Test-Day Anxiety Can Be Beat in Two Simple Steps, Say Scientists

“Students high in performance anxiety might perform substantially worse on their exams compared to what they actually know.”

Hours of studying for a test mean little if, when test day arrives, you feel so much anxiety you can’t think straight. For students plagued by sweaty palms, a pounding heart, and a dry mouth on exam day, a team of scientists at Stanford University found that there are ways to help some students vanquish the test anxiety that might lead to poor performance. Particularly for students from low-income backgrounds...
(https://www.inverse.com/article/51367-why-dont-we-push-back-school-start-times), the team hopes these simple techniques could be game-changing.

In a paper (https://www.pnas.org/cgi/doi/10.1073/pnas.1808589116) published Monday in *Proceedings of the National Academy of Sciences*, a team of researchers showed that emotion regulation exercises can help students overcome some degree of academic disparities caused by socioeconomic factors.

For students entering science, technology, engineering, and mathematics (STEM) fields, high-stakes test-taking is a fact of life. In those fields, exams are the gatekeepers for advanced courses, as well as the education needed to pursue them — the MCAT or GRE, for example. But while a poor test score itself is a fairly indisputable metric, the underlying economic, social, and emotional factors that *go into* those test scores are far more complex.

![Test Answer Sheet](https://www.inverse.com/article/52461-ways-to-reduce-test-day-anxiety)

*Even if students know the material, actually doing well on the test can come down to managing anxiety effectively.*

**Chris Rozek, Ph.D.** (http://www.chrisrozek.com), a postdoctoral scholar in Stanford's psychology department and first author of the new study, tells *Inverse* that one contributor to poor test scores is often high levels of performance anxiety. It’s not that students don’t know the material, it’s just that they’re so panicked they find it hard to execute on test day.

“Studies often find that performance anxiety can explain around 10 percent of student performance,” Rozek says. “This means that students high in performance
anxiety might perform substantially worse on their exams compared to what they actually know.”

In a sample of 1,175 9th grade students from both high-income and low-income households, Rozek and his team tested two techniques that students might be able to use to manage those anxious feelings. In one group, he had students write about their feelings of anxiety. This might seem like a lot of extra work on top of studying, but Rozek adds that it’s a fairly well-established way of helping people acknowledge anxiety-inducing thoughts and move on from them:

“Expressive writing helps people with the worried thoughts they feel in high-pressure situations by putting those negative thoughts down on paper,” he says. “Writing down your worries helps you move past them and frees up the cognitive resources that can be used help you succeed.”

Aside from “expressive writing,” Rozek also had students practice “reframing” the classic hallmarks of anxiety — sweaty palms, a dry mouth, or a racing heart — when they experienced them. In that case, he explains, the idea was to help students see these classic signs as positive things instead of physical manifestations of pre-test dread.

“Many people interpret sweaty palms, a dry mouth, and a racing heart to mean that they are stressed and anxious,” he explains. “Understanding that these physical symptoms are adaptive and positive rather than negative can make a big difference in how they affect your performance.”

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\begin{align*}
\text{Control Group} & \quad \text{Intervention Groups} \\
\text{Lower-Income Students} & \quad \text{Higher-Income Students}
\end{align*}
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*Students from low-income households tended to perform better after performing the anxiety-reduction exercises, but there was no significant difference in the high-income students.*

Rozek found that these techniques were highly effective for low-income students in his sample. Students who participated in either of the interventions (there was no additional effect for doing both) increased their test scores significantly over the course of the semester and were less likely to fail the course. 39 percent of
low-income students failed the class, while only 18 percent who completed the anxiety-reducing exercises failed. But for the high-income students, Rozek noticed that these techniques had no significant effect.

This is a promising finding, especially when it comes to the achievement gap between high-income students and low-income students that’s been consistently documented, a sad hallmark of the American education system. Overall, Rozek’s study indicates that helping students manage anxiety is just one way to help close that gap. He demonstrated this in a small way in his study. The gap in test scores between high-income and low-income students in the control group was 24 percentage points. That gap between high-income and low-income students was reduced to 17 percentage points in the groups that used these anxiety interventions.

Still, it’s important not to boil the wide-reaching, structural inequalities that contribute to these test score gaps down to performance anxiety on the part of low-income students. Even after this intervention, a 17 percent achievement gap between test scores is still a massive gulf, and the researchers make it clear in the paper that these interventions aren’t the silver bullet that will close this gap for good since their work was “only targeting one part of the problem of student underperformance.”
If anything, this study helps highlight how differences in economic status manifest psychologically in high school students and underscores the need to tackle the roots of these problems head-on. Still, the power of their results suggests it might be worth writing out some worries pre-exam — it definitely can’t hurt.


How to Tell if Your Boyfriend Is an Alien

...not that there's anything wrong with that.