The Psychological Toll of High-Stakes Testing

High-stakes tests often create enormous anxiety and return muddy data. Turning down the pressure may alleviate the problem.

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The Research Is in

One problem with standardized tests: We don't fully understand what they measure. On the face of it, they are designed to provide an objective appraisal of knowledge, or perhaps even of inherent intelligence.

But a recent study by Brian Galla, a psychology professor at the University of Pittsburgh, with Angela Duckworth and colleagues concluded that high school grades are actually more predictive of college graduation than

standardized tests like the SAT or ACT.

That's because standardized tests have a major blind spot, the researchers asserted: The exams fail to capture the "soft skills" that reflect a student's ability to develop good study habits, take academic risks, and persist through challenges, for example. High school grades, on the other hand, appear to do a better job mapping the area where resilience and knowledge meet. Arguably, that's the place where potential is translated into real achievement.

"The more I understand what testing is, actually, the more confused I am," said Duckworth, a psychologist and expert on measuring human potential, when we interviewed her in 2020. "What does the score mean? Is it how smart somebody is, or is it something else? How much of it is their recent coaching? How much of it is genuine skill and knowledge?"

Yet standardized tests are still a mainstay of U.S. education. They play a critical role in deciding whether students graduate, what college or university they'll attend, and, in many ways, what career paths will be open to them. Despite the fact that they take a few hours to complete—a tiny fraction of the time students spend demonstrating their learning—the tests are a notoriously high-stakes way to determine academic merit.

By several measures, high-stakes tests are an inequitable gauge of aptitude and achievement. A 2016 analysis, for example, found that the tests were better indicators of prosperity than ability: "Scores from the SAT and ACT tests are good proxies for the amount of wealth students are born into," the researchers concluded. Even students who manage to do well on the tests often pay a steep price emotionally and psychologically. "Students in

countries that did the best on the PISA [Programme for International Student Assessment]," for example, "...often have lower well-being, as measured by students' satisfaction with life and school," wrote Yurou Wang, a professor of educational psychology at the University of Alabama, and Trina Emler, a researcher at the University of Kansas.

We've almost certainly given too much weight to high-stakes tests, in other words, and increasingly the pressure of the tests is showing up as a serious health issue for students.

Biological Flares

As high-stakes tests loom, cortisol levels, a chemical marker for stress, rise by an average of 15 percent, a physiological response linked to an 80-point drop in SAT scores, according to 2018 research. For students who were already experiencing hardships outside of school—poverty, neighborhood violence, or family instability, for instance—cortisol spiked by as much as 35 percent, a level that is likely to derail cognitive processes and distort test scores beyond recognition. Are high-stakes tests sometimes measuring the impact of stressors like depression, family divorces, or the tests themselves, rather than knowledge?

The researchers also found that in a small group of students, cortisol levels dropped steeply during test-taking season, which they speculated had more to do with "shutting down in the face of the test" than handling the stress more effectively—in effect, triggering an emergency shut-off switch.

"Large cortisol responses—either positive or negative—were associated with worse test performance, perhaps introducing a 'stress bias' and making tests a less reliable indicator of student learning," the researchers concluded. This is a real problem, they warned, not only because elevated cortisol levels "make concentration difficult," but also because "prolonged stress exposure" burns kids out and increases the likelihood of

disengagement and academic failure.

Sleepless Nights and Crises of Identity

In a 2021 study, Nancy Hamilton, a University of Kansas psychology professor, detailed the damaging effects of high-stakes tests on young adults.

Starting a week before consequential exams, college undergraduates recorded their study habits, sleep schedules, and mood swings in daily diary entries. Hamilton's findings were troubling: The anxiety caused by imminent, high-stakes tests leaked into daily life and were "correlated with poor health behaviors, including dysregulated sleep patterns and poor sleep quality," leading to a "vicious cycle" of cramming and poor sleep.

In an interview with Edutopia, Hamilton explained that instead of thinking about the academic material to be studied, many students became preoccupied by the life-changing consequences of the exams. Trying to fall asleep at night, they fretted about whether they'd get into a good college, worried about landing a job that paid well, and feared they'd disappoint their parents.

Without breaks, high-stakes tests can cause a host of cascading problems, Hamilton continued, including increased anxiety levels, overconsumption of caffeine, smoking, an unhealthy diet, lack of exercise, and poor sleep quality.

Test results are often tinged with a kind of existential dread. In a 2011 study, Laura-Lee Kearns, a professor of education at St. Francis Xavier University, discovered that high school students who failed the state standardized literacy test "experienced shock at test failure," asserting that they "felt degraded, humiliated, stressed, and shamed by the test results." Many of the students were successful in school and thought of themselves as academically advanced, so the disconnect triggered an identity crisis that made them feel as though "they did not belong in courses they previously

enjoyed, and even caused some of them to question their school class placement."

"I enjoyed English, but my self-esteem really went down after the test," a student reported, echoing a sentiment felt by many. "I really had to think over whether I was good at it or not."

Early Psychological Impact

High-stakes testing commonly begins in third grade, as young students get their first taste of fill-in-the-bubble scantrons. And while the tests are commonly used as diagnostic tools (presumably to help tailor a student's academic support) and to evaluate the performance of teachers and schools, they can come with a bevy of unintended consequences.

"Teachers and parents report that high-stakes tests lead to higher levels of anxiety and lower levels of confidence on the part of elementary students," researchers explained in a 2005 study. Some young students experience "anxiety, panic, irritability, frustration, boredom, crying, headaches, and loss of sleep" while taking high-stakes tests, they reported, before concluding that "high-stakes testing causes damage to children's self-esteem, overall morale, and love of learning."

When asked to draw pictures portraying their test-taking experience, the students in the study overwhelmingly cast their ordeal in a negative light—a depiction of a "nervous" student predominated. "Students were nervous about not having enough time to finish, not being able to figure out the answers, and not passing the test," the researchers explained. In nearly every drawing, the children drew themselves with "unhappy and angry facial expressions." Smiles were nearly nonexistent, and when they did occur, it was to show relief that the test was over, or for unrelated reasons, such as being able to chew gum during the test or being excited about an ice cream celebration after the test.

Manufactured Power

Tests like the SAT and ACT aren't inherently harmful, and students should learn how to manage reasonably stressful academic situations. In fact, banning them completely might be counterproductive, denying many students a critical avenue to demonstrate their academic skills. But to make them a condition of matriculation, and to factor them so prominently in internal ranking and admissions processes, inevitably excludes millions of promising students. In a 2014 study, for example, researchers analyzed 33 colleges that adopted test-optional policies and found clear benefits.

"The numbers are quite large of potential students with strong high school GPAs who have proved themselves to everyone except the testing agencies," asserted the researchers. High-stakes tests too often function as arbitrary gatekeepers, pushing away students who might otherwise excel in college.

If recent events in California are any indication, high-stakes tests may be in decline. Last year, the University of California dropped SAT and ACT scores from its admissions process, delivering a "resounding blow to the power of two standardized tests that have long shaped American higher education," the *Washington Post* reported. Meanwhile, hundreds of colleges and universities that dropped testing for pandemic-related reasons are reconsidering their value—including all eight Ivy League schools.

"This proves that test-optional is the new normal in college admissions," said Bob Schaeffer, FairTest's Public Education director, in the *New York Times*. "Highly selective schools have shown that they can do fair and accurate admissions without test scores."

In the end, it's not the tests—it's the almost fetishistic power we give to them. We can preserve the insights that the tests generate while returning sanity and proportionality to a broken system. Quite simply, if we deemphasize high-stakes tests, our students will, too.