

**EYE MOVEMENT DESENSITIZATION AND REPROCESSING  
(EMDR) FACILITATING RATIONAL EMOTIVE BEHAVIOUR  
THERAPY (REBT) IN THE TREATMENT OF TEST ANXIETY**

**HEIN TEN CATE**



Thesis presented in partial fulfillment of the requirements for the degree of Master of  
Arts (Clinical Psychology) at the University of Stellenbosch

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May 1998

**STATEMENT**

I, the undersigned, hereby declare that the work contained in this thesis is my own original work, and that I have not previously in its entirety or in part submitted it at any university for a degree.

8/6/98

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DATE

The work presented here is the result of a research project of the same extent as that required for a Master's theses.

It is accepted within the Department of Psychology that the report of the research may take the form an article, which is ready for submission for publication to a scientific journal.

## **ABSTRACT**

Recent research in psychotherapy reflects the development of a pragmatic eclecticism. This new eclecticism also fits into the growing perception that relevant aspects of different schools of thought can be brought together to develop more balanced, holistic scientific models of psychotherapy.

The purpose of this study was to determine whether an eclectic psychotherapeutic approach, combining Rational Emotive Behaviour Therapy (REBT) and Eye Movement Desensitization and Reprocessing (EMDR), would lead to a more effective therapy for the treatment of test anxiety than Rational Emotive Behaviour Therapy (REBT) alone.

A group of six undergraduate university students receiving only REBT, was compared to a similar group of students that received a combination of REBT and EMDR, as well as to a control group of six students. Five group sessions of REBT as well as one individual session of REBT or EMDR were presented over a period of three weeks. The level of test anxiety, the dependant variable of this study, was measured before and after the respective psychotherapeutic interventions, as well as at follow-up. As an outcome measure of the in vivo levels of test anxiety of the participants in the two treatment groups, a theoretical test of the REBT rationale was also administered.

The REBT treatment and the combination of REBT and EMDR treatment both succeeded in significantly reducing test anxiety. The results of the combined treatment however, were not significantly better than that of the REBT group. There was a statistical tendency to a greater reduction in test anxiety with the REBT treatment alone, than with the REBT and EMDR combined.

## OPSOMMING

Onlangse navorsing in psigoterapie reflekteer die ontwikkeling van 'n pragmatiese eklektisisme. Die nuwe eklektisisme pas in die groeiende persepsie dat relevante aspekte van verskillende denkskole saamgevat moet word om meer gebalanseerde, holistiese wetenskaplike modelle van psigoterapie daar te stel.

Die doelstelling van hierdie studie was om vas te stel of 'n eklektiese psigoterapeutiese benadering, wat Rasioneel Emotiewe Gedrags Terapie (REBT) en Oogbeweging Desensitisasie en Herprosessering (EMDR) kombineer, meer effektief is in die behandeling van toetsangs as wanneer Rasioneel Emotiewe Gedrags Terapie (REBT) alleen aangebied word.

'n Groep van ses voorgraadse universiteitstudente wat slegs REBT ontvang het, is vergelyk met 'n soortgelyke groep wat beide REBT en EMDR ontvang het, sowel as met 'n kontrole groep van ses studente. Vyf groepsessies van REBT, sowel as een individuele sessie van REBT of EMDR is oor 'n tydperk van drie weke aangebied. Die mate van toetsangs, die afhanklike veranderlike van die studie, is voor en na die psigoterapeutiese intervensies, sowel as met 'n opvolgmeting bepaal. As 'n uitkomstmeting van die mate van toetsangs wat in vivo voorkom, is 'n kennistoets van die REBT rasionaal ook afgeneem.

Die REBT behandeling alleen en die kombinasie van REBT en EMDR het beide aanleiding gegee tot 'n betekenisvolle afname in die toetsangs. Die resultate van die gekombineerde behandeling was egter nie betekenisvol beter as die resultate wat verkry is waar die REBT alleen aangebied is nie. Daar was wel statistiese aanduidings dat die REBT benadering alleen tot groter vermindering in die vlak van toetsangs aanleiding gegee het as die kombinasie van REBT en EMDR.

## **ACKNOWLEDGEMENTS**

A word of gratitude to:

Daleen, for her love and support;

Mr. Le Roux van der Westhuizen, for his guidance and help;

Personnel of the Clinical Psychology Unit (University of Stellenbosch), for their advice and the use of their facilities;

Me. Marieanna le Roux, for her professional guidance and help;

The students who participated in the research.

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## 1. INTRODUCTION

Recent research in psychotherapy reflects the development of a more pragmatic eclecticism of which the multi-modal model of Lazarus (cited in Scheurkogel, 1992) is a good example. This new eclecticism also fits into the growing perception that relevant aspects of different schools of thought can be brought together to develop more balanced and holistic scientific models of psychotherapy (Albeniz & Holmes, 1996). There are many eclectic and integrative therapies that have emerged in recent years (e.g., Beutler, 1983; Garfield, 1980; Goldfried, 1982; Norcross & Prochaska, 1986). The distinction between the two concepts eclecticism and integration is also of importance in understanding the development of this pragmatic eclecticism. Integration is more embracing of theory than eclecticism, which produces mosaic therapies combining elements from many different sources. (Beitman, Goldfried & Norcross 1989; Norcross & Prochaska, 1986). Scott (1995) for example, recently divided psychotherapeutic approaches to depression into four main types: behavioural, cognitive, analytical and systematic. Margison and Shapiro (1996) objected, arguing firstly that this classification fails to capture the eclecticism and diversity of psychotherapeutic practice, and secondly, from a theoretical perspective, that therapies can be combined (or integrated) into only two main categories: cognitive-behavioural and dynamic-interpersonal. The integration of hypnotic procedures with Rational-Emotive Behaviour Therapy (REBT) is an example of one of these cognitive-behavioural eclectic psychotherapeutic procedures (Golden, 1986). The aim of this specific study was to measure the efficacy of a combination of Eye Movement Desensitization and Reprocessing (EMDR) and Rational-Emotive Behaviour Therapy (REBT) in the treatment of test anxiety.

Eye Movement Desensitization and Reprocessing (EMDR) was developed by Shapiro (1989a, 1989b), who claims that the procedure enables rapid and effective treatment of anxiety (Marquis, 1991; Pellicer, 1993; Shapiro, 1991). The technique of eye-movement desensitization has received considerable attention since it was first described in the literature some years ago (Shapiro, 1989b).

Briefly this technique involves the therapist eliciting rhythmic, bilateral eye movements from the client, called saccadic eye movements. At the same time the client is asked to visualise an image of the relevant memory, internally repeating the negative self-statement associated with the memory and attend to the experience of any associated physiological distress (Shapiro, 1989a).

While EMDR is a specific therapeutic method, accelerated information processing represents the general model that provides the theoretical framework and principles for this method (Shapiro, 1993, 1994). A set of accelerated information processing treatments includes EMDR as one treatment method. When someone experiences a severe psychological trauma, it appears that an imbalance may occur in the nervous system, caused perhaps by changes in the neurotransmitters, like adrenaline. Due to this imbalance, the nervous system is unable to function and the information acquired at the time of the event, including images, sounds, affect, and physical sensations, is maintained neurologically in its disturbing state. Therefore, the original material which is held in this distressing, excitatory state-specific form, continues to be triggered by a variety of internal and external stimuli and is expressed in the form of nightmares, flashbacks and intrusive thoughts (Shapiro, 1995). The hypothesis is that the eye-movements (or alternative stimuli) used in EMDR, trigger a physiological mechanism that activates the information processing system.

Various mechanisms by which this activation and facilitation of processing occur, have been proposed, including the following:

1. Activation and facilitation of information processing due to the client's dual focus of attention as he/she simultaneously attends to the present stimuli and the past trauma.
2. A differential effect of neurological bursts caused by the various stimuli, which may serve as the equivalent of a low-voltage current, and which directly affect synaptic potential (Barrionuevo, Schottler, & Lynch, 1980; Larson & Lynch, 1989).

3. Deconditioning caused by a relaxation response (Shapiro, 1989a, 1989b; Wilson, Covi, Foster & Silver, 1995).

Adaptive resolution, an inherent part of the information processing system, describes the connections of stimuli to appropriate associations, that the experience is used constructively by the individual and that it is integrated into a positive emotional and cognitive schema (Shapiro, 1995).

"I theorize that the information-processing system is adaptive when it is activated because abuse victims begin an EMDR treatment with a negative self-concept in regard to the event and consistently end with a positive sense of self-worth" (Shapiro, 1995, p.31).

The incorporation of aspects of cognitive therapy into EMDR, along with the desensitization phase (behavior therapy techniques), was based on research reports involving the treatment of rape victims. Treatment often involves multi-method approaches, including the teaching of coping skills, cognitive interventions, and stress management techniques and the dispensing of information that dispels social myths that exacerbate the victim's negative self-statements (Forman, 1980; Kilpatrick & Veronen, 1983; Pearson, Poquette, & Wasden, 1983; Veronen & Kilpatrick, 1980). A three-stage stress-inoculation program has been used, which includes an educational stage; a rehearsal stage, where relaxation and cognitive coping skills are explored; and an application stage. It is during the application stage that exposure techniques have been successfully used (Pearson et al., 1983; Rychtarik, Silverman, Van Landingham & Prue, 1984; Wolff, 1977).

Although there is a heavy emphasis on the cognitive aspect of the therapeutic process with trauma victims, an examination of the literature indicates that exposure techniques are often used either as part of the total treatment package or as the total treatment component (Fairbank & Brown, 1987). The consensus in the research literature is that some form of exposure to the traumatic cues to prevent avoidance and allow desensitization, is necessary for the successful treatment of Post-Traumatic Stress Disorder (Fairbank & Brown, 1987; Fairbank & Nicholson, 1987). Research also shows that a combined cognitive and exposure approach might be

more effective than exposure alone, as is also the case in the reported treatment of phobias alone (Rachman, 1978).

Considering these observations, EMDR as a method was developed to specifically help integrate new desirable self-statements while allowing for rapidly desensitizing traumatic cues. Within this paradigm, a cognitive reassessment that includes redefining the event, finding meaning in it, and alleviating the inappropriate self-blame (Janoff-Bulman, 1985) is an important aspect of the EMDR treatment of trauma. Gosselin and Matthews (1995) found no significant effect for the Validity of Cognition Rating Scale (VOC) and supported the contention of Lohr et al. (1992) that the use of this scale in the reprocessing aspect of the procedure is of questionable value. They found that although many participants liked the concept of replacing a negative with a positive cognition, participants clearly had more difficulty in developing a positive cognition and in using the VOC rating as compared to the Subjective Units of Disturbance Scale (SUDS). The decision to use Rational Emotive Behaviour Therapy (REBT) in combination with EMDR is based on the fact that participants seem to find it difficult to develop positive cognitions during an EMDR session (Gosselin & Matthews, 1995). Knowledge of the REBT rationale will then hopefully help participants in the development of rational cognitions.

According to Vaughan et al. (1994) the suggestion that EMDR enhances desensitization and accelerates information processing is still open to controversy, as the method lacks both a sound theoretical foundation and empirical support. While various case reports and multiple case studies have reported effectiveness on trauma victims (Kleinknecht & Morgan, 1992; Puk, 1991; Shapiro, 1991; Wolpe & Abrams, 1991) not all of the studies reported the same effects reported by Shapiro (1989a) in her controlled trial. Two studies (Lipke & Botkin, 1992; Oswald, Anderson, Hagstrom & Berkowitz, 1993) reported results notably inferior to Shapiro's.

As a therapeutic method EMDR includes principles, procedures, and various protocols for a wide range of pathologies for example: post-traumatic stress disorder, phobias, excessive grief, illness and somatic disorders as well as stress reduction. EMDR have received support in the literature for the treatment of test anxiety (Bauman & Melnyk, 1994; Gosselin & Matthews, 1995). Gosselin and Matthews

(1995) found that their study supports Shapiro's (1989a, 1989b, 1991) contention of the efficacy of EMDR in reducing self-reported anxiety.

Rational Emotive Therapy (RET) was developed by Ellis (1962) and in 1993 the name was changed to Rational Emotive Behaviour Therapy (REBT) (Bernard, 1995). According to Ellis cognitions, emotions and behaviour constitute interdependent and interactional dimensions of personality. Despite the focus on cognitive factors, Ellis also maintains a holistic view of human functioning. The important influence of emotions on thoughts and behaviour and of behaviour on thoughts and emotions, is acknowledged, even though he places strong emphasis on the influence of thoughts, ideas and constructs on emotions and behaviour (Ellis, 1962; Ellis & Harper, cited in Möller, 1987).

Ellis (1962) formulated a simplistic ABC-framework to help clients conceptualise their own psychological problems. The great advantage of the ABC-framework was its simplicity. The simplicity was also negative in that it did not give necessary attention to the important distinctions between the different types of cognitive activity (Wessler & Wessler, 1980). It is important to remember that different REBT therapists make use of different versions of the original ABC-framework. In this study the REBT model of Ellis (1993) (cited in Bernard, 1995) was used.

Previous studies concerning REBT have shown that it is effective because the irrational cognitions are explored and not only temporary symptom-relief is given (Bowin, 1983; Meichenbaum, 1972). Haaga and Davidson (1989) found that REBT was of no use in a single educational session. It seemed that REBT is effective for the treatment of test anxiety, with the possibility of also having a positive effect on social anxiety and test performance (Haaga & Davidson, 1989; Sapp, Farrel & Durand, 1995).

Test anxiety, according to Calvo, Ramos and Estevez (1992) "is the tendency to worry about one's own performance (e.g. expectations of failure), and one's own aptitude (e.g. self-depreciatory thoughts) under evaluative or test conditions" (p. 125). Test anxiety is conceptualised as a multidimensional construct containing both cognitive (e.g. worry) and emotionality (e.g. bodily symptoms) components (Blankstein, Flett & Watson, 1992; Deffenbacher, 1980; Spielberger, 1980). It is a



prevalent and debilitating condition that decreases performance and leads to consistent misinterpretation of the intelligence, aptitude and progress of test-anxious students (Beckham, Gustafsen, May, & Register, 1991). Test-anxious students have been found to have more negative, maladaptive cognitive styles (Lang, Mueller & Nelson, 1983; Rohsenow & Smith, 1982) for which many strategies have been investigated. Behavioural and cognitive-behavioural treatment interventions for test-anxious students have strong empirical support (Hembree, 1988) and were found to significantly reduce test anxiety and increase test performance.

Until the 1970's desensitization techniques dominated the reported research on test anxiety (Anton, 1976). Several studies since have suggested that the debilitating effects of physiological arousal may be mediated by cognitive processes (Hollandsworth, Glazeski, Kirkland, Jones, & Van Norman, 1979; Holroyd, Westbrook, Wolf, & Badhorn, 1978). It appears that although high test-anxious participants tend to report higher levels of subjective arousal, they do not differ significantly from low test-anxious participants on a variety of objective physiological measures. These findings have important theoretical and treatment implications in that high test-anxious participants may simply be more aware of/or concerned with physiological arousal (Wise & Haynes, 1983). Treatment approaches designed to modify high test-anxious participants' cognitive responses to anxiety-provoking situations may therefore be the most effective method for reducing test anxiety.

Cognitive therapy then seems to be the most specifically designed therapeutic method to modify cognitive responses of individuals and more importantly it also seems to be effective and appropriate in the treatment of test anxiety (Goldfried, Linehan, & Smith, 1978; Holroyd, 1976; Meichenbaum, 1972). REBT also has the advantage of providing a method that the subject can apply to other situations (Ellis, 1993).

Because people find it difficult to formulate positive cognitions during an EMDR session (Gosselin & Matthews, 1995), knowledge of the REBT rationale can help them to formulate it more easily. The eclectic use of EMDR together with REBT in the treatment of test anxiety has never been researched, as is clearly seen in the absence of any literature concerning the subject.



Thus the main purpose of this study will be to evaluate the efficacy of REBT alone and in combination with EMDR in the treatment of test anxiety.

## **2. OBJECTIVES OF THE STUDY**

To evaluate the effectiveness of REBT alone and in combination with EMDR in the treatment of test anxiety.

### **2.1 Hypothesis and Research Questions**

H1: EMDR in combination with REBT will be more effective in reducing test anxiety than REBT alone.

The hypothesis above can be expanded as follows:

2.1.1 EMDR in combination with REBT will lead to a greater reduction in test anxiety as measured by the Anxiety Achievement Test (AAT), than REBT alone.

2.1.2 EMDR in combination with REBT will lead to a greater reduction in test anxiety as measured by the Suinn Test Anxiety Behaviour Scale (STABS), than REBT alone.

2.1.3 EMDR will lead to a reduction of test anxiety as measured by the Subjective Units of Disturbance scale (SUDS).

### **3. METHOD OF RESEARCH**

#### **3.1 Research Design**

The research design is a pre-test, post-test and follow-up design with two treatment groups and a bibliotherapy control group.

Test anxiety was used as the dependant variable in this study because Goldstein, Heller and Sechrest (cited in Johnson & Sechrest, 1968) regarded test-anxiety as quantifiable target-behaviour and because test-anxiety is experienced by many students (Beckham, et al., 1991). According to Tryon (1980) students with test anxiety, along with students with snake phobia, appear to be one of the most popular groups of individuals used to validate behavioural treatment procedures. Despite the documented efficacy of behavioural and cognitive-behavioural therapies in reducing test anxiety, treatment for test anxiety is not widely available or widely used by college students (Beckham et al., 1991). College students may also be reluctant to seek therapy and may not avail themselves of an efficacious treatment offered in a clinic setting (Beckham, et al., 1991). Therefore the intervention program in this study was tailored for group interventions, because it is more cost-effective and not as time consuming.

#### **3.2 Participants**

Participants for this study were recruited from the male and female undergraduate student population of the University of Stellenbosch. Afrikaans and English speaking students were considered for this study. Previous psychotherapeutic experience was not included as an exclusion criteria for participation because of the limited number of participants that volunteered for the program (n=18). A total of 18 participants, 7 males and 11 females between the ages of 17 and 24 applied for the program. The average year of study was second year and 10 of the participants were Afrikaans speaking. All the participants in the two treatment groups completed the three-week treatment program, but only two participants in the control group completed the whole program (three weeks in the bibliotherapy control group followed by three weeks in a treatment group).

### **3.3 Measuring-instruments**

The following instruments were used for measurement at pre-, post- and follow-up intervals:

#### **3.3.1 Achievement Anxiety Test (AAT)**

The Achievement Anxiety Test (AAT) (Alpert & Haber, 1960) was developed to measure the presence or absence of anxiety and the facilitating or debilitating influence on test performance. According to Damsteegt, Plake and Smith (1981) the AAT has been widely used in counselling and measurement since its presentation. The AAT consists of two independent scales: a 9-item facilitating scale which assesses the extent to which student anxiety assists test performance (test-retest reliabilities of 0.83 and 0.75 over ten weeks and eight months respectively), and a 10-item debilitating scale which assesses the degree to which anxiety interferes with test performance (test-retest reliabilities of 0.87 and 0.76 over ten weeks and eight months respectively). Nine neutral buffer items are included in the scale and participants respond to all items on a 5-point scale with the phraseology of the responses varying across items. The two scales are administered on one questionnaire but scored separately. The debilitating and facilitating scales correlate significantly ( $r = -0,37$ ) despite the authors' efforts at forming independent subscales (Tryon, 1980). In the present study the total scores for each questionnaire were used in the analysis as recommended by Scheurkogel (1992).

The AAT has good criterion-related validity, correlating significantly with several measures of academic performance (Tryon, 1980). The AAT also has good predictive validity and predicts grade point averages (Tryon, 1980). In this study the version of Alpert and Haber (1960, pp 213-214) was used.

#### **3.3.2 Suinn Test Anxiety Behaviour Scale (STABS)**

The Suinn Test Anxiety Behaviour Scale (STABS) is a 50-item scale composed of behavioural situations that may arouse different levels of test anxiety in participants. A wide sampling of different types of behaviour and situations are included in the scale to permit its application to a wide variety of participants. According to Tryon (1980) the STABS was specifically developed to assess the effectiveness of

behaviour therapy in the treatment of test anxiety. A total test anxiety score is calculated by assigning a value of from 1 to 5 corresponding to the level of anxiety checked (with 1 assigned to "not at all" anxious and 5 reflecting "very much" anxious).

High scores reflect high levels of test-taking anxiety. This test is self-administered and suitable for group use. Suinn stipulated that there should be a difference of ten points or more between the pre- and post-scores before any treatment intervention can be interpreted as significant.

Test-Retest reliability after a period of six weeks in a Hawaiian study was 0,74 and in a Colorado study after a period of four weeks was 0,78 (Suinn, 1969).

### **3.3.3 Validity of Cognition Scale (VOC)**

Shapiro (1991) developed the VOC scale as a variant of the SUDS scale to measure change in participants' ratings of their belief in the positive self-statement that they are asked to make during the treatment procedure. Participants are asked to rate on a scale of 1 (totally untrue) to 7 (totally true) their belief in this positive statement when they think back to the target image. Shapiro has reported that eye movement increases participants' comfort and belief in the positive statement as measured by participants' VOC ratings. The VOC ratings were only used during the single EMDR treatment session.

### **3.3.4 Subjective Units of Disturbance Scale (SUDS)**

Subjective Units of Disturbance scale (SUDS), (Wolpe, 1982) is a 10-point scale which asks respondents to quantify their present level of distress. SUDS measurements were used at intervals during the single EMDR treatment session to determine whether they perceived significant change in memories and feelings associated with test anxiety.

### **3.3.5 State-Trait Anxiety Inventory (STAI) (Form Y)**

The State-Trait Anxiety Test (STAI), is a 40-item, self-report measure of state and trait anxiety (Spielberger, 1980). The overall median alpha coefficients for the S- and T-Anxiety scales for Form Y in the normative samples are 0,92 and 0,90

respectively. They compare favourably with the median alpha coefficients of 0,87 for S-Anxiety and 0.89 for T-Anxiety in the normative samples for Form X. Test- retest correlation on college students ranged from 0,73 to 0,86 for the STAI T-Anxiety scale and from 0,16 to 0,62 for the STAI S-Anxiety scale. Although the STAI S-Anxiety scale has a comparatively lower reliability coefficient, because state anxiety would be expected to change over time, the reliability has been judged nonetheless to fall within acceptable limits (Spielberger, 1980). The STAI has been used extensively in psychological research to investigate effects of anxiety on performance in test anxiety (e.g., Culler & Holahan; Guidry & Randolph; Smith et al.; Tobias et al., in Spielberger, 1980). The STAI was used in the post- and follow up measurement of this study:

### **3.3.6 Test on REBT Theory**

The test was compiled by the researcher to measure the subject's knowledge of the REBT-rationale and to provide an opportunity to evaluate anxiety before and after a test. The test consisted of 25 marks (see Addendum 4) and the time limit to complete it was 20 minutes. Open questions regarding the participants' opinion and evaluation of the program and the therapist were included as a part of the test. The REBT test was only administered at the post-test measurement.

## **3.4 Procedure**

Posters were distributed on campus and permission to make announcements in the pre-graduate psychology classes regarding the study was also obtained. The therapy program was also advertised on Radio Matie FM, the official radio program of the University of Stellenbosch. Advertisement of the program was also screened on Matie-TV and the computer network of the University of Stellenbosch. Entries closed on the 18 April 1997. Before the commencement of the program each applicant signed a form of consent and completed the pre-testing psychometric questionnaires.

The two treatment groups and the control group were compared to each other with the use of pre- and post-treatment questionnaires that measured test anxiety (AAT and STABS). A measurement of state- and trait-anxiety (STAI) was also done to

each group just prior to a multiple-choice test regarding the theoretical aspects of REBT. A follow-up testing was also administered when the participants had returned to University after the June recess, using the same measuring instruments as in the pre-and post-testing (AAT, STABS).

The six-session intervention program was administered over a three-week period consisting of two sessions a week. According to Allen, Elias, and Zlotlow (1980) the usual amount of sessions needed for an intervention program is approximately six sessions. The duration of each session was approximately seventy-five minutes. The last 20 minutes of the fifth-session was devoted to Rational Emotive Imagery (REI), (Hymen & Warren, 1978). The researcher who is trained in both REBT and EMDR led all the groups.

The first treatment group received five sessions of REBT in a group setting, as well as one individual session of EMDR with the researcher. No statement concerning the possible efficacy of EMDR as treatment for test anxiety was made to the participants in the combined REBT and EMDR treatment group (Gosselin & Matthews, 1995). The REBT alone treatment group also received five sessions of REBT in a group setting, as well as one individual session of REBT. The control group received the same bibliotherapy as the treatment groups regarding the rationale of REBT and its use in addressing test anxiety, but without any therapy sessions. After the initial intervention with the treatment groups was finished the control group was given the opportunity to receive the same interventions as the two treatment groups. The participants from the control group were also randomly allocated to receive either a single session REBT or EMDR at the end of the five sessions REBT group intervention. The error of therapist specificity, (Allen, 1972), was taken into consideration in the interpretation of the results.

### **3.5 Statistical Procedure**

To test the hypothesis as stipulated in 2.1, Wilcoxon Matched-pairs Signed-ranks test and Mann-Whitney U test were used to calculate the significance between the mean differences.

## 4. RESULTS

The primary question that had to be answered was if the use of EMDR combined with REBT would be more effective than the REBT alone.

### 4.1 Achievement Anxiety Test (AAT)

The pre- and post-treatment AAT-scores of the participants in treatment group 1 (REBT and EMDR) and treatment group 2 (REBT) is presented in Table 1 and Table 2 respectively. A graphic presentation of these results is given in Figure 1. The pre- and post-measurement AAT-scores of the control group are presented in Table 3.

Table 1

#### AAT-Scores of Treatment Group 1 (REBT & EMDR) at Pre-, Post- and Follow-up Measurement

AAT (before)	AAT (after)	AAT (follow up)
60	53	55
65	56	55
50	55	55
61	61	58
52	59	57
55	51	53
$\bar{X}$ 57,167	X 55,833	X 55,500
SD 5,776	SD 3,710	SD 1,761



Table 2.

AAT-Scores of Treatment Group 2 (REBT) at Pre-, Post- and Follow Up Measurement

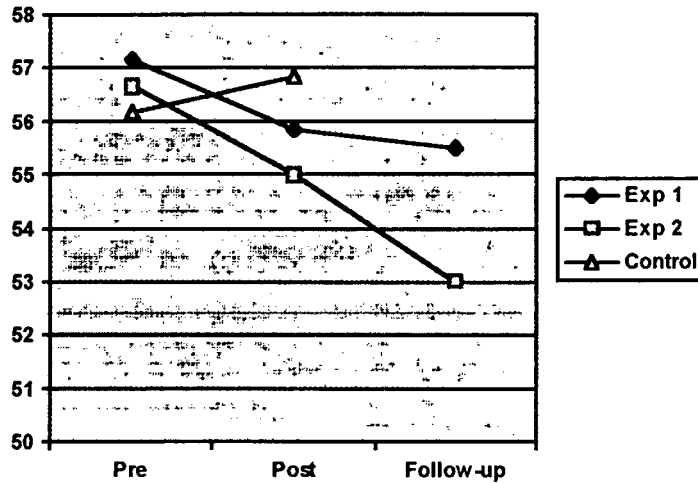
AAT (before)	AAT (after)	AAT (follow up)
50	58	50
59	56	55
55	52	52
60	53	48
51	55	57
55	56	56
$\bar{X}$ 56,667	X 55,000	X 53,000
SD 3,615	SD 2,191	SD 3,587

Table 3.

AAT Scores of Control Group at Pre- and Post- Measurement

AAT	
Before	After
58	56
58	60
52	57
54	54
60	59
55	55
$\bar{X}$ 56,167	56,833
SD 2,994	2,317

**Figure 1.** Pre-, post- and follow-up mean scores of treatment groups 1 and 2, as measured by the AAT. Pre- and post- mean score of control group.



The significance of the differences between the average scores of all three groups on the AAT pre- and post-measurements are presented in Table 4.

Table 4.

Significance of Differences in Averages of AAT Scores at Pre- and Post-Measurement of Treatment Group 1, Treatment Group 2 and Control Group

GROUP	AAT
REBT & EMDR	0,542
REBT	-0,946
CONTROL	-0,552

$p < 0,05$

The level of test anxiety of participants in treatment group 1 (REBT and EMDR) did not differ significantly ( $p > 0,05$ ) at the pre- and post-measurement by the AAT (See Table 4). The level of anxiety of participants in treatment group 2 (REBT alone) also did not differ significantly before and after the therapeutic intervention ( $p > 0,05$ ) (see Table 4). As expected with the participants in the control group, there was also

no significant reduction in test anxiety between pre- and post-measurement ( $p > 0,05$ ).

#### 4.2 Suinn Test Anxiety Behaviour Scale (STABS)

STABS-scores of the participants in treatment group 1 (REBT and EMDR) and treatment group 2 (REBT) before and after the therapeutic intervention, is shown in Table 5 and Table 6 respectively. A graphic presentation of these results is given in Figure 2. The STABS-scores at pre- and post-measurement of the participants in the control group is presented in Table 7.

Table 5.

#### STABS-Scores of Treatment Group 1 (REBT & EMDR) at Pre-, Post- and Follow-up Measurement

STABS (before)	STABS (after)	STABS (follow up)
141	122	121
160	86	91
139	105	79
157	164	157
125	135	118
190	183	182
$\bar{X}$ 152,000	132,500	124,667
SD 22,592	36,270	39,011

Table 6.

STABS-Scores of Treatment Group 2 (REBT) at Pre-, Post- and Follow-up Measurement

STABS (before)	STABS (after)	STABS (follow up)
194	98	82
177	126	113
214	105	106
214	172	143
171	171	205
196	173	151
$\bar{X}$ 194,333	140,833	133,333
SD 18,007	35,369	43,214

Table 7.

STABS-Scores of Control Group at Pre- and Post-Measurement

STABS	
Before	After
148	116
139	131
160	154
157	114
121	116
130	123
$\bar{X}$ 142,500	125,667
SD 15,346	15,240

The significance of differences in averages of STABS scores of all three groups at pre-, post- and follow up measurement is presented in Table 8.

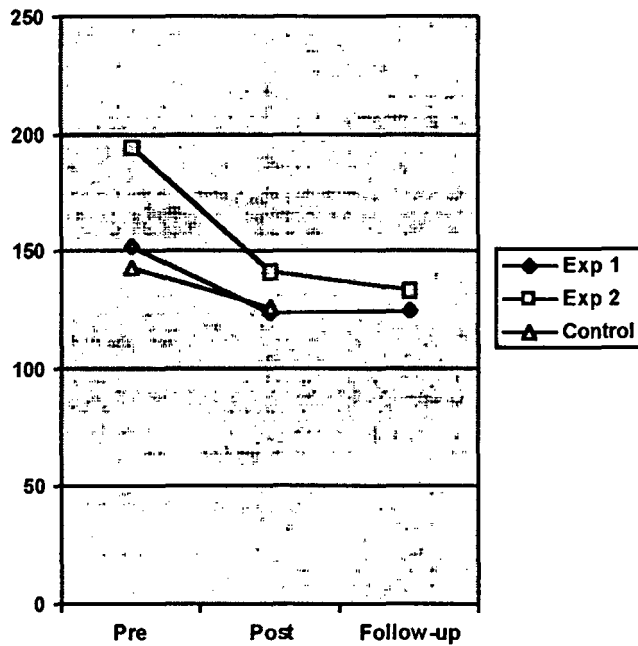
Table 8.

Significance of Differences in Averages of STABS-Scores at Pre- and Post-Measurement of Treatment Group 1, Treatment Group 2 and Control Group

GROUP	STABS
REBT & EMDR	-1,261
REBT	-2,023*
CONTROL	-2,201*

\* =  $p < 0,05$

**Figure 2.** Pre-, post- and follow-up mean scores of Group 1 and 2, as measured by the STABS. Pre- and post- mean score of the control group.



The results indicate that there was a significant reduction in level of test anxiety for treatment group 2 (REBT) as measured pre- and post-treatment by the STABS (see Table 8). There was also a reduction in the levels of test anxiety for group 1 (REBT and EMDR) at pre- and post-measurement, but not significantly (see Table 8). However, the mean of the STABS post-treatment score of experimental group 1 (REBT and EMDR) was lower than the mean of experimental group 2. This might indicate that the combination of REBT and EMDR also seems to be effective in the treatment of test anxiety. The levels of anxiety of the participants in the control group demonstrated a significant decrease (see Table 8). It might indicate that bibliotherapy can also bring about a reduction in self-reported levels of test anxiety.

The significance of differences in averages of AAT and STABS-scores at post-treatment and follow up measurement is presented in Table 9 and Table 10.

Table 9

Significance of Differences in Averages of Dependant Groups at Post- Treatment and Follow-up Measurement by the AAT and STABS

	AAT	STABS
GROUP		
REBT & EMDR	-0,412	-1,577
REBT	-1,095	-0,734

$p < 0,05$

Table 10.

Significance of Differences in Averages of Dependant Groups at Pre-Treatment and Follow-up Measurement by the AAT and STABS

GROUP	AAT	STABS
REBT & EMDR	-0,530	-2,023*
REBT	-1,153	-1,991*

\* =  $p < 0,05$

The STABS-scores of participants in both treatment groups at the pre-treatment measurement differed significantly from the scores at follow-up measurement. Both treatment interventions were successful in bringing about a significant reduction in the self-reported anxiety levels of the participants.

### 4.3 State Trait Anxiety Inventory (STAI)

Table 11.

#### STAI- Mean Scores for Treatment Group 1 (REBT and EMDR) at Post- and Follow-up Measurement

	POST	FOLLOW UP
STATE	48,667	48,833
TRAIT	47,167	52,000
$\bar{X}$	95,833	100,833
SD	5,879	4,665

Table 12.

#### STAI- Mean Scores for Treatment Group 2 (REBT) at Post- and Follow-up Measurement

	POST	FOLLOW UP
STATE	45,333	46,333
TRAIT	51,833	49,833
$\bar{X}$	98,833	96,167
SD	10,008	7,731

There was no significant difference in the scores of the STAI between the post- and follow up testing for both treatment groups (see Table 11 and Table 12). Arnkoff (cited in Haaga & Davidson, 1989) also found that a state anxiety measure completed just before students' final examination did not demonstrate any between-group differences.



#### 4.4 Subjective Unit of Disturbance Scale (SUDS)

All the participants reported a decrease in their self-reported feelings of anxiety. It seems that the average level of self-reported anxiety was not very high (see Table 13). Test anxiety memories are likely to be less intense than the memories of PTSD participants used in previous studies. There is a significant decrease in SUDS scores, although not as large as obtained by Shapiro (1991) or Marquis (1991).

Table 13.

#### SUDS Mean Scores for Treatment Group 1 (REBT and EMDR) During EMDR Intervention.

INITIAL		RECENT		FUTURE	
Before	After	Before	After	Before	After
$\bar{X}$ 4,333	0,833	4,500	1,000	0,833	0,500

(SUDS)

#### 4.5 Validity of Cognition Scale (VOCS)

With regard to the VOC rating scale, there was not a significant increase in the mean VOC scores.

Table 14.

VOCS-Mean Scores for Treatment Group 1 (REBT and EMDR) During EMDR Intervention.

INITIAL MEMORY		
Before desensitization	Before installation	After installation
$\bar{X}$ 5,833	6,167	6,500
RECENT MEMORY		
Before desensitization	Before installation	After installation
$\bar{X}$ 5,667	6,000	6,833
FUTURE MEMORY		
Before installation	After installation	
$\bar{X}$ 6,600	6,800	

**4.6 Test on REBT Theory**

The average scores obtained in the test of the rationale and content of REBT by the participants of the two treatment groups and the control group are presented in Table 15.

Table 15

Test-REBT Mean Scores for Treatment Group 1 (REBT and EMDR), Treatment Group 2 (REBT) and Control Group at Post-Measurement

GROUP 1	GROUP 2	CONTROL GROUP
REBT & EMDR	REBT	
$\bar{X}$ 18,33	16,667	14,833
SD 3,723	4,633	4,956

The mean scores from Table 15 were analysed with the Mann-Whitney Test for significant differences between the independent groups. The results are presented in Table 16.

Table 16.

Mann-Whitney Results for the Test REBT Mean Scores Between the Different Groups

	GROUP 2	GROUP 3
GROUP 1	-0,644	-1,133
GROUP 2	-	-0,646

The participants from both treatment groups demonstrated better insight in the REBT rationale than the control group (see table 15). The difference was not significant (see table 16).

## 5. DISCUSSION AND RECOMMENDATIONS

The aim of this study was to investigate whether Eye Movement Desensitization and Reprocessing (EMDR) combined with Rational Emotive Behaviour Therapy (REBT) will lead to a more significant reduction in test anxiety than only Rational Emotive Behaviour Therapy (REBT). According to the hypothesis it was expected that the combined treatment would lead to more effective results in the treatment of test anxiety.

Three quantitative measures of anxiety were used, namely the AAT, STABS and the STAI. The SUD and VOC Scales were used to measure the effectiveness of the EMDR during the single session of EMDR with the combined treatment group.

From the results it seems that the combined treatment did not provide significantly better results than the intervention that used only REBT. A combination of REBT and EMDR was not more effective in the treatment of test anxiety than only REBT. According to Shapiro (1992) test anxiety should be treated as a process phobia, usually demanding more than one session for treatment. In this study only one session of EMDR was provided and it is possible that not all the triggers were appropriately reprocessed. Shapiro (1995) also contends that until secondary gain issues are addressed, phobias will not be amenable to treatment.

Statistical results from the STABS indicated that only Group 2 (REBT) showed a significant reduction in their level of test anxiety from pre-test to post-testing. Group 1 (REBT and EMDR) also showed a reduction in their level of anxiety, but not significantly. Between group differences were non-significant on the AAT, perhaps because there were too few participants to detect small-to-moderate effects (Haaga & Davidson, 1989). The fact that the sum totals of the debilitating and facilitating scales of the AAT were used in this study can be a possible explanation. The debilitating scale gives an indication of the effect of how anxiety effects test performance, while the facilitating scale gives an indication of the extent to which a participant uses anxiety to help test performance. A certain amount of anxiety can be

used optimally (Davies, 1986; Woods, 1986) and the facilitating scale might possibly indicate this optimal anxiety.

It is also of importance to indicate that the difference between the scores of the AAT and the STABS can be due to the fact that the AAT-items measured the participant's usual orientation towards test or tests. Johnson and Sechrest (1968) are of opinion that participants do experience less anxiety (also indicated by the STABS), but because they also usually experience high test anxiety, it is reflected in their questionnaire scores. A recommendation for further research is that samples are larger in size so that small-to-moderate effects can be statistically detected. A further recommendation is that future studies combine the following elements; a REBT group, a REBT and EMDR group, an EMDR group and a control group.

The decrease in SUDS was not as dramatic as the findings in the earlier Shapiro studies (1989a, b). This difference might be because test anxiety memories are likely to be less intense than the memories of PTSD participants used in previous studies, thus there is a lower level of anxiety to be reduced (Gosselin & Matthews, 1995). The smaller decrease in SUDS ratings may be also partially due to treating test anxiety as a process phobia that requires more intervention (Gosselin & Matthews, 1995). This study used the same protocol as (Gosselin & Matthews, 1995) where multiple images were treated during the single session, i.e. past, present and future imaging of test anxiety. There was not a singular focus on one memory perhaps resulting in less reduction on the SUDS for that memory experience.

This study reported no significant effect for the VOC rating scale and supports the contention of Lohr et al. (1992) that the use of this scale in the reprocessing aspect of the procedure is of questionable value. Future research might consider comparing an EMDR group that did not receive REBT training with an EMDR group that did receive REBT training. That study will hopefully shed more light on the efficacy of REBT training, the aim of which will be to help the subject in developing a positive cognition, before EMDR is employed.

It is also important to be aware that the problems in research with regards to psychotherapy and more specifically EMDR can be attributed to the complex nature of the phenomena that was researched, namely test anxiety. Conclusive research of

psychotherapy in general and more specifically EMDR, demands relevant methods of research. Vaughan et al., (1994) concluded that research into EMDR is still open to controversy as EMDR lacks both a sound theoretical foundation and empirical support.

A further shortcoming in this study was the use of only one therapist for both the treatment and control groups. Gordon (1967) highlighted the advantages of using more therapists in a research study. Thus, results can then be generalised to the other therapists. Allen et al. (1980) and Tryon (1980) also showed the disadvantages of using only one therapist with the use of different intervention programmes. A recommendation for further research in this format would be to use different therapists for different groups.

While no expectancy was intentionally created, it might help to give an answer to the overall participation in the study. Four of the participants in the control group failed to attend the follow-up testing, while all the participants in the two treatment groups did. The control group was active during the research for a period of approximately six weeks. According to Beckham, et al. (1991) college students may be reluctant to seek therapy.

It is further of importance to remember that the results of any research study are influenced by the size of the sample ( $n=18$ ). The smaller the amount of participants the greater the chance that wrong conclusions can be made from the statistical analyses that there are no differences between the groups (Type II-fault, where the zero-hypothesis is wrongly maintained) (Tryon, 1980). A further recommendation then is that future research should be aware of the negative implications of small research groups.

The results of this study support Shapiro's (1989a, b, 1991) contention of the efficacy of EMDR in reducing self-reported anxiety, in this case test anxiety. The eclectic use of REBT and EMDR to treat test anxiety also seemed to be effective. Future research might consider the use of REBT before an EMDR intervention in detail, as it might shed more light on the question if REBT helps in the development and formulation of a positive and realistic cognition before the reprocessing stage in the EMDR method (Gosselin & Matthews, 1995).

From the results it then seems as if an eclectic intervention, using REBT and EMDR, does not lead to significant better results than only a REBT intervention. Results from the STABS indicate that REBT used alone was more effective than REBT and EMDR in reducing levels of test anxiety. Goldfried et al. (1978) found that REBT is effective and appropriate for the treatment of test anxiety.

It further seems that REBT in a group therapeutic format, and a combination of REBT and EMDR also in a group therapeutic format, is effective in reducing test anxiety. The fact that it is more cost effective and more participants can be helped in a short time, should be an important catalyst to stimulate further research in this field of pragmatic eclecticism (Albeniz & Holmes, 1996).

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## **ADDENDUM 1**

### **REBT PROGRAM**

#### **SESSION 1**

##### **1. Introduction**

The aim of this program is to learn the fundamentals of the Rational Emotive Behavior Therapy (REBT), for the reduction of test anxiety. This program consists of six sessions over a period of six weeks. The duration of each session is approximately 60 -90 minutes. The sixth session will be an individual session and a time and date will be finalised at a later stage. At the end of the program a test will be written to evaluate the students knowledge and insight in the REBT rationale. Psychometric tests will also be written to measure any changes that might occur during the course of the program. Additional psychometric tests will be also be written after the June-test and recess.

##### **2. Orientation and motivation**

- \* Structuring of sessions
- \* Roles
- \* Personal participation
- \* Confidentiality

##### **2.1 The advantages of group therapeutic interventions:**

- \* support of others with similar problems
- \* learning experience
- \* educational component
- \* broadening of self-knowledge and insight
- \* learning the concept of own-responsibility
- \* generalisation effect of knowledge and insight



### 3. Norms/Group rules

- \* Punctuality
- \* Participation
- \* Attendance
- \* Homework

### 4. REBT-Rationale

- 4.1 "The big secret"-technique
- 4.2 Explanation of the ABC-model
- 4.3 Use of the ABC-model
- \* Exercise 1

### 5. Homework

- \* "No Cop-Out Therapy" (Literature)
- \* Exercise 2
- \* The essence of Rational Psychotherapy (Literature)
- \* The role of thoughts in stress (Literature)

## SESSION 2

### 1. Evaluating insight in the REBT-rationale and check homework

### 2. Introduction to the A B C D E- Paradigm

### 3. Thinking errors

- \* Absolutist thoughts
- \* Catastrophic thoughts
- \* Negative self-evaluation
- \* Overgeneralization
- \* Black- and White thoughts

- \* Low frustration tolerance

#### 4. **Criteria for rational thinking**

- \* Rational cognition's is based on objective reality and known facts.
- \* Rational cognition's helps a person maintain his health.
- \* Rational cognition's helps a person achieve his/her short- and long-term goals.
- \* Rational cognition's prevents unwanted conflict with others.
- \* Rational cognition's helps a person to experience the emotions he/she would like to experience.

#### 5. **Homework**

- \* Criteria for rational thinking (Literature)
- \* Identify your irrational thoughts (Literature)

### **SESSION 3**

#### 1. **Check homework**

#### 2. **Use of the criteria for rational thinking**

Disputation can only be effective if an individual is aware of his/her own inner language. The following disputation techniques was explained and demonstrated.

- \* Disputation by means of questions.
- \* Disputation by means of positive- and negative imagery.
- \* Disputation by means of risk-exercises.

#### 3. **Homework**

- \* Dispute your dysfunctional thoughts (Literature)
- \* Techniques for Disputing Irrational Beliefs (DIBS). (Literature)

## **SESSION 4**

### **1. Check homework**

### **2. Individual use of the ABC-model (examples)**

Individuals in the group is asked for examples of their own irrational thoughts according to the ABC-model, and these cognition's is then disputed and replaced by rational cognition's.

### **3. Homework**

Techniques for using Rational Emotive Imagery (REI) (Literature)

## **SESSION 5**

### **1. Check homework**

### **2. Individual use of the ABC-model (examples)**

Individuals in the group is asked for examples of their own irrational thoughts according to the ABC-model, and these cognition's is then disputed and replaced by rational cognition's.

### **3. Overview**

### **4. Questions and discussion**

### **5. Termination of group sessions**

## **SESSION 6**

The last individual session was used to evaluate knowledge and insight in the REBT-rationale. Individual problems and questions were attended to. The impression was that the participants attained good insight in the rationale of REBT.

Participants also seemed to find it possible to generalise it to situations other than test anxiety.

## **ADDENDUM 2**

### **EMDR PROTOCOL**

#### **Components:**

- 1) Initial Memory**
- 2) Most recent/representative example of a current situation that causes test anxiety**
- 3) Future projection of a wanted emotional- or behavioural response**

#### **Explanation of EMDR**

“When a trauma occurs it seems to get locked in the nervous system with the original picture, sounds, thoughts and feelings. The eye movement we use in the EMDR seems to unlock the nervous system and allow the brain to process the experience. That may be what is happening in REM or dream sleep--the eye movement’s help to process the unconscious material. It is important to remember that it is your own brain that will be doing the healing and that you are the one in control”.

#### **Specific Instructions**

“What we will be doing often is a simple check on what you are experiencing. I need to know from you exactly what is going on with as clear feedback as possible. Sometimes things will change and sometimes they won’t. I’ll ask you how you feel from 0-10--sometimes to will change and sometimes it won’t. I may ask if something else comes up-- sometimes it will and sometimes it won’t. There are no “supposed to’s” in this process. So just give as accurate feedback as you can as to what is happening without judging whether it should be happening or not. Let whatever happens, happen. We’ll do the eye movement for a while, and then we’ll talk about it”.

#### **Stop signal**

“Any time you feel to stop, lift your hand”

**Obtain the correct distance and eye-movement**

“Where does it feel comfortable to have my hand?”

**Metaphor**

“What metaphor would you prefer to use during the eye-movements?”

**Safe place (real or imaginable)****PROCEDURE****1) Initial Memory****Presenting problem or memory**

- 1) Anxiety to be treated
  - \* Test anxiety
- 2) Initial cause and relevant memory (if present)
- 3) Wanted response (Emotional and/or Behavior)

**Picture**

“What picture represents the worst part of the initial incident?”

**Negative cognition**

“What words goes the best with the picture that expresses the negative statement/cognition about yourself, **at this moment?**”

**Positive cognition**

“When you experience the picture/incident in your imagination, what would you like to believe about yourself, **at this moment?**”

**VOC (Validity of Cognition)**

“When you think about the picture/incident, how true does the (repeat positive cognition) **feel** for you on a scale of 1-7, where 1 is completely false and 7 is completely true?”

1    2    3    4    5    6    7

**Emotions/Feelings**

Negative cognition:

"When you experience the picture/incident in your imagination together with the words (repeat negative cognition), what **emotion(s)** are you experiencing **now**?"  
(The emotion(s) the client is feeling at present)

### **SUDS**

"Experience the initial event/picture again. On a scale of 0-10 where 0 is neutral and 10 the worst is you can imagine yourself, how does it make you feel now **at this moment**?"

0    1    2    3    4    5    6    7    8    9    10

### **Body Scan**

"Close your eyes, concentrate on the incident and the positive cognition and scan your WHOLE body mentally. Tell me where you feel something."

**Desensitization** (Important: the SUDS should be 0 or 1 before installation)

Negative cognition:

"I would now like you to recall the picture, the negative statement (repeat negative cognition) in your imagination and where you feel/experience it in your body--follow my fingers".

- 1) After a set of eye-movements: "Take a deep breath and let it go".
- 2) Ask: "What do you get **now**?" or "what is happening **now**?"
- 3) "Go with that".
- 4) After desensitization, evaluate SUDS.

"Experience the initial event/picture again. On a scale of 0-10 where 0 is neutral and 10 the worst is you can imagine yourself, how does it make you feel **now** at this moment?"

0    1    2    3    4    5    6    7    8    9    10

### **Installation**

1) "Does the words ( repeat positive cognition) still fit, or is there another positive cognition you feel would be more fitting?"

Positive cognition:

2) "When you think about the picture/incident, how true does the (repeat positive cognition) feel for you on a scale of 1-7, where 1 is completely false and 7 is completely true?"

1      2      3      4      5      6      7

3) "Keep them together". Do EM. "On a scale of 1-7, how true does (repeat positive cognition) feel to you when you think of the initial incident?"

1      2      3      4      5      6      7

### **Body Scan**

"Close your eyes; concentrate on the incident and the positive statement and scan your WHOLE body mentally. Tell me where you feel something".

**2) Most recent/representative example of a current situation that causes test anxiety.**

### **Presenting problem or memory**

- 1) Anxiety to be treated  
    \* Test anxiety
- 2) Initial cause and relevant memory (if available)
- 3) Wanted response (Emotional and/or behaviour)

### **Picture**

"What picture represents the worst part of the recent incident?"

### **Negative Cognition**

"What words goes the best with the picture that expresses the negative statement/cognition about yourself, **at this moment?**"

### **Positive Cognition**

"When you experience the picture/incident in your imagination, what would you like



to believe about yourself, **at this moment?**"

### **VOC (Validity of Cognition)**

"When you think about the picture/incident, how true does the (repeat positive cognition) feel for you on a scale of 1-7, where 1 is completely false and 7 is completely true?"

1      2      3      4      5      6      7

### **Emotion(s)/Feelings**

Negative cognition:

"What words goes the best with the picture that expresses the negative statement/cognition about yourself, **at this moment?**"

(The emotion(s) the client is feeling now at present)

### **UDS**

"Experience the initial event/picture again. On a scale of 0-10 where 0 is neutral and 10 the worst is you can imagine yourself, how does it make you feel now at this moment?"

0      1      2      3      4      5      6      7      8      9      10

### **Body Scan**

"Close your eyes, concentrate on the incident and the positive cognition and scan your WHOLE body mentally. Tell me where you feel something."

**Desensitization** (Important: the SUDS should be 0 or 1 before installation)

Negative cognition:

"I would now like you to recall the picture, the negative statement (repeat negative cognition) in your imagination and where you feel/experience it in your body--follow my fingers".

1) After a set of eye-movements: "Take a deep breath and let it go".

2) Ask: "What do you get?" or "what is happening?"

3) "Go with that".

4) After desensitization, evaluate SUDS.

"Experience the initial event/picture again. On a scale of 0-10 where 0 is

neutral and 10 the worst is you can imagine yourself, how does it make you feel now at this moment?”.

0    1    2    3    4    5    6    7    8    9    10

### **Installation**

1) “Does the words ( repeat positive cognition) still fit, or is there another positive cognition you feel would be more fitting?”

Positive cognition:

2) “When you think about the picture/incident, how true does the (repeat positive cognition) feel for you on a scale of 1-7, where 1 is completely false and 7 is completely true?”

1    2    3    4    5    6    7

3) “Keep them together”. Do EM. “On a scale of 1-7, how true does (repeat positive cognition) feel to you when you think of the initial incident?”.

1    2    3    4    5    6    7

### **Body Scan**

“Close your eyes, concentrate on the incident and the positive cognition and scan your WHOLE body mentally. Tell me where you feel something.”

### ***3) Future Projection of a wanted emotional- or behavioural response.***

#### **Presenting problem or memory**

1)    Anxiety to be treated

        \* Test Anxiety

2)    Wanted future response (Emotional and/or Behavioural)

#### **Positive Cognition**

“When you experience the picture/incident in your imagination, what would you like to believe about yourself, **at this moment?**”

#### **VOC (Validity of Cognition)**

“When you think about the picture/incident, how true does the (repeat positive cognition) feel for you on a scale of 1-7, where 1 is completely false and 7 is

completely true?"

1    2    3    4    5    6    7

### Emotions/Feelings

Positive cognition:

"When you experience the picture/incident in your imagination, what would you like to believe about yourself, **at this moment?**"

(The emotion(s) the client is experiencing at this moment)

### SUDS

"Experience the initial event/picture again. On a scale of 0-10 where 0 is neutral and 10 the worst is you can imagine yourself, how does it make you feel **now at this moment?**".

0    1    2    3    4    5    6    7    8    9    10

### Body Scan

"Where do you feel the sensation in your body?"

Installation (Important: the SUDS should be 0 or 1 before installation)

Positive cognition:

"I would now like you to recall the picture, the positive statement (repeat positive cognition) in your imagination and where you feel/experience it in your body--follow my fingers".

1) After a set of eye-movements: "Take a deep breath and let it go".

2) Ask: "What do you get?" or "what is happening?".

3) "Go with that".

4) After installation, evaluate SUDS.

"Experience the initial event/picture again. On a scale of 0-10 where 0 is neutral and 10 the worst is you can imagine yourself, how does it make you feel **now at this moment?**".

0    1    2    3    4    5    6    7    8    9    10

### Body Scan

"Close your eyes, concentrate on the incident and the positive cognition and scan

your WHOLE body mentally. Tell me where you feel something.”

### **Closure**

“The processing that we did today may continue after the session. You might, or maybe not, be aware of new ideas, thoughts, memories or dreams. If so, just experience it like taking a photo (what you see, feel, think and the trigger), and write in a diary. We can work on the new material if you deem it necessary in another session.”

**ADDENDUM 3**

(FORM C)	FILE NO.:	.....
NAME :	STUD. NO:	.....
ADDRESS :	COURSE:	.....
TEL. ....		

**CONSENT**

I hereby declare voluntary participation in a group therapeutic process to reduce test anxiety that will be led by Hein ten Cate, clinical psychologist intern, Unit for Clinical Psychology, University of Stellenbosch.

I undertake to attend all six group therapeutic sessions.

All information collected during the course of the program, may be used for research purposes and publication. In the event of any publication I will not be identified by name.

.....  
SIGNATURE  
(Participant)

.....  
SIGNATURE  
(Witness)

.....  
DATE

.....  
DATE

## **ADDENDUM 4**

### **TEST ANXIETY 1997**

1. What does the abbreviation RET stand for ?
  - a) Realistic Emotional Therapy
  - b) Rational Emotive Therapy
  - c) Rational Emotive Tension
  - d) Reasonable Emotionality in Therapy
  - e) Repressed Emotive Tendency
2. What does A stand for in the ABC-model ?
  - a) Attention
  - b) Activity
  - c) Activating Event
3. What does B stand for in the ABC-model ?
  - a) Behaviour
  - b) Beliefs
  - c) Bad
4. What does C stand for in the ABC-model ?
  - a) Consequences
  - b) Cognition's
  - c) Conclusion
5. Can A lead to C ?
  - a) Yes
  - b) No
  - c) Sometimes

6. Name the criteria for rational thoughts
- 7) Describe the ABC-model by referring to test anxiety as an example
- 8) “ I *must* be the best student in my class, otherwise I am not a person worthy of respect”

Identify the thinking error(s)

- a) Demandingness
- b) Awfulizing
- c) Generalization
- d) Low frustration tolerance
- e) Negative self-evaluation

Motivate, and formulate a rational alternative.

- 9) “The work is *too much* to study, I *can't* cope anymore”
  - a) Demandingness
  - b) Awfulizing
  - c) Generalization
  - d) Low frustration tolerance
  - e) Negative self-evaluation
- 10) “I am *the dumbest and worst student* in my class, all because I *didn't* receive *predicate* in the last test”
  - a) Demandingness
  - b) Awfulizing
  - c) Generalization
  - d) Low frustration tolerance
  - e) Negative self-evaluation
- 11) How did you experience the content and use of the program ?
- 12) How did you experience the presentation of the program by the therapist ?/
- 13) General remarks