

Running head: TREATING THE TEST ANXIOUS STUDENT

Treating the Test Anxious Student:  
An Integrated Treatment Workshop  
Lesley Jones and Ruth Martin-Cain  
Southwest Texas State University

Treating the Test Anxious Student:  
An Integrated Treatment Workshop

Tests are a common and essential occurrence in educational institutions and up to a quarter of the student population does more poorly on tests than they are capable of due to a phenomenon labeled test anxiety. Test anxiety is a situation-specific personality trait that has two psychological components: worry and emotionality (Sarason & Sarason, 1990). These components are mediated by students' subjective interpretations of the testing situation (Speilburger & Vagg, 1995) and can result in poor performance, scholastic underachievement, psychological distress and ill health (Gaudy & Speilburger, 1971; Hembree, 1988; Powers, 1986; Zeidner, 1990). This paper presents an overview of the construct and models of test anxiety, an integrative treatment model, and finally a group workshop designed for use by high school and college educators either as an independent training workshop or in a classroom setting.

Literature on the magnitude of the phenomenon was first presented in a 1984 study which projected that nearly ten million pre-college students are hindered significantly by test anxiety (Hill & Wigfield, 1984). In 1990, a study by Sarason & Sampson showed the problem to be pervasive on the college level, and a more recent study of college students' counseling needs confirmed a continuing desire for help in this area (Bishop, Bauser & Becker, 1998). Not only is fear of exams and test situations widespread, (possibly due to the increasing importance and frequency of testing by the educational system), but it continues to correlate negatively with test performance (McDonald & Angus 2001). Cassady and Johnson (2002), in examining a new measure focused on the cognitive dimension of test anxiety, concluded that, "Test anxiety exerts a significant stable and negative impact on academic performance" (p. 270).

While the majority of research has been done on the test anxiety of college students, a recent literature review focused on younger children and suggested that the pressures from parents and teachers on children to excel in testing situations may be the origin of the test anxiety mindset (McDonald & Angus, 2001). This pressure is exacerbated by the public evaluation of schools and teacher effectiveness based on students' scores on statewide and national

examinations. The result is a heightened anxiety throughout the school system and a greater awareness of the costs associated with test anxiety.

Research on test anxiety has shaped many models designed to explain the phenomenon. Many causal factors have been identified, but no one model encompasses all components of the multifaceted nature of test anxiety. The need for a more comprehensive and integrative approach was articulated by Jones and Petruzzi (1995), who called for a complex model that would encompass all of the known variables and would allow the test-anxious individual to “be assessed in the full array of mediating factors so that the most efficacious treatment could be selected or developed” (p. 11). This array of factors would include individual differences and the testing environment as well as the variables already identified in the Cognitive-Attentional Model, Learning Deficit Model, Dual Deficit Model and the Social Learning Model. These models are discussed below.

### Models of Test Anxiety

#### Cognitive-Attentional Model

Proposed in the 1970s by Wine (1971) and Sarason (1978), *the cognitive-attentional model* posits that the factors comprising test anxiety (e.g. worry cognitions, anxious states and irrelevant thoughts) interfere with the cognitive-attentional processes. The difference between high test-anxious individuals and low test-anxious individuals rests in the amount of attention available to tackle the test-taking task. High test-anxious individuals in evaluative situations perceive performance demands as ego threatening, which leads to self-focus, and division of attention between task and self-related irrelevant cognitions. The outcome is poorer concentration and impaired task performance (Zeidner, 1998). This model focuses on the importance of reducing off-task thinking in the testing situation to improve test performance.

#### Learning Deficit Model

A deficit model emerged in the early 1980s as a result of research linking high test-anxiousness with deficits in study skills (Whittmaier, 1972) and test-taking skills (Kirkland & Hollandsworth, 1978). The high test-anxious individual, according to this *learning deficit model*,

is someone whose lack of study skills leads to deficit intake of materials. The awareness of one's poor chances to succeed produces anxiety and results in poor performance (Hodapp, Giessen, Henneberger, & Mainz, 1983). Therefore, to increase test performance, this model recommends an increase in encoding, retrieval and test-taking skills. This theory cannot stand alone, however, because it fails to account for test-anxiousness in students with good study and test-taking skills (Zeidner, 1998).

### The Dual Deficit Model

In the 1980s, the *dual deficit model* evolved from the combination of the two previous models. Rather than one or the other, Michenbaum and Butler (1980) postulated that, among other factors, it was the interaction of the components from both the *cognitive-attentional* and the *learning deficit* models that produced test anxiety. As the model evolved, a myriad of deficits along the process of learning and eventual retrieval of information were added to factors affecting performance during evaluative situations.

### Social Learning Model

In the early 1980's a *social learning model* emerged, bringing forth the idea that modeling, observational learning and social influences contribute to test anxiety. The constructs of locus of control (internal vs. external), self-efficacy (i.e., one's belief in one's own ability to do a specified task) and outcome expectations (i.e., an individual's idea of outcome based on skills and motivation) were identified as variables impacting test anxiety.

Individuals who perceive that their own behavior produces consequences have an internal locus of control. Those who perceive that consequences are the result of some outside sources (i.e., fate, luck, or other people) have an external locus of control. Research findings have shown that individuals who experience success have a more internal locus of control, while those who are unsuccessful tend to credit outside forces for consequences (Kalechstein, Hovecar and Kalechstein 1988). Self-efficacy is defined as the belief in one's ability to perform a task or to execute a specified behavior successfully (Bandura, 1997). In a 2001 study, Endler, Speer, Johnson and Flett showed that self-efficacy was found to be a predictor of lower levels of state-

anxiety and higher self-esteem (Stanley & Murphy, 1997). A further finding from the same study showed that the lack of perceived control (over a stressful situation) produces increased levels of anxiety. Test performance, according to this model, may be improved by a shift in locus of control from external to internal, enhancement of self-efficacy or improvement in outcome expectations.

### Self-Worth Model

Closely associated with the *social learning model* is the *self-worth model*, in which the student views performance or achievement as a measure of self-worth. This model claims that the components of the *skills deficit and cognitive-attentional models* are subsumed under the construct and maintenance of self-worth, and that one's personal confidence-devaluing experiences at home or school are also determinants of the ability to perform (Covington, 1992). This model, therefore, claims that improvement in the quality of experiences associated with development of one's self-worth would decrease test-anxiety and improve test performance.

### Information Processing Model

In the mid-1980's, Tobias (1985) combined cognitive interferences and poor study skills with a new concept that he called *cognitive capacity* to explain how test anxiety affects performance. This *information-processing* view states that students have a finite capacity for processing information, and that this capacity is diminished when the mind is being engaged by task-irrelevant behaviors (Benjamin, McKeachie, & Lin 1987). In addition, good study skills help students organize and synthesize tasks so that they require less cognitive attention. As processing demands increase, so does test anxiety. Test anxiety depletes the available processing capacity (Vagg & Papsdorf, 1995) and, when demand exceeds capacity, performance suffers. Thus, in order to increase test-taking performance, according to this model, one makes better use of one's cognitive capacity by organizing and synthesizing information and decreasing task-irrelevant thoughts so that attention can be focused on the task.

### Transactional Process Model

This model defines test anxiety as a "situation specific form of Trait-Anxiety with worry

and emotionality as major components” (Spielberger & Vagg, 1995, p. 8). Individuals with high trait anxiety (a personality trait) perceive the test situation as more or less threatening according to individual differences and situational factors (e. g., how well prepared the individual feels). The individual will experience state anxiety (specific level of anxiety experienced in a particular situation) depending upon the degree of threat the individual perceives about the exam. As the individual proceeds through the process of answering a particular exam question, the level of threat is reevaluated and anxiety will increase or decrease based on the perceived level of success or failure in answering each particular question. This model, then, describes a dynamic process wherein an individual is affected by and affects the process (Zeidner, 1998). Given that cognition (worry and task-irrelevant thinking), affect (tension and emotional arousal) and behavior (e. g., procrastination and avoidance) interact affecting information processing and retrieval, treatment programs that address these components are likely to have the greatest effect in improving outcome (Vagg & Spielberger, 1995). Since this model is interactive, modifying irrational beliefs and cognitions indirectly affect emotions and conversely, modifying emotional reactions will affect beliefs (Spielberger & Vagg, 1987).

#### Building An Integrative Treatment Model

The integrative treatment model proposed here attempts to address the renowned question, "What treatment and by whom under what conditions is effective for which kinds of clients with what kinds of specific concerns?" (Paul, 1967, cited in Sapp, 1999, p.323), as it applies to working with test anxious students. It adopts the assumption described by Tobias (1985) that the cognitive capacity of each individual is limited, i.e., that at any point in time, cognitive information processing capabilities are a finite. It also accepts Hancock's (2001) summary regarding the effects of evaluative threat. His study showed that in highly evaluative situations, all students performed more poorly and were less motivated than in low-evaluative threat conditions. The highly test-anxious students were found to be significantly more affected by an environment in which competition is emphasized than low-test anxious students. Evaluation of students' performance can be confidence building because it gives the student a

sense of control over what is needed to improve their abilities (Stiggins, 1997; Weiner, 1992). However, in the case in which the classroom teacher's methods of evaluation are poorly conceived, improperly administered or highly competitive, evaluative threat is heightened, affecting test-anxiousness and achievement can be lowered (Oosterhof, 1999).

The variables proposed for inclusion in this integrative treatment model have been broadly classified into three categories: cognitive-attentional variables, academic skill variables, and environmental variables, as seen in *Figure 1*.

### **Variables Included in the Integrative Model of Test Anxiety**

<p>Cognitive-attentional interference variables:</p> <ul style="list-style-type: none"> <li>Worry thoughts</li> <li>Emotional arousal</li> <li>Task-Irrelevant thoughts</li> </ul> <p>Academic skill variables:</p> <ul style="list-style-type: none"> <li>Study skills deficits</li> <li>Test-Taking skill deficits</li> </ul> <p>Environmental variables:</p> <ul style="list-style-type: none"> <li>Visual distractions</li> <li>Auditory distractions</li> <li>Physical distractions</li> </ul>
---

*Figure 1.*

The cognitive-attentional variables include worry thoughts, emotional arousal, and task-irrelevant thinking, and incorporate social learning variables such as external locus of control, expectancy of poor outcomes, and low test-taking self-efficacy, under the category of worry thoughts. This placement for the social learning variables was chosen because their greatest negative impact appears to be manifested in the form of worry thoughts. For example, external

locus of control might appear in self-talk as "I'll never be able to understand this stuff"; low test-taking self-efficacy might be reflected in a statement such as, "I can't do well on multiple choice tests."

Academic skill variables include the well-documented factors of study skill deficits and deficient test-taking skill. In addition, test related variables, such as time pressure, modes of administration, and types of test construction are subsumed under the academic skill variable of test-taking skill deficits. As such, a student who becomes anxious when taking essay tests, for example, would be viewed as having a test-taking skill deficit. If this student also ruminated about this deficiency, worry thoughts would also be implicated.

Environmental factors present in the testing situation provide an additional set of variables that are potentially under a student's control. These variables include visual, auditory, and physical distraction. Much more research is needed to understand the actual impact of these variables, but those environmental factors, which can be brought to the student's conscious attention, are addressed in this treatment model.

It is readily apparent that while all of these variables can be defined individually, they are interdependent and interactive. Current research is still unable to define the causal relationships between the variables and the construct of test anxiety. For example, decreasing worry thoughts has been shown to improve performance as well as decrease arousal and increase test-taking self-efficacy, but it is also likely that enhancing test-taking self-efficacy will improve performance and decrease test anxiety. This integrative model does not attempt to define causal connections but rather focuses on those variables that are potentially modifiable (i.e., capable of coming under the student's control).

While many treatment interventions have been developed and evaluated, few detailed

descriptions appear in the extant literature. Sapp (1999) and Zeidner (1998) may have written the only two manuscripts that present interventions which include specific instructions and treatment scripts. Sapp's interventions are organized into the following groupings: study skills, supportive counseling, relaxation therapy, systematic desensitization, cognitive-behavioral hypnosis and cognitive-behavioral therapy. Zeidner (1998) presents two chapters on interventions, one presenting emotion-focused, behavioral intervention techniques and the other offering cognitive-focused, intervention techniques associated with cognitive therapy, cognitive behavioral approaches, and study skills training. What remains lacking are treatment models that integrate a set of interventions, and multimodal workshops that provide specific descriptions that can duplicated by the reader.

The workshop model presented in this paper offers a variety of cognitive, behavioral, and environmental structuring techniques that are integrated and presented in enough detail to be replicated. The workshop focuses on variables listed in Figure 1, variables that are potentially under the control of the individual, primarily cognitive-attentional variables and secondarily environmental factors. The treatment of academic skill variables have been extensively written about by others and are believed to be best treated in a separate workshop. The nature and degree of evaluative threat are typically determined by the test creator or test administrator and, hence, have been excluded except as they pertain to managing the test-taker's reactions. This workshop approach to treating test anxiety shows how techniques may be integrated, but it is by no means meant to be inclusive of all interventions known to the authors or appearing in the literature. It is hoped that the level of description provided will allow readers to easily implement the workshop and adapt it to the needs of the students they serve in their own particular settings.

## Instructions for Workshop Facilitators

### Selecting Participants

This workshop is designed to assist high school and college students who need to be able to better manage attentional processes in test-related situations. Students who have difficulties with examinations due to inadequate preparation (e.g., study skills deficits), insufficient interest or motivation (e.g., inappropriate academic major), or personal concerns (e.g., excessive family pressure, personal crises, etc.) would be more appropriately assisted through other methods (e.g., tutoring, study skill training, personal counseling, etc.). Students having multiple sources of difficulties that include test anxiety would likely benefit from concurrently participating in this workshop and other interventions as indicated.

### Facilitator Qualifications

Persons, who have skills in facilitating group process and in creating a positive and encouraging environment, can successfully implement this workshop by following the instructions, which are provided. Graduate students in the helping professions who have completed foundational coursework in individual and group counseling particularly enjoy using this workshop because the directions which follow almost always lead to a successful outcome, and the experience provides training in interventions that can also be used individually and for other purposes. The ideal facilitators would be individuals who already have training and experience in-group counseling, but it is hoped that whoever employs the workshop, modifies it to fit their own style and the needs of the students who attend.

### Choosing the workshop location

This training is most effective if provided in a setting, which closely simulates the classroom or a place in which actual testing will be done. The room should provide privacy and sound control.

Movable furniture is preferable and there should be a flipchart or chalkboard and markers or chalk available.

### Organization

The workshop is designed to be conducted in four 90-minute sessions. Each session follows the following format:

- Getting acquainted or sharing outside practice
- Explaining each skill to be learned
- Modeling or teaching each skill, followed by practice or analysis
- Applying the skills in mild test-like conditions
- Assigning homework to encourage between-session practice

The facilitators should present professional credentials and relevant background, demonstrate a genuine, personal interest in conducting the workshop, and communicate warmth and acceptance toward the participants. The intent is to decrease the participants' sense of aloneness regarding their test anxiety and to foster optimism about being able to learn to master that anxiety. A psychoeducational format is used so that students are first told what they will hear and learn in an exercise, then they experience the exercise, and then the purpose is reiterated.

### Workshop Session I

#### **A. Objectives**

1. To create a positive, supportive, therapeutic environment in which anxiety levels are adequately controlled via sensitive attending, structuring, and warm-up experiences
2. To develop students' understanding of the treatment rationale
3. To instill a sense of hope that test anxiety can be mastered and will enhance performance
4. To begin building group cohesiveness and decrease the participants' sense of aloneness in dealing with test anxiety

5. To demonstrate the limited nature of attention and its potential to be controlled
6. To begin their assessment of their unique and common off-task attention behavior
5. To create a desire to return
6. To provide clearly understood instructions for between session practices

## **B. Materials**

1. Sign-up sheet and nametags, if desired
2. Chalk, eraser, and blackboard or newsprint and magic marker
3. Handouts
  - a. Pretest (See Appendix A)
  - b. Anagram tests (See Appendix B)
 

Note: Print the items so that the test covers 4 or 5 pages. This length ensures workspace and page turning, the latter being a distracter for many test anxious students.
  - c. Daily practice sheets (See Appendix C)

## **C. Procedures**

### **1. Record Keeping (3 minutes)**

If needed to give credit or track attendance, the facilitator passes out a sign-up sheet. It can also help the facilitator learn names. Distribute nametags if using them.

### **2. Pre-testing (15 minutes)**

Explain that the purpose of this inventory is to help participants identify various situations that they associated with test anxiety. Following the participants' completion of the pre-test put three categories on the board: Less than 10, 10 to 20, and More than 20. Ask them to count up the number of items they endorsed and then have them raise their hand so that you can tally how many appear in each category. Say something like, "I'm glad to see that all (most) of you are in the top category because that means that you are in the right place. I hope that it is also reassuring to know that you are in good company; you're clearly not alone."

### **3. Anagram Test: Mild Anxiety Induction (15 minutes)**

This activity is done to increase students' awareness of the anxiety they experience when they are tested and to give them a testing experience to refer back to and analyze.

Before doing introductions, explain that there is often a relationship between levels of intelligence and test anxiety and that anagram tests are a quick way to measure someone's intelligence. Be very serious. Place the tests face down on their desks. Tell them that they will have 15 minutes to unscramble the words on this anagram test and that they should work as fast as they can. Then look at your watch and say, "Ready! Begin!" Walk around the room; look over their shoulders, etc. At 5 minutes tell them that half their time is up, and at 8 minutes stop the test.

Now explain the real purpose, which is to provide them with an immediate, testing experience to refer back to for other exercises in today's workshop. Make sure that no one has any misunderstanding, i.e. that no one believes that anagram tests actually reflect intelligence. The suggestion that it did was only stated to increase anxiety.

Briefly process the experience: Ask them to raise their hands if they heard other people writing or turning paper, noticed you walking around the room, etc. (Use examples of sounds or other stimuli that occurred in the environment.)

Note: Students will want to know the answers, so have them share what they came up with.

#### Anagram Answers

- |             |              |             |             |
|-------------|--------------|-------------|-------------|
| 1. ITCH     | 6. DESTROY   | 11. ROACH   | 16. BATON   |
| 2. INTEREST | 7. BILE      | 12. TROUBLE | 17. DRUB    |
| 3. GIANT    | 8. MOUNTAIN  | 13. TRAIN   | 18. REQUIRE |
| 4. DISTANCE | 9. PATIO     | 14. SEASON  | 19. WITHOUT |
| 5. FAMILY   | 10. STRAIGHT | 15. PERSON  | 20. JOURNAL |

### 3. Introductions (5 minutes)

The facilitators should introduce themselves, briefly describing their professional credentials and other relevant background information, and emphasizing their personal interests in conducting such a workshop. It is important to appear both warm and expert. Then ask the participants to go around giving first names so that they can begin to become acquainted.

### 4. Workshop Structure (5 minutes)

Provide an overview of the structure of the workshop by paraphrasing the following:  
 "As the title suggests, we're here to learn ways to manage test anxiety, and it will take some work and practice for the program to be effective. But, we also believe that it's important to have fun while we're at it."

“This workshop is designed to systematically guide you in learning and practicing techniques proven to enhance concentration and relaxation. Regular practice and attendance are a must to benefit from the four weeks we’ll have together. While not every component of the program may apply to you personally, the whole workshop has been shown to be very effective for those who participate all four weeks. It’s also important that you attempt to be on time to every session.”

“This is not an encounter group, nor is it a study skills group. Rather it is training in specific skills, which have been proven effective for many students. Each week we will be using, roughly, the following format” (post on the board):

- Assessment of outside practice
- An explanation of the skills to be learned in that session
- An opportunity to listen to transcripts that illustrate skills in attention control and to practice the skills.
- Practice applications of these skills in mild test-like situations; this is actually fun.

“Our role will be to explain, demonstrate, and guide your practice in applying various techniques. It is hoped that you will ask questions and practice techniques even though some they may seem uncomfortable at the time or just plain strange.”

“You already know that there is an inevitable sequence in learning new skills. Remember when you first learned to ride a bike or drive a car? First you didn’t know what to do; then you knew what to do, but you were awkward and self-conscious about it; and eventually, with practice, it became natural and almost automatic. Well, that is how it is with any new skill, so be patient with yourself while you learn new skills here.”

### **5. Warm-up and Get Acquainted Exercise (5 minutes)**

Put the following list on the board:

- Your first names
- Where you are from
- Year in school and vocational interests
- Your favorite food
- Your purpose in coming to this workshop
- What you expect to get out of it

“It is helpful to share where you are with others in order to begin to understand and accept your own difficulties with test-taking. We also want to begin to get acquainted since probably you don’t all know one another. Therefore, we’d like you to divide up in two’s, preferably pairing up with someone you don’t already know (If needed, the facilitator determines who goes where.) and briefly exchange the information listed on the board. Afterwards, we’ll discuss your specific concerns as a whole group. I am also going to ask you to introduce your partner, so you may want to take some notes.”

Have the participants introduce each other to the group. (Keep them moving so that the 15 minutes allotted for this exercise is not exceeded.) If the group is large, these introductions can be done in groups of 4 or 6, rather than the whole group.

### 6. Treatment Rationale (10 minutes)

The facilitator should indicate, "Before we focus on why each of you is here, I would like to give you a framework within which to begin to understand concentration and anxiety difficulties surrounding exams."

The leader should then proceed to summarize the treatment rationale listed below, but do not read it verbatim.

"I'd like to give you a summary of what researchers and counselors have learned about evaluation anxiety, and to briefly explain the aims of this workshop."

"Evaluation anxiety is a very common problem among students so there has been quite a lot of research done on it. Up to 20 percent of students in college do more poorly than they are capable of doing because of the effects of the anxiety they experience when they are being evaluated. Researchers have learned that anxious students are just as bright as non-anxious students, because when they take tests or do academic work in a relaxed condition, they do just as well or better than the non-anxious students. So the explanation for anxious students doing poorly in academic evaluation situations is tied to their anxiety."

"The most important difference between anxious and non-anxious students that causes them to perform differently in evaluation situations lies in what they are doing and thinking in those situations. For example, when taking an exam, the non-anxious person thinks only about the exam and does things that are relevant to getting the exam done -- in other words, their attention is focused fully on the exam. The anxious person, on the other hand, carries around a whole bundle of 'worry thoughts' all ready for any evaluating situation. These thoughts can be a wide variety of things, but they are usually self-centered and they usually have to do with thinking about how well one is doing rather than about what is being done. For example, the student may criticize herself or himself for not studying or for being generally stupid, or for studying the wrong things; this person may think about the consequences of doing poorly or about other similar experiences in the past."

Put the following chart up (*Figure 2*), indicate the categories, and refer them to the handout (see Appendix D) that includes examples from students who have previously participated in this type of workshop.

*Figure 2: Categories of Anxious Self-Talk*

Worrying about your performance or comparing it to others  
 Ruminating too long over alternative answers  
 Preoccupation with anxious bodily reactions  
 Ruminating about possible consequences of doing poorly  
 Thinking about feelings of inadequacy

“A student may get angry with an exam or with the professor for setting up a stupid exam; or worry about how other students are doing, or think with longing about the conclusion of the exam. Whatever the exact content of these “worry thoughts” or negative self-talk, as we call it, they are always irrelevant to what needs to be done in the situation. Each of us has only so much time and attention, and if it is used up worrying, it can't possibly be used in meeting the demands of the test.”

“Another component of anxiety is, of course, physical tension or emotional arousal. This includes things like sweating, rapid heartbeat, butterflies in the stomach, rapid, shallow breathing, muscular tension, and so forth. These physical symptoms don't interfere directly with intellectual functioning unless one attends to them and thus takes one's attention away from the demands of the situation. Of course, when tenseness becomes quite extreme and uncomfortable, it demands attention, but at moderate levels it can be quite helpful to clear thinking. In fact, there has been a good deal of research on a type of anxiety, which is called facilitative anxiety. Students high in this kind of anxiety become quite tense before and during exams, but the energy and alertness associated with being tense actually helps them to do better on exams.”

“In this workshop, we will talk about the exact nature of your own peculiar brand of worry thoughts and self-talk so that you will learn to recognize them and how they interfere with what you are doing. Second, you will learn means of 'turning off' your worry and 'turning on' appropriate concentration and coping behavior. Third, you will learn some means of structuring (organizing) and dealing with particular kinds of academic evaluation situations, including primarily exams, but also classroom discussions, studying, and others. Finally, you will learn some simple relaxation exercises that can be used to reduce tension so that you can attend more fully to what you want to be doing.

“I've thrown a lot at you at once, but my basic message is fairly simple: Anxiety consists of worry and tension. What interferes most with the anxious student's academic performance is worry. You will be working in these sessions on recognizing and reducing worry thoughts, on increasing appropriate task relevant thinking and behaving, and on managing physical tension so that you can attend appropriately to what you are doing. Are there any questions?” (Get their input.)

## 7. Situational Analysis (5 minutes)

Explain that they are now going to do a situational analysis of their own concentration and anxiety difficulties in testing or other evaluative situations (speeches, presentations, etc.). Have all students close their eyes (unless they feel too uncomfortable, in which case they can look at the floor or the wall, something with very few distractions).

“Now we would like you to use your imagination to briefly relive some testing or evaluative situations such as our pre-testing situation. Picture the situation in your mind and try to recall the feelings and thoughts you had at the beginning of the test, . . . during the middle, . . . and at the end.... What seemed to trigger what?... What were the underlying specific self-statements?... Just rerun it in your mind and pay attention to where you mind was going and what you were saying inside.... Now you can open your eyes.”

Write the students' comments on the blackboard. Help each student to describe specifically her/his

physiological reactions, but focus on the self-talk associated with them. Direct the students to fit the type of self-talk they engaged in with the categories on their handout.

Facilitators should move systematically around the circle responding with warmth and empathy to each student. Detailed descriptions of the content, duration, and intensity of self-talk is what you are looking for here. Label and interpret their input in terms of the previous rationale and the five types of negative self-talk listed on the board.

## 8. Deep Breathing Technique (15 minutes)

The facilitator explains that breathing deeply and slowly has the effect of quieting down the body, temporarily giving a person control over their attention and freeing up their mind. In fact, holding one's breath demands a lot of attention. In addition, breathing deeply from the diaphragm is associated with calm and provides more oxygen to the brain. Deep breathing can even lower blood pressure very quickly.

It is a technique that is quickly learned and is readily transferable to other situations. It is useful in taking the edge off of tension, and it is useful as a means of regaining control of your attentional processes when you are under stress. What it involves is breathing very slowly and deeply to the count of five or seven seconds while you inhale, holding your breath for three or five seconds, and exhaling to the count of five or seven. Explain that you will talk them through this once and then have them return to their normal breathing while still relaxing. Then you will guide them again through three deep breaths in a row.

Using a calm, clear voice, slowly guide them as follows:

"First I'd like you to just relax.... Just settle back comfortably in your chair.... Jiggle your legs up and down for a moment, and then allow them to drop loosely with your feet flat on the floor.... Shake your arms, ... and then allow them to drop loosely and comfortably to the arms of your chair.... Close your eyes or look at something with few distractions. Gently move your head around slowly in a several wide, loose circles, letting it settle into a comfortable position..... If there are any other muscles in your body that feel tense or tight right now, take a moment to clench those muscles tightly and then let them relax..... Let them go loose and very relaxed.... Begin breathing deeply, regularly and slowly."

"Now inhale slowly and deeply, filling your lungs with as much air as you can. As you do so, you'll feel your stomach rising slowly. Do this inhaling to the count of five so that at five your lungs are as full of air as possible. Now hold your breath to the count of three.... Now exhale slowly, letting the air pass out of your lungs to the count of five.... Experience the slow fall of your stomach as you do so.... And just return to your normal breathing....Each time you exhale feel yourself becoming more and more relaxed. (Pause for 15 to 20 seconds.)

"Now once again, inhale--two--three--four--five, hold--two--three and--out--two--three--four--five, and in--two--three--four--five, hold--two--three and out--two--three--four--five and in--two--three--four--five, hold--two--three and out--two--three--four--five. Note the feeling of comfort and relaxation that you are able to bring forth. Continue breathing slowly and deeply in your own way

for a few minutes."

Briefly process the experience. How was it for them? Were they able to feel calmer? While they were doing the deep breathing did fewer thoughts come into their minds? Have them share their comments. Some participants may actually have experienced an increase in their anxiety. Ask if that happened to anyone and reassure him or her that it is fairly common and that it goes away with practice.

### **9. Moving One's Attentional Focus: An Attention Control Exercise (10 minutes)**

The facilitator announces that the students will now have an opportunity to study how breathing ties in with attention by engaging in exercise in attention awareness and control. Explain that by breathing, they command a focus in their attention away from off-task thinking and attending and at the same time quiet down a "noisy" nervous system.

Remember, in this structured approach to test anxiety management, always tell the participants what they will hear and learn in an exercise or on a tape or transcript, and afterwards tell them what they heard and learned. Finally, entertain questions and provide further demonstration or modeling. This exercise goes as follows:

"With your eyes closed, take some time to pay attention to your awareness and notice where it goes. Say to yourself "Now I am aware of..." and finish the sentence with what you are aware of at the moment... Notice whether this is something outside, something inside, or a fantasy... Where does your awareness go?... Are you mostly aware of things outside your body, or sensations inside your skin?... Now direct your attention to whichever you are least aware of, inside or outside, and become more aware of this... To the extent are you occupied with a thought or an image, your awareness of inside and outside reality disappears."

"Continue experimenting with your awareness and realize that your awareness is like a searchlight... Whatever you focus your attention on is pretty clear, but other things and events tend to fade out of awareness... If you direct your attention to what you hear, you can probably hear quite a few different sounds and noises... And while you are doing this, you are mostly unaware of the sensations in your hands... As I mention your hands, your attention probably moves there, and you become aware of the sensations in your hands... As your attention moves there, awareness of sounds fades away."

"Your awareness can shift from one thing to another quite rapidly, but you can only be fully aware of whatever is in the focus of your awareness at the moment... Now notice whatever thoughts or images come into your mind... Pay attention to these thoughts and be aware of what happens when you try to stop them... Now try something different. Instead of trying to stop your thoughts, just focus your attention on your breathing... Whenever you realize that your attention has wandered to thoughts or images, just refocus your attention on the physical sensations of your breathing... Do not struggle or battle... just notice when you become preoccupied with words and images, and then return your attention to your breathing."

"Experiment with your attention... Follow your awareness... Focus on only real events in internal or

external reality... Do not get caught up in thoughts, worries, plans, etc.... You can play with your awareness... You can choose at any moment in time to attend to anything you wish... By attending to one set of events, you automatically exclude other events. For example, by attending fully to what is being said in a discussion situation, you automatically exclude worry and irrelevant thoughts and images."

"Now let your attention return to the room and open your eyes."

Briefly process the exercise. What was it like for them? Were they able to see that their attention can only take in a limited amount at a time?

### **10. Homework** (2 minutes)

Ask the students to begin to become adept observers of their thoughts and physical sensations (which serve as cues to cope) during any kind of daily evaluation situation between now and the next session. The daily practice sheets (see Appendix C) should be used to make brief notes on situations. They can jot down the situation, their initial anxiety level (0-100), any negative self-talk that they are aware of, and any positive focus to which they are able to switch. This self-observation technique is an important skill and like any other, it may take the student a while to get use to. The Daily Practice forms are important because they not only bring things out in the open for the participant, but they also (with their permission) provide us with more examples of negative and positive thinking such as those found in the student manual.

Remind them to "Practice the deep breathing exercise; we'll work on it some more next time along with other methods."

## Workshop Session II

### **A. Objectives**

1. To reinforce any and all attempts to practice or apply techniques between sessions
2. To reiterate treatment rationale
3. To introduce the new self-talk technique and provide practice via a behavioral/rehearsal activity
4. To provide experience with the thought stopping technique
5. To collect the daily practice sheets

### **B. Materials**

1. Sign up sheets and name tags, if desired

2. Chalk, eraser and chalkboard, or newsprint and markers
3. Handouts: Daily practice sheets (see Appendix C)

### C. Procedures

#### 1. Record Keeping and Review (10 minutes)

Pass attendance sheets, if needed. Discuss homework, degrees of anxiety, test reactions during test past week, etc. Reinforce all attempts to practice or apply techniques.

#### 2. Discussion of self-observation assignment (25 minutes)

Put the chart from *Figure 2* on the board. Ask the students to share the kinds of negative self-talk and off-task attending behavior they noticed by referring to their daily practice sheets. Put on the board their exact words. Facilitators should actively label negative behavior according to the categories and should direct students to do likewise.

Help them to focus on specific negative self-sentences and tensions followed by specific positive alternatives. (Compare “before and after” stress levels.) Trouble shoot on particular techniques, such as breathing, by demonstration and practice. If anyone had difficulty, have all students practice breathing then and there by guiding through the # 8 Deep Breathing Technique from the previous session. Gauge individual reactions and present muscle tension/relaxing if an alternative exercise seems necessary.

Collect practice sheets. Students who do the work often want it acknowledged, and collecting it demonstrates your belief in its usefulness. Actively reinforce and support any and all reported efforts to use methods or to study one's own attention behavior. Remember that one of the primary goals of this workshop is to teach students to listen to themselves when stressed and thereby become more able to choose alternative coping responses.

#### 3. Breathing practice (10 minutes)

It is important to provide guided practice again in this session. If you have already done so as part of #2, above, it is not necessary to do it again. If not, talk the participants through the Deep Breathing Technique (#8 from the previous session).

#### 4. Briefly reiterate treatment rationale (5 minutes)

“Switching your attention to a Task-Oriented focus and away from Self-Oriented focus is a skill that can be learned gradually with practice, and by studying your self-talk and learning to relax so as to quiet down 'body noise.' Attention is focused and volitional and can be observed and redirected.”

#### 5. Self-Talk ("Positive and Negative Self-Talk")

Before reading the transcript, orient the students to the categories discussed in part 2 above. Encourage the students to jot down a note or two to themselves about the kinds of distinctions they hear between the two examples of self-talk, which will be demonstrated. Summarize the key following key distinctions to be listened for: off-task versus on-task, future or past-oriented versus present-oriented, catastrophic/even irrational concern versus appropriate/logical concern, anxiety causing versus calming, and disorganized versus systematic/organized. Have them notice if they hear themselves anywhere in the narrative. Let them know that they share their observations and use the chalkboard to help them summarize.

Orient the participants to the scene (the night before the exam). As you read it, try to act it out: You might sit at a desk, look down at this transcript as if it is your math test and sound like you are expressing your thoughts out loud.

### **SELF-TALK: The Night Before the Math Exam**

#### Negative Focus

"(Sigh) ... oh, am I so tired. (Sigh) ... betcha I've been studying for six hours... wonder what time it is? Eight o'clock. Ahhh, I've only been at it two hours. I can't believe it. Hey, I wonder if John will let me borrow his car Friday night? Bet if I offer to let him borrow my sweater ... Hmm ... have to talk to him about that. Well, got to get back, okay ... Given that one root of  $X^3+2X^2 - 23x - 16 = 0$  is 5, solve the equation. Wow...I don't even know where to start!...  $-23x - 16 = 0$  is 5. Oh, yuck, what am I going to do if I get one of these tomorrow on the mid-term? I'll blow that exam for sure. Geez ... I can't afford to miss any of those items....  $- 16 = 0$  is 5. That doesn't make sense. Why do I always have so much trouble with these? Ahhh ... this math is driving me bananas. Oh no... given that one root of  $x^3 + 2x^2 - 23x - 16 = 0$  is 5. Jeez, why do I have to do two of these? John never has any problems with this. Always whips right through them, barely even has to study. Boy, I must really be dumb."

#### Positive Focus

"Boy I'm tense. And my mind is really wandering. I'd better do a little deep breathing." (Breathe deeply 4 times.) "That does help. Now let's see; I guess I'm burning up a lot of my energy worrying about tomorrow. I've felt this way before, but I always survive. I have studied and I will get some right. I've studied enough to pass, and all I can do is my best for the time and the moment. All I can do now is try to concentrate and get a little more practice at this stuff.

"All right. Now what's the procedure for transforming this stuff? I can't believe how dull these are. Well, better stop giving up. Better get on with the task ... Given that one root of  $x^3 + 2x^2 - 23x - 16 = 0$  is 5. Oh, I know, if I divide  $x^3 - 2x^2 - 23x - 16$  by  $x - 5$ . Okay, what will I get? The first equation will be, let's see... $x^2 + 7x + 12$ . All right, now all I have to do is solve for the roots of that equation. Okay, I think I'm getting there."

### **6. Thought-Stopping: An Attention Control Exercise (20 minutes)**

#### Introduction

"As you know we are practicing a variety of attention control techniques for achieving a switch in the thinking that is under our own control. What we'd like to do now is teach you a thought-stopping

technique. We'd like you to settle back and get as relaxed as you can. Close your eyes or look at something like the floor or the ceiling so that you can allow us to take you through a guided fantasy. We want you to try to imagine as vividly as you can, the scenes as we describe them. Thought- stopping is a means of regaining control over your attention when you find yourself getting caught up in worries or off-task thinking. You can use this procedure in any situation in which you find yourself engaged in irrelevant, interfering thinking. So, let's practice it now."

[Remember to read in a calm voice, pausing between sentences to allow participants to visualize the scenes you are guiding them through].

"Imagine yourself on the day of the next difficult exam which you are going to take. Imagine yourself walking across campus towards the building in which you are to take the exam. Actively experience how you feel and what you see. You can feel the wind against your face. You walk into the building where you are to take the exam and approach the classroom. There is a group of students talking excitedly outside the door. You pause for a moment, and then decide to go in. You find a seat. The instructor begins handing out the exams. When you receive yours you read through it quickly.

[Now, increase the volume and tension in your voice.]

"Suddenly you're struck with panic. You just don't feel prepared at all for this exam. You find yourself getting caught up in worrying, in getting tense. Your head is filled with thoughts about having prepared badly and worries about how other students are doing. **STOP!!!** [The facilitators must shout this and even bang their hands on the table.]

[Return to a calm voice]

"Go to breathing deeply for a moment. Let yourself relax and become calm."

"Now imagine yourself again in the examination scene. [Raise your volume and pace]. Again allow yourself to get caught up in worry and panic. [Pause] As you do, mentally shout **STOP!!!** at yourself. While still imagining yourself in the exam situation, breathe slowly and deeply; notice the regular rise and fall of your lungs and stomach as you breathe. You find that you are becoming calmer and you begin to work on the exam in a more attentive manner... searching for an item you can answer.... and planning your time."

"Finish this picture and open your eyes." Have them discuss the experience of this exercise. Were they able to picture the scene? Did they feel tension or anxiety? What happened when "**STOP!!!**" was yelled? Did their focus move? Were they able to calm themselves down and return their focus to the exam? Were they able to experience a similar process by yelling, "STOP!!!" inside their minds? Restate that this technique is one way to regain control over attention and redirect it to the task at hand.

## 7. Homework (5 minutes)

Hand out daily practice sheets.

"Practice using the new 'thought-stopping' and 'moving from negative to positive self-talk' techniques in daily situations, taking brief notes. Also keep practicing the breathing technique."

### Workshop Session III

#### A. Objectives

1. To increase proportion of time spent in the action phase via behavioral rehearsal and imagery rehearsal of coping skills.
2. To practice applying principles and strategies associated with environmental and task structuring.
3. To provide individualized attention and support, especially through the facilitator's responses to daily practice sheets (old and new).

#### B. Materials

1. Sign up sheets, if desired
2. Chalk, eraser, chalkboard or newsprint and markers
3. Handouts
  - a. Environmental and Task Structuring (see Appendix E)
  - b. Midterm exam (see Appendix F)
  - c. Daily practice sheets (see Appendix C)

#### C. Procedures

##### 1. Record keeping (5 minutes)

Pass out attendance sheet, if desired.

##### 2. Reiteration of Treatment Rationale and review of outside practice (20 minutes)

Restate the treatment rationale. Give feedback to students to indicate that previously turned in sheets have been read. Discuss their practice in applying the techniques as reported on the daily situation sheets, which they recorded since the last session.

Discuss test reactions experienced over the past week. Reinforce attempts to practice or apply techniques.

Collect their daily practice sheets.

##### 3. "So what if ..." Technique (20 minutes)

Explain the "So what if..." technique by summarizing relevant points from the following paragraph. "Another method of reducing the disruptive impact of self-oriented, worrisome thinking is to pause for a moment to adopt a different perspective on your concerns. Almost all of the off-task, self-oriented self-talk given in the next section are examples of 'what if...' thinking, in other words, thinking that is futuristic and anticipating a possible negative judgment or outcome. For example: "What if I do poorly on this test?" "What if they are all doing better than I am?", "What if I get too tense to think straight?", and so forth.

"By adding the word 'So' to the front of 'what if...' you create an extremely different perspective and force yourself to look at alternative solutions or attitudes. 'So what if I do poorly on this test. I'll be disappointed, yes, but I it won't kill me.' So, what if I do poorly, it doesn't mean that I'll necessarily flunk the course. I can always ask to do extra credit work. So, what if I do poorly on this test, I know that my worth as a person isn't based on how well I take tests in this course. Even flunking a course doesn't mean flunking out of college; I may just need to change my major."

Make it clear that "this is not a method that denies the importance of doing well on tests, but, rather, a way of rationally shifting your perspective so that you can let go of excessive worry and concentrate fully on doing your best during the test".

#### 4. Self-Talk ("So What If...") (10 minutes)

Ask the students to jot down specific differences they hear between negative and positive focus segments in the transcript that is presented. Remind them that many, if not most, off-task worries are triggered by "What if..." types of self-talk. Role play as indicated in the self-talk exercise in the previous session.

### SELF-TALK: The Night Before the Math Exam

#### Negative Focus

"Sigh ... oh, I'm so bored. Sigh ... betcha I've been studying for six hours... wonder what time it is? Eight o'clock. Ahhh, I've only been at it two hours...I can't believe it. Hey, I wonder if John will let me borrow his car Friday night? Bet if I offer to let him borrow my sweater ... Hmm ... have to talk to him about that. Well, got to get back, okay ... Given that one root of  $x^3 + 2x^2 - 23x - 16 = 0$  is 5, solve the equation. Wow...I don't even know where to start...  $-23x - 16 = 0$  is 5. Oh, no, what do I do if I get one of these on tomorrow's mid-term? I'll blow that exam for sure. Geez ... I can't afford to miss any of those items....  $- 16 = 0$  is 5. That doesn't make sense. Why do I always have so much trouble with these?! Ahhh ...what if I never get through this junk.... Oh no... given that one root of  $x^3 + 2x^2 - 23x - 16 = 0$  is 5. Geez, why do I have to do two of these? John never has any problems with this. Always whips right through them, barely even has to study. Boy I must really be dumb."

#### Positive Focus

"Wow... Geez ... I'm getting really tense. I'm going to do some deep breathing." [Deep breathes 4 times.] Well that feels a little better. Oh, my mind's wandering. Wonder what's happening? Guess I'm, I'm still worrying about tomorrow. I'm probably blowing things way out of proportion. Okay, I'd better get a hold of this. I'll use the old 'so what if' strategy. What if I miss some problems, so what?

I've studied enough to still pass. I know I'll get some of the questions right. So, what if I flunk this test; it's only one exam. This one exam cannot keep me from graduating. What if I get an F or if I don't graduate? Well, so what if I get an F. It's only one course and, even if I don't graduate, I know I'm not all that stupid. No matter what I do on any exam, I'll still know that I'm me. I would be really disappointed, but it wouldn't be the end of the world. I'd find some way to do what I want. Okay, better get systematic now and stop this stuff ... I'll do my worrying later on."

Have the participants discuss what they heard in the two dialogues. Have them participate in a discussion about what they heard in the two dialogues. If they are willing, have them share examples; give some examples of the impact of the "so what if..?" thinking. Use their comments to emphasize important points.

### 5. Environmental and Task Structuring (10 minutes)

Reiterate the rationale given in the student handout for environmental and task structuring (see Appendix E). Essentially this includes:

(1) The advantages of eliminating the likelihood of attention robbing events occurring in the external and internal physical environments, and (2) the importance of having a pre-planned systematic approach to the test, especially with regard to what a student can do strategically, when things go wrong (such as blocking, missing some answers completely, or feeling very tense).

Ask the students to refer to their handouts while you review them. After the review, ask if there are questions.

### 6. The Mid-Term Exam (10 minutes)

Inform participants that they will now have a chance to apply some of these ideas in a "sort of exam." Instruct them to leave the room and to re-enter as if entering one of their mid-terms (or finals). As they enter, direct them to position a chair and take that seat in the worst possible position in terms of potential physical distractions. Discuss why the positions were chosen with specific reference to the manual suggestions.

Then have them imagine that they are in some classroom and shift physical positions again, so that they are now the most advantageous position in terms of distraction control. Have each person briefly explain why.

Hand out the mid-term exams face down and instruct the participants to take a few minutes to list strategic steps on the back of the exam (i.e., their strategy for handling any problems or off-task behavior that might occur.) They should be encouraged to make direct reference to their handouts for assistance, particularly the Structuring section.

Then say, "You will have 10 minutes to take this exam. The statements, which are in quotation marks, represent your thoughts and reactions to each item. Your task is to jot down your strategic response to each item. Go about the task according to your general strategy and we will discuss it when you have finished. Remember, you have 10 minutes."

**7. Discussion and answering of test questions.** (10 minutes)

Possible questions:

1. What were the general strategies?
2. What were specific responses to specific items? Have them share their answers item by item.
3. Did they ask for clarification when they were not sure about the “multiple prayer”?
4. What did they do when they got stuck?
5. What off-task and on-task self-talk did they hear themselves engaging in? Specific self-sentences?

**8. Homework** (5 minutes)

Design a 5 or 6-step strategy for structuring your environment for the testing task in an important upcoming exam. Continue to practice the breathing technique and fill out the daily practice sheets for any evaluative situations you encounter

Workshop Session IV

**A. Objectives**

1. To provide an integrated learning experience via the final exam.
2. To assess which objectives of the workshop have been reached via discussion of the final exam.
3. To practice applying all techniques via coping imagery.

**B. Materials**

1. Sign up sheets, if desired
2. Chalk, eraser, chalkboard or newsprint and markers
3. Handouts
  - a. Final exam (Appendix F)
  - b. Homework to be returned
  - c. Evaluation forms (Appendix G)

**C. Procedures**

**1. Discussion** (10 minutes)

Discuss the daily practice sheets and structuring assignment. Collect daily practice sheets.

**2. Reiteration of the rationale (5 minutes)**

"We have had three classes and tried a variety of techniques. You have tried the physiological technique that we described as deep breathing. You have tried several cognitive strategies: Self-Talk, Thought-Stopping, So What If..., Thought Shifting with respect to one's attention (internal vs. external; off-task vs. on-task), and last time, we tried Environmental and Test Structuring."

"All of these methods are designed to help you move your attention away from task-irrelevant thoughts and behaviors and into task-relevant thoughts and activities. They increase your ability to concentrate and manage anxiety so that you can be a more effective test-taker."

**3. Final Exam (20 minutes)**

Announce that the students will now have an opportunity to apply the techniques learned thus far on the Final Exam. Inform the participants that their performance on this test will be part of the evaluation of the workshop. "Please do your best."

Pass out the tests and have participants put their names on the back.

"Before you begin, is anyone aware of any negative self-talk or physical tension?"  
Discuss and plan how to deal with it.

"When you get your test, please jot down on the back of it your strategy for structuring your environment within this room and your game plan for the exam." (Let them do anything they want, within reason.)

Tell them that "not one hour, but thirty minutes will be the time available and we will discuss correct answers afterwards. "

Remind them, "While taking the exam, use self-talk, thought-stopping, so what if..., and the breathing techniques. Try to remember that negative-focused events should trigger or cue you to use of some coping technique."

After all students have taken their best physical position in the room, distribute the tests.

At the 10-minute point, announce that the time is half up. Walk around the room looking noticeably over each student's shoulder. Be sure to enter their perceptual field and remain for several seconds. Be dead serious! End the test at 20 minutes. Reveal that the time was shorter than announced.

**4. Discussion of the final exam (20 minutes)**

Using newsprint or the chalkboard and the standard five kinds of off-task thinking, help each participant to reveal specific negative and positive self-statements that they were aware before or during the exam. Focus on how they coped with negative-focused events or feelings.

Review each answer to each question.

**5. Coping Imagery Practice (20 minutes)**

Using the same imagery methods described in Workshop #2, have all participants achieve a detailed image of an upcoming testing situation or a studying scene that represents a high priority, coping challenge. Then direct them to see and feel themselves becoming anxious and engaged in panicky, negative off-task thinking (Ask them to raise an index finger signal when this scene is relatively clear for each of them.)

Then direct them to work on achieving a clear image of themselves (from the inside looking out) using one of the techniques from the workshop to relax and regain control of their concentration. Get a finger signal from each on this before closing the scene.

Have them repeat the scene again and ask them to cope in a different way. After getting another finger signal to indicate successful coping, ask them to bring their scene to a close and open their eyes.

Discuss and write out their self-talk on the newsprint or the blackboard.

**6. Summary and Workshop Evaluation. (15 minutes)**

Summarize, praise, compliment, etc. Discuss other types of assistance available on to them (e.g., test-taking skills workshops, personal counseling, various learning supports around campus or the city, etc.).

Have the students complete a Workshop Evaluation and once again thank them for their participation.

References

- Bishop, J. B., Bauer, K. W., & Becker, E. T. (1998). A survey of counseling needs of male and female college students. *Journal of College Student Development, 205-210.*
- Benjamin, M., McKeachie, W. J., Lin, Y. G. & Holinger, D. P. (1981). Test anxiety: Deficits in information processing. *Journal of Educational Psychology, 73, 816-824.*
- Bandura, A. (1997). *Self-efficacy: the exercise of control.* New York: W. H. Freeman.
- Cassady, J. C. & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary Educational Psychology, 27, 2, 270-295.*
- Covington, M. V. (1992). *Making the grade.* Cambridge: Cambridge University Press.
- Endler, N. S., Speer, R. L., Johnson, J. M., Flett, G. L. (2001). General self-efficacy and control in relation to anxiety and cognitive performance. *Current Psychology, of Educational Research, 58, 47-77.*
- Guady, E., Vagg, P. & Spielberger, C. D. (1975) Validation of the state-trait distinction in anxiety research. In Hembree, R. (1988). Correlates, causes, effects and treatment of test anxiety. *Review of Educational Research, 58, 331-341.*
- Hancock, D. (2001). Effects of test anxiety and evaluative threat on students' achievement and motivation. *Journal of Educational Research, 94, 5, 284-290.*
- Hembree, R. (1988). Correlates, causes, effects and treatment of test anxiety. *Review of Educational Research, 58, 47-77.*

- Hill, K. T., & Wigfield, A. (1984). Test anxiety: A major educational problem and what can be done about it. *Elementary School Journal*, 85, 105-126.
- Hodapp, V., & Henneberger, A. (1983). Test anxiety, study habits, and academic performance. In H. M. van der Ploeg, R. Schwarzer, & E. D. Spielberger (Eds.), *Advances in test anxiety research* (Vol. 2, pp. 119-127). Hillsdale, NJ: Erlbaum.
- Jones, L., & Petruzzi, D. C. (1995). *Journal of College Student Psychotherapy*, 10 (1), 3-15.
- Kalechstein, P. B., Hocesvar, D., & Kalechstein, M. (1988). Effects of test wiseness training on test anxiety, locus of control and reading achievement in elementary school children. *Anxiety Research*, 1, 247-261.
- Kirkland, K., & Hollandsworth, J. G. (1979). Test anxiety, study skills, and academic performances. *Journal of College Student Personnel*, 431-436.
- McDonald, A. S., (2001) The prevalence and effects of test anxiety in school children. *Educational Psychology*, 21, 1.
- Meichenbaum, D., & Butler, L. (1980). Toward a conceptual model for the treatment of test anxiety: Implications for research and treatment. In I. G. Sarason (Ed.), *Test anxiety: Theory, research, and applications* (pp. 187-208). Hillsdale, NJ: Erlbaum.
- Ooserhof, A. (1999). *Developing and using classroom assessments* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Paul, G. L. (1967). Outcome research in psychotherapy. *Journal of Consulting Psychotherapy*, 31, 109-188.
- Powers, D. E. (1986). Test anxiety and the GRE general test [Report No. 86-45]. *Educational Testing Service*.

- Sapp, M. (1999). *Test anxiety: Applied research and treatment interventions* (2<sup>nd</sup> ed.). New York: University Press of America.
- Sarason, I. G. (1978). The test anxiety scale: Concept and research. In I. G. Sarason & C. D. Spielberger (Eds.), *Stress and Anxiety* (Vol. 5, pp. 193-216). Washington, DC: Hemisphere.
- Sarason, I. G., & Sarason, B. R. (1990). Test anxiety. In H. Leitenberg (Ed.), *Handbook of social and evaluative anxiety* (pp. 475-496). New York: Plenum Press.
- Speilberger, C. D., & Vagg, P. R. (1995). Test anxiety: A transactional process. In C. D. Speilberger & Vagg, P. R. (Eds.), *Test anxiety: Theory, assessment and treatment* (pp. 3-14). Washington, DC: Taylor & Francis.
- Stanley, K. D. & Murphy, M. R. (1999). A comparison of general self-efficacy with self-esteem, *Genetic, Social & General Psychology Monographs*, 123, 1.
- Stiggins, R. (1997). *Student-centered classroom assessment* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Tobias, S. (1985) Test anxiety: Interference, deficit skills and cognitive capacity. *Educational Psychologist*, 20 (3), 135-142.
- Topp, R. (1989). Effect of relaxation or exercise on undergraduates' test anxiety. *Perceptual and Motor Skills*, 69, 35-41.
- Vagg, P. R. & Papsdorf, J. D. (1995). Cognitive therapy, study skills training , and biofeedback in the treatment of test anxiety. In C. D. Speilberger & P. R .Vagg, (Eds.), *Test anxiety: Theory, assessment and treatment* (pp. 183-194). Washington, DC: Taylor & Francis.

- Vagg, P. R. & Spielberger, C. D. (1995). Treatment of test anxiety: Application of the transactional process model. In C. D. Spielberger & P. R. Vagg, (Eds.), *Test anxiety: Theory, assessment and treatment* (pp. 195-215). Washington, DC: Taylor & Francis.
- Weiner, B. (1992). *Human motivation: Metaphors, theories and research*. Heverly Hills: Sage.
- Wine, J. D. (1971). Test anxiety and direction of attention. *Psychological Bulletin*, 76, 92-104.
- Wittmaier, B. (1972). Test anxiety and study habits. *The Journal of Educational Research*, 65, 852-854.
- Zeidner, M. (1990). Does test anxiety bias scholastic aptitude test performance by gender and sociocultural group? *Journal of Personality Assessment*, 55, 145-160.
- Zeidner, M. (1998). *Test anxiety: the state of the art*. New York: Plenum Press.

Appendixes

Appendix A

TEST REACTION INVENTORY

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Please place an X in the space beneath T or F to indicate whether a statement is true (T) or false (F).  
For example:

T F indicates that the statement is true.  
(X) ( )

T F

- ( ) ( ) 1. While taking an important exam I find myself thinking of how much brighter the other students are than I am.
- ( ) ( ) 2. If I were to take an intelligence test, I would worry a great deal before taking it.
- ( ) ( ) 3. If I knew I was going to take an intelligence test, I would feel confident and relaxed beforehand.
- ( ) ( ) 4. While taking an important examination I perspire a great deal.
- ( ) ( ) 5. During course examinations I find myself thinking of things unrelated to the actual course material.
- ( ) ( ) 6. I get to feel very panicky when I have to take a surprise exam.
- ( ) ( ) 7. During tests I find myself thinking of the consequences of failing.
- ( ) ( ) 8. After important tests I am frequently so tense that my stomach gets upset.
- ( ) ( ) 9. I freeze up on things like intelligence tests and final exams.
- ( ) ( ) 10. Getting a good grade on one test doesn't seem to increase my confidence on the second.
- ( ) ( ) 11. I sometimes feel my heart beating very fast during important tests.
- ( ) ( ) 12. After taking a test I always feel I could have done better than I actually did.
- ( ) ( ) 13. I usually get depressed after taking a test.
- ( ) ( ) 14. I have an uneasy, upset feeling before taking a final examination.

- ( ) ( ) 15. When taking a test my emotional feelings do not interfere with my performance.
- ( ) ( ) 16. During a course examination I frequently get so nervous that I forget facts I really know.
- ( ) ( ) 17. I seem to defeat myself while working on important tests.
- ( ) ( ) 18. The harder I work at taking a test or studying for one, the more confused I get.
- ( ) ( ) 19. As soon as an exam is over I try to stop worrying about it, but I just can't.
- ( ) ( ) 20. During exams I sometimes wonder if I'll ever get through college.
- ( ) ( ) 21. I would rather write a paper than take an examination for my grade in a course.
- ( ) ( ) 22. I wish examinations did not bother me so much.
- ( ) ( ) 23. I think I could do much better on tests if I could take them alone and not feel pressured by a time limit.
- ( ) ( ) 24. Thinking about the grade I may get in a course interferes with my studying and my performance on tests.
- ( ) ( ) 25. If examinations could be done away with I think I would actually learn more.
- ( ) ( ) 26. On exams I take the attitude, "If I don't know it - now there's no point worrying about it."
- ( ) ( ) 27. I really don't see why some people get so upset about tests.
- ( ) ( ) 28. Thoughts of doing poorly interfere with my performance on tests.
- ( ) ( ) 29. I don't study any harder for final exams than for the rest of my course work.
- ( ) ( ) 30. Even when I'm well prepared for a test, I feel very anxious about it.
- ( ) ( ) 31. I don't enjoy eating before an important test.
- ( ) ( ) 32. Before an important examination I find my hands or arms trembling.
- ( ) ( ) 33. I seldom feel the need for "cramming" before an exam.
- ( ) ( ) 34. The University ought to recognize that some students are more nervous than others about tests and that this affects their performance.
- ( ) ( ) 35. It seems to me that examination periods ought not to be made the tense situations,

which they are.

( ) ( ) 36. I start feeling very uneasy just before getting a test paper back.

( ) ( ) 37. I dread courses where the professor has the habit of giving "pop" quizzes.

---

Adapted from Sarason, I.G. (1980). *Test Anxiety: theory, research and application*. Permission granted by Lawrence Erlbaum Associates, Inc.

Appendix B

Anagrams Test

\_\_\_\_\_

Name

\_\_\_\_\_

Workshop

\_\_\_\_\_

Date

Directions: Each of the following letter groups is a word that has been scrambled. Your task is to unscramble each one in the time allotted. For example: ERTHAF = FATHER. You will be given 30 seconds for each word. DO NOT go back to any anagram after the 30-second allotment ends.

#1 THIC = \_\_\_\_\_

#2 STTIEENR = \_\_\_\_\_

#3 ANTGI = \_\_\_\_\_

#4 ICESTNAD = \_\_\_\_\_

#5 AFILYM = \_\_\_\_\_

#6 DEOYSRT = \_\_\_\_\_

#7 LIEB = \_\_\_\_\_

#8 TAIMONUN = \_\_\_\_\_

#9 TIOPA = \_\_\_\_\_

#10 IGHSTTRA = \_\_\_\_\_

#11 HROAC = \_\_\_\_\_

#12 OUBRETL = \_\_\_\_\_

#13 NRITA = \_\_\_\_\_

#14 ONEASS = \_\_\_\_\_

#15 ONERSP = \_\_\_\_\_

#16 TONBA = \_\_\_\_\_

#17 RBDU = \_\_\_\_\_

#18 QUIERER = \_\_\_\_\_

#19 WIUTTOH = \_\_\_\_\_

#20 URNOJLA = \_\_\_\_\_

Appendix C

Daily Practice Sheet

Name \_\_\_\_\_

Notes on Attempts to Concentrate and Overcome Tension in Daily Situations

Date	Description of Situation	Initial Anxiety Level (0 to 100)	Negative Focus of Attention	Switched to Positive Focus of Attention	Subsequent Anxiety Level (0 to 100)

Appendix D

Categories of Anxious Self-Talk

Category	Example
Worrying about your performance or comparing it to others	"Everyone is writing so much more than I am." "I sure hope I'm not the last one left in the room."
Ruminating too long over alternative answers	"It's not 'a' but is it 'b' or 'c'?" Read 'b' and 'c' again. "Geez! One more time." "I don't know; I just don't know, but I've got to pick one. But which one!"
Preoccupation with anxious bodily reactions	"Yuck! My hands are more and more sticky" "Oh brother! Here come the butterflies in the stomach. Oh, I feel sick."
Ruminating about possible consequences over	"My folks are going to be all over me if I don't do well on th well on this test!" "What if I don't pass this test?!"
Thinking about feelings of inadequacy	"I'm never going to get this stuff," "I am so dumb."

## Appendix E

### Structuring The Environment And The Testing

#### Task To Eliminate Unexpected Distractions

Learning to control inappropriate responses to task demands often requires learning to prevent distractions in a systematic fashion. The goal is to organize things so that irrelevant attending is kept to a minimum. Two areas to focus on are 1) visual, auditory and physical distractions and 2) the off-task thoughts and images described earlier in this program. These can be triggered by unexpected events of any sort (becoming aware of a time shortage, of not doing well on some items, blocking, etc., or certain environmental/physical events). Two strategic approaches to un-complicate matters during a test are presented below. Controlling Environmental Distractions: External and Internal.

The following suggestions will be useful in eliminating unexpected intrusions which command your attention and trigger the off-task, worrisome thinking that interferes with performance.

1. Bring extra pens and/or pencils in case they run out or break during the test.
2. Select a seat in which you are unlikely to be distracted by:
  - Noise in the outside hall or outside the building.
  - Movements by instructor or other students.
  - Smoking, gum chewing (smacking), writing, page flipping, mumbling noises.
3. Make certain that you have a watch or have a clear view of a clock so that there is no uncertainty about timing.
4. Dress in preparation for the anticipated room temperature, and layer clothing, if needed.
5. Anticipate the necessity of executing eliminative bodily functions (use the restroom before).
6. Eat (or don't eat) according to your knowledge of what will feel right for you.
7. Get enough sleep--your ability to concentrate is one of the first things to deteriorate when you have a sleep deficit.

#### Systematic Test-Structuring Strategies using Self-Talk Or On-Task Self-Instructions

In reading the following strategic actions, keep in mind that the overriding principle is: BE SYSTEMATIC. Develop a game plan for your tests using these guidelines.

MOST IMPORTANTLY: Have plans for what to do when things go wrong.

BEFORE the exam: RELAX, REHEARSE, AND REMEMBER

1. "I think I'll find a seat at which any distractions competing with my concentration will be minimized."
2. "I think I'll relax myself by deep breathing or muscle tensing since I'm becoming increasingly uptight."
3. "I think I'll rehearse writing down my memorized formulas, diagrams, acronyms, lists, or other mnemonics."

4. "To help calm myself down and focus my concentration a bit, I think I'll either,  
( a ) Arrive early, become desensitized to the situation, and go over my notes, mnemonics, etc.  
( b ) Delay my arrival until the last minute to avoid getting uptight.  
( c ) Arrive early and engage in easy chit chat (no test discussion) with So and So."
5. " I think I'll run through a sort of audio-visual version of my strategy for this test."

AT THE BEGINNING OF THE EXAM: UNLOAD, REVIEW, START EASY

1. "I think I'll jot down those diagrams, formulas, lists or acronyms I memorized so I won't have to remember them later."
2. "I think I'll read over all directions carefully."
3. "I think I'll briefly survey the entire test rapidly jotting down pertinent facts or ideas which occur to me. This way I'll avoid overlap and know where I want to begin."
4. "I think I'll make time allotments for each question in a rough manner so as not to run out."
5. "I think I'll answer the easiest question first and concentrate on answering one question at time. Getting successfully involved in the task is a good way to reduce my anxiety."

DURING THE EXAM:      BE ORGANIZED, BE FACTUAL  
                                 BE CALM, BE CLEAR, BE PATIENT, BE REALISTIC  
                                 BLOCKING IS NATURAL  
                                 IT'S NOTHING TO FEAR

1. "I think I'll read each question very carefully before I start to write."
2. "I think I'll go through the questions in order, answer every one and putting a check mark in the margin next to those I'm not sure of."
3. "Since there's no penalty for guessing, I'll guess on those I just don't know after going through a process of elimination."
4. "I think I'll treat this multiple choice question by looking at each answer as a true-false item."
5. "I won't spend too much time on any one item. "
6. "I'll check for grammatical inconsistencies between the stem and any of the multiple choices knowing that an inconsistency probably represents a wrong answer."
7. "I'll double check any questions with the word "no" or "not" in them because double negatives can be tricky to understand."
8. "I'll keep an eye out for tricky modifiers inserted just to make the statement false (like names or dates or adjectives)."
9. "I'll keep in mind that all parts of a sentence must be true for the statement to be true."
10. "I'll watch for qualifiers like all-most-some-none, always-usually-seldom-rarely, best-never, etc. and substitute other members of the series to see if it makes the statement a better one and the original, therefore, false."
11. "I think I'll take special notice of the kind of answer being asked for by looking for key words (e.g. explain, contrast, discuss)."
12. "I think I'll make a brief outline of key words or ideas to go into my answer before

I write. That way my answer will be organized; I will be less likely to forget something and writing of it will go faster and more smoothly."

13. "I think I'll leave space between answers (such as writing on one side of a page only) so that if I need room to add in ideas later on that will improve my answers, I'll have room to stick them in."
14. "I think I'll include examples or facts which I have memorized to give the impression that I really know this stuff."
15. "I think I'll indent paragraphs or number main points that I make so that it will be easier to read and will appear more organized."
16. "Since I'm blocking on this answer and wondering whether I can do much of anything with it, I'll go on to another. Blocking is perfectly natural. I may get some ideas from other questions simply through association. When blocked, I should rarely concentrate on the thing I can't remember but on related material. I'll just put down my best guess for now, (or an outline or the formulas.)"
17. "Since I can't get this problem completely, I'll just write out all the steps for partial credit."
18. "Since I'm not sure what is wanted in this question, I'll ask the instructor or make a note on the way I'm interpreting it."

AT THE END OF THE EXAM: SIT, DON'T SPLIT

1. "I think I'll use my remaining time to edit and proofread my answers to eliminate errors."
2. "I'll go back over the test relooking at doubtful items that I checked."
3. "I'll only change an answer if I have plenty of time and am fairly sure of a need to change it. Otherwise, I'll stick to my original response."

Appendix F

MIDTERM EXAMINATION  
(one hour)

---

Name

<u>Pts.</u>	<u>Strategy</u>
2	(1) <u>Multiple Choice</u> ("The answer is obvious here")
15	(2) <u>Problem</u> ("I can't remember a thing about this--no idea where to begin, feeling panic")
3	(3) <u>Multiple Choice</u> ("It's either a or c but I can't make up my mind, I've been on it for 3 minutes now.")
10	(4) <u>Essay</u> ("I'm fully prepared for this one, but my thoughts aren't well organized.")
2	(5) <u>T-F</u> ("This is easy I think, BUT the word 'always' in there worries me")

- 3 (6) Fill in the blank ("Easy")
- 3 (7) Fill in the blank ("I only have a vague idea about this material--can't remember the name they want")
- 2 (8) Multiple Prayer ("I hate these 'find the best answer' ones. They all look good to me")
- 6 (9) Multiple- multiple Prayer (" More than one right answer, this is tough")
- 10 (10) Essay ("I'm completely blocked on this whole question. I may have to B.S. so much that you'll need hip boots to read it.")

Pts.                      Strategy

- 15 (11) Problem ("I know the formulas and the right steps, but how do you apply them here?" )
- 10 (12) Essay ("I had this one all memorized, a piece of cake!")
- 3 (13) T-F ("Easy")
- 5 (14) Multiple Choice ("I'm pretty sure of this one")
- 3 (15) Fill in the blank ("No sweat")
- 3 (16) T-F ("This doesn't make grammatical sense")
- 5 (17) Fill in the blank ("Easy")

5 (18) Multiple choice ("Easy")

5 (19) Multiple choice ("Easy")

5 (20) Multiple choice ("Easy")

Appendix G

FINAL EXAMINATION  
(30 Minutes)

---

Date

---

Name

Pts.

- 2 1. ( T ) ( F ) Being anxious always interferes with one's ability to concentrate on exams.
- 2 2. ( T ) ( F ) A person can attend fully to only one thing at a time.
- 2 3. ( T ) ( F ) A person does not have much control over where his attention goes at a given moment.
- 2 4. ( T ) ( F ) Deep breathing makes a person tense and jittery.
- 2 5. In order to stop attending to irrelevant thoughts, a person should
  - ( a ) Try to "fight" them out of his mind.
  - ( b ) Shift to focusing on something entirely different.
  - ( c ) Dwell on the worries and panicky feelings.
  - ( d ) Use a thought stopping technique or something similar.
  - ( e ) b and d
- 3 6. List three important sources of distractions in the physical environment of the testing room.

- 1.
- 2.
- 3.

5 7. What is the overriding or most important idea behind the test-structuring strategies observe last week?

---

---

---

2 0 8. In the space provided explain your understanding of the general rationale for the techniques and procedures of this workshop. In other words, what is it about test anxiety that prompted the facilitator(s) to run the workshop the way they did? (with exercises, tapes, etc.).

## Appendix H

Test Anxiety Management Workshop  
Evaluation Summary  
(Put a check on the line to indicate your response)

### 1. TIMING

Workshop was:  
too long \_\_\_\_\_ too short

### 2. LOCATION

Room set-up was:  
detrimental \_\_\_\_\_ productive

### 3. PARTICIPANT FAMILIARIZATION

I had done  
most of this before \_\_\_\_\_ never done any of this before

### 4. PROCESSING

Key concepts and issues were:  
clarified \_\_\_\_\_ confused

Concepts were generalized to other settings and situations:  
strongly agree \_\_\_\_\_ strongly disagree

### 5. GOALS

Were clearly and precisely presented were  
unknown \_\_\_\_\_ Not at all accomplished \_\_\_\_\_ thoroughly accomplished

### 6. INTEGRATION

Various aspects of the presentation were:  
integrated well \_\_\_\_\_ integrated poorly

### 7. SEQUENCING

Everything seemed to flow:  
smoothly \_\_\_\_\_ fragmented/choppy

### 8. PACING

I felt it:  
was rushed \_\_\_\_\_ went too slowly

### 9. I LEARNED

a lot \_\_\_\_\_ nothing

### ADDITIONAL COMMENTS:

### PRESENTER CHARACTERISTICS:

1. Clear concise speech \_\_\_\_\_ confused vague speech
2. Overconfident \_\_\_\_\_ lacking confidence
3. Appeared nervous \_\_\_\_\_ relaxed and at ease
4. Flexible \_\_\_\_\_ rigid
5. Spoke too slowly \_\_\_\_\_ spoke too fast
6. Condescending \_\_\_\_\_ supportive, affirming,

