
38. My conduct is largely controlled by the customs of those about me.
39. I certainly feel useless at times.

40. At times I feel like picking a fist fight with someone.
41. I have often lost out on things because I couldn't make up my mind soon enough.
42. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.
43. Most nights I go to sleep without thoughts or ideas bothering me.
44. I cry easily.
45. I cannot understand what I read as well as I used to.
46. I have never felt better in my life than I do now.
47. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.
48. I do not tire quickly.
49. I like to study and read about things that I am working at.
50. I like to know some important people because it makes me feel important.
51. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things.
52. I frequently have to fight against showing that I am bashful.
53. I seldom or never have dizzy spells.
54. My memory seems to be all right.
55. I am worried about sex matters.
56. I find it hard to make talk when I meet new people.
57. I am afraid of losing my mind.
58. I frequently notice my hand shakes when I try to do something.
59. I can read a long while without tiring my eyes.

60. I feel weak all over much of the time.
61. I have very few headaches.
62. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.
63. I have had no difficulty in keeping my balance in walking.
64. I wish I were not so shy.
65. I enjoy many different kinds of play and recreation.
66. In walking I am very careful to step over sidewalk cracks.
67. I frequently find myself worrying about something.
68. I hardly ever notice my heart pounding and I am seldom short of breath.
69. I get mad easily and then get over it soon.
70. I brood a great deal.
71. I have periods of such great restlessness that I cannot sit long in a chair.
72. I dream frequently about things that are best kept to myself.
73. I believe I am no more nervous than most others.
74. I have few or no pains.
75. I have difficulty in starting to do things.
76. It is safer to trust nobody.
77. Once a week or oftener I become very excited.
78. When in a group of people I have trouble thinking of the right things to talk about.
79. When I leave home I do not worry about whether the door is locked and the windows closed.

80. I have often felt that strangers were looking at me critically.
81. I drink an unusually large amount of water every day.
82. I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer.
83. I work under a great deal of tension.
84. I am likely not to speak to people until they speak to me.
85. Life is a strain for me much of the time.
86. In school I found it very hard to talk before the class.
87. Even when I am with people I feel lonely much of the time.
88. I think nearly anyone would tell a lie to keep out of trouble.
89. I am easily embarrassed.
90. I worry over money and business.
91. I easily become impatient with people.
92. I feel anxiety about something or someone almost all the time.
93. Sometimes I become so excited that I find it hard to get to sleep.
94. I forget right away what people say to me.
95. I usually have to stop and think before I act even in trifling matters.
96. Often I cross the street in order not to meet someone I see.
97. I often feel as if things were not real.
98. I have a habit of counting things that are not important, such as bulbs on electric signs, and so forth.
99. I have strange and peculiar thoughts.

100. I have been afraid of things or people that I knew could not hurt me.
101. I have no dread of going into a room by myself where other people have already gathered and are talking.
102. I have more trouble concentrating than others seem to have.
103. I have several times given up doing a thing because I thought too little of my ability.
104. Bad words, often terrible words, come into my mind and I cannot get rid of them.
105. Sometimes some unimportant thought will run through my mind and bother me for days.
106. Almost every day something happens to frighten me.
107. I am inclined to take things hard.
108. I am more sensitive than most other people.
109. At periods my mind seems to work more slowly than usual.
110. I very seldom have spells of the blues.
111. I wish that I could get over worrying about things I have said that may have injured other people's feelings.
112. People often disappoint me.
113. I feel unable to tell anyone all about myself.
114. My plans have frequently seemed so full of difficulties that I have had to give them up.
115. Often, even though everything is going fine for me, I feel that I don't care about anything.
116. I have sometimes felt that difficulties were piling up so high that I could not overcome them.
117. I often think, "I wish I were a child again."
118. It makes me feel like a failure when I hear of the success of someone I know well.

119. I am apt to take disappointments so keenly that I can't put them out of my mind.
120. At times I think I am no good at all.
121. I worry quite a bit over possible misfortunes.
122. I am apt to pass up something I want to do because others feel I am not going about it in the right way.
123. I have several times had a change of heart about my life work.
124. I have a daydream life about which I do not tell other people.
125. I have often felt guilty because I have pretended to feel more sorry about something than I really was.
126. I feel tired a good deal of the time.
127. I sometimes feel that I am about to go to pieces.



APPENDIX C  
SUMMARY OF RAW DATA

Frequency Count of Relaxation Use, R-S Raw Scores, A-State  
Scale Standardized T-Scores, Means,  
Standard Deviations and Medians

Subject	Frequency Count of R-S Relaxation Use	Raw Score	A-State Time 1	Scale T-Scores Time 2	Time 3
A	22	27	61	56	50
B	14	34	60	49	58
C	14	27	60	66	43
D	14	17	55	37	57
E	13	36	58	52	64
F	12	20	35	51	43
G	11	25	57	63	54
H	11	20	61	37	61
I	10	23	55	66	66
J	9	23	65	53	51
K	6	77	66	76	55
L	6	54	66	61	56
M	6	29	52	70	49
N	4	18	64	74	51
O	4	5	60	37	49
P	3	23	51	47	43
Q	3	19	63	51	64
R	2	29	61	63	53
S	2	20	47	56	44
T	1	30	46	35	51
U	1	17	33	57	54
V	0	37	60	74	50
W	0	35	56	61	56
X	0	21	49	48	49
Y	0	19	40	35	47
Z	0	17	56	64	50
Aa	0	16	55	33	33
Total	168	718	1497	1472	1401
Mean	8	26.59	55.26	54.52	51.89
Median	4	23.	-	-	-
Standard Deviation		13.48	8.60	12.73	6.93

APPENDIX D  
SELECTED ANECDOTAL NOTES

The following are examples of selected anecdotal accounts of students' experiences with relaxation.

Student A (Sensitizer):

"I have been doing these relaxation exercises every night after I get into bed and have had very little trouble going to sleep. I have taken no Noludar since I started the program. I have taken no Valium for the past two days even if the prescription tells me to take one tablet three times a day."

"After reading for over two hours I felt much more like doing some badly needed house work."

"I was working to keep the temperature of my sick little girl down. I got relaxed enough to read more and still keep an eye on my daughter's progress."

"I took a few moments from reading to relax. I was better able to read with understanding again."

"I used relaxation on awakening at 8 a.m. I felt much better. I was able to do some essential preparation for the clinical area."

Student B (Sensitizer):

"I used relaxation before dinner. I was very busy with guests and errands for the children. I was better able to cope with the demands placed on me."

"I felt tense at a dinner party. I used relaxation to help me relax a little bit."

"I used it at the beginning of the 1 p.m. class."

"I used it to ease my feeling of tension after discussing my interaction paper with the instructor."

"I used it to relax after completing an examination."

Student C (Sensitizer):

"I used it during class. It really helped."

"I went home and there was total confusion. I went to my room and worked on relaxation. The tension in my neck was relieved some. I was better able to cope."

"It helped me sleep."

"I have been studying and the kids kept interrupting. I concentrated on relaxing. That really helped."

"I had a disagreement with my oldest daughter. She stomped out. I was really uptight. I layed down for 15 minutes and did the whole bit--it worked!"

"I used relaxation after an interaction with a patient who frightened me. It reduced some of the fright but talking with the instructor helped more."

"At about 1:30 p.m. during \_\_\_\_\_ group therapy session, I leaned back and closed my eyes for some time. I was able to concentrate on the session better after that."

Student D (Repressor):

"I used relaxation on my way home while driving to relax tense shoulder muscles--good results!"

"My brother and I had a disagreement so I used relaxation. Results--fair."

"I had a heated argument with a gas station attendant over an accident that I caused. The result was good."

Student E (Sensitizer):

"We had a hectic dinner time. Everyone was talking and going every way. I was about to blow up but didn't. I calmly finished dinner."

"I was sitting in the car waiting for the children. My body relaxed and I began to enjoy the beautiful day instead of worrying about where the children were."

"I was uptight about the fact that I couldn't get my husband to understand and reply to the topic I brought up. I used the technique. It gave me time to apply communication techniques. I also felt calmer."

"I was trying to map out on paper and mind what work will be expected of me and how I will go about doing it. I was very uptight. I went through the entire relaxation technique. My anxiety was greatly lessened. I felt capable of accomplishing something."

"I was trying to relax from home pressures so I can start thinking and doing school work. Other demands muted-- I was relaxed enough to start work."

"My son was telling me problems about school and my daughter was anxious about clean clothes. I calmed down and put things in order of what to handle first."

"I was really uptight about everything I had to do. I took one half hour to relax. I felt physically relaxed but didn't know where to start."

"I was wondering how I would do at the hospital. It relaxed some of my anxieties."

"I tried relaxation in an atmosphere of people talking all around me. I did relax and block others out to a floating state."

Student F (Repressor):

"I used relaxation when Dr. \_\_\_\_\_ spoke to us. After relaxation, I felt less tense about what he was going to speak about."

"We had a discussion about our school's dress code. I was trying to make a point and I didn't seem to be able to get it across and I became extremely frustrated. I had good results as I felt my jaws loosen up."

"I had just finished doing the dishes and I knew that I had to get the kids ready for bed. I had good results."

"I was anxious about our family counseling session and the decisions that had to be made. It was 80 per cent effective."

Student H (Repressor):

"I used it in class to help me relax."

"I used it in the afternoon during a break in my studying. It helped me become more refreshed and relaxed and capable of handling the rest of the work I was going to tackle."

"I used it quietly and unobtrusively during the class that lasted three hours. It made it seem not quite as bad."

"A paranoid patient was telling me about the murderers who were going to electrocute him which made me feel like I was watching a horror movie. Up until that time I had not really noticed any one person who was so very different from the ones I met elsewhere. I used relaxation to keep myself from telling the guy how absurd his idea was."

Student I (Sensitizer):

"I felt a headache while trying to study. After ten minutes of relaxation I felt refreshed and relaxed."



"I tried relaxation after driving down from home to the clinical area. Effect--I felt more at ease and felt more like meeting a patient."

"I tried going to sleep but my body ached. I tried relaxation with no reduction in body aches despite doing the technique several times."

"I went to visit the Mental Health Clinic. I drove home in the middle of heavy traffic. I felt tired and up-tight. Effect: I felt relaxed and content."

"I tried relaxation before class started because I felt nervous about the possible test situation. Effect: I accepted my fright and felt more at ease."

Student J (Sensitizer):

"I used the technique to help me in my transition from school to my arrival to four of my children. I felt better and able to cope with new problems."

"I felt tense after a picnic. It really helped!"

"I used it while doing housework and homework. I felt good after."

"It makes good transition period from children to husband's arrival."

Student K (Sensitizer):

"I drove to \_\_\_\_\_. I was very tired and sleepy on the way home. The relaxation relaxed me and made me feel more alert."

"I had a long confusing day and had just quarreled with my husband. I was trying to study as it was and getting nowhere. I closed my eyes and did relaxation. I dozed off for about 10 minutes in the middle of my relaxation exercises. I woke up feeling at ease, ready to read and no longer upset."

"I tried to relax in class when I had a bad headache. The headache went away for a while."

Student L (Sensitizer):

"While driving home and facing the sun, I felt a strain on the muscles of my neck and shoulders. For no apparent reason I felt my heart beat fast--almost fluttering. I stopped the car and parked on the roadside to do the relaxation exercises. I felt like a new human being. The strain and tension was gone."

"I could not sleep after the encounter with the aggressive policeman. I did the exercises and was able to calm down and sleep."

Student M (Sensitizer):

"After studying, cleaning house and anticipating visitors and more studying, I felt more refreshed and clear minded. It took me about thirty minutes to do the whole exercise."

Student N (Repressor):

"It relieved me partially of the fatigue I was experiencing while studying at home."

"I had a long and mentally exhausting day after our clinical experience. It lulled me to sleep."

"I was studying for the next day's exam. It eased my tensions and dulled my headache somewhat. It also made me drowsy."

Student O (Repressor):

"I do not do relaxation exercises every day-- only when I am tense."

Student P (Sensitizer):

"I did it when I had to put a foley catheter with the supervision of a classmate. It was effective."

"I used it to remove a corpse from a room. It helped me to relax."

Student Q (Repressor):

"I was bowling with my husband. We were just starting but seemed to be quite wound up. So, I used relaxation, after which I got up and got a strike."

"My stomach felt a little heavy before I left for the clinical area. After relaxation, I felt the heaviness leave and I was able to eat breakfast."

Student R (Sensitizer):

"I used it before arising this morning. I was faced with school, a lecture and a test. I was emotionally drained after the two days in the clinical area. Relaxation helped me relieve my anxieties and fatigue."

APPENDIX E  
PROGRESSIVE RELAXATION TECHNIQUE

## PROGRESSIVE RELAXATION TECHNIQUE

Relaxation of Arms (4-5 minutes)

Settle back as comfortably as you can. Let yourself relax to the best of your ability . . . . Now, as you relax like that clench your right fist tighter and tighter, and study the tension as you do. Keep it clenched and study the tension as you do. Feel the tension in your right fist, hand and forearm . . . . Now, relax . . . . Let the fingers of your right hand become loose, and observe the contrast in your feelings . . . . Now let yourself go and try to become more relaxed. Once more clench your right fist really tight . . . . hold it, and notice the tension once more . . . . Now let it go and relax . . . . Let your fingers straighten out and notice the difference once more . . . . Now repeat that with your left fist. Clench your left fist while the rest of your body relaxes; clench your fist tighter and feel the tension . . . . Now, relax. Enjoy the contrast . . . . Repeat that once more. Clench your left fist while your body relaxes . . . . Clench the fist tighter and feel the tension. Now relax and feel the difference. Continue relaxing like that for a while . . . . Clench both fists tight and tighter, both tense, forearms tense, study the sensation . . . . Now relax; straighten out your fingers and feel the relaxation. Continue relaxing your hands and

forearms more and more. Now, bend your elbows and tense your biceps, tense them harder and study your feelings of tension. Now straighten out your arms, let them relax and feel that nice comfortable feeling once more. Let relaxation develop . . . . Once more, tense your biceps; hold the tension and observe it carefully . . . . Straighten your arms and relax; relax to the best of your ability. Each time, pay close attention to your feelings when you tense up and when you relax. Now straighten your arms, straighten them so that you feel most tension in the triceps muscles along the back of your arms; stretch your arms and feel that tension . . . and now, relax. Get your arms back into a comfortable position. Let relaxation proceed on its own. The arms should feel comfortably heavy as you allow them to relax. Now concentrate on pure relaxation in the arms without any tension. Get your arms comfortable and let them relax further and further. Continue relaxing your arms even further. Even when your arms seem fully relaxed, try to go that bit further; try to achieve deeper and deeper levels of relaxation.

Relaxation of Facial Area, Neck,  
Shoulders and Upper Back (4-5 Minutes)

Let all your muscles go loose and heavy. Just settle back quietly and comfortably. Wrinkle your forehead . . . . Wrinkle it tighter . . . . Now stop wrinkling

your forehead. Relax and smoothe it out. Picture your entire forehead and scalp becoming smoother as the relaxation increases. Now frown and crease your brows and study the tension . . . . Let go of the tension again. Smoothe out the forehead once more . . . . Now close your eyes tighter and tighter . . . . Feel the tension and relax your eyes. Keep your eyes closed, gently, comfortably and notice the relaxation . . . . Now clench your jaws, bite your teeth together; study the tension throughout the jaws . . . . Relax your jaws now. Let your lips part slightly . . . . Appreciate the relaxation . . . . Now press your tongue hard against the roof of your mouth. Look for the tension . . . . Now let your tongue return to a comfortable and relaxed position. Purse your lips, press your lips together tighter and tighter . . . . Relax the lips. Note the contrast between tension and relaxation . . . . Feel the relaxation all over your face, all over your forehead and scalp, eyes, jaws, lips, tongue and throat. Let relaxation progress further and further . . . . Now attend to your neck muscles. Press your head back as far as it can go and feel the tension in the neck; roll it to the right and feel the tension shift; now roll it to the left. Straighten your head and bring it forward, press your chin against your chest. Let your head return to a comfortable



position, and study relaxation. Let relaxation develop . . . .  
. . . Shrug your shoulders again and move them around. Bring your shoulders up and forward and back. Feel the tension in your shoulders and in your upper back . . . . Drop your shoulders once more and relax. Let relaxation spread deep into the shoulders, right into your back muscles, relax your neck and throat, and your jaws and other facial areas as pure relaxation takes over and grows deeper . . . . deeper . . . . even deeper.

Relaxation of Chest, Stomach  
and Lower Back (4-5 Minutes)

Relax your entire body to the best of your ability. Feel that comfortable heaviness that accompanies relaxation. Breathe easily and freely in and out. Notice how the relaxation increases as you exhale . . . . as you breathe out just feel that relaxation . . . . Now breathe right in and fill your lungs; inhale deeply and hold your breath. Study the tension . . . . Now exhale, let the walls of your chest grow loose and push out the air automatically. Continue relaxing and breathe freely and gently. Feel the relaxation and enjoy it . . . . With the rest of your body as relaxed as possible, fill your lungs again. Breathe in deeply and hold it again . . . . That's fine, breathe out and appreciate the relief. Just breathe normally. Continue relaxing

your chest and let the relaxation spread to your back, shoulders to your neck and arms. Merely let go . . . . enjoy the relaxation. Now pay attention to your abdominal muscles, your stomach area. Tighten your stomach muscles, make your abdomen hard. Notice the tension . . . . and relax. Let the muscles loosen and notice the contrast . . . . Once more, press and tighten your stomach muscles. Hold the tension and study it . . . . Now draw your stomach in, pull the muscles right in and continue breathing normally and easily and feel the gentle massaging action all over your chest and stomach . . . . Now pull your stomach in again and hold the tension . . . . Now push it out and tense it like that; hold your stomach fully. Let the tension dissolve as the relaxation grows deeper. Each time you breathe out, notice the rhythmic relaxation both in your lungs and in your stomach. Notice thereby how your chest and your stomach relax more and more . . . . Try and let go of all the tension in your body . . . . Now direct your attention to your lower back. Arch up your back, make your lower back quite hollow, and feel the tension along your spine . . . . settle down comfortably again, relaxing the lower back. Just arch your back up and feel the tension as you do so. Try to keep the rest of your body as relaxed as possible. Try to localize the tension throughout your lower back area . . . . Relax once more,

relaxing further and further. Relax your lower back, relax your upper back, spread the relaxation to your stomach, chest, shoulders, arms and facial area. Allow these parts to relax further and further and even deeper.

Relaxation of Hips, Thighs and Calves  
Followed by Complete Body Relaxation

Let go of all tensions and relax . . . . Now flex your buttocks and thighs by pressing down your heels as hard as you can . . . . Relax and notice the difference . . . . Straighten your knees and flex your thigh muscles again. Hold the tension . . . . Relax your hips and thighs. Allow the relaxation to proceed on its own . . . . Press your feet and toes downwards, away from your face, so that your calf muscles become tense. Study that tension . . . . Relax your feet and calves . . . . This time, bend your feet towards your face so that you feel tension along your shins. Bring your toes right up . . . . Relax again. Keep relaxing for a while. Now let yourself relax further all over. Relax your feet, ankles, calves and shins, knees, thighs, buttocks and hips. Feel the heaviness of your lower body as you relax still further . . . . Now spread the relaxation all over. Let it proceed to your lower back, chest, shoulders, and arms and right to the tips of your fingers. Keep relaxing more and more deeply. Make sure that no tension has crept into

your throat; relax your neck and jaws and all your facial muscles. Keep relaxing your whole body like that for a while. Let yourself relax.

You can become twice as relaxed as you are merely by taking in a really deep breath and slowly exhaling. With your eyes closed so that you become less aware of objects and movements around you and thus prevent surface tensions from developing, breathe in deeply and feel yourself becoming heavier. Take in a long, deep breath and let it out very slowly. . . . . Feel how heavy and relaxed you have become.

In a state of perfect relaxation you should feel unwilling to move a single muscle in your body. Think about the effort that would be required to raise your right arm. As you think about raising your right arm, see if you can notice any tensions that might have crept into your shoulder and your arm . . . . . Now you can decide not to lift the arm but to continue relaxing. Observe relief and the disappearance of the tension . . . . .

Just carry on relaxing like that. When you wish to get up count from one to four. You should then feel fine and refreshed, wide awake and calm . . . . .


ABSTRACT

AN ABSTRACT OF THE FIELD STUDY OF  
CLAIRE C. SINGITEN

For the degree of MASTERS IN NURSING

Date of receiving this degree: June 8, 1973

Title: PROGRESSIVE RELAXATION ANXIETY REDUCTION AND  
COPING STYLE IN TWENTY-SEVEN STUDENT NURSES

Approved: 

Field Study Adviser

This investigation was instigated to explore the use of progressive relaxation to reduce anxiety that might be experienced by students in psychiatric nursing settings. The sample consisted of 22 female and five male students who were relatively naive to the theory and practice of psychiatric nursing and progressive relaxation. Data-collecting tools used were (1) The A-State scale which was administered before and at the conclusion of relaxation training and again after a week had elapsed, to measure level of anxiety; (2) the revised Repression-Sensitization scale measured coping style; and (3) a week's anecdotal record to show the effectiveness of the technique and the circumstances in which

relaxation was utilized by the students after going through the training period.

Due to the small sample size, valid generalizations cannot be made from the results. However, the results strongly indicate that (1) the students who choose to practice relaxation will report a greater reduction in anxiety state as compared to those who practiced it less; (2) the students who tend to be sensitizers will choose to practice relaxation more frequently than the repressors, and will also report a greater reduction in anxiety state; and (3) students will find the technique effective in reducing anxiety felt in the clinical area as well as in a variety of day-to-day activities of living.

As a result of this investigation, it is recommended that the study be repeated involving a larger population and a comparable control group. The effects of relaxation training on the performance of the students in a psychiatric setting should be investigated. And last, the benefits of relaxation training for students in clinical areas such as the medical or surgical areas should be explored.