

## ASSISTING THE TEST ANXIOUS STUDENT

Lesley Jones  
*Southwest Texas State University*  
*San Marcos, Texas*

The anxiety that is aroused by evaluative situations appears to cause 15 to 25 percent of college students to do more poorly on tests than they are actually capable of doing. Test anxiety has been the subject of much research for more than 50 years. It has been a pervasive problem on college campuses (Sarason & Sarason, 1990) and continues to be reported by students on counseling needs surveys (Bishop, Bauer, & Becker, 1998). Test anxiety not only results in lowered performance (Topp, 1989) and underachievement in academic endeavors (Hembree, 1988), but leads some students to drop out of classes, withdraw from school (Topp, 1989), seek professional assistance for psychological distress (Powers, 1989), or develop health problems (Zeidner, 1990). It is likely that college tutors will find a significant portion of the students they serve to be hampered by test anxiety. Hence, providing tutors with information about test anxiety and ways they might assist their students in managing this anxiety should be beneficial and could have far-reaching effects.

### WHAT CAUSES TEST ANXIETY?

Test anxiety was initially thought to be associated with a single trait, i.e., an innate, personal characteristic (Mandler & Sarason, 1952). However, as more and more people began to develop and examine models of test anxiety, a variety of factors were proposed and then supported by research findings. These factors may be organized into three broad categories: academic skill deficits, cognitive-attentional factors, and social learning factors.

### Academic Skill Deficits

Deficits in academic skills, specifically poor test-taking skills and inadequate study habits, have been viewed as causing lowered performance and increased anxiety (Hodapp, Giessen, Henneberger, & Mainz, 1983). Several research studies support this model by finding high test anxiety to be associated with a lack of effective study skills (Wittmaier, 1972) or with deficient test taking skills (Kirkland & Hollandsworth, 1978). The initial assumption was that anxiety increases due to one's awareness of a lack of mastery over the material. While it was later shown that there were also students with good study skills who suffered from test anxiety (Culler & Holahan, 1980, and Benjamin, McKeachie, Lin, & Holinger, 1981), the learning deficit model does logically explain one set of causal variables. It is this model on which tutors have primarily designed interventions to increase the performance of tutees.

### Social Learning Factors

Tutors will also recognize that while tutoring may not directly address a person's self-concept or sense of self in relation to others, these factors do play a role in the tutees' performance. When tutoring leads to an improved performance, tutees will likely feel better about themselves and their ability to have an impact in the world. They will also feel less anxious. When tutors provide encouragement, praise, and other forms of interpersonal support, tutees view themselves more positively which in turn affects the tutee's level of anxiety. These personal variables are referred to as social learning factors because they are thought to arise from modeling and observational learning experienced in one's social context (Bandura, 1982).

Locus of control is a social learning factor that refers to whether individuals believe that reinforcements are contingent on their own behavior. Individuals with an internal locus of control perceive consequences as occurring in response to their own behavior. Individuals who have an external locus of control believe that consequences are primarily controlled by forces outside themselves — forces such as fate, luck, or other people. Many studies have supported this perspective by finding that successful students have an internal locus of control regarding their success, while unsuccessful students have a more external locus of control. (Kalechstein et al., 1988)

Another social learning factor is self-efficacy. It refers to the level of one's belief in the ability to handle a certain situation or engage in certain behaviors — in this case, test-taking situations. Self-efficacy has been found to be positively correlated with both achievement and self-esteem. Furthermore, it has been found to be a determining factor in a person's selection of actions, the amount of effort exerted, and the amount of persistence maintained on a task (Schwarzer and Jerusalem (1989). Research has found that anxiety and performance are related to a student's self-efficacy. Rather than looking at testing self-efficacy, Smith, Sapp, Farrell and Johnson (1998) explored academic self-concept (i.e., one's cognitive view of one's self in academic situations) and found it to be consistently related to achievement.

### Cognitive-Attentional Factors

Tutors observe, or even personally experience, the testing situation as prompting worry thoughts and anxious states. Wine (1971) and Sarason (1978) suggest that worry thoughts and emotional arousal interfere with performance by drawing attention away from the test-taking task. Tutors have undoubtedly heard students make statements about



“blanking out on tests” or worrying what will happen if “I don’t do well on this test.”

Research evidence has long supported the finding that test-anxious students, in anticipation of and during evaluative situations, worry more and experience more distracting cognitions than do their non-test-anxious counterparts (Kurosawa & Harackiewicz, 1995).

Worry thoughts can be categorized into four groups: self-critical thoughts, thoughts about potential negative consequences, excessive thinking about alternative answers, and thoughts about performance. Self-critical thoughts are those cognitions that are self-deprecating, such as “I’ll never understand this stuff,” “I never study hard enough,” or “I’m so stupid.” Thoughts about potential negative consequences (Sarason & Sarason, 1990) form a second category and are exemplified by such internal statements as “This is going to be the end of my college career,” “My folks are going to be so mad if I don’t do well,” “If I don’t do well, nobody is going to want to study with me,” or “This exam could put me on probation.” Excessive focus on alternative answers represents a third group and occurs when an individual ponders alternatives repeatedly. A student might think, “I know that the answer is ‘A’ or ‘C’ but I’m not sure which. Maybe if I read them a couple more times, I’ll be able to remember.” The final category of worry cognitions involves thinking about one’s performance. These thoughts might focus solely on one’s own performance or involve comparisons with others (Sarason & Sarason, 1980). Examples might include “I’ve got to get this one,” “Everyone is finishing ahead of me,” and “There is almost no time left and there are so many questions left.” Tutors have probably heard comments from each of these categories or can think of examples from their own lives.

Anxious states refer to physical and emotional arousal. They include such physical symptoms as increased heart rate, dry mouth, sweating, tense muscles, stomachaches, and

rapid or shallow breathing. Emotional arousal was initially thought to be associated with one's predisposition to higher levels of excitability and is now known to also be heightened by worry cognitions (Zeidner, 1998). Whether prompted by one's thinking or one's natural predisposition, emotional and physiological responses occur more often or with more intensity as anxiety increases.

Irrelevant thoughts form another category of disruptive thoughts and refer to thoughts that do not involve worry but that are irrelevant to the task at hand — preparing for or taking an exam (Sarason, 1986). They do not appear to prompt anxious states, but they do interfere with the student's ability to maintain an appropriate focus on the test-related tasks. Such thoughts include "I hope Sue will call tonight," and "That's the teacher's fourth cigarette."

<b><u>Types of Task-Irrelevant Activities</u></b>	
<u>Type</u>	<u>Example</u>
<b>Worry Thoughts</b>	
Self-critical thoughts	"I'm never going to get this stuff."
Worrying about consequences	"My folks are going to be so mad if I don't do well."
Excessive focus on alternative answers	"I know that the answer is 'A' or 'C' but, I'm not sure which".
Worrying about performance	"Everyone is finishing ahead of me!"
<b>Anxious States</b>	
Physical or emotional arousal	"My heart is pounding so hard." "I've got butterflies in my stomach." "I feel so tense, I can hardly breathe."
<b>Irrelevant Thoughts</b>	
Thoughts not related to task at hand	"I hope Sue will call tonight." "I wonder what's for dinner."

Worry thoughts, anxious states, and irrelevant cognitions do not directly impair one's intellectual capability, but they may consume a significant portion of one's cognitive focus

and concentration (Jones & Petruzzi, 1995). They interfere with performance by moving a student's attention from task-relevant behaviors (e.g., reading test items, accessing relevant memories) to task-irrelevant behaviors (e.g., worry thoughts, anxious feelings, physiological discomfort). An important difference between anxious and non-anxious students causes the latter group to perform better on tests because they are able to separate these two types of behaviors and engage primarily in test-relevant behaviors. Students who are highly test-anxious have difficulty separating these two types of behaviors and hence a large portion of their attention is consumed by task-irrelevant activity. Low test-anxious students, on the other hand, are able to focus most, if not all, of their attention on the task before them, and hence engage primarily in task-relevant behaviors.

The cognitive-attentional variables that are associated with test anxiety can be addressed by tutors if the symptoms are not too extreme. Tutors are in a unique position to observe and inquire about a student's test anxiety. If one or more cognitive attentional factors is impacting a specific student, some initial information and interventions may be provided by the tutor as well as referral to additional resources. Trainers can use training exercises to increase tutors' awareness and understanding of test anxiety and provide skill training that is within their level of expertise. Tutors can be trained to refer tutees for more advanced intervention.

### TRAINING TUTORS

Tutor training sessions are most effective if done in a classroom so that the skills are learned in the setting in which they will be applied. If the topic of test anxiety is part of a larger all day workshop, it is not critical that a classroom be used; it may also be inefficient to move the tutors-in-training from one location to another. Whatever room is used, it is

preferable to have moveable chairs, the ability to close doors for sound control and privacy, and either a flipchart or chalkboard. In the exercises that follow, references are specifically made when the use of these resources is recommended.

### Exercise 1: Providing Information

#### Rationale:

Initially the tutors will need to understand the factors and consequences associated with test anxiety so that they can determine if one of the students they are working with may have this difficulty. This requires that the trainer share information about the concept of test anxiety, its prevalence, its components, and methods designed to enhance its management. A summary of the findings described above, presented with some of the interactive ideas described below, can provide both information and a model for how an overview of test anxiety can be shared with tutors.

#### Procedure:

- a) Introduce the tutors to the three constructs of test anxiety: worry thoughts, physical/emotional arousal and task-irrelevant thinking.
- b) Ask the tutors to list the physical symptoms that they have experienced. (List their responses on a flip chart or chalkboard.)
- c) Show the tutors Figure 1, and ask them to share some of the worry thoughts that they have experienced. Trainers may want to give one or two of their own examples and reinforce the tutor's awareness and ability to identify examples.
- d) By a show of hands, have the tutors indicate (1) that they believe that they can have an impact on their circumstances or (2) that they feel that fate, luck, or other people have the greatest effect.



- e) Ask the tutors whether they believe that they are capable of (or have invented ways of handling) difficult testing situations. Again, reinforce their inventiveness.
- f) Have the tutors discuss the relationship between their self-esteem and their ability to handle testing situations. Discuss the two-way interaction between self-esteem and test-anxiety management (i.e., increased self-esteem decreases anxiety and increases persistence and performance, while increased ability to handle tests raises one's self-esteem.)

### Exercise 2: Deep Breathing

#### Rationale:

Physical tension and emotional arousal form one component of anxiety that is fairly easily addressed through deep breathing or other relaxation techniques. Breathing deeply and slowly has a quieting effect on the body, can be learned quickly, and is easily transferred to other situations. It is associated with a sense of calm and has been shown to significantly lower blood pressure. (Stuart, et al., 1987). This method of relaxation training involves breathing slowly and deeply for five seconds, holding one's filled lungs for three seconds and then exhaling to a five-second count.

Tutors will find it easiest to assist tutees in learning to relax if they first experience and practice the following procedure.

#### Procedure:

- a) Have the tutors sit in a manner in which they can relax (preferably in a position in which their head, arms, and legs are supported) and try this exercise.
- b) Read or paraphrase the following:



“Settle back comfortably, rearranging your arms, legs and head so that they are supported or can hang or rest comfortably. Let go of any tension that you feel and relax to the best of your ability. Close your eyes or look at the floor or some other non-distracting view.”

“Now as you relax that way, I am going to count from one to five and as I do this, I would like you to gradually fill your lungs so that they are very full when we reach five. I will then ask you to hold your breath to the count of three and then release the air from your lungs to a final count of five so that at five your lungs are empty. I will ask you to breathe normally for a minute and then I will repeat the deep breathing pattern three times in a row.” (Note to trainers: The count should occur at one second intervals and all statements should be made in a clear, calm and relaxing voice and at a slow pace.)

“Here we go. Breathe in, two, three, four, five. Hold, two, three. And breathe out two, three, four, five. Breathe normally . . . and experience the slow fall of your abdomen. Just relax and breathe normally. (Note to trainer: pause for 50-60 seconds.) Now inhale slowly and deeply, filling your lungs as full as possible, two, three, four, five. Hold, two, three. And out, two, three, four, five. Each time you exhale, notice yourself becoming more and more relaxed. Now breathe in, two, three, four, five. Hold, two, three. And out, two, three, four, five. And in two, three, four, five, and hold, two, three, and out, two, three, four, five. Observe the feeling of comfort and calmness that you are experiencing. Continue breathing slowly and deeply in your own way for a few minutes, and when you are ready, open your eyes.”

- c) Have the tutors share what the experience was like for them. Help them to recognize that deep breathing is easy to learn, decreases anxiety rather quickly, and can be done almost anywhere without other people noticing. Let them know that while most students experience relief and a decrease in anxiety, some may feel more anxious. Those students should be reassured that this is common especially when this is a new experience, and familiarity and practice will lead to relaxation. Stress that it is extremely important to practice several times before they offer to do this exercise with a tutee.
- d) Encourage the tutors to practice daily because relaxation improves with practice.
- e) Provide copies of the explanation and procedures so that they can be used with students for whom it seems appropriate.

Many other approaches to relaxation training have been shown to be effective with test-anxious students and are available from the counseling professionals on a college campus. Tutees who are not able to use deep breathing to relax can be referred for more advanced training. These techniques include: progressive muscle relaxation, systematic desensitization, cue controlled relaxation, and hypnosis. While these methods are beyond the skills of a tutor, knowing that these techniques exist and have been shown to be truly effective can be very useful information to share with tutees.

### Exercise 3: Guided Imagery

#### Rationale:

The exercises learned above not only facilitate relaxation, but may be used to increase cognitive control. Holding one's breath requires more and more of a person's attention. As the mind invests more of its conscious focus on holding one's breath,

less and less attention is available for worry thoughts or an awareness of bodily reactions or emotional discomfort. As a result, deep breathing can be used to regain one's attentional processes when task-irrelevant thinking or physical symptoms of anxiety are distracting the student from focusing fully on study materials or an examination. The procedure teaches students to first shift their attention from task-irrelevant behaviors to their breathing and then from their breathing to task-relevant thoughts and behaviors. The following guided imagery exercise can be used to teach tutors this method for regaining cognitive control, but it requires that the tutors have already become successful in using deep breathing to decrease anxiety.

**Procedure:**

- a) In a calm voice and relaxing tone, pausing between sentences, read or paraphrase the following:

“Let yourself become as relaxed as you can. Close your eyes or look at something that has very few distractions like the floor.”

“Now, imagine yourself on the day of your next exam. See yourself in the room taking the test. Imagine that your mind is filling with worry thoughts or concerns about your physical tension. You see yourself getting caught up with worrying and feeling more and more tense.” [Note to trainers: Pause long enough to allow for the students to mentally image this process.]

“Now say to yourself, ‘It’s time to do some deep breathing.’ Breathe in, two, three, four, five, and hold, two, three and breathe out, two, three, four, five.

Repeat this a few times and then move your focus back to the next item on the test. See yourself as succeeding in feeling more calm and in returning you focus

to the test. [Note to trainers: Again pause long enough for students to create a mental image.]

“Complete this image and then open your eyes or look up.”

- b) Ask the tutors if they were able to visualize the scene. Not everyone is able to do guided imagery, especially on a first try. Reassure those who had difficulty.
- c) Have the tutors who did engage the exercise describe what it was like for them. Assist them in seeing that worry thoughts do increase physical tension and that deep breathing can be used to move one’s mind away from such thoughts and back to more task-relevant thinking.

#### Exercise 4: The So-What-If-Technique

##### Rationale:

Another way to reduce the impact of disruptive, worrisome thinking is to pause for a moment and construct a different, and hopefully more rational, perspective on one’s concerns. Worry thoughts that focus on the future are usually associated with possible negative judgments or consequences that might arise if one is not able to succeed. They are often prefaced by or can be paraphrased so that they begin with, “What if . . .” For example, “What if I do poorly on this test?!” The exercise that follows can be used to help tutors learn how to turn this negative and anxiety inducing thoughts into a more rational and realistic thought.

##### Procedure:

- a) Write “What if I do poorly on this test?!” on a flip chart or chalk board. Briefly summarize the anxiety-inducing effects of “what if” thinking as described above.



- b) Now write “So” in front of the question and explain that this addition shifts one’s perspective. It requires the student to explore an alternative view.
- c) Offer an example of this more realistic and facilitative perspective, and ask the tutors to think of other appropriate statements. Responses might include “So what if I do poorly on this test? I’ll be disappointed, sure, but I won’t die. It doesn’t mean that I will flunk the course. I can always do extra credit or ask if it is possible to retake the test. Even if I do poorly in this course, I know that my worth as a person isn’t based on how well I take tests in this course. Even flunking this course doesn’t mean flunking out of college. I might just need to change my major.”
- d) Explain that this is not a method that denies the importance of doing well on tests, but rather is a way of using rational thinking to shift perspectives. Students can creatively handle excessive worry and return their focus to the task at hand, in this case, doing the best they can on the test that is in front of them.

#### Exercise 5: Self-Affirmation

##### **Rationale:**

Another method for shifting a person’s focus from negative to positive thinking is to encourage the student to engage in positive self-talk. Many authors have described the benefits of positive thinking and positive self-statements including its applicability in reducing anxiety. This method is deceptively simple, but can be useful in helping the test anxious student. It requires that tutors first recognize that people talk to themselves inside their minds and that changing that self-talk can have a beneficial effect.

Procedure:

- a) Give each tutor several 3x5 cards.
- b) Explain the logic underlying this exercise as described above.
- c) On a flip chart write the following examples of self-affirming statements:  
“I believe in myself, my dreams, and my future.”  
“I am truly worthwhile, just as I am.”
- d) Ask them to share self-affirming statements that they know or create. Add these to the flipchart.
- e) Have the tutors write a statement on one of the 3x5 cards. If they can think of additional statements, they may write these on additional cards.
- f) Instruct the tutors to tape one of their cards to their mirror when they get home.
- g) Explain that they are to say this statement to themselves twice daily (e.g., first thing in the morning or on the way to bed) while looking in the mirror.
- h) Remind them that while making such statements may feel strange, it really works when done regularly.

There are a variety of other ways to improve students' control of their attentional focus or increase their ability to manage anxiety. In addition to the range of relaxation techniques previously described, thought stopping, coping self-imagery, self-talk exercises, attention control exercises, and most recently Eye Movement Desensitization Reprocessing (commonly referred to as EMDR) have been shown to be effective techniques for treating test anxiety. These approaches require more advanced training but are interventions to which tutors can refer students who they feel would benefit from further assistance. The primary objectives in training tutors about test anxiety are to increase their awareness of the high

frequency of this phenomenon and its complexity, to increase their ability to discuss it with the students they serve, and to give them techniques that they might try with tutees before referring them to other sources of assistance.

## 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, 39*, 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. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122-147.
- Culler, R. E., & Holahan, C. J. (1980). Test anxiety and academic performance: The effects of study-related behaviors. *Journal of Educational Psychology, 72*, 16-20.
- Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research, 58*, 47-77.
- Hodapp, V., & Henneberger, A. (1983). Test anxiety, study habits, and academic performance. In R. Schwarzer, H. M. Van der Ploeg, & C. D. Spielberger (Eds.), *Advances in test anxiety research* (Vol. 2, pp. 119-127). Lisse, The Netherlands: Swets & Zeitlinger.
- Jones, L., & Petruzzi, D. C. (1995). Test anxiety: A review of theory and current treatment. *Journal of College Student Psychotherapy, 10* (1), 3-15.
- Kalechstein, P. B., Hocevar, 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, 20*, 431-436.



- Kurosawa, K., & Harackiewicz, J. M. (1995). Test anxiety, self-awareness, and cognitive interference: A process analysis. *Journal of Personality, 63*, 931-951.
- Mandler, G., & Sarason, S. B. (1952). A study of anxiety and learning. *Journal of Abnormal and Social Psychology, 47*, 166-173.
- Powers, D. E. (1986). Test anxiety and the GRE general test [Report No. 86-45]. *Educational Testing Service*.
- 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. (1980). Introduction to the study of test anxiety. In I. G. Sarason (Ed.), *Test anxiety: Theory, research and application* (pp. 3-14). Hillsdale, NJ: Erlbaum.
- Sarason, I. G. (1986). Test anxiety, worry, and cognitive interference. In R. Schwarzer (Ed.), *Self-related cognitions in anxiety and motivation* (pp. 19-33). Hillsdale, NJ: Erlbaum.
- 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.
- Schwarzer, R., & Jerusalem, M. (1989). Development of test anxiety in high school students. In C. D. Spielberger, I. G. Sarason, & J. Strelau (Eds.), *Stress and Anxiety* (Vol. 12, pp. 65-79). New York: Hemisphere.
- Smith, C. L., Sapp, M., Farrell, W., & Johnson, J. H. (1998). Psychoeducational correlates of achievement for high school seniors at a private school: The relationship among locus of control, self-esteem, academic achievement, and self-esteem. *The High School Journal, 81*(3), 161-167.

Stuart, E., Caudill, M., Leserman, J. Dorrington, C., Friedman, R. & Benson, H. (1987).

Nonpharmacologic treatment of hypertension: A multiple-risk-factor approach.

*Journal of Cardiovascular Nursing, 1*, 1-14.

Topp, R. (1989). Effect of relaxation or exercise on undergraduates' test anxiety. *Perceptual*

*and Motor Skills, 69*, 35-41.

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.