MASSED GROUP DESENSITIZATION IN THE
REDUCTION OF ANXIETY

APPROVED:

[Signatures]

Major Professor

Minor Professor

Director of the Department of Psychology

Dean of the Graduate School
Dawley, Harold H., Jr., Massed Group Desensitization in the Reduction of Anxiety. Master of Arts (Clinical Psychology), August, 1972, 18 pp., 6 tables, bibliography, 19 titles.

The problem with which this investigation was concerned was that of determining the effectiveness of massed group desensitization in the reduction of anxiety. Thirty test-anxious nursing students who scored in the upper quartile on the Test Anxiety Questionnaire (TAQ) served as the subjects. The subjects were assigned by the use of a randomized block procedure to one of the following three groups matched on the basis of their pre-test TAQ scores: (1) desensitization, (2) placebo, and (3) control.

Massed group desensitization was applied on three consecutive sessions meeting from 7:00 p.m. to 9:20 p.m. on a Tuesday and Thursday of one week, then on Tuesday of the following week. The introductory rationale for massed group desensitization was presented at the beginning of the first session. The subjects were then instructed to close their eyes. Each treatment session began with twenty minutes of recorded muscle-relaxation instructions. The desensitization itself began with the subjects being instructed to visualize scenes from a test-anxiety hierarchy while concentrating on remaining relaxed. Additional relaxation instructions were interspaced throughout the desensitization procedure. An average of seven scenes was presented. At the end of the last session, the post-test TAQ was administered.
The subjects in the placebo group met from 7:00 p.m. to 9:20 p.m. on a consecutive Wednesday, Monday, and Wednesday. The first session began with the presentation of the treatment rationale. This rationale was followed by twenty minutes of a recorded lecture on the merits of good study techniques, concentration, learning, and personal efficiency. The remainder of the treatment time was spent in presenting lectures on the topics discussed during the recorded presentation. This procedure was followed during the remainder of the study, with the exception of not presenting the introductory rationale. This time was added to the lecture time. At the end of the last session, the post-test TAQ was administered.

The control subjects merely received the pre- and post-TAQ administrations. No additional information was given to them.

After the completion of the study, all subjects in the placebo and control groups were individually contacted and were offered an opportunity to participate in a desensitization group. This procedure was followed so that all subjects would have an opportunity to receive treatment to reduce their test anxiety.

It was hypothesized that the massed-group desensitization group would achieve a greater mean post-test TAQ reduction than either the placebo or control groups. The results supported this hypothesis. There was a significant difference at the .01 level between the massed desensitization group and the placebo group, and between the massed desensitization group and the control group. There was no significant difference between the placebo and control groups.
The results of this study are in agreement with earlier studies which indicate that massed group desensitization is an efficient and efficacious procedure for the reduction of anxiety-based disorders.
MASSED GROUP DESENSITIZATION IN THE
REDUCTION OF ANXIETY

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

Harold H. Dawley, Jr., B.A., M.S., Ph.D.

Denton, Texas
August, 1972
List of Tables

Table                                                                 Page

I. Summary of Analysis of Variance Test Anxiety
    Scores on Post-Test $TAQ$ ........................................... 8

II. Duncan Multiple Range Test Comparisons of Group
    $TAQ$ Reduction Scores, Post-Test ............................. 8
MASSED GROUP DESENSITIZATION IN THE REDUCTION OF ANXIETY

Introduction

Systematic desensitization is a behavior therapy technique developed by Wolpe (1958). This technique is based on the empirical psychology of learning and incorporates the principle of reciprocal inhibition. This principle states that no two antagonistic responses can occur within an organism at the same time. Relaxation is antagonistic to anxiety; thus, in desensitization the goal is to superimpose relaxation in place of anxiety.

Systematic desensitization has been widely used in the treatment of various anxiety reactions, including test anxiety. The usual duration of a desensitization-treatment session is from fifteen to twenty minutes. The number of desensitization sessions necessary to reduce anxiety also varies. According to Wolpe and Lazarus (1966), "one patient may recover in about a half-dozen sessions; yet another may require a hundred or more" (p.85).

While desensitization has been used primarily with individual patients, it has also been applied in group settings. Ihli and Garlington (1969) found both individual and group desensitization successful in reducing test anxiety. They noted, however, that group desensitization takes slightly longer to accomplish than individual desensitization. In their study, both treatment groups received two, thirty-minute sessions of training in muscle relaxation. These were followed by two sessions of
training in visualization. The desensitization portion of the treatment program then followed and required a mean of 6.2 thirty-minute sessions for the subjects who were individually desensitized and a mean of 7.4 sessions for those subjects who received group desensitization. Total mean treatment time for the individually desensitized subjects was 10.25 sessions, while a mean of 11.4 sessions was required for the group-desensitized subjects. Generally, it has been found that the length of treatment time in group desensitization of test anxiety averages around eight weeks, with the actual treatment time being around eight hours (Emery & Krumboltz, 1967; Katahn, Strenger, & Cherry, 1966; Kondas, 1967; Mann & Rosenthal, 1969; Suinn, 1968).

A distinction is made between desensitization that adheres to the more traditional procedure lasting approximately eight weeks or less, and massed applications. Distributed desensitization refers to the traditional "distributed" approach, while massed desensitization refers to accelerated procedures in which total treatment is carried out in a period of time ranging from one continuous session to treatment carried out in a brief period of a few weeks or less. In massed desensitization, the subject is usually given relaxation instructions and then continuously presented items from the fear hierarchy without being instructed to indicate when he is experiencing anxiety.

Robinson and Suinn (1969) reported on the effects of massed desensitization. In their study, massed desensitization referred to the application of desensitization for one hour daily over a one-week period. They also compared the group and individual application of this procedure
to determine their relative effectiveness. Their results indicated
significant improvement in spider-phobic subjects from massed desensi-
tization applied in both an individual and a group setting.

Suinn and Hall (1970) reported on a study that was designed to
determine the effectiveness of massing group desensitization in the
treatment of test anxiety over a twenty-four-hour period of time. The
massed or, as they called it, "marathon group" desensitization procedure
consisted of presenting a videotape of subjects desensitized in the
traditional manner: three, one-hour sessions a week for a total of eleven
sessions. This videotape was presented for two periods of four hours
each over a twenty-four-hour period. A brief explanatory rationale
regarding this videotape procedure was presented to the subjects prior
to their viewing the tape. The results indicated significant improvement
following the massed, or marathon, desensitization procedure.

Suinn, Edie, and Spinelli (1970) successfully applied a massed group
desensitization procedure in which the reduction of mathematics anxiety
was the goal of treatment. Two groups of subjects were used. One group
received massed desensitization in five consecutive treatment blocks
comprising a total of four hours of therapy. The other group received
"accelerated" massed desensitization in which they were desensitized
to only the highest items on the fear hierarchy within two treatment
blocks comprising a total of two hours of treatment time. The results
showed that both groups improved significantly following treatment.
Method

Instrument

The instrument used in this study was the (TAQ) Test Anxiety Questionnaire (Mandler & Sarason, 1952).

Selection and Assignment of Subjects

The population from which the subjects were drawn consisted of students between the ages of seventeen and twenty-seven enrolled in a large southeastern hospital's school of nursing. An announcement was read by the experimenter to all students asking for volunteers who felt that they had a large degree of anxiety associated with taking tests and who would be willing to participate in what was called a two-week study on test anxiety. The fifty-eight students who volunteered to participate in the study were administered the TAQ. Of the fifty-eight students, thirty obtained a score of 225 or higher on the TAQ which, based on previous normative data (Taylor, 1970), represents the upper quartile of the distribution sampled. A randomized block procedure was employed in which ten subjects were assigned to each of the following three groups, matched on the basis of their pre-test TAQ scores: (1) desensitization, (2) placebo, and (3) control.

Hypothesis

It was hypothesized that, following treatment, there would be a significant reduction at the .01 level on the post-test TAQ scores obtained by the desensitization group over those obtained by the placebo and control groups.
Treatment

All treatment was carried out by the same therapist. All groups met in the same room, at approximately the same time, on different evenings. The subjects sat in comfortable chairs surrounding a round table of approximately nine feet in diameter.

Massed Desensitization.—The massed desensitization group met on three consecutive sessions meeting from 7:00 p.m. to 9:20 p.m. on a Tuesday and Thursday of one week, then on Tuesday of the following week. Prior to the first session, the therapist developed a thirty-item-test-anxiety hierarchy based on the subjects' responses on the TAQ. This hierarchy is listed in Appendix A.

During the first five minutes of the first session, the rationale for massed desensitization (Appendix B) was presented. The subjects were then instructed to close their eyes. Twenty minutes of recorded relaxation instructions were then presented (Wolpe & Lazarus, 1966). Following the relaxation instructions, the therapist began the desensitization procedure by presenting items from the test-anxiety hierarchy for a period of thirty minutes. The subjects were instructed to remain as relaxed as possible. Additional relaxation instructions were interspaced between the presentation of the scenes from the test-anxiety hierarchy. A ten-minute break was then given, in which the subjects could leave the room and go to a nearby snack bar within the same building for coffee or soft drinks. After the break, another thirty-five-minute period of desensitization followed. The subjects were then allowed to stand and stretch for a period of five minutes, but they were not allowed to leave the room. Following the break, the therapist presented thirty-five minutes
of additional desensitization.

The second and third sessions began with the twenty minutes of recorded muscle-relaxation instructions. A thirty-five-minute session of desensitization was then presented, followed by a ten-minute coffee break. After the break, the subjects received another thirty-five-minute period of desensitization, which was followed by a five-minute break. After the stretch break, thirty-five minutes of desensitization were presented.

An average of seven scenes was presented an hour. A modification in the usual desensitization procedure was employed, in that the subjects were instructed not to raise their fingers or to otherwise indicate that they were feeling anxious. Since each session started off with a twenty-minute period of relaxation, plus the fact that there were thirty items in the anxiety hierarchy which were, in turn, interspaced between additional relaxation instructions, it was felt that the subjects would not be experiencing any high degree of anxiety. This assumption was corroborated after the completion of the study by verbal responses of the subjects, who reported that they were very relaxed throughout most of the study.

Following the completion of treatment, the post-test TAQ was administered.

Placebo.—The placebo group met in the same room and during the same period of time as the desensitization group but on consecutive Monday, Wednesday, and Monday evenings. The format for the placebo group's first session began with an introductory rationale (Appendix C), which lasted
a period of approximately five minutes. This rationale was followed by twenty minutes of a recorded presentation of the values of good study-techniques, concentration, learning, and personal efficiency. A thirty-minute lecture on the same topics was then presented, followed by a ten-minute coffee break. Thirty-five minutes of lecture on the same topics followed the coffee break. A five-minute stretch break was then called. After the break, a thirty-five-minute final lecture on the same topics was presented. The material for the initial recorded presentation and all subsequent lectures presented by the therapist to the placebo group was drawn from Chapters IV, V, and VI of The Psychology of Personal Adjustment, By Fred McKinny (1941).

The second and third sessions followed essentially the same format, with the exception of not giving the five-minute introductory rationale. These five minutes were added to the lecture time. Following completion of treatment, the Post-test TAQ was administered.

Control.—The control-group subjects merely received the pre- and post-TAQ. No additional information was given to them. After the completion of the study, all subjects in both the placebo and control groups were offered an opportunity to participate in a desensitization group. This procedure was followed to insure that all subjects would have the opportunity to receive treatment to reduce their test anxiety.

Results

Prior to treatment, the subjects were assigned to three groups, matched on the basis of their pre-test TAQ scores by the use of a randomized block procedure. The statistical analysis of the data began with an Analysis
of Variance procedure to determine if there were any significant differences among the means of the post-test TAQ scores of the three groups. Table 1 lists the results of the Analysis of Variance procedure, indicating that there was a significant difference among the three groups at the .01 level.

Table 1
Summary of Analysis of Variance of Test Anxiety Scores on Post-Test TAQ

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18990.60</td>
<td>2</td>
<td>9495.30</td>
<td>9.81</td>
</tr>
<tr>
<td>Within Groups</td>
<td>26132.90</td>
<td>27</td>
<td>967.88</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45123.50</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Duncan multiple range test was utilized to make specific contrasts among the three groups. The results of this procedure are listed in Table 2.

Table 2
Duncan Multiple Range Test Comparisons of Group TAQ Post-Test Reduction Scores

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Difference Required for Significance at .01 level</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desensitization Vs. Placebo</td>
<td>38.92</td>
<td>48.30*</td>
</tr>
<tr>
<td>Desensitization Vs. Control</td>
<td>38.92</td>
<td>57.30*</td>
</tr>
<tr>
<td>Placebo Vs. Control</td>
<td>40.59</td>
<td>9.00</td>
</tr>
</tbody>
</table>

*Significant at .01 level
As indicated in Table 2, there was a significant difference at the .01 level between the massed desensitization group and the placebo group and between the massed desensitization group and the control group. There was no significant difference obtained between the placebo group and the control group.

The hypothesis that there would be a significant reduction at the .01 level following treatment on the post-test TAG scores obtained by the desensitization group over those obtained by the placebo and control groups was supported.

Discussion

The results of this study are in agreement with other earlier studies which indicate that massed group desensitization is an efficient, efficacious treatment procedure for the reduction of test anxiety. Massed group desensitization appears to offer promise of providing brief and effective treatment in the reduction of anxiety-based discomforts.

Several important procedures, which differed from traditional desensitization, are incorporated in the present study. First is the obvious shortened length of treatment time. Desensitization was carried out in less than a two-week period and involved only seven hours of treatment time. Of note is the fact that the subjects were not instructed to indicate when they experienced anxiety. This may have contributed to a more efficient application of the desensitization procedure. The previous studies concerning massed desensitization were applied in daily, one-hour sessions over a one-week period in the reduction
of spider-phobic behavior (Robinson and Suinn, 1969), in two, four-hour sessions over a twenty-four-hour period in the treatment of test anxiety (Suinn & Hall, 1970), and in five consecutive treatment blocks totalling four hours of treatment time in the reduction of mathematics anxiety (Suinn, Edie, & Spinelli, 1970).

The present study indicates that massed desensitization can be successfully applied in three, two-hour-and-twenty-minute sessions, over a week and one-half period of time.

One of the purported major advantages of a related behavioral technique, implosive therapy (Stampfl & Levis, 1967), is brevity and efficiency of treatment. Implosive therapy can be applied in a short period of time, ranging from one session to five or more sessions (Barrett, 1967; Kirchener & Hogan, 1966; Levis & Carrera, 1967). Proponents of implosive therapy stress its brevity and claim that it is applicable and successful in the treatment of a variety of behavioral problems. It has been stated by Wenrich (1970), that "assuming that these claims may gain empirical support, one of the major contributions of implosion will be the relatively short period of time required for therapeutic progress" (p. 19). The applicability and promise of group implosive therapy in the treatment of test anxiety has also been noted recently (Dawley & Wenrich, 1972).

To the extent that brevity and efficiency of treatment represent major therapeutic advantages, massed systematic desensitization appears to offer a viable alternative where implosion may be either impractical or contraindicated.
Conclusion

The present study, as well as related studies (Robinson & Suinn, 1969; Suinn, Edie, & Spinelli, 1970; Suinn & Hall, 1970), suggests that massed desensitization combines the therapeutic advantages of being both brief and efficacious in the reduction of some anxiety reactions. Further research effort directed at delimiting the range and applicability of massing procedures in group systematic desensitization would appear to be warranted.
Appendix A

Test-Anxiety Hierarchy

1. Imagine yourself sitting in the safety and security of your dorm room or favorite room in your home.
2. Imagine yourself as you are, a student in a nursing school.
3. Realize that, as a student, you have certain responsibilities such as completing assignments and taking tests and examinations.
4. Taking a series of I.Q. tests and course examinations in nine-months time.
5. Taking a series of I.Q. tests and course examinations in six-months time.
6. Taking a series of I.Q. tests and course examinations in three-months time.
7. Two months before taking I.Q. tests and course examinations.
8. One month before taking I.Q. tests and course examinations.
9. Three weeks before taking I.Q. tests and course examinations.
10. Two weeks before taking I.Q. tests and course examinations.
11. One week before taking I.Q. tests and course examinations.
12. Four days before taking I.Q. tests and course examinations.
13. Three days before taking I.Q. tests and course examinations.
14. Two days before taking I.Q. tests and course examinations.
15. One day before taking I.Q. tests and course examinations.
16. Morning of taking I.Q. tests and course examinations.
17. Three hours before taking I.Q. tests and course examinations.
18. Two hours before taking I.Q. tests and course examinations.
19. One hour before taking I.Q. tests and course examinations.
20. Thirty minutes before taking I.Q. tests and course examinations.
21. Entering building where I.Q. tests and course examinations are to be given.
22. Entering room where I.Q. tests and course examinations are to be given.
23. Examiner walks in room where I.Q. tests and course examinations are to be given.
24. Tests and examinations are passed out.
25. Looking over and preparing to answer the questions.
26. Answering the questions.
27. Encountering a question that you cannot answer.
28. Continuing on and encountering another question that you cannot answer.
29. Completing the rest of the questions as best as you can.
30. Turning in tests and examinations.
Appendix B

Rationale for Massed Desensitization Group

This is a research project designed to study test anxiety. You have been selected from among a large number of students who indicated that they had a more than usual amount of anxiety associated with taking tests and examinations. I will meet with you in this room tonight and the following Thursday and Tuesday evenings from 7:00 p.m. to 9:20 p.m. Please make every effort to attend all three sessions, since it is vital to achieving our goal.

In the field of psychology, there are several views concerning the nature of unadaptive anxiety associated with various situations. This study aligns itself with the behavioristic view which states that the irrational anxiety is the direct result of previous learning or conditioning. Behaviorists concern themselves with the symptom, in your case, anxiety associated with taking tests.

Simply stated, you have learned to associate anxiety with taking tests. Our goal will be your learning to associate relaxation with taking tests, and thereby, to eliminate the anxiety that is now associated with taking tests. We are going to counterpose relaxation in place of anxiety in relation to various scenes pertaining to test taking behavior.

We will begin with your learning how to achieve deep muscle relaxation. While relaxed, I will instruct you to visualize various scenes. Try to remain as relaxed as you can while you visualize the different
scenes. By visualizing these scenes while relaxed, you will experience a corresponding reduction in anxiety associated with actually taking tests. I am going to decondition your anxiety associated with taking tests!
Appendix C

Rationale for Placebo Group

This is a research project designed to study test anxiety. You have been selected from among a large number of students who indicated that they had a high degree of anxiety associated with taking tests and examinations. I will meet with you in this room tonight and the following Monday and Wednesday evenings from 7:00 p.m. to 9:20 p.m. Please make every effort to attend all three sessions, since it is vital to achieving our goal.

In the field of psychology, there are several views concerning the nature of anxiety associated with various situations. This study aligns itself with the behavioristic view which states that the irrational anxiety is the direct result of previous learning or conditioning. Behaviorists concern themselves with the symptom, in your case, anxiety associated with taking tests. Simply stated, you have learned some inefficient habits associated with study techniques, concentration, learning, thinking, and personal efficiency. Our goal will be the replacing of your inefficient habits with efficient ones. We will begin with your first receiving a recorded presentation on the value of study techniques, concentration, learning, thinking, and personal efficiency. The recording will be followed by lectures on the same topics tonight and on the following two evenings. This information will be helpful to you in reducing your anxiety associated with taking tests.
References


