

1 test gains.

Test-Anxiety Reduction Improves Test Scores

by

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American Test Anxiety Association

Course Manual



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June 2010

Our Most Prevalent Academic Handicap

IMPAIRMENT

Test anxiety reduces working memory and impairs reasoning. Anxious students may "freeze" or "blank" and be unable to provide information on tests that they know before the tests.

12 PERCENTILE POINTS. Highly test-anxious students are found to perform about 12 percentile points below their low-anxiety peers (half a letter grade below), much of which can be attributed to the anxiety impairment.¹

"Kristin would tutor her friends in algebra at lunch time, and then fail the test the next hour while her friends went on to pass it."

Test anxiety is also associated with poorer study patterns and poorer test-taking skills, which follow from reduced confidence and low morale.

PREVALENCE

About 20% of students have high test anxiety, and another 16% have "moderately high" anxiety. And test anxieties appear to be increasing in step with the increased national emphasis on standardized testing.² The majority of students rate "schoolwork" and "exams" as the major sources of worry and stress in their lives.³ Test anxieties rise dramatically in grades 2–4, remain high during middle school and high school, and are slightly lower in college. Left untreated, performance anxieties continue into adulthood where they restrict career choices and quality of life.



So about a fifth of our students are more afraid of school tests than they ever were of spooks or ghosts or goblins or anything else that creeps or leaps or flaps around in the dark of the night.

So test anxiety is a serious academic impairment and is arguably the most prevalent handicap in our schools today.

WHY SO LITTLE INTERVENTION?

No more than a few percent of highly anxious students ever receive adequate test anxiety reduction training. Why is so little being done?

➤ **PROFESSIONAL RESOURCES.** The better test anxiety reduction protocols require special training and take from 3.5–8 hours per student, placing a considerable burden on professional and financial resources. The protocols themselves are repetitious and so become tedious for the professionals conducting them.

➤ **STUDENTS SELDOM VOLUNTEER.** Oddly, students seldom seek treatment and are often reluctant to participate when services are offered. Most students do not recognize test anxiety can be treated, and many feel inadequate and ashamed of it.

About 10 students a year seek help on their own for test anxieties at the University of Illinois and another 20 are referred by instructors, out of approximately 40,000 students. That is less than half of a percent of an estimated 8,000 highly test-anxious students.

➤ **QUESTIONABLE TEST BENEFITS.** Schools want to know exactly how much test benefit to expect.

Stronger, Faster, Cheaper

A stronger, speedier and more easily administered protocol can increase our confidence in anxiety-reduction programs. An "active control" protocol appears to meet each of these requirements.

"ACTIVE CONTROL" ANXIETY-REDUCTION COMPONENTS

The method uses active physical participation to control anxiety, and uses adaptive images to improve attitudes. It works by dropping anxiety and at the same time increasing interest in each of eight imagined learning, review, and testing scenes.

"STARS" anxiety controller

The training begins with an anxiety-reduction sequence, which reduces existing stress in a matter of minutes. Most students find the stress reducer quite pleasant.

Stretching and muscle tension consume the physiological components of arousal, and deep breaths counter the shallow breathing often associated with high anxiety. Tensed muscles fatigue quickly, and relaxation follows naturally as students release their breaths and release their muscles and experience their muscles relaxing. The sequence uses active physical involvement to control anxiety, and is markedly stronger than the relaxation suggestions that anchor systematic desensitization.

[**Experience the stretch–tense–air–release~relax–suggestions (STARS) sequence.]

The sequence also introduces positive expectations, improves concentration, and intensifies the experience.

Interest & challenge

Students are asked to imagine an activity which they find particularly interesting or challenging, such as playing soccer, hiking a new trail, watching a mystery show, listening to music. Students focus on the feeling of interest and intensify it, and are asked to store it. The sense of interest and challenge is used to counter the anxiety and hopelessness. The sense of mastery provides a much more adaptive outlook than does simple relaxation.

[** Experience the adaptive interest feature.]

Conditioning

Students next review eight learning and testing scenes, with instructions to experience interest in the activities. So you might imagine that you are in class listening to the teacher, but the instructions are to experience the same sense of interest in what the teacher is saying, and in how things fit together, that you experience while involved in your favorite activity. You imagine reviewing the material before a major test, with instructions that you realize just how much of it you already know, and that the material is yours to organize in your mind as you wish, so that it makes sense to you. And you see yourself taking a test, with instructions to imagine that you find satisfaction in unloading your material on the appropriate questions. So it is an identify and paste method, with feelings harvested from an interesting activity and then pasted onto the learning and testing situations.

[**Experience pairing positives to a stressful situation in your own life, and rate the outcome.]

Additional stress-buster sequences follow the exposure scenes, to curb any anxiety, reinstate the training state, and prepare students for the next scene.

Ordinarily, it would be far-fetched to propose that highly test anxious students could take pleasure in anything remotely connected to a test. And yet, in the special sequencing here, students can and do imagine enjoying learning, organizing, and then showing their mastery on a test. And after students imagine being interested in the scenes, it is a short step to feeling that interest in the actual situations.

The intervention is thus a combination of active physical participation to control anxiety and adaptive attitudes to counter maladaptive outlooks.

Recorded administration

A recorded treatment protocol can vastly reduce the professional resources required. Yet anxiety tolerances vary, and the pacing is critical. Exposure scenes which are appropriately challenging for one student may be overwhelming for another, resulting in more modest outcomes. Recorded systematic desensitization has been found to produce only half of the benefits produced by instructor-administered versions.⁴

Anxiety tolerances are not so critical here, as the stretch–tense segments counter even strong surges of anxiety and cannot be overwhelmed or inhibited by anxiety. Recorded versions of the protocol have been found to produce strong anxiety-reduction benefits across multiple samples that compare favorably to instructor-administered protocols.⁵

Benefits

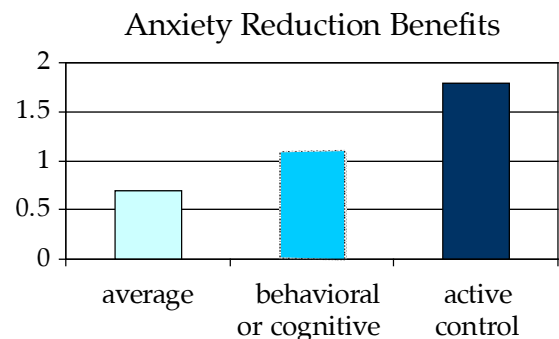
ANXIETY REDUCTION

Active control was found to produce substantial anxiety-reduction benefits in 6 consecutive studies.

The average psychotherapy program produces a .7 SD benefit, while the best cognitive and desensitization protocols yield a 1.0–1.2 SD benefit.

Active control training produced an average 1.8 SD benefit in our first 5 studies, suggesting significantly stronger anxiety reduction than cognitive or systematic desensitization methods.

see: <http://www.amtaa.org/res/ac.html>



TEST GAINS

18 PERCENTILE GAIN. In our Spring 2004 College study, the active control CD produced an 18 percentile gain on test scores, or about seven tenths of a letter grade, for 12 freshmen students. The protocol produced stronger gains for students on academic probation and more modest gains for regular standing students.

11 PERCENTILE GAIN. In our 2010 nursing program study, the protocol produced a 60 point gain on the HESI standardized test for 21 highly-anxious first-year students (compared to controls)

7 PERCENTILE GAIN. Our 2005 5th grade research had 22 treated students and 14 controls. Active control produced a significant 7 percentile gain ($p < .05$) on the Tennessee high-stakes, high-stress TCAP tests.

4 PERCENTILE GAIN on TCAPs for 6th graders on 2004 TCAPS.

See links: www.amtaa.org/res

Your School Program

SIZE

You might intervene initially with a few students, to gain experience and assess the results. Begin with whatever size program you find comfortable, and expand as you become familiar with the method. Inform your principal and administrators, and ask them to support your project. Jump in and do something, see what happens, learn from your experience, and go from there.



SCREEN STUDENTS

WHO VOLUNTEERS? Few students will volunteer. Students feel anxious about their anxieties, inadequate about their inadequacies, and do not want to appear conspicuous or odd.

Teachers or concerned staff can occasionally identify students and refer, but only a small fraction of the test-anxious students are identified. So, a larger program must screen students to identify the test-anxious students.

We suggest the Westside Scale, which is public access and takes about five minutes to complete. It emphasizes performance impairments (6 items), and includes anxious worry (4 items). Somatic symptoms are only marginal indicators of poor performance, and are therefore not included in the scale. The instrument has been found to be a highly sensitive measure of anxiety impairment, and changes on the scale can account for 20% of changes in test scores. (see: www.amtaa.org/res/sv.html)

See the Westside Scale (handout; or download at www.amtaa.org/scale).

Screen students from counseling or advising sessions, student orientation programs, classes, test preparation coaching, and such. Students on academic probation often have anxiety impairments.

Explain anxiety impairment to youngsters as "going blank" or "freezing" on tests and not remembering what you already know. We suggest that you do not mention your anxiety reduction-program until after the screening.

INFORM PARENTS

Secondary schools will want to inform parents and gain their approval and support. Follow the guidelines for your school.

Permissions: Notify parents, and ask them to sign and send back the form for their child to participate (see www.amtaa.org/formPermit.html). Many schools require written consent.

Notification: Notify parents, and ask them to call with any questions or if they do not want their child to participate (see www.amtaa.org/formNotify.html). Only an occasional parent objects to the intervention.

Colleges might provide students with an informed consent form, and have students sign off on it (see www.amtaa.org/formConsent.html).

"LIVE" OR RECORDED ADMINISTRATION

The training can be presented "live" or you can use the recorded version to provide the technical aspects of the intervention. The recorded option:

- frees counselors to relate to the anxious students and to guide them through the process, and
- allows counselors to conduct a sophisticated technical intervention after a single brief seminar

Tame Test Anxiety training CDs are available from internet booksellers and bookstores, and you can ask a college bookstore to carry it. Also available from Westside Psychology at: 800 769-0962 x101 for \$10 each on orders of 4 or more.

Students can listen to the CD individually, or in groups. We do require that each student be provided an individual copy of the CD, to review as needed.

Alternate CDs are reviewed at www.amtaa.org/solutionsCDs.html

PREPARE STUDENTS

Students are anxious anyway, and do not want to do anything which calls attention and makes them seem odd or inadequate. Students must be nurtured and supported, and your most challenging task is to win their cooperation. A personal relationship with a staff member can overcome the normal awkwardness of admitting to an anxiety condition and agreeing to participate. Staff should convey confidence in the program.

In the first session, students usually see the stretch-tense protocol as awkward and foolish. The task is to maintain a favorable atmosphere and slide the students through the activities.

Explain the CD, and present sections of it. Present the stretch-tense-air-relax sequence and have students do it once. Explain "imagining" scenes, and ask for questions. You might show the interview with Allison, who talks about her experience: www.amtaa.org/allisonVideo.html

Fortunately, most students find the CD helpful and are pleased with the experience. Most students report lower anxiety, and research reports grade gains. Parents are ordinarily pleased that their child is receiving help for test anxiety. The project reflects well on the counselors who conducted it, and on the school itself.

Directions. Invite the student to review the CD and begin the program. "Just Do It" improves compliance and reduces the amount of unnecessary worry and procrastination that these anxious students would otherwise experience.

Pre-teens must be given some more specific guidance. Talk the youngster through a stretch-tense-air-and relax sequence, to be sure the child can understand the instructions. Also, ask

about a favorite interesting activity, to be sure the child can properly identify one in the training. If not, help the child find one. Be sure the child knows what it means to "imagine" a scene. These steps also make teens and college students more comfortable, and are thus appropriate with all students.

After the training, ask students how they felt, whether they could imagine the testing scenes, and whether they felt anxious during the scenes. You will get a feel for what is happening.

SESSIONS

In the first session with younger students, stay in the room to monitor the experience. In group sessions with more than a few students, it helps to have additional staff in the room, to coax any reluctant students to go with the instructions.

Students can review the CDs at the school in individual or in group sessions, and then take a CD home and do additional reviews at home. A review at school has the significant advantage of insuring that at least one review was actually completed.

Ask students about their experiences, and try to build positive expectations among students.

College students should have 2 reviews, with additional reviews as needed, while younger students do well with 4 or more reviews. Students might review the Training once or twice initially, once or twice before the next class exams, and then a week before comprehensive exams. The benefits appear cumulative, improving learning and test performance over time.

ASSESS BENEFITS

A grade school might expect a 6 percentile improvement, while a college might expect a 12 percentile improvement in test scores.

Schools can assess their outcomes easily and informally, or can use formal assessments.

Informal Assessment

Easiest: Ask students if they felt calmer after taking a test.

You might have students fill out a second Westside scale after reviewing the CD and taking at least one test. So far as anxiety drops a quarter of a point (or more), figure that the training is helping.

Grade gains: Record student grades before and then following the CD review, and subtract to find the change. So far as grades improve, figure that the training is helping.

Formal Assessment (Controlled Study)

- 1 Screen students using the Westside scale. The active control intervention benefits students with scores 3.0 and higher (the most anxious 36% of students).
- 2 Separate your students randomly into Intervention and Control students.
- 3 Notify the parents of the Intervention students only.
- 4 Provide the Training intervention.
- 5 Record grades or test scores from prior to the intervention, and from the next grading period after all reviews have been completed. Use comprehensive test scores, if available.
- 6 Analysis—

Simplest: The Change score is merely the Post-intervention score minus the Pre- score. Did your intervention group do better than the controls?

Highly precise: Analysis of Covariance (ANOCOVA) adjusts for the contributions of prior achievement, and can be done on Excel. See <http://www.amtaa.org/res/stats.html>

Note: Colleges ordinarily require authorization for research from their Internal Review Boards (IRBs).

COLLABORATION. AMTAA.ORG will provide all CDs free for any formal assessment program. We are interested in attaining further information about the active control benefits among various student populations. We are available to come to your school, help train additional staff and to consult on setting up your anxiety-reduction program. Please contact Dr. Driscoll. We would appreciate hearing about any results you may attain, and are maintaining a database of treatment experiences and outcomes.

BIO-SKETCH



Richard Driscoll, Ph.D. is the author of four books, over twenty scholarly and popular articles, and four confirmed anxiety reduction trainings, including *Tame Test Anxiety* and *Shield Out Hostility*. He is a media resource with the American Psychological Association, and Program Director for the American Test Anxiety Association ([amtaa.org](http://www.amtaa.org)).

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Program References:

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ENDNOTES

- 1 Cassady & Johnson (2001) Cognitive Test Anxiety and Academic Performance. *Contemporary Educational Psychology*, 27, 270-295.
- 2 McDonald (2001). The prevalence and effects of test anxiety in school children. *Educational Psychology*, 21, 1, 89-102.
- 3 McGuire, D. P., Mitic, W. & Newmann, B. (1987, June). Perceived stress in adolescents: What normal teenagers worry about? *Canadian Mental Health*, 2-5.
- 4 Hembree, (1988), p.68.
- 5 See: <http://www.amtaa.org/res>