

Treatment of Test Anxiety by Cue-Controlled Relaxation

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This study demonstrated the effectiveness of cue-controlled relaxation in the treatment of test anxiety for an 18-year-old college student. Changes in both self-report and performance measures were noted. The cue-controlled relaxation technique is described and its advantages over systematic desensitization discussed.

The success of systematic desensitization (SD) in the treatment of test anxiety has been documented clinically (Paul, 1964) and experimentally (Paul & Shannon, 1966; Osterhouse, 1972). Because of its popularity in overcoming this problem behavior, few attempts have been made to develop alternative treatment procedures. Russell and Sipich (1973) describe the successful application of a technique known as cue-controlled (or conditioned) relaxation for the treatment of test anxiety. This article outlines the procedural aspects of this treatment program, but the only measure of change in the problem behavior is in terms of self-report data. The present case report substantiates the effectiveness of cue-controlled relaxation in the treatment of test anxiety by citing changes in performance as well as self-report data.

CASE REPORT

Susan, an 18-year-old freshman, came for help with extreme nervousness over taking tests. Following a brief intake interview, she was referred to the senior author. In the first interview, Susan stated that, while she studied 25-30 hr each wk on her coursework, she had received only D's and E's on her exams and quizzes. She felt that in each case she knew the material prior to the exam, but was "unable to put it down on paper." She added that, once an exam was over, she could usually answer questions and problems which she had been unable to complete during the test. A discussion of her study habits showed that she was preparing for exams in an

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appropriate way; her only difficulty with studying occurred when she would become too nervous to concentrate effectively on her work.

Discussion revealed that Susan came from a small, rural high school where exams were rarely given. When she did take an exam, she felt nervous and usually did poorly, but was always able to improve her grades by doing extra projects or reports. Since she was generally regarded as one of the brightest students in her school, her teachers seemed willing to disregard her relatively poor performance on examinations. With the switch to a large university, much of this support and special attention was removed, and her academic performance suffered.

METHOD

The procedures of cue-controlled relaxation are directed toward enabling the client to achieve relaxation in response to a self-produced cue. The technique has also been referred to by Paul (1966) as conditioned relaxation. Treatment consists of two phases: first, training the client in deep muscle relaxation, and second, pairing the relaxed state with a specific self-produced cue word such as "calm" or "control." While relaxed, the client is asked to attend to his or her breathing and to repeat the cue word silently with each exhalation. The therapist repeats the word in synchrony with the client's exhalations five times, and the client then continues for 15 more pairings. A second series of 20 such pairings follows a 60-sec interval in which the client is instructed to attend to his general feelings of relaxation. The client is told to practice these procedures daily between treatment sessions.

Susan was seen for five weekly treatment sessions. Prior to the first session, she completed an assessment battery (described below) to determine the degree of anxiety associated with test-taking situations. During all five sessions, the procedures of the cue-controlled relaxation program were administered as described. At the end of the fourth session, Susan was instructed to use the cue word as she had in our sessions to maintain relaxation in a minimally fear-producing situation outside the therapy setting. At the beginning of the fifth session, Susan reported several success experiences in applying the cue-controlled relaxation technique in real-life situations. Since a number of examinations were scheduled for the week following the fifth treatment session, Susan was instructed to use the cue-controlled relaxation technique in those specific situations. One week after the final treatment session, Susan completed the assessment battery once again.

To document the effectiveness of the treatment program, data were collected from variables in the self-report and performance domains.

The self-report scales consisted of the Test Anxiety Scale (TAS) (Sarason, 1957) and the State-Trait Anxiety Inventory (STAI) (Spielberger & Gorsuch, 1966). The TAS is a 21 item True-False questionnaire related directly to anxiety in the test-taking situation. The STAI consists of separate measures of trait (STAI-T) and state (STAI-S) anxiety. In addition, a measure of cognitively experienced anxiety was obtained by administering the Anxiety Differential (AD) (Husek & Alexander, 1963).

A measure of the effects of anxiety on Susan's test-taking performance was gathered by administering selected scales from the Wechsler Adult Intelligence Scale (WAIS) following the completion of the pencil and paper scales listed above. The following WAIS subtests were given: Digit Span (forward and backward), Arithmetic (Items 7-14 only), and Block Design (Items 6-10 only). In addition, Susan reported her quiz and examination grades over the treatment period along with her final quarter gradepoint average (GPA).

TABLE 1
Pre- and Post-Treatment Scores for Dependent Variables in Assessment Battery

Variable	Pre-Treatment	Post-Treatment
TAS	17	9
STAI-T	61	32
STAI-S	68	37
AD	98	50
WAIS-DIGIT	12	12
WAIS-ARITH	2	6
WAIS-BLOCK	8	14

RESULTS

Susan demonstrated large decreases in reported anxiety on all four of the pencil and paper scales (Table 1). Taken as a whole, these results illustrate a reduction in both situational anxiety level as measured by the STAI-S and AD as well as the measures of trait anxiety obtained from STAI-T and TAS scores.

An examination of the WAIS scores show that Susan improved on two of the three scales that were administered. In spite of the fact that some improvement might be expected due to practice effects, it is doubtful that these effects alone could account for the degree of improvement Susan demonstrated, especially considering there was a six-week interval between testings.

Susan's reports of her classroom testing performance also indicated improvement over the course of the treatment program. Her reported average test score prior to treatment was approximately a 1.0 (on a 4-point system), with a 2.0 being her highest grade. By the end of treatment, her test scores were averaging 3.5, with a 3.0 being her lowest grade. She completed the term with a 2.88 GPA. Again, while some improvement might be expected over the course of a term as a student becomes more skilled at studying and taking exams, it is unlikely that this alone could account for the sizable increase in GPA that Susan reported.

DISCUSSION

The present case history report illustrates the successful implementation of cue-controlled relaxation in the treatment of test anxiety. Changes in the self-report, cognitive, and performance domains demonstrate the effectiveness of the therapy procedures and add to the earlier clinical evidence for the success of cue-controlled relaxation (Russell & Sipich, 1973).

Cue-controlled relaxation offers a number of advantages over SD for the treatment of high-anxiety reactions. First, cue-controlled relaxation does not involve the construction or working through of hierarchy items. It is simpler, less time consuming, and may be used with those clients who would otherwise have difficulty achieving or maintaining vivid hierarchy images in SD. Another advantage of cue-controlled relaxation is that it may be much more efficient than SD in working with clients who ex-

perience anxiety in a variety of situations. With SD, treatment may require the construction and working through of a number of hierarchies related to the anxiety-eliciting settings. Cue-controlled relaxation may be employed by the client in a variety of anxiety-producing situations.

Several authors (Allen, 1971; Mitchell & Ng, 1972; Allen, 1973) have pointed out that combining SD with counseling procedures is more effective in reducing test anxiety and improving performance than either technique alone. While the multimodel procedures were not used in the present case history report, the cue-controlled relaxation technique lends itself very readily to such an approach. Unlike SD the cue-controlled relaxation treatment procedures can be carried out in less than 25 min.

One potential limitation of this technique is that *in vivo* anxiety encounters are not as directly controllable as would be the highly structured hierarchy presentations of SD. To counter this, an appropriate amount of time should be spent discussing how one would arrange anticipated *in vivo* experiences hierarchically, and how the client should proceed progressively to accumulate success experiences.

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