

Test Anxiety Reduction and Confidence Training: A Replication

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This study was undertaken to replicate prior research in which a brief counter-conditioning and confidence training program was found to reduce anxiety and raise test scores. First-semester college students were screened with the Westside Test Anxiety Scale, and the 25 identified as having high or moderately-high anxiety were randomly divided into Intervention and Control groups. The Intervention students reviewed the procedure twice, while the controls received an information packet on managing anxiety. The anxiety scale was administered again the week before finals. The Intervention students showed a substantial drop in test anxiety, compared to the Controls (1.7 SD treatment effect size). Changes in the Westside scale correlated with final grades ($r = -.40$) providing further confirmation that the scale measures an impairment. Intervention students scored an average .40 grade points above the Controls, or 8.7 percentile points, and intervention group grades adjusted for student high school grades was just short of statistical significance ($p < .06$). The obtained grade gain is only slightly below prior findings, and further supports the benefits of the procedure. Implications for student retention were noted.

Among students who do not return for the next semester of college, many are struggling with a combination of high stress and marginal academic performance. Highly test-anxious students perform about 12 percentile points below their low-anxiety peers (half a letter grade below), and have less confidence and lower morale.¹ An intervention which reduces anxiety and improves test scores should boost many of the marginal students into the passing range and make the college experience more pleasant, and thereby improve retention.

A brief multi-faceted confidence training program has produced consistent benefits among highly stressed students. The average anxiety reduction effect size has been 1.8 SD in four consecutive studies,² which compares favorably to the 1.0—1.2 attained by some of the better anxiety-reduction protocols.³ The average testing gain has been 14.5

percentile, or just over half a letter grade gains, in three consecutive studies with 40 treated college freshman (compared to untreated controls) 4, 5, 6. The current study was undertaken to replicate the program and confirm the prior findings.

Method

An instructor screened first-semester college students with the Westside Test Anxiety Scale, and 25 students were identified as having high or moderately-high test anxiety. The Westside scale was used because it is constructed to identify anxiety-impaired students, and has been shown to do so.⁷ Students were randomly divided into intervention and control groups. Average anxiety scores were 3.1 and 3.3 for the intervention and the control groups respectively (indicating moderately high anxiety).

The intervention students reviewed the training procedure, while the controls received an information packet on managing anxiety. The intervention students reviewed the procedure a second time the week before finals, and the scale was administered a second time to all students just before finals.

The intervention utilizes tense–relax sequences to curtail anxiety; challenging images to improve expectations and boost confidence; and practice associating a positive outlook with study, review, and testing scenes.⁸

Results.

Anxiety levels. The intervention group showed a .59 reduction, compared to the controls, on the anxiety retest. The result size is most easily understood as a step from moderately-high to high-normal anxiety. The change was statistically significant ($t = 3.4, p < .001$), and the effect size was high (1.7 SD).

Grades. At the end of the semester, the Intervention group had a 3.0 GPA, while the Controls had a 2.6 GPA, placing the Intervention group .40 grade points above the Controls. The result can be seen as a 8.7 percentile gain, which is respectable but not statistically significant ($p < .20$). When adjusted for differences in earlier high school GPAs, the treatment gain was just short of statistical significance ($p < .06$).

Changes in individual student Westside were found to correlate reasonably well ($r = -.39, p < .05$) with semester grades, further confirming that scale as a valid measure of impairment. As student anxiety scores went down, semester grades went up, and vice versa.

Discussion

The 1.7 SD anxiety reduction effect size is similar to prior findings, and suggests that the program does have an especially high anxiety reduction impact.

The .40 grade advantage of the Intervention group is substantial, and only slightly below the .50+ grade benefits found in the three prior studies. While the benefit was

short of the standard $p < .05$ confidence level, this was the fourth consecutive study to achieve strong gains among highly anxious college students.. In the four studies combined, a total of 52 college students have shown grade gains between 9 and 18 percentile, averaging just over a half letter grade gain. Thus, grade gains have been substantial and have been consistent across samples.

As a student retention program, the confidence training is promising not merely because of the consistent gains but also because the recorded administration minimizes the time staff must spend to conduct the program. It seems appropriate to recommend that schools screen for test anxiety and provide a confidence training program for highly anxious students.

References

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Endnotes

- 1 Cassady & Johnson (2002)
- 2 Driscoll (2006)
- 3 Ergene (2003)
- 4 Driscoll et al (2005)
- 5 Evans et al. (2010).
- 6 Driscoll and Holt (2012)
- 7 Driscoll, R. (2007).
- 8 Driscoll, R. (2006).