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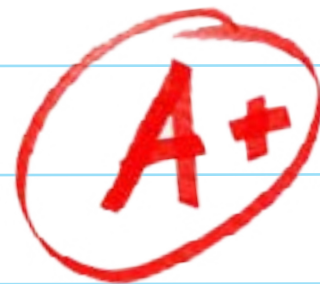
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● Test Anxiety:

Prevalence, Effects, and Interventions for Elementary School Students



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Academic pressure has the capacity to cause stress for students of all ages. From grade school through the collegiate level, students are likely to experience, to some extent, pressure associated with the demands of schooling. Based on the articles used in this review, a common and debilitating stressor for students is test taking. Therefore, my research aims to identify the definition and prevalence of test anxiety, the physiological and psychological effects associated with this stressor, and the long-term consequences of ignoring it. Additionally, existing research regarding behavioral, cognitive, and skill-based approaches and interventions will be discussed in order to develop a plan to reduce and prevent test anxiety in elementary school children.

Defining Test Anxiety

Over the years, the phrase “test anxiety” has accumulated a variety of definitions. According to early research, it was typically measured using a one-dimensional scale because it had a singular attribute (Cassady & Johnson, 2002, p. 271). However, Sarason (1961) observed that test anxiety could have multiple factors, involving both an increase in adverse physiological activity and deliberation on self-criticizing thoughts; over the years it has become more accepted that test anxiety is composed of two very distinct factors: emotionality and worry. According to Cassady and Johnson (2002), emotionality involves the awareness of the physiological symptoms associated with test anxiety, whereas the worrying, or “cognitive test anxiety” (pp. 271–272), involves the cognitive reactions before, during, and after tests.

Paul, Elam, and Verhulst (2007) explained test anxiety as a “type of distress” that involves both a “physiological” and “psychological” component (p. 287). Used to illustrate the components of test anxiety, their words “physiological” and “psychological” are essentially more concrete terms for “emotionality” and “worry” described by Cassady and Johnson (2002, p. 271). Once an individual is aware of the physiological symptoms, the psychological results can further impair performance, reflecting the interdependent nature of the two dimensions (Paul et al., 2007). In addition to these two components, other factors may influence the level of manifestation of test anxiety. Embse, Barterian, and Segool (2013) noted that biopsychosocial factors may contribute to the extent and expression of distress (p. 57). The severity of test anxiety might also affect social factors and interactions. Although the definition has appeared to evolve over the years, most recent research has supported the idea that test anxiety is a result of the interaction of physiological and psychological components.

Literature Review

Prevalence and Causes

Studies have shown that test anxiety is widespread in the general population, especially among women. An estimated 2–3 students in any given classroom are highly anxious and ten million elementary school students are not performing at their highest capacity due to test anxiety (Ergene, 2003, p. 314). Another study estimates that between 10% and 40% of all students experience some level of test anxiety that can surface as early as age seven, and women, minorities, and those with disabilities are more likely to face it (Embse et al., 2013, p. 58). Moreover, past research has supported the idea that women are prone to experiencing higher levels of test anxiety. For example, one study used the Test Anxiety Inventory (TAI), a scale with subscales that assesses

worry and emotionality, to study gender differences in test anxiety (Everson, Millsap, & Rodriguez, 1991, p. 244). This study found that women scored higher in both worry and emotionality, indicating a higher level of test anxiety overall (p. 247). Cassady and Johnson (2002) also noted the tendency for women to have higher levels of emotionality, which may contribute to their higher levels of test anxiety (p. 283).

While a mild level of stress can be used to motivate and help students prepare for a test, higher levels of stress can be debilitating. Tennant (2005) expressed that stress by itself is neither positive nor negative, and an individual’s reaction to stress depends on how the situation is perceived (para. 11). Tennant explained that stress can be positive if individuals feel they can manage and control the situation. However, if a stressor is perceived as an uncontrollable threat, the result is likely to be more negative. Using Tennant’s example of failing a test as a type of stressor, students who use the experienced stressor as motivation will likely perform better than students who fear that the stress, and therefore the grade, is out of their control (para. 4). Tennant’s article reiterated that stress, although always powerful, is not always detrimental (para. 13). Stress certainly has short-term benefits, but long-term, consistent stress can cause mental and physical health issues.

In combining and reviewing previous research, root causes of test anxiety have appeared to fall into two areas, the first relating more to the increasing academic demands that various groups and individuals place on students. As the pressure on students to meet or exceed test expectations increases, test anxiety becomes more of an issue. These demands reflect the fact that schools receive evaluations based on their test results, which immensely increases the pressure on teachers to ensure the academic success of their students (McDonald, 2010, p. 92). Due to concern over meeting goals for standardized testing, less time is spent focusing on reducing the anxiety that students experience as a result of these tests.

Not surprisingly, much research and debate has been conducted regarding standardized testing. According to Herman and Golan (1993), standardized testing takes up a large portion of instruction time and “may trivialize the learning and instructional process” (p. 6). These tests place a great deal of stress on both students and teachers, who fear that they will not succeed academically or professionally if test results are poor. Standardized tests are viewed as “high stakes testing” (Herman & Golan, 1993, p. 9), which refers to testing situations associated with important consequences. Another key stress-inducing component of standardized tests is the time constraint. Research has found that

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anxiety-prone children are likely to perform poorly under “highly evaluative and demanding testing conditions” such as timed tests (Hill & Wigfield, 1984, p. 114). Although not all anxiety-causing tests are standardized, psychologists can focus much of their research on test anxiety around standardized tests as they are a major focus of attention in schools.

Type of test aside, test scores can create a competitive environment in the classroom, relating to the second area of possible causes for test anxiety: personality traits and underlying psychological issues. Those who have had experience working in classroom settings have likely noticed that children have a tendency to compare themselves to their peers and that they will often know if they are not excelling at the same rate as other students. This understanding may place them at risk for not progressing to the next grade as they may feel more stress associated with exams. According to McDonald (2010), test anxiety is grouped under a category of anxious states and negative emotions that are often associated with neuroticism (p. 90). Additionally, since test anxiety often develops out of fear of negative evaluation, it is similar to a social phobia, which causes fears of being negatively judged. These students may spend more of their time worrying about the outcome of the test and how others will judge their performance than on the test itself.

An individual's perception
of the anxiety or stress
determines whether the result
is positive or detrimental

Psychological vs. Physiological Expression

As previously mentioned, the majority of research has noted that test anxiety has physiological and psychological components. These factors can also be described using the two constructs, emotionality and worry, that are consistently found in test anxiety research. In a general sense, the physiological nature of test anxiety is associated with emotionality and the body, while the psychological component is associated with worry (Paul et al., 2007, pp. 287–288). From a physiological perspective, test anxiety can be expressed in various ways. For many, the experience can cause an increase in heart rate and perspiration, dry mouth, and muscle spasms (Harris & Coy, 2010). In addition, anxious individuals may experience nausea, dizziness, and panic before, during, and even after a test. Many people equate this to the “fight or flight” response of the sympathetic nervous system, which is a key factor in the physiological expression of test anxiety. Emotionality then describes the extent to which individuals experiencing test anxiety are aware of their bodies’ physiological reaction to the anxiety (Sarason, 1984, p. 931). In contrast to bodily reactions, which are fairly simple to measure, observe, and assess, the psychological component of test anxiety delves into a vast range of more subjective constructs, cognitions, and thoughts (Sarason, 1984, p. 931). Recurring themes in the psychological aspect of test anxiety include worry, fear,

apprehension, panic, and cognitive impairment. However, these constructs all seem to develop as a result of the tendency to focus on the self rather than the task at hand when in a threatening situation (Paul et al., 2007, p. 288).

Sarason (1984) described the difference between task-oriented and self-preoccupied individuals and how they differ in where they direct their attention. Task-oriented individuals are able to focus their attention on the task in front of them, which is their preferred way to handle a stressful situation (Sarason, 1984, p. 930). On the other hand, self-preoccupied individuals will focus on the consequences of not performing well and engage in negative self-talk and thoughts (Sarason, 1984, p. 930). Sarason explained that this mindset focuses their attention on future implications rather than the current task, which can lead to poor performance (p. 930). “Worry and emotional arousal” (Paul et al., 2007, p. 288) are possible contributors that cause students to focus on themselves rather than the task. This self-absorption seems to be at the core of the psychological reactions associated with test anxiety. Referring back to Tennant’s (2005) depiction of stress,

an individual’s perception of the anxiety or stress determines whether the result is positive or detrimental (para. 11). Although taking a test is generally considered a stressful situation, individual differences can dictate the severity of the anxiety.

For anxious test-takers, much of their stress comes from excessive worrying at various points of the test-taking process. Cassady and Johnson (2002) described “worry” as “cognitive test anxiety” (pp. 271–272), which encompasses the breadth of reactions and thoughts prior to, during, and after tests. They noted that some thoughts associated with test-taking anxiety include comparing performance to other peers, ruminating over the consequences of failure, worrying about negative evaluation, and feeling unprepared. Additionally, some individuals experience a loss of self-worth, low levels of confidence, and fear of disappointing their parents (Cassady & Johnson, 2002, p. 272). Students who experience test anxiety may also place excessive emphasis on the negative consequences of a single test and therefore feel helpless (Harris & Coy, 2010). Fearing poor performance and negative evaluation are likely to contribute to a loss of self-worth, which, according to Cassady and Johnson, is consistently associated with a decline in performance (p. 272).

The physiological and psychological components of test anxiety are separate concepts that work together. The detrimental effects on the body may increase negative reactions in the mind and vice versa. One example of the integration of the two components comes from the idea that an increase in corticosteroid levels associated with

anxiety can actually impair memory, make it more difficult to concentrate, and hinder learning (Paul et al., 2007, p. 287). This can lead to comprehension issues which will ultimately result in poor performance. In fact, “freezing up” on a test may not be suddenly forgetting an answer when presented with a question. Rather, it may be not having sufficiently processed the information required to respond (Cassady & Johnson, 2002, p. 273), relating back to the idea that being anxious while studying for a test may interfere with complete comprehension of material.

Long-term Effects

While the short-term effects of test anxiety are detrimental in many ways while taking a test, they are also likely to lead to a wide range of negative outcomes. According to one study, “anxiety is one of the most common psychological disorders experienced by school-aged children” (Neil & Christensen, 2009, p. 209). Anxiety, in general, is likely to leave significant effects on children in areas of emotional, social, and academic functioning. Neil and Christensen (2009) note the importance of schools in helping to build resilience and/or reduce the symptoms of anxiety (p. 209), as the long-term effects of anxiety can severely and negatively impact a child’s future.

One intervention-focused study described how the feelings associated with the fight or flight response can eventually lead to outbursts, complete withdrawal, fatigue, and avoidance of school all together (Cheek et al., 2002, para. 2). In addition, according to Cheek et al. (2002), students with persistent test anxiety can develop an “invisible disability” (para. 2) of achievement stress that can continue throughout their entire academic career. In this article, test anxiety was also considered a stable personality trait that can cause debilitating behavioral responses when threatened (Cheek et al., 2002, para. 2). Cassady and Johnson (2002) stated that increased levels of test anxiety had a negative correlation with “(a) IQ; (b) aptitude; . . . (d) problem solving; (e) memory; and (f) grades” (p. 273). Following this logic, one can argue that there is a negative correlation between test anxiety and academic success and performance.

In terms of future academic success, it is no surprise that a lack of engagement in school, poor grades, and increased withdrawal and isolation can be detrimental to a child’s future academic opportunities and career. According to a study evaluating test anxiety in college freshmen, lower GPAs and poor study skills were associated with test anxiety (Culler & Holahan, 1980, p. 16, p. 18). This has shown that if test anxiety is not addressed at a fairly young age, it can persist and potentially lead to similar issues in college. Neil and Christensen (2009) noted that “the effects of anxiety disorders on the well-being of children and adolescents

are substantial . . . and can lead to reduced career choices . . . in adulthood” (p. 209). Students who struggle with taking exams and doing well will have a more difficult time continuing their education in a college setting and therefore will be limited in job opportunities and career options.

Furthermore, test anxiety has been found to be associated not only with test performance but with the ability to earn a degree and select an occupation (Ergene, 2003, p. 313). Because individuals who experience high levels of test anxiety fear negative evaluation, they may select a career in which they are infrequently evaluated (Ergene, 2003, p. 313). Individuals who choose careers where they are rarely assessed may experience an unchallenging work environment, which may negatively affect their quality of life because they are not reaching their full potential.

The Basics of Intervention Programs

Given the debilitating short- and long-term effects of test anxiety on school-aged children, school counselors, teachers, and other faculty within the school system should work together to address the problem. Research on intervention programs has focused on the various strategies, structures, and approaches to deal with test anxiety. This section will emphasize the benefits of establishing programs in a school setting and utilizing school faculty to implement these programs. In addition, it will discuss the foundation of behavioral, cognitive, and skill-based approaches as well as explore various coping methods aimed to reduce test anxiety.

Setting and Leadership

Neil and Christensen (2009) discussed intervention programs for generalized anxiety, which encompass and can be applied to a range of stressors, including test anxiety. They emphasized the importance of school systems as effective places for intervention programs because schools have the opportunity to help children who may not otherwise be identified as needing attention (Neil & Christensen, 2009, p. 209). A school setting provides an environment to facilitate skills and establish a place to learn and grow. Other benefits include location, time, and transportation, as the targeted students are in the intervention environment on a daily basis. In addition, a school-based program can provide the opportunity for students to work together in groups (p. 209). A school community allows for stable social support, which may help decrease anxiety and possible subsequent feelings of isolation (Mealey & Host, 1992, p. 148).

In their study, Neil and Christensen (2009) also described how a program leader’s qualities and characteristics can influence the effectiveness of an intervention (p. 212). Specifically, they noted the importance of “program fidelity,

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leader rapport, relevant content, and audience appeals” (Neil & Christensen, 2009, p. 212). Their research showed that a creative, knowledgeable, and enthusiastic leader is likely to implement a more successful intervention than a leader who is uninterested and unprepared (p. 212). This is important for school teachers to know, as school-based interventions will often utilize teachers as intervention leaders rather than incurring the costs of hiring mental health professionals. Interestingly, according to the study, the trials in which teachers conducted the intervention were more successful in reducing anxious symptoms than trials in which professionals conducted the intervention (p. 213). To increase the success of the program, a basic level of training and understanding of test anxiety and intervention programs would be helpful.

Approaches: Behavioral, Cognitive, and Skill-based

For maximum effectiveness, the type of approach used in a given intervention program should identify the area of test anxiety that is being targeted. A meta-analysis conducted in 2003 analyzed results of past programs in order to determine whether a behavioral, cognitive, or skill-deficit approach is most successful in reducing anxiety (Ergene, 2003, pp. 315–316). Behavioral methods typically focus on the physiological effects of test anxiety and include techniques such as “systematic desensitization, relaxation training, biofeedback, modeling, anxiety induction, anxiety management,” and more (Ergene, 2003, p. 314). On the other hand, cognitive approaches strive to reduce the psychological detriments of anxiety and may utilize “rational emotive therapy, cognitive restructuring... stress-inoculation training,” and other methods (Ergene, 2003, p. 314). Lastly, skill-based programs aim to teach and encourage good study habits and test-taking skills, which focus more on training students to be prepared for the test and how to approach different types of tests and test questions.

A good first step before introducing other behavioral, cognitive, or skill-based methods is relaxation training, a common behavioral approach. The foundation of relaxation training is learning how to take deep and controlled breaths in order to counteract the physiological symptoms associated with anxiety. One study assessed the benefit of Deep Breathing Meditation (DBM) for medical students and noted that without deep breathing, “heartbeat, respiration, blood pressure, muscle tension, and gastric discomfort” can increase (Paul et al., 2007, p. 288). In order to reduce these anxiety-inflicted symptoms, the researchers provided the students with an opportunity to participate in a meditation activity with deep or diaphragmatic breathing as a key component. At the end of the longitudinal study,

students reported less anxious feelings and nervousness as well as a decrease in self-doubt and concentration loss. They also felt that continued use of the exercise would help them in their current and future career.

The DBM exercise used by Paul et al. (2007) was structured using the four components of Benson’s Relaxation Response. According to their description of Benson’s work, the key factors required for a relaxed state include “working in a quiet environment, using a mental device such as concentrated breathing to direct one’s attention, being in a comfortable position where most of the body weight is supported, and having a receptive attitude” (p. 289). One significant benefit of this technique is its simplicity. It does not require extensive equipment or professionals and can therefore be used anywhere at any place and time. For this particular study, the researchers followed a script that took seven minutes to complete (see Appendix A), but shorter variations are likely to be as effective in producing the calming effect associated with DBM.

Behavior and cognitive methods together were effective in decreasing anxiety

While Paul et al. (2007) focused only on the behavioral approach to test anxiety reduction, other research suggested that combining behavioral, cognitive, and skill-based methods is the most beneficial (Ergene, 2002). According to a study assessing strategies for coping with test anxiety, coping methods can be grouped into five areas: relaxation, positive thinking, preparation, resignation, and concentration (Kondo, 1996, p. 210), all of which track one or more of the approaches. Relaxation has a behavioral focus and aims to ease any bodily tension experienced as a result of emotional arousal (p. 210). Positive thinking is a cognitive approach that involves attempting to eliminate or change the negative thought processes that occur with test taking (p. 210). Kondo (1996) described resignation as a reluctance to decrease anxiety, which some individuals use to avoid facing the problem all together (p. 209). Lastly, preparation and concentration are “task-relevant” and skill-based, focusing on the aspects of test anxiety that lead to successful performance (p. 211).

In his meta-analysis reviewing test anxiety interventions, Ergene (2002) also found that combined approaches were the most effective in reducing anxiety (p. 322). More specifically, he found that behavior and cognitive methods together were effective in decreasing anxiety, but that skill-based techniques alone did not yield the same success (p. 322). He noted that a combined program should incorporate information about studying and test taking, but also present an opportunity to practice attending to the task at hand, learning how to relax under threatening conditions, and self-monitor certain behaviors.

Cheek et al. (2002) combined behavioral, cognitive, and skill-based techniques in a study to establish an intervention specifically for elementary school students. The article noted that interventions involving music, art, and movement were viewed as being more exciting and fun for students (para. 4). The researchers kept this evidence in mind by incorporating these activities into their intervention plan. Additionally, they designed their program in a way that would not keep students from their classes for long periods of time (para. 8). Participating students were made up of a group of individuals who self-reported feelings of anxiety, who did not perform well on a recent benchmark, and who were recommended by teachers.

During the first session, Cheek et al. (2002) provided students with a test anxiety hierarchy consisting of 13 items describing different situations that may occur throughout the testing process (see Appendix B). They asked students to rate each situation on a scale of 0 to 10, 10 being the highest level of anxiety, and used situations associated with the highest level of anxiety as reported by the students as focal points for the remainder of the intervention. The second session incorporated movement by teaching students to “stop, drop, and roll” any time they began to feel stressed (para. 10). The movement associated with each word is as follows:

- *Stop.* Put pencil down and place hands on the table, focusing on the cool surface.
- *Drop.* Tilt head forward.
- *Roll.* Roll head around while gently taking three deep breaths.

Students practiced this exercise while listening to classical music. During the third session, they returned to the hierarchy used during the first session by having students say “fire” each time they got to an item that produced high levels of anxiety (Cheek et al., 2002, para. 11). They then incorporated art by asking students to create portraits of themselves as relaxed and successful test-takers (para. 11). The next three sessions were classroom based and focused on test-taking skills. These skills were taught as a guidance unit and gave the students in the group a chance to teach the “stop, drop, and roll” method to their fellow classmates (para. 12). The last part of the intervention was a school-wide assembly held shortly before school-wide standardized testing would take place. It incorporated music and movement and encouraged students to use the “stop, drop, and roll” technique whenever they felt the effects of test anxiety (para. 12).

The results of this study showed reports of decreased stress and worry about future testing situations. In addition, all 16 students in the group felt more relaxed during the

standardized test. Benefits of this intervention include not only its success, but its simplicity in that it is easy to teach, learn, and understand. Furthermore, incorporating art, movement, and music into the intervention allows for increased interest and engagement and creates a more inviting and interactive environment.

Intervention Plan

Need and Purpose

During my senior year at James Madison University, I completed my senior capstone at a public elementary school in Harrisonburg, VA, which I will refer to as “School A” for confidentiality purposes, as a counseling field placement student. Throughout my time at School A, I was given many opportunities to learn about the responsibilities of a school counselor, which also allowed me to understand the needs of students in this age group and in this area of the country. For the most part, I learned about their needs by mentoring, teaching guidance lessons, observing counseling sessions, and leading groups. In my experience observing and leading a stress management group, I noticed that a common and reoccurring stressor for these students was taking tests. Given the prevalence of this issue at School A, I was motivated to create an intervention plan focusing specifically on test anxiety to be implemented at School A.

Lack of structure and support at home was increasing or potentially causing academics-related anxiety

While mentoring, observing and leading groups, and interacting with the students at School A on a weekly basis, I realized that many of the students had unstable home environments and complicated family dynamics. For some, I felt that the lack of structure and support at home was increasing or potentially causing academics-related anxiety. Therefore, these students needed an opportunity to learn how to self-cope with stress and anxiety at an early age. Moreover, I believed that these students would benefit from the support and encouragement of a group that may have been lacking outside of school.

Group Member and Leadership Selection

The specific intervention plan below is targeted towards elementary students, grades one through five, who either self-refer themselves by means of a group sign up or are referred by their guardian or teacher. In either case, a permission form must be sent home to the student’s parent or guardian to ensure that the child has permission to be involved in the group. In addition, each student should be individually interviewed before the start of the group to confirm his or her desire and willingness to participate.

The leader of the group should be the school’s counselor or a field placement student under the supervision of a school counselor. With basic training and lesson plans, group

leaders could easily be expanded to teachers or other faculty. Only one to two leaders are necessary for each session, and the selected leaders should remain the same throughout the entire intervention. The same leader should be present at every session in order to foster trust with the students. The more comfortable the group members are with their intervention leader, the more likely they are to share their concerns, questions, and thoughts regarding their stress. As a result, leaders will be more likely to uncover and focus on specific areas of need for that particular group. Overall, the intervention will be more successful with greater consistency and a safer environment.

Both the needs of the teachers and the students should be addressed. When students need additional attention, teachers are usually concerned with taking away time from a structured class to provide extra help. Teaching time should be valued and respected so that the intervention plan does not cause students to miss material. Therefore, this intervention plan is designed to be held during lunch time. The program is designed to be approximately eight weeks in duration and consist of weekly 30-minute meetings during students' normally scheduled lunch. Due to the already established appeal and success of lunch groups at School A, students would most likely be interested in participating. The sessions will incorporate some elements of the established stress management group, activities and methods from the test anxiety interventions previously discussed, and additional introductory or closing exercises.

Session Descriptions

Session 1. The first session of the group will focus on creating a group name and establishing guidelines to help each meeting run smoothly. Leaders should emphasize the importance of confidentiality so that students feel comfortable sharing their stories and experiences. Toward the beginning of the session, the students will be asked to say their names and something different or unique about themselves. This will establish the welcoming, encouraging, and positive environment that the group leader and members should strive to maintain.

Sessions 2 & 3. The second and third sessions will be dedicated to discussing how test anxiety affects our body and our mind. Therefore, leaders will discuss both the physiological and psychological reactions associated with the test taking process and create a graphic to distinguish the difference. Each group member will be given an opportunity to describe how test anxiety affects them. This will promote conversation during the session and

show students that they may have similar and/or different reactions to other students. At the end of the third session, students will be asked to share something about themselves that they are proud of or good at.

Session 4. The goal of the fourth session is to target where the highest level of stress associated with test taking originates. In order to do this, leaders will guide students through the anxiety hierarchy described by Cheek et al. (2002, para. 9). By allowing students to rate each item based on the level of anxiety created, a focal point for the remainder of the sessions will be established. Although behavioral, cognitive, and skill-based techniques will all be addressed in future sessions, the amount of time spent on each area will be determined by the combined results of the hierarchy exercise.

Session 5. During the fifth session, leaders will discuss and teach coping methods for the physiological side effects of test anxiety. The deep breathing meditation exercise described by Paul et al. (2007) will be completed at the beginning and the end of the session while listening to relaxing classical music. This exercise will use a modified version of the script in order to make use of limited amount of time. Additionally, physical exercise, listening to music, and reading will be encouraged as ways to cope with anxiety before and/or after a test. In order to address anxiety that emerges a few minutes before or during a test, students will be taught the "stop, drop, and roll" method described by Cheek et al. (2002).

Session 6. At the start of the sixth session, students will be asked to stand up and participate in an exercise that is designed to calm nerves. They will start by shaking their right hand 10 times while counting down from 10, followed by their left hand, right foot, and left foot. They will then repeat this in the same order, but count down from nine, and then eight, and so on, until they reach one shake for each hand and foot. This exercise will be followed by one minute of deep breathing, which together will establish the relaxed state addressed in the previous session. The goal of the remainder of the session will be to focus on the psychological and cognitive components of test anxiety. Specifically, leaders will address the negative thought process that often occurs before, during, and after tests and discuss ways to counteract these thoughts with positivity. Leaders should address the benefit of positive self-talk and encourage students to engage in this technique during any point of the testing process. To facilitate this lesson, leaders will also create a graphic organizer with two columns. On one side, students will share the negative "what if" thoughts

Intervention will be more successful with greater consistency and a safer environment

that crowd their mind when dealing with tests. On the other side, the “what if” will be turned into a positive and encouraging phrase.

Example:

Negative thought: “What if I fail the test because I can’t remember the answer to one of the questions?”	Positive response: “Even if I don’t know the answer to one question, I will know the others because I am prepared for this test.”
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Session 7. The seventh session will focus on studying and test-taking skills. Leaders will describe different study tools (flashcards, outlining, etc.), as well as encourage students to start studying and preparing as soon as possible rather than waiting until the night before. Additionally, students will learn about test-taking strategies (process of elimination, using context clues, etc.), and how to manage their time wisely during a test.

Session 8. The last session will be a celebration where students will have the opportunity to eat treats brought in by the leaders and make “stress balls” using small balloons and sand. This session will also be used to review the techniques learned throughout the intervention and to encourage students to share them with their friends and family.

Post-intervention Follow-up and Expected Outcomes

If successful, students who complete the program in its entirety should expect to feel more relaxed, have improved study and test-taking skills, and be able to approach future tests with confidence. In addition, the goal is for students to share the techniques and information they learned in the group with other students. A few months following the conclusion of the intervention, leaders should reach out to students in the group to see if the techniques they learned have helped them be more successful.

As an additional follow-up, the leaders of the group should prepare a brief presentation for faculty regarding the background, purpose, and outcome of the intervention. This will not only allow teachers to stay informed on what their students are working on outside of class but will also encourage them to try the activities in their own classrooms. Although the entire intervention might be too lengthy to complete during class time, teachers could easily allow time for some of the quick pre-test exercises outlined in the session descriptions.

Overall, I expect this intervention to provide students with information and coping methods that are memorable and easy to do at any time. Additionally, I expect teachers to become more educated on the prevalence and causes of test anxiety, in hopes they are encouraged to play their part to reduce the effects.

Conclusion

Test anxiety is a multifaceted stressor with physiological and psychological components that can severely interfere with a child’s mental health and academic success. As academic pressure increases in our culture over time, implementing test anxiety interventions at an early age is becoming even more crucial. Interventions need to focus on targeting both the physiological and psychological effects of test anxiety by incorporating behavioral, cognitive, and skill-based methods into their programs. Providing students with the opportunity to understand and learn how to reduce test anxiety at a young age can immensely impact their current and future academic success.

Implementing test anxiety interventions at an early age is becoming even more crucial

The intervention plan discussed above is simple to adopt and implement and has the capacity to vastly improve how students approach test taking. While this may begin at the school where I worked, there are ways in which this plan can be shared, taught, and adopted throughout various school systems. As a first step,

school counselors can begin to promote this intervention plan at local county and state school counselor meetings. Additionally, the American School Counselor Association holds an annual conference where this information could be shared on a national level. Regardless of how and where this topic is shared, the effects and prevention methods of test anxiety are an important topic that should be discussed across school systems. If the right level of support and attention is focused on this increasing problem, test anxiety may eventually become a mandatory topic in school counseling curriculums.

Not only is the structure of this intervention plan easy to implement, but it is also adaptable to different age groups. Although most activities and instructions used in this plan are not age-specific, leaders can certainly adjust their plan to fit the needs and demographics of the students in their group. They can do so by adjusting worksheets and discussion questions at their discretion, so long as the key concepts and foundations of the intervention plan are unchanged. The ease, adaptability, and importance of this intervention plan will hopefully contribute to confronting and tackling test anxiety once and for all.

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Appendices

Appendix A: Deep Breathing Meditation (Developed based on Benson's Relaxation Response found in Paul et al. 2007)

- Sit up straight with your feet flat on the floor, hands comfortably in your lap or on the desk and allow your chair to support you.
- Let your eyes drift slowly closed, top lid touching the bottom lid, looking at the insides of your eyelids.
- Let your body be still except for your breathing.
- Going at your own pace, notice your inhale and exhale (allow time for two or more cycles after giving directive).
- With your next inhalation, pull your in-breath deep into your abdominal area, like filling up a balloon with air.
- Then exhale out, out, out, until you can't exhale anymore (allow time for two or more cycles).
- Inhale again, deep into your abdomen, not holding on with your belly muscles—there's no need to hold on with your body on the exhalation. Let your navel push back towards your spine on the exhale out, out, out.
- Deeply, not forcing your breath, but not skimping on it either, continue at your own pace (allow time for two or more cycles).
- Notice how on the inhale, the air is slightly cool past the tip of your nose and how on the exhale, the air is now slightly warm past the tip of your nose (two or more cycles).
- Notice how on the in-breath, your rib cage pulls apart, then collapses on the exhale (allow time for two or more cycles).
- With your next inhalation/exhalation cycles, try counting your breath. For example, if you inhale for three seconds, then exhale for three seconds.
- Your inhalations and exhalations might be shorter or longer, it doesn't matter. Take the time now to try to match them (at least five complete cycles).
- Bringing yourself back to the room, open your eyes, and take this calm feeling with you for the day.

Appendix B: Test Anxiety Exposure Hierarchy (By Kennedy and Doepke 1999, referenced in Cheek et al. 2002)

- You are preparing for the test that will be administered in one week.
- You are in class working on skills for the test. It is a week before the test.
- You are discussing the importance of the test. It is now Friday morning.
- It is Monday morning before the test. You are studying and planning your schedule for tomorrow.
- It is the night before the test. You are thinking about the test you will take in the morning.
- It is the day of the test. You are eating breakfast. How are you feeling?
- It is Tuesday morning, and you are walking into your classroom.
- You are sitting in a classroom, waiting for the test to begin, and they hand you your test.
- You start the test and read the first question. You do not know the answer immediately.
- You are taking the test and read a few more questions that are confusing.
- You realize that people are finishing the test, and you know that you need more time.
- You are taking the test, and it is time for lunch.
- You turn in the test.