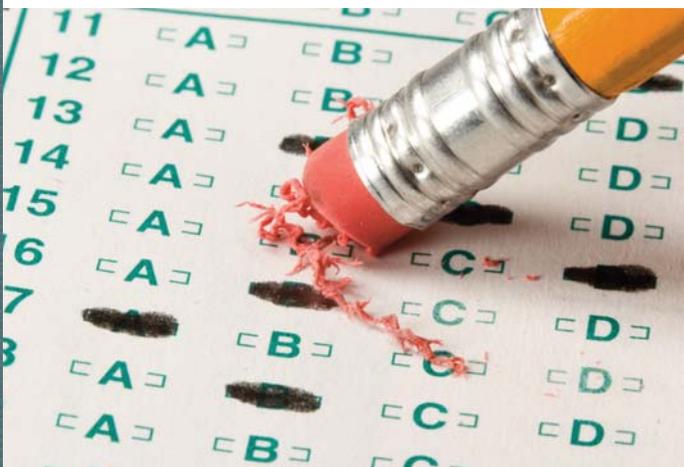
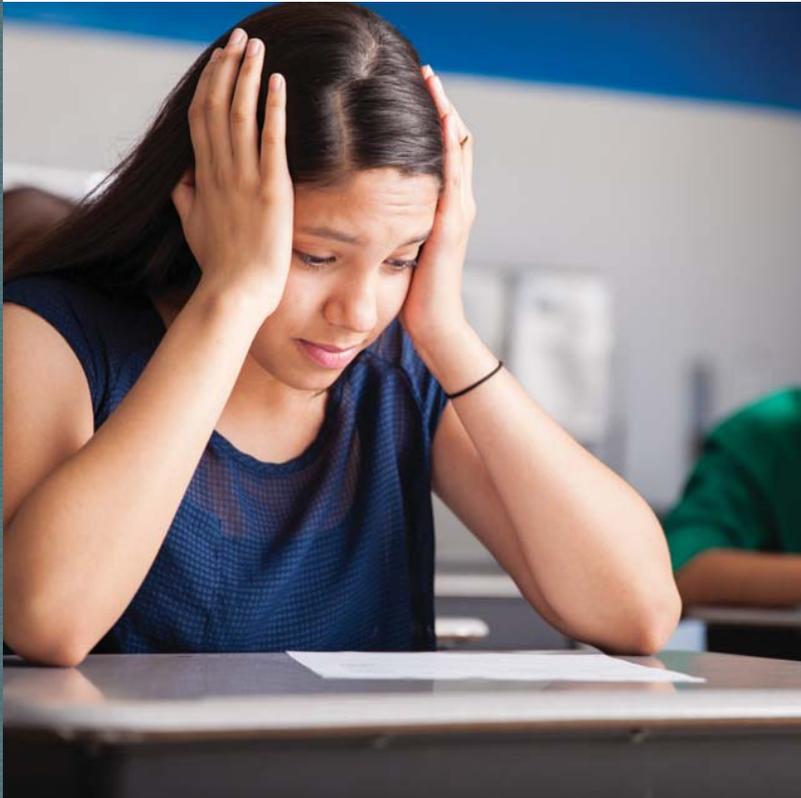


# Anxious for Success:

## *High Anxiety in New York's Schools*



November 2015



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# Introduction

*Excessive worry. Withdrawal. Irritability. Even nausea.* Since the advent of the federal No Child Left Behind Act (NCLB), high-stakes testing has been a prominent focus of schools throughout the United States – and New York State in particular. But what toll do these tests take on students who must take them?

One potential association of a focus on high-stakes assessments is test anxiety. Zeiden (1998) identified test anxiety as “phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences on an exam” (as cited in von der Embse & Hasson, 2012). In short, students with test anxiety view testing situations as personally threatening and exhibit high levels of anxiety in situations in which they are being evaluated.

While New York State has a long tradition of high-stakes assessment (e.g., the use of state Regents exams to determine the value of a high school diploma), the requirements of mandatory state testing in English language arts (ELA) and mathematics imposed by NCLB, coupled with the advent of teacher evaluations based in part on the results of student performance on tests, has ratcheted tensions surrounding state assessments to unprecedented levels.

For example, in April 2015, 20 percent of 1.1 million eligible students in grades 3-8 “opted out” of NCLB-mandated state assessments in ELA and math (New York State Education Department, 2015). Parents often cited test anxiety and its negative consequences for kids as one of the reasons for refusing to have their children take the tests.

The media have seized on this phenomenon. Newspaper headlines declared: “Test anxiety grips

students, teachers” (Waldman, 2013)... “Students encounter high anxiety when taking exams” (Scott, 2015)... “Common Core high-stake test anxiety to be eased by Legislature just as state exams get underway” (Lore, 2014).

Even Gov. Andrew Cuomo raised the specter of test anxiety. When announcing in September 2015 the creation of a panel to study the Common Core Learning Standards, Gov. Cuomo said its charge would be to “perform a comprehensive review of learning standards, instructional guidance and curricula, and tests to improve implementation and reduce testing anxiety” (Governor Cuomo, 2015).

A number of research studies support the notion that test anxiety affects some students.

But how widespread is the phenomenon in New York’s schools? Which students are most susceptible to it? And what can school leaders do to ease test anxiety in students?

To answer these questions, the New York Association of School Psychologists (NYASP) and the New York State School Boards Association (NYSSBA) conducted a joint survey of school psychologists in New York’s public schools.<sup>1</sup> Using these survey results and previous research studies, this report examines the issue of test anxiety, its root causes, its prevalence, and its effect on student achievement. It also offers recommendations for how school leaders can address the challenges facing students and the mental health professionals who work with them.



<sup>1</sup> A total of 1,672 school psychologists were asked to respond to the survey in September 2015, and 222 submitted completed responses for a response rate of 13.2 percent.

# Defining test anxiety and its symptoms

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Test anxiety is a subset of performance anxiety (Cherry, n.d.) and Huberty (2009) discusses how it can have cognitive, behavioral, and physiological characteristics. Cognitive features of anxiety relate to the brain and may include attention or memory impairment. Behaviorally, students may become restless and shun tasks. Physiologically, they may have trouble sleeping, sweat a lot, or even vomit. (Huberty, 2009)

In general, anxiety can be divided into two categories: “state anxiety” and “trait anxiety.” State anxiety is linked to a specific stressor such as a test. Trait anxiety is more generalized anxiety not linked to a specific stressor. Test anxiety is an example of state anxiety. (Huberty, 2009)

Pinto Wagner (2005) says anxiety manifests itself in different ways, depending upon the child’s age. Young children may demonstrate anxiety through outward distress, such as crying, clinging, or refusing to do something when encountering an anxiety-provoking situation. In early childhood, preschoolers and elementary school children may demonstrate anxiety through restlessness, irritability, aches and pains, nausea, meltdowns, and needs for reassurance. Nightmares or sleep terrors also may occur at this age level. (Pinto Wagner, 2005)

Pinto Wagner also explains that in middle school students, symptoms of anxiety may become more internalized and manifest themselves through worry and/or withdrawal, as well as complaints of physical symptoms such as headaches and stomachaches. Teens may experience excessive worries and insomnia, and may appear preoccupied. Teens are more likely to keep their worries to themselves because they are embarrassed or afraid they will be misunderstood.

A certain amount of anxiety is natural for most people under stressful situations. However, unnecessary and unjustified worry is a primary marker of anxiety that exceeds normal levels. These levels of anxiety can make students underperform, according to Huberty. (Huberty, 2009)

While test anxiety often exists with a relatively defined set of behaviors, perceptions and bodily disruptions, it is not listed as a disorder in the “Diagnostic and Statistical Manual of Mental Disorders, 5th Edition” (American Psychiatric Association, 2013), a reference guide that provides a standardized classification system for the diagnosis of mental health disorders for both children and adults.

## Prevalence of test anxiety in students

Estimates of the prevalence of test anxiety in students vary depending on a number of variables, such as the age of the student, parental and teacher expectations, and whether tests are high-stakes state assessments or local exams. However, there are research studies that have estimated its prevalence.

A study by Bradley and colleagues (2007) found 25 percent of students exhibit high levels of test anxiety (as cited in von der Embse & Witmer, 2014). Another study found that clinical levels of test anxiety have been estimated in 10 percent to 40 percent of students, and students with disabilities, females, and minority students report even higher rates of test anxiety (von der Embse, Mata, Segool, & Scott, 2013). Still another study says test anxiety may negatively affect up to 40 percent of students (Cizek & Burg, 2006, as cited in von der Embse, Scott & Kilgus, 2014).

Findings from the survey of school psychologists conducted by NYASP and NYSSBA are consistent

with previous research. The survey asked respondents to indicate the proportion of students they counseled who reported increased adverse physical symptoms (e.g., nausea, headaches, changes in sleep patterns, etc.) prior to and/or during the most recent round of state testing.<sup>2</sup>

By far, the predominant response (51 percent) was that fewer than half of the students school psychologists counseled experienced such symptoms (see Figure 1). About a quarter of school psychologists (28 percent) said half or more of their students experienced such symptoms. About one in five (21 percent) could not accurately estimate the number. We can conclude from this that test anxiety exists to various degrees in most schools, although the percentage of students affected by physical symptoms varies, with the most common being fewer than half of students.

In a particularly timely survey finding, test anxiety appears to have risen since the advent of the Common Core Learning Standards. Six in 10 school

<sup>2</sup> The most recent round of state testing included the grades 3-8 English language arts and math assessments given in April 2015 and Regents exams administered in June 2015.

psychologists (61 percent) said the level of test anxiety has increased since the inception of the state’s grades 3-8 tests aligned with the Common Core Learning Standards. Conversely, none of the survey respondents said the level of test anxiety had decreased since implementation of the Common Core standards (Figure 2).

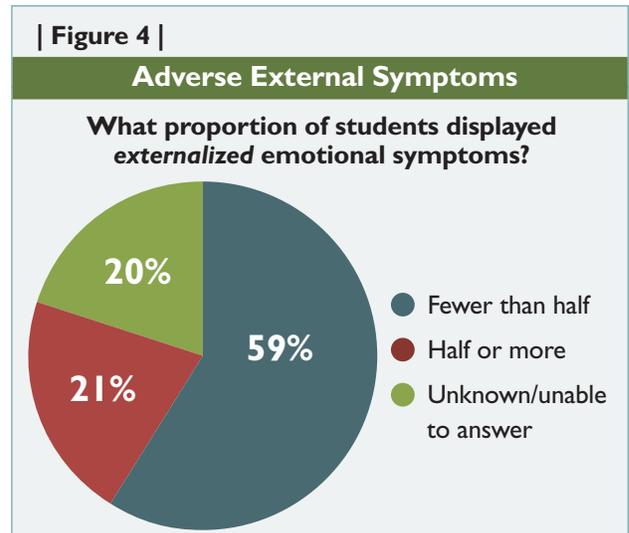
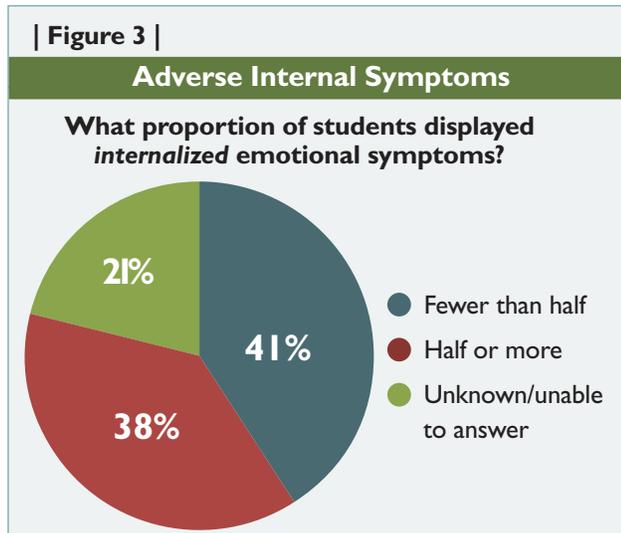
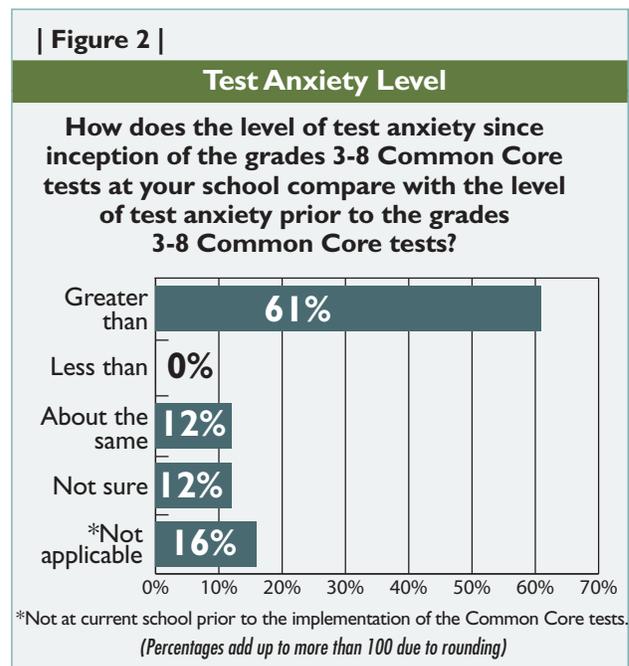
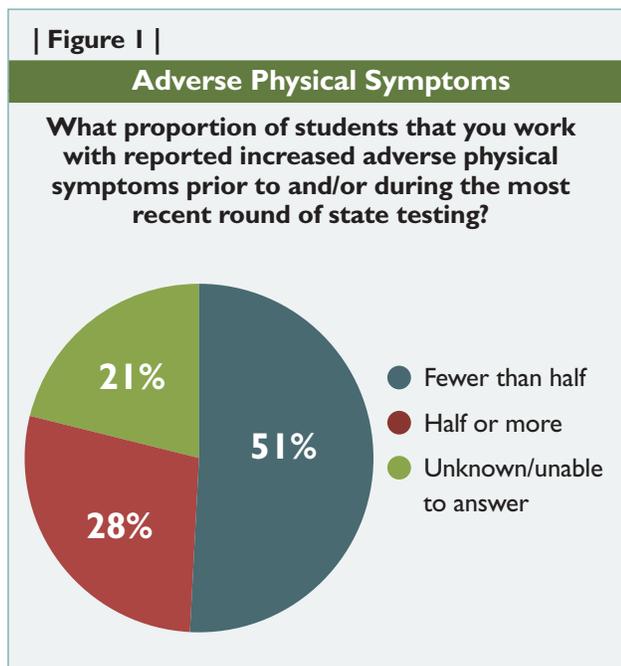
The survey also found that adverse *internalized* emotional symptoms were about twice as common as *externalized* ones. Internalized emotional symptoms include excessive worry and withdrawal. Externalized emotional symptoms manifest themselves as heightened levels of irritability, frustration and acting out.

Thirty-eight percent of school psychologists said half or more of the students they counseled displayed adverse internalized symptoms prior to the most recent round of state exams, while 41 percent said fewer than half of their students did (Figure 3). By comparison, only 21 percent of school psychologists said that

half or more of the students they counseled displayed adverse externalized symptoms prior to the most recent round of state testing (see Figure 4). Nearly six in 10 said fewer than half of their students had externalized emotional symptoms.

Although it cannot be inferred from the survey data that the tests themselves caused adverse emotional symptoms, the link between the presence of the tests and a repeated amount of internalized or externalized symptoms is noteworthy. Given the higher frequency of internalized symptoms, further understanding of and treatment for test anxiety merits further study.

The survey also asked school psychologists whether they saw an elevated number of “crisis reports” (i.e., calls for immediate assistance) prior to or during the most recent round of state testing. About one-third (34 percent) said they observed an elevated number of crisis reports.



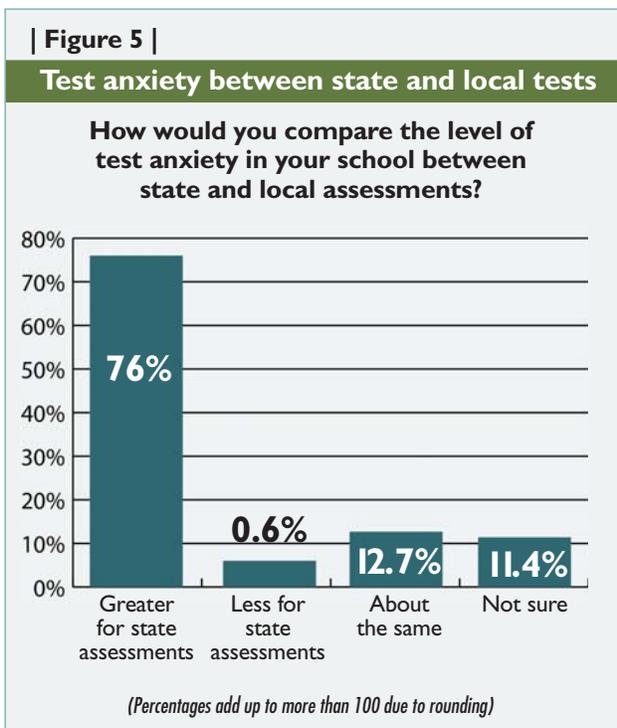
# Differences in anxiety

## Differences in anxiety between state and local tests

High-stakes tests have played an increasingly important role in how student achievement and school effectiveness are measured. Accordingly, reports of test anxiety have risen with the use of tests in educational decision-making.

A recent study by Segool, Carlson, Goforth, von der Embse & Barterian (2013) compared test anxiety levels experienced by students as a part of typical classroom testing and as a part of a state accountability test. It suggested that anxiety for a high-stakes state accountability test was greater than for typical classroom tests (as cited in von der Embse & Witmer, 2014).

The joint NYASP/NYSSBA survey corroborates those findings. The survey asked school psychologists to compare the level of test anxiety between state and local assessments. More than three-quarters of survey respondents (76 percent) said there was greater anxiety for state assessments than for local assessments. Fewer than 1 percent of school psychologists said there was less anxiety for state assessments than local ones, while about 13 percent said the anxiety level was the same between the two. About 11 percent were not sure (see Figure 5).



## Differences in test anxiety based on student age

According to the NYASP/NYSSBA survey, school psychologists were divided about whether test anxiety affects younger or older students. Forty percent said there was no difference in test anxiety among ages and grade levels among students that took the April 2015 grades 3-8 ELA and math exams. Another 10 percent said they had not observed any discernible test anxiety among students at all.

Among the school psychologists that observed differences in test anxiety based on age groups, test anxiety was more than twice as likely among younger kids than older ones. Thirty-six percent said younger students (grades 3-5) tended to exhibit the most characteristics of test anxiety, while 14 percent said it was the older students (grades 6-8).

Test anxiety differences among high schoolers were even less pronounced. Seventy-one percent of school psychologists said they saw no difference in test anxiety with regard to age or grade levels (34 percent) or did not observe any discernible test anxiety at all (37 percent). Among school psychologists who did notice a difference in anxiety among younger and older kids, 17 percent said test anxiety was more common among older students (grades 11-12), while 13 percent said it was more common among younger students (grades 9-10).

These survey results warrant additional follow-up. It is unclear whether older students have learned test strategies over time that prepare them for the increase in high-stakes state testing, or whether their perception toward state assessments is slanted such that they exhibit less observable symptoms of test anxiety.

One key to helping kids approach upcoming tests is to establish a growth mindset rather than a fixed mindset, an idea developed by Stanford University psychologist Carol Dweck (2006). In a growth mindset, people believe that their intelligence can be developed through perseverance and hard work – regardless of the brains and talent they start with. They focus more on learning than worrying about how smart they are. Students with a growth mindset are likely to approach standardized tests with an attitude of positive determination, rather than panic.

# The effect of test anxiety on student performance

Previous research has shown conflicting data on whether test anxiety has a negative impact on student achievement.

One study (von der Embse & Hasson, 2012) found that higher scores on the Friedben Test Anxiety Scale – a test consisting of items concerning fear and worry about taking tests and physiological activity, such as heart rate, sweating, etc., before, during, and after tests – tended to correlate with lower scores on a state exam. Segool et.al. (2013) found that students with medium and high levels of anxiety performed worse than their peers with lower levels of anxiety (as cited in von der Embse & Witmer, 2014 ).

Another study (von der Embse & Witmer, 2014), however, found that in general, test anxiety does not contribute much to test outcomes: only 1-2 percent overall. The same study showed that academic performance (as measured by GPA) was a far stronger predictor of test performance.

The joint NYASP/NYSSBA survey found that undesirable test scores or the perception that scores are low may have psychological consequences for students. School psychologists were asked whether undesirable test scores and/or parent dissatisfaction with student test scores resulted in students displaying a sense of “learned helpless/hopelessness.” About 10 percent of survey respondents “strongly agreed” that was the case, while 37 percent “agreed.”

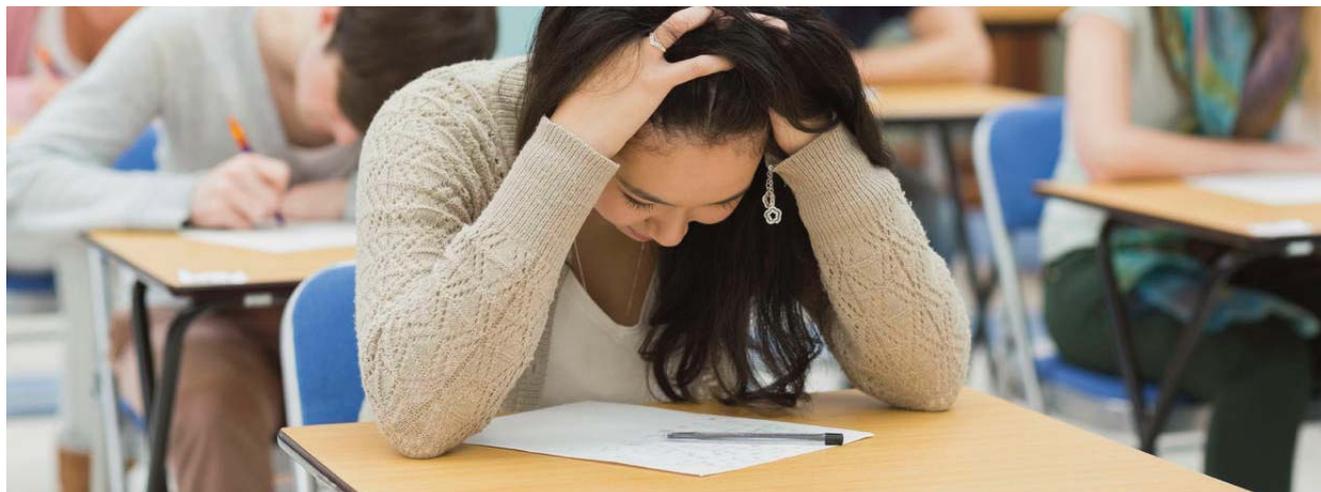
Learned helplessness is behavior typical of someone who has endured repeated painful or otherwise adverse experiences they were unable to avoid. Learned helplessness occurs after being repeatedly subjected to a stimulus that cannot be escaped. Eventually, a person will stop trying to avoid the stimulus and behave as if he or she is utterly helpless to change the situation. Even when opportunities to escape are presented, this learned helplessness prevents any action (Cherry, n.d.).

# The main sources of test anxiety

Test anxiety may be brought on by a number of sources. One is the impact of state testing results on teachers, principals and a school’s accountability status. Two-thirds of school psychologists in the NYASP/NYSSBA survey either “strongly agreed” (32 percent) or “agreed” (34 percent) that the impact of state testing results on educator performance reviews and in rating schools was a source of test-related stress.

Parental and teacher expectations play a role as well. Thirty-eight percent of school psychologists

responding to the survey believe parental expectations of high performance contribute to a “high” degree to student test anxiety, while 51 percent say parental expectations contribute at least to a “medium” degree. Similarly, the expectations of teachers also contribute to test anxiety. Nearly 90 percent of school psychologists believe teacher expectations of high performance contributes to a “high” (48 percent) or “medium” degree (42 percent).



# Preparedness of school psychologists to address test anxiety

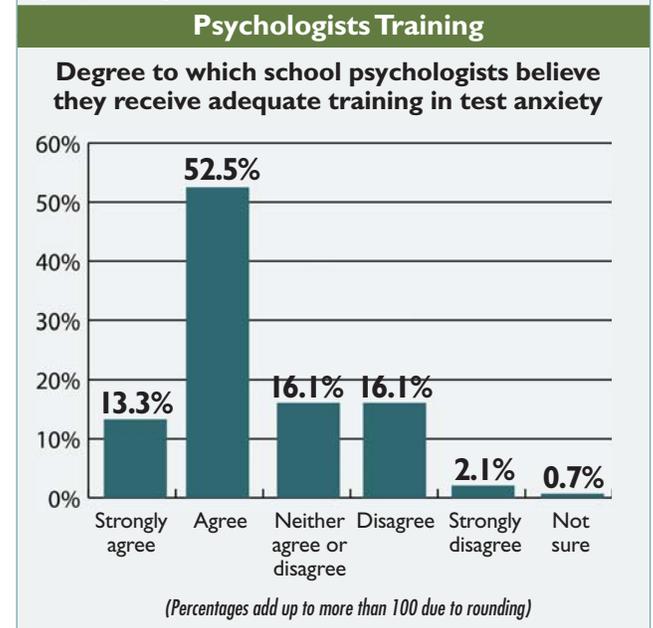
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According to the NYASP/NYSSBA survey, school psychologists largely agree that they are adequately trained in test anxiety (see Figure 6). Survey results found that about two-thirds either “strongly agree” (13 percent) or “agree” (52.5 percent) that they receive adequate training. About 16 percent were neutral on the question. About one in five school psychologists surveyed (19 percent) either disagreed or strongly disagreed that they were adequately trained in this area or were not sure. This may indicate a need for additional focus in some districts on helping school psychologists counsel students in the area of test anxiety.

Although indicating that they are generally adequately trained, a number of survey respondents said one of the things school boards could do to help school psychologists would be to provide more professional development opportunities. In response to an open-ended question asking, “What specific things can school boards do to help school psychologists?,” nearly one-third of the respondents to that question (31 percent) said school boards should provide more or adequately fund professional development opportunities for school psychologists.

Survey respondents were asked another open-ended question: “What professional development would be most helpful to you in the area of test anxiety?” Nearly half of the respondents to this question (49 percent) identified strategies and skills to help students cope with test anxiety as being most helpful.

| Figure 6 |



# What schools can do to address test anxiety

Over the course of the last decade, several studies have highlighted effective ways to combat test anxiety that focus on changing how students both think and behave and helping them develop competencies or skills. The mental and behavioral health pyramid can serve as a guide for employing test anxiety intervention strategies in schools (von der Embse & Witmer, 2014).

Huberty discusses that at the bottom of the pyramid is the general student population that may benefit from preventative measures at the school level. Through effective communication strategies and training opportunities, school mental health professionals can work directly with students or in conjunction with educators to help students understand that test anxiety does occur and is not necessarily a reflection of their academic abilities. Parents can help by not promoting perfectionism and by helping their children be organized (Huberty, 2009).

Students can combat test anxiety by consistently studying, not cramming, creating outlines for essay exams, eating right, sleeping well and utilizing the school counseling or guidance offices for further assistance (Anxiety and Depression Association of America, 2015).

The middle of the pyramid consists of students who have test anxiety that warrants one-on-one support using cognitive-behavioral strategies and academic enrichment, such as “challeng[ing] distorted cognitions and chang[ing] destructive patterns of behavior” (Psychology Today, n.d.).

For those who would benefit from treatment, cognitive behavioral therapy, or CBT, is a highly effective evidenced-based practice for treating anxiety disorders (American Psychological Association, 2015). CBT integrates an understanding of cognition, behavior, and emotional functioning (Kendall, Furr & Podell, 2015).

In CBT, the three C’s technique of “catch-check-change” is often used to help reduce symptoms of anxiety (Creed, Reisweber, Beck 2011). Using this

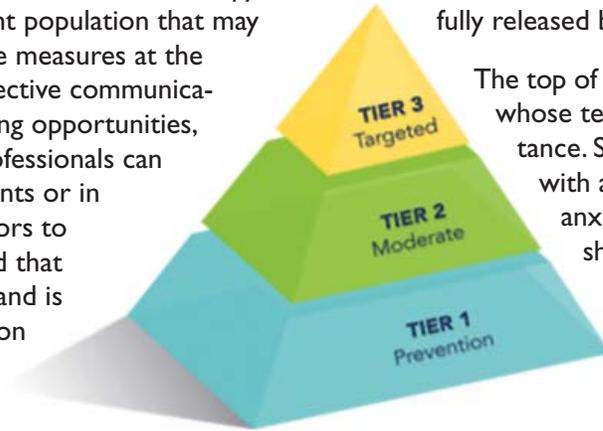
technique, a student is asked to identify the thought that came before a particular emotion (catching), reflect on how accurate and useful the thought is (checking), and then change the thought to a more accurate and useful one (changing).

Next, a student’s nervous system is reset through calm breathing, breathing slowly through her nose to the count of four, and slowly releasing the breath to the count of five (noticing when her breath is fully released before taking in the next breath).

The top of the pyramid is occupied by students whose test anxiety requires greater assistance. Students who have been diagnosed with an anxiety disorder or show high anxiety that is more longstanding should be considered for comprehensive CBT to fully address their level of anxiety. Comprehensive CBT takes between 10-15 sessions and includes: psychoeducation, somatic management skills, cognitive restructuring, gradual exposure to feared situations and relapse prevention (Kendall, Furr & Podell, 2015).

According to the NYASP/NYSSBA survey, about one-third of school psychologists said they have implemented stress/anxiety management programs in their classrooms. The survey asked respondents to share the anxiety management techniques they use. These techniques typically take the form of yoga, breathing, and visualization exercises.

Additional recommendations to reduce test anxiety include having schools provide food and extra supplies for students on the morning of tests, emphasize to students that they are prepared for the test and that all tests, in general, may have some difficult questions on them and communicate clearly about classroom procedures students should anticipate on test day. Also, teachers need to keep their anxiety in check – children tend to react to the anxiety of those around them (New York Association of School Psychologists, 2015). In addition, make time in class to have school mental health professionals discuss ways to cope with stress and test anxiety with students.



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