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Testing in a High-Stakes Environment

It's everywhere.

Without question, testing is expanding at every level of education and into every corner of social and vocational enterprise. With that expansion has come a proliferation of test anxiety.

Test anxiety is one of those concepts that, perhaps, needs no formal introduction. We all know what test anxiety is. We have almost certainly seen or experienced its effects. We will define test anxiety more precisely and more elaborately in Chapter 2, but for the time being we think that a succinct definition will suffice. **Test anxiety** is one of many specific forms of anxiety; it results in a combination of cognitive and physical responses that are aroused in testing situations or in similar situations in which a person believes that he or she is being personally evaluated.

Of course, test anxiety itself is not a new phenomenon. It has taken on increased importance, however, as the amount of testing and the consequences associated with testing have increased, particularly in the context of K-12 education in the United States. To begin to understand the nature and effects of test anxiety, we must first consider the growth of testing in American schools.



Key Idea #1 Test Anxiety . . .

- is a specific form of anxiety;
- is prompted by situations in which a person believes that he or she is being personally evaluated; and
- results in a combination of cognitive and physical responses.

Testing and Test Anxiety in “The Good Old Days”

In the not-too-distant past, testing in schools was largely classroom-focused, comparatively informal, and had only mild consequences associated. This kind of testing calls to mind a weekly list of 10 spelling words, in which the biggest challenge for students was remembering when to change *y* to *i* before adding *es* to form a plural, or memorizing the rule about *i* coming before *e* except after *c* or when sounded like *a* as in *neighbor* or *weigh*.

For students, situations like the one just described may have induced some stress as the time came on Friday afternoon when they would have to write out the 10 plurals or decide whether it should be *receive* or *recieve*. The consequences may have seemed somewhat serious, too, for example, if the spelling test counted toward one’s grade. But even a grade of F on one week’s test could be ameliorated or relegated to fleeting relevance by a better performance on the list of words for the next week, or the next, or the next. . . .

For a student’s parents, there were consequences of these tests, too, but they were comparatively mild. On tests such as the low-stakes spelling quiz, a parent might be affected the night before the test by flipping through flash cards with *family* on one side and *families* on the other. (Depending on the student’s performance on the test the next day, perhaps more flash-card flipping would be in order.) However, parents, teachers, principals, superintendents, and others were essentially unaffected by most of the routine testing of the day.

Of course, more formal tests may also have been administered in those days. Many schools have long traditions of administering the Iowa Tests of Basic Skills (ITBS) or a similar **standardized, norm-referenced, achievement test** that provided American school children with regular training in using Number 2 pencils to color in small circles corresponding to “the one best answer.”

But the consequences associated with tests like the ITBS were also minimal. Results from those tests were not regularly used to promote or retain a student. They didn't count toward a grade in a course. In fact, they really didn't "count" at all. If a test is seen as valuable enough to supplant classroom instructional time, then it would seem important for the test results to be used for some important purpose. Regrettably, however, the results from formal norm-referenced tests were often not used for anything at all. Sure, parents might get a summary of scores, such as percentile ranks (PRs), stanines, grade equivalent (GE) scores, or normal curve equivalent (NCE) scores for their individual students, although they often did—and still do—find them hard to understand. Typically, they relied on their child's teacher to interpret whether those scores meant that the child was on track, and they did not necessarily use that information for any specific purpose.

A teacher might receive a class summary report with a more complete slew of quantification—more percentiles and stanines—for every student in his or her class. Those scores may have been just as difficult for teachers to understand, and these norm-referenced test scores, once reported and explained to parents, often had no further use.

Although the data yielded by such tests *could* have been informative—and we believe that such tests continue to have the potential to provide very useful information—the fact is that the results also could largely be ignored. The absence of consequences made the results easy to overlook. For the most part, no important decision, action, grade, penalty, or reward hinged on the results.

Testing in Contemporary Education and Society

What a difference a day makes! In contrast to the low-stakes picture of the past we have just painted stands a present day in which testing seems to be omnipresent, and the importance and consequences associated with test performance are ever-increasing for all concerned.

As one example, we note the recent emphasis that legislators and policymakers have placed on ensuring that every child enters school "ready to learn." The very concept of *school readiness* suggests that some way of measuring differences in readiness among young children is necessary. Because any system for gauging those differences in school readiness is essentially a test—whether by observation, by interview, or by individually administered or group-readiness screening—the potential for test anxiety for young children (and their parents) is present.



Key Idea #2 Testing in American Schools

A report by the research arm of the U.S. Congress, the General Accounting Office (GAO), investigated the extent and cost of systemwide (i.e., state- and district-level) testing in 1993. The GAO estimated that

- the total number of individual tests administered in elementary and secondary schools each year is 36 million;
- the per-pupil cost of testing is about \$14.50 per student; and
- the amount of time devoted to systemwide student testing each year is, somewhat surprisingly, only about 3.5 hours per year.

These figures predate the enactment of NCLB, which has undoubtedly served to increase extent of and expenditures on testing.

SOURCE: U.S. General Accounting Office (1993).

Regarding school testing, we also must mention the massive increase in testing prompted by the federal government. The enactment of the No Child Left Behind Act (NCLB) in 2002 has mandated annual testing in reading, mathematics, and science for every student in Grades 3 through 8 and at one point during high school, as well as monitoring of yearly progress for all schools. This immediate and far-reaching increase in testing has caused states and testing companies to scramble to meet the law's demands. As a result, it has also caused some members of the psychometric profession to jokingly refer to the federal legislation as the No Testing Specialist Left Unemployed Act.

Whereas there are essentially no consequences associated with NCLB for students, there clearly are consequences for educators and school systems who must annually report on the results of these tests. Such public disclosures present the potential for anxiety about rising or falling performance levels, graduation rates, achievement gaps, and even job security.

On their own, many states are investigating the potential for what has been called value-added assessment, which is a term used to mean measuring student growth in achievement from year to year, and for gauging individual teachers' effects on that growth. Of course, accomplishing value-added assessment requires **assessment**—and lots of it. At a minimum, it requires administration of different forms of a standardized test at the beginning and end of each school year, or administration of one form of a test series once each year at the same time. Adding a twist, value-added assessment requires that teachers'



Key Idea #3 Exit Examinations

A 2004 study by the Center for Education Policy found the following:

- As of 2004, 20 states had mandatory high school exit examinations.
- More than half of all public school students (52%) and more than half of all minority public school students (55%) live in states with exit exam requirements.
- Five additional states plan to phase in exit examinations by the year 2009.
- If all states that currently have exit examinations and those that plan to implement them stay on course, roughly 70% of all U.S. public high school students will be affected by such tests by the year 2009.

SOURCE: Center on Education Policy (2004).

impacts on student achievement must be estimated via complex statistical formulations; thus, the potential exists for greatly increased anxiety for students, teachers, and school administrators.

The list continues. We might not often think of classroom testing as **high-stakes**, but in many cases the stakes associated with classroom tests are as high as any. Consider the consequences for a student passing or failing a final examination in American Government class—a course credit that is required in many states for high school graduation. The decision to award or deny a diploma based on classroom performance is as high-stakes as it gets.

Many states and school districts have also recently mandated that students pass an “exit examination” as one hurdle toward being awarded a high school diploma. In fact, these mandates are not merely that a student pass a single exit examination but, more likely, that they pass a series of tests in core subjects such as English language arts, mathematics, writing, and science.

High-stakes testing continues after high school as well. Most post-secondary schools require a test—usually the ACT Assessment or the SAT—for students seeking admission to higher education. Although college and university personnel consider many factors when making admissions decisions (e.g., class rank, rigor of high school coursework, and community and extracurricular activities), a student’s score on the ACT or SAT is surely one of the important sources of information considered in admissions and scholarship decisions, making a student’s performance on those tests a high-stakes endeavor. Even

after a student has been admitted, many colleges and universities require additional testing for placement into courses or programs.

The Graduate Record Examination (GRE), Miller Analogies Test (MAT), Medical College Admissions Test (MCAT), Law School Admissions Test (LSAT), and Graduate Management Admissions Test (GMAT) are just a few examples of high-stakes tests that may be required of students seeking further higher education or entrance into a profession. Even after successful completion of a graduate or professional degree (and all the tests along the way), a student may still be required to pass a board examination in order to enter his or her chosen medical profession, or a licensure or certification test to practice in fields as diverse as engineering, cosmetology, real estate, accounting, and numerous others.

To be sure, many students do not pursue education beyond high school. But that doesn't mean that the testing ends. To enter any branch of the military, young men and women must take the Armed Services Vocational Aptitude Battery (ASVAB). The term **battery** refers to a grouping of several tests, and the ASVAB is an extensive, rigorous, and lengthy test with consequences. For example, different levels of performance are required for entering various branches of the armed services.

Even if a student doesn't plan a military career, he or she will ordinarily need to pass a multiple-choice test consisting of perhaps 20 **items**, as well as a separate performance test just to obtain a driver's license. In fact, now that we think about it, the occasion of obtaining our own driver's licenses was one of the more anxiety-filled testing experiences we can recall. The consequences of failure—limited mobility, restricted access to economic, social, and leisure opportunities, and, not least of all, humiliation within peer group—made this one of the highest-stakes tests of all!

In summary, our consideration of test anxiety is motivated largely by the sheer pervasiveness of testing in American education. Testing has become more extensive and more consequential at every level. The more that important decisions hinge on test results, the more relevant is the concern about the presence and effects of test anxiety. The situation has been summarized by leading researchers on test anxiety. According to Spielberger and Vagg (1995):

Aptitude and achievement test scores, as well as academic performance, are increasingly used in evaluating applicants for jobs and admission into educational programs. Consequently, examination stress and test anxiety have become pervasive problems in modern society. (p. xiii)

As we conclude this rationale for why thinking about test anxiety is more relevant now than ever before, we are ourselves amazed at the extent of testing and at the important decisions that are increasingly linked to test results. We hope that this overview of testing in American schools and society hasn't induced too much anxiety for our readers. Our goal has simply been to illustrate the ubiquity of testing and to give examples of some of the consequences associated with testing that can instill test anxiety. In the context of the increasing frequency and stakes associated with testing in American schools—particularly the growth of testing associated with the No Child Left Behind Act and related accountability systems—we believe that it is particularly timely to consider the phenomenon of test anxiety, its effects, and how it can be addressed.

A Historical Reminder

Finally, we must admit to something of a contradiction. We have noted that the current context makes concern about test anxiety particularly salient. However, we also must admit that test anxiety and high-stakes testing are not new.

Test anxiety has existed as long as there have been tests. Consider the "examination" administered by the Gilead guards who challenged the fugitives from Ephraim who tried to cross the Jordan River. That event has been described (see Mehrens & Cizek, 2001, p. 477) as one of the earliest-recorded, large-scale, high-stakes performance tests:

"Are you a member of the tribe of Ephraim?" they asked. If the man replied that he was not, then they demanded, "Say Shibboleth." But if he couldn't pronounce the H and said Sibboleth instead of Shibboleth he was dragged away and killed. So forty-two thousand people of Ephraim died there. (Judges 12:5–6, *The Living Bible*)

We imagine that many of the 42,000 Ephraimites felt a high degree of test anxiety as they stepped forward for their turn to say "Shibboleth." We imagine that a debilitating level of test anxiety was experienced by the poor Ephraimite who was next in line for the test after the Ephraimite in front of him had just been dragged away and killed.

In modern times, testing has become increasingly prominent in schools around the world, but particularly in American schools and society. Entire books on the American culture of testing have been

written; one author referred to America, in the title of one such book, as “the credential society” (Collins, 1979). An early researcher on test anxiety commented in the 1950s: “We live in a test-conscious, test-giving culture in which the lives of people are in part determined by their test performance” (Sarason, 1959, p. 26). Going back to the 1930s, a commentator on two student suicides that had occurred at the University of Chicago opined that

one of these [suicides] was definitely due to worry over an approaching examination and the other presumably was. These incidents show that students are taking their examinations more and more seriously, and that the emotional reactions of students before examinations is an important problem. (Brown, 1938, cited in Spielberger, Gonzalez, Taylor, Algaze, & Anton, 1978, p. 167)

Test Anxiety: Still Hazy After All These Years

We recognize that the high stakes associated with today’s educational tests are not nearly as high as those in the Biblical example, and we observe that test anxiety is not a new phenomenon attributable to the rising importance of grades, getting into college, the mandates of No Child Left Behind, or the recent introduction of meaningful educational accountability systems. Nonetheless, the amount and importance of tests used in education has increased. So has the potential for test anxiety.

Unfortunately, just as the potential for and concern about test anxiety has increased, so has the confusion about what test anxiety actually is, what causes it, who is affected, and what can be done about it. There is much misunderstanding about test anxiety.

For example, we note that test anxiety can occur even in situations where there are very low stakes or none at all. On the other hand, many test takers are not affected adversely by test anxiety even when faced with tests that have very serious consequences attached to performance. Another example lies in a popular misunderstanding about test anxiety: Test anxiety is not the normal nervousness we experience in testing situations. That feeling of nervousness is the perfectly normal response that nearly everyone experiences when faced with any challenging task.

In the following chapters, we will provide a more in-depth examination of what test anxiety is. We will try to distinguish it from

related but different concepts that often have clouded understanding and created controversy concerning the phenomenon. We will describe how test anxiety can be harmful. And—perhaps to the surprise of some readers—we also will describe how test anxiety can be helpful. We will summarize research findings regarding characteristics of students and settings that are related to test anxiety. Ultimately, we will provide concrete, specific ways that those findings can be translated into positive actions and recommendations for addressing test anxiety and stemming its effects.

Test anxiety may be bad news for many parents, students, and educators. The good news is that there is much that parents, teachers, school systems, and even students themselves can do about it.