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## Helping Middle School Students Acknowledge and Navigate Anxiety: An Action Research

Teresa Jones

Augusta University, teresasjordan@gmail.com

Amanda Riggs

Augusta University, amandariggs57@yahoo.com

Nai-Cheng Kuo

Augusta University, nkuo@augusta.edu

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**Helping Middle School Students Acknowledge and Navigate Anxiety:  
An Action Research**

Teresa Jones  
Amanda Riggs  
Nai-Cheng Kuo  
Augusta University

**Abstract**

Teachers and school counselors have the responsibility not only to build a positive school climate in which students want to perform and stretch themselves academically and socially, but also to create an environment in which students know that their teachers and school counselors are aware of their needs, anxiety, and other factors preventing them from reaching their potential. In the present study, we used an action research design to help students acknowledge their anxiety and know how to navigate it. The results indicate that most students exhibited lower anxiety before and during a test, while their anxiety level was the highest after taking a test. Moreover, the power analysis ( $p$ -value) shows that students' anxiety levels before, during, and after a test did not significantly impact each other. Challenges regarding anxiety interventions include: 1) students who used fidgets as toys rather than sensory tools, 2) teachers reluctant to implement coping skills continuously for fear of losing instructional time, and 3) the school's limited funding for purchasing a wider variety of coping strategies. Suggestions to school administrators and future research studies are discussed.

*Key words:* Test anxiety, coping skills, action research, anxiety questionnaire

## Introduction

In *This We Believe in Action: Implementing Successful Middle Level Schools*, published by the Association for Middle Level Educating (AMLE), Payne (2012) stated that “having an inviting, supportive, and safe environment is not just desirable, it is a prerequisite for maximizing student achievement. Schools with such environments encourage students and teachers to take risks, to explore, and to create” (p. 134). This means that teachers not only build a positive school climate in which students want to perform and stretch themselves academically and socially, but also create an environment in which students know that their teachers are aware of their needs, anxiety, and other factors preventing them from reaching their full potential.

According to Payne (2012), it is critical that educators study their students’ anxiety, teach them coping skills, and incorporate instructional strategies to maximize students’ performance in school. By studying students’ anxiety, teachers, administrators, and counseling staff will have a better understanding about what factors affect students’ performance, particularly on tests. In their paper “The Role of Sleep in Childhood Psychiatric Disorders,” Alfano and Gamble (2009) list the following as clinically proven academic impacts of anxiety: poor academic performance and underachievement, school isolation, lower attention span, decreased short term memory capacity, poorer sleep quality, and higher dropout rates. They described that 49% of anxious adults report having left education early; 24% indicated anxiety as the primary reason. Therefore, it is crucial for all stakeholders to remember that “learning is more than producing high test scores and [that] students have needs that must be met before they can be academically successful. Feeling cared for is one of those needs” (Williams, 2012). Each student must feel heard, understood, and know they have an adult who will advocate and invest in them as a prerequisite for feeling cared for. Awareness of student needs enables teachers and school counselors to become advocates for their students. McEwin and Dickinson (2012) argue that advocating for students is one of the five roles good educators should embrace in their daily encounters with students. In their article “Value Young Adolescents: Educators Value Young Adolescents and are Prepared to Teach Them,” McEwin and Dickinson (2012) consider being an advocate a “complex, but essential, responsibility of middle level educators” (p. 7). In accordance with AMLE’s roles for teachers — role model, supporter of diversity, collaborator, and lifelong learner — advocating for students’ wellbeing is deemed just as vital as the other roles (McEwin & Dickinson, 2012).

*Turning Points* published by the Carnegie Council of Adolescent Development (CCDA) highlighted the need for teachers to strive to understand their students, especially if it is the adolescent age group. It also outlines that students perceive a caring teacher as someone who respects the dignity of students, greets students warmly, shows interest in their activities outside of school, and is aware when students are ill or feel upset. All students need to encounter at least one adult in their lives who is willing to take time to understand their challenges in academia and guide them to resolve problems (Williams, 2012). This feeling of being unwell or state of upset could very well stem from a feeling of anxiety, whether personally or academically related.

The purpose of the present study was to help students acknowledge their anxiety and learn how to navigate it. We used an action research design to identify factors that interfere with students’ academic performance and to discover potential solutions which might improve it. Action research designs refer to educators using systematic procedures to collect and analyze student performance data with the aim to improve the educational setting, their teaching, and/or the learning of their students (Creswell, 2015). By taking action, we became aware of academic

anxiety as being a prominent concern to students and we identified ways of influencing students that could combine newfound knowledge with existing literature on adolescents' socioemotional, cognitive, and physical development and needs.

## **Method**

### **Setting**

This action research took place in a private middle school (grades 5-8) located in the southeast region of the United States. The entire school program housed grades Pre-K3 through 12th grade and are divided into lower, middle, and upper schools. The middle school had one school counselor that served the needs of over 100 students and approximately 20 teachers. The students in the middle school were with the same core teachers for two school years which allowed for personal and scholastic connections beyond one academic year. The middle school offered foreign languages for all grades (5-8) as well as music, theater, computer, and art as electives. If students were performing above and beyond what the middle school core curriculum included, the students had the opportunity to take classes in the upper school. The population of this school was diverse with students residing in over 25 different zip-code areas. The first author of the article was an English Language Arts teacher in this school, the second author was the school counselor, and the third author was the first two authors' former professor.

### **Participants**

The participants in our survey were 7<sup>th</sup> and 8<sup>th</sup> grade students. These students experienced a drastic change in pace, workload, and teacher expectations due to the high importance placed on academic rigor as they transition from the 6<sup>th</sup> grade to the higher grades. Many had voiced feeling overwhelmed with the new expectations or helpless as to how to manage a balance between school work, extracurricular activities, and desired free time. For many of the students, this helplessness turned into anxiety felt daily. Furthermore, as the students moved from 7<sup>th</sup> to 8<sup>th</sup> grade, they experienced yet a new shift in expectations: the demand for independent and self-directed learning with an even higher workload, new subjects and opportunities, and the expectation to travel between the middle and the upper school to take classes (sometimes with upper school students). The expressed anxiety was even more drastic for the 8th grade students.

There were a total of 69 students who took the survey questionnaire. Among them, 31 identified as female and 38 identified as male. Six races/ethnicities were represented in this student population. Fifty-one students identified as Caucasian, eight students were Asian American, five students were Middle Eastern, two students were African American, two students were multiracial, and one student was Native American. The majority of the student population came from middle- to upper-class families and represented five different counties.

### **Data Collection Procedures**

The purpose of our study was to gauge how students were affected by academics-related anxiety, if the anxiety stemmed from parent, teacher, or personal expectations, if the anxiety was the same across the spectrum of classes students were taking, and if the anxiety was worsened by the climate fostered at school. To ensure the quality of our study, we took Creswell's (2015) and Mills's (2018) action research quality indicators into consideration. These indicators include: 1) involving participants to specify the problem, 2) gathering multiple data resources to study the problem, 3), identifying a particular problem in the educational setting that leads to action

research 4) developing a plan for action, 5) improving the educational setting, teaching practice, and/or student learning, and 6) developing a one-page summary of the study with suggestions for stakeholders (Creswell, 2015; Mills, 2018). The procedure of our action research is shown in Figure 1.

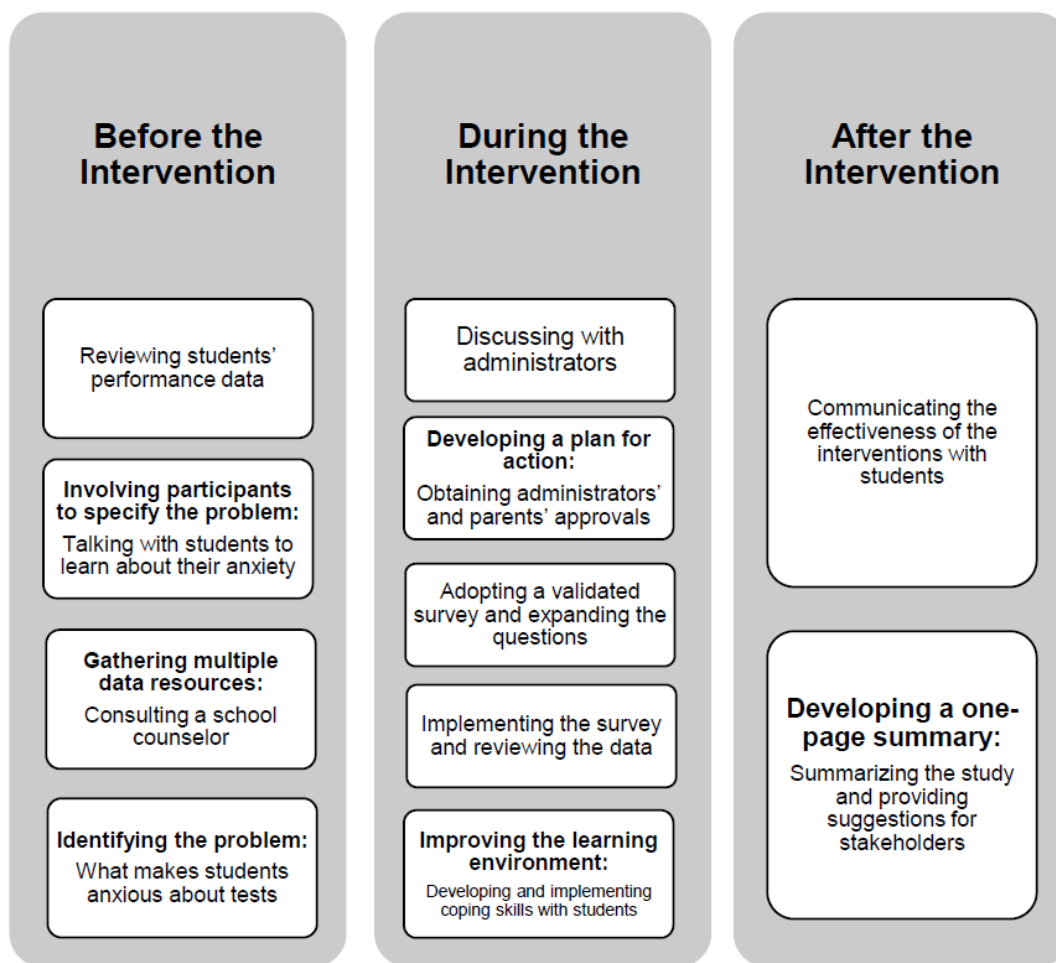


Figure 1. Action Research Procedure of the Present Study

When reviewing students' academic performance data, we were surprised that many students performed undesirably on formal tests, including those who before had been high achievers in class. After conversing with students, we learned their anxiety might negatively influence their academic performances. We then obtained school administrators' and parents' permission to develop and implement a survey study. The survey data would help us identify specific factors of anxiety, so we could adopt or develop related coping skills to intervene earlier. For students who did not respond well to the intervention, we planned to increase the intensity and clarity of the intervention, including modifying the intervention to meet students' individual

needs. We decided on the following 4-step procedure to work our way from gauging student need to implementation in an efficient and swift manner: Step 1: Identify student needs using an online survey tool; Step 2: Evaluate student needs; Step 3: Introduce various coping skills to the students; Step 4: Implement the strategies on a regular basis. The online survey tool consisted of 13-questions to survey the students on their anxiety.

### **Instrument**

Prior to implementing interventions, the participants received a survey questionnaire. This questionnaire included questions about participants' demographic characteristics and their test anxiety. We adopted an online public access test anxiety questionnaire created by Nist and Diehl (1990) to determine if and to what extent students experienced test anxiety. We removed one of Nist and Diehl's (1990) questions, *I panic before and during a test*, to avoid potential student confusion. Since the question contained both "before" and "during" in the same question, student responses could refer to before, during, and/or both, which could cause ambiguity in the data analysis. In addition, we added four questions to get a deeper understanding of students' test anxiety. The final survey questions are shown in Table 1. The survey questions were posed about physical symptoms, mental symptoms, personal expectations of academic performance, and perceived expectations of parents and teachers. All questions were multiple choice and the answer choices included a ranging frequency of occurrences. Both nominal (i.e. categorical) scales and ordinal (i.e. ranking) scales are utilized in our survey study. The last choice of A-F refers to letter grades and the question "What do you consider a bad grade." The response choices are shown in Table 2. The survey was taken anonymously on one given day and during the same core subject class. The purpose of the survey being anonymous was to allow the students to answer the questions more freely and honestly without providing any identifying markers.

Table 1

*The Survey Questionnaire*

	Questions
<b>Before the test</b>	1. I have visible signs of nervousness such as sweaty palms, shaky hands, and so on right before a test. 2. I have “butterflies” in my stomach before a test. 3. I feel nauseated before a test. 4. I have trouble sleeping the night before a test.
<b>During the test</b>	5. I read through the test and feel as if I do not know any of the answers. 6. My mind goes blank during a test. 7. I make mistakes on easy questions or put answers in the wrong places. 8. I have trouble choosing answers on a test.
<b>After the test</b>	9. When receiving a lower than expected grade, I worry about my parents' reaction. <sup>a</sup> 10. When I receive a lower than expected grade, I am disappointed in myself. <sup>a</sup> 11. When receiving a low grade, I wonder what my teacher thinks of me as a student. <sup>A</sup> 12. I feel like I have failed when I receive a low grade. <sup>a</sup> 13. I remember the information that I blanked on once I get out of the testing situation.

<sup>a</sup> Our additional questions to Nist and Diehl’s (1990) questionnaire.

Table 2

*Response Choices*

Frequency	Perspectives	Grades
Never (1)	Strongly Disagree (1)	A
Occasionally/Rarely (2)	Disagree (2)	B
Sometimes (3)	Neutral (3)	C
Often (4)	Agree (4)	D
Always (5)	Strongly Agree (5)	F

**Intervention**

After reviewing students’ survey data with the school counselor and getting a better understanding of students’ test anxiety, we explored school resources and existing literature to identify possible interventions. We discussed the advantages and disadvantages of these interventions in relation to the students’ ages, behavioral and academic expectations, and the school’s culture. Then, we selected appropriate low-intensity interventions which could be delivered effectively in the regular classroom without singling out students, taking away too much instructional time, or interrupting the class routines.

## **Data Analysis Procedures**

The data collected from the online survey tool was extracted to an Excel spreadsheet and later copied into the SPSS software for data analyses, such as mean (*M*), standard deviation (*SD*), correlation (*r*), and power analysis (*p*-value, the cutoff for significance). The statistical methods were selected based on the nature of the data and the purpose of the study. For the intervention, we described how interventions were implemented as well as students' comments on using strategies to manage test anxiety.

## **Results**

### **Quantitative Data**

We used the SPSS Statistics software package to analyze our quantitative data. The descriptive statistics include means, standard divisions, and percentages. The means and percentages indicate that most students exhibited lower anxiety before and during the test. Interestingly, most students, regardless of them having higher or lower anxiety before or during the test, were concerned about their parents' feeling and felt disappointed in themselves when getting a poor grade. In other words, most students cared about their test results and felt anxious especially when they were waiting for the test results or after getting a poor grade. The standard deviations are between 0.83 and 1.36. Table 3 shows the descriptive statistics of the survey data.



Table 3

*The Descriptive Statistics of the Survey Data*

		Mean	SD	Lower Anxiety (scored 1 or 2)	Higher Anxiety (scored 4 or 5)
Before the test	1. I have visible signs of nervousness such as sweaty palms, shaky hands, and so on right before a test.	2.65	1.11	51%	22%
	2. I have “butterflies” in my stomach before a test.	2.88	1.17	39%	36%
	3. I feel nauseated before a test.	1.65	0.92	81%	6%
	4. I have trouble sleeping the night before a test.	1.80	0.85	86%	4%
During the test	5. I read through the test and feel as if I do not know any of the answers.	2.22	1.16	64%	17%
	6. My mind goes blank during a test.	2.55	0.99	48%	17%
	7. I make mistakes on easy questions or put answers in the wrong places.	2.75	1.05	49%	26%
	8. I have trouble choosing answers on a test.	2.57	0.83	48%	13%
After the test	9. When receiving a lower than expected grade, I worry about my parents' reaction.	3.67	1.51	26%	<b>61%</b>
	10. When I receive a lower than expected grade, I am disappointed in myself.	4.30	0.73	1%	<b>87%</b>
	11. When receiving a low grade, I wonder what my teacher thinks of me as a student.	2.93	1.36	39%	36%
	12. I feel like I have failed when I receive a low grade.	3.35	1.32	30%	48%
	13. I remember the information that I blanked on once I get out of the testing situation.	3.00	1.01	30%	36%

The correlation data in Table 4 indicate that only two questions have significantly strong positive correlation ( $p < .01$ ). The two questions are: (Q5) I read through the test and feel as if I do not know any of the answers and (Q6) My mind goes blank during a test. Aside from these two questions, most questions have significantly mild to moderate positive correlations, which means that students' anxiety before, during, and after taking exam differs and do not necessarily affect each other.

Table 4

*Correlation of the Survey Questions*

		Correlations												
		Before the test				During the test				After the test				
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
Before the test	Q1	1	.524 <sup>a</sup>	.585 <sup>a</sup>	.439 <sup>a</sup>	.276 <sup>b</sup>	.310 <sup>a</sup>	.267 <sup>b</sup>	.137	.009	.349 <sup>a</sup>	.459 <sup>a</sup>	.397 <sup>a</sup>	.287 <sup>b</sup>
	Q2	.524 <sup>a</sup>	1	.467 <sup>a</sup>	.375 <sup>a</sup>	.127	.208	-.012	.114	.028	.282 <sup>b</sup>	.400 <sup>a</sup>	.227	.161
	Q3	.585 <sup>a</sup>	.467 <sup>a</sup>	1	.434 <sup>a</sup>	.333 <sup>a</sup>	.261 <sup>b</sup>	.123	.299 <sup>b</sup>	.074	.268 <sup>b</sup>	.518 <sup>a</sup>	.271 <sup>b</sup>	.205
	Q4	.439 <sup>a</sup>	.375 <sup>a</sup>	.434 <sup>a</sup>	1	.254 <sup>b</sup>	.204	.026	.373 <sup>a</sup>	.256 <sup>b</sup>	.383 <sup>a</sup>	.481 <sup>a</sup>	.314 <sup>a</sup>	.136
During the test	Q5	.276 <sup>b</sup>	.127	.333 <sup>a</sup>	.254 <sup>b</sup>	1	<b>.685<sup>a</sup></b>	.238 <sup>b</sup>	.572 <sup>a</sup>	.201	.249 <sup>b</sup>	.372 <sup>a</sup>	.306 <sup>b</sup>	.399 <sup>a</sup>
	Q6	.310 <sup>a</sup>	.208	.261 <sup>b</sup>	.204	<b>.685<sup>a</sup></b>	1	.415 <sup>a</sup>	.544 <sup>a</sup>	.222	.130	.323 <sup>a</sup>	.324 <sup>a</sup>	.511 <sup>a</sup>
	Q7	.267 <sup>b</sup>	-.012	.123	.026	.238 <sup>b</sup>	.415 <sup>a</sup>	1	.314 <sup>a</sup>	-.015	.175	.080	.148	.415 <sup>a</sup>
	Q8	.137	.114	.299 <sup>b</sup>	.373 <sup>a</sup>	.572 <sup>a</sup>	.544 <sup>a</sup>	.314 <sup>a</sup>	1	.176	.220	.244 <sup>b</sup>	.167	.366 <sup>a</sup>
After the test	Q9	.009	.028	.074	.256 <sup>b</sup>	.201	.222	-.015	.176	1	.212	.116	.377 <sup>a</sup>	.230
	Q10	.349 <sup>a</sup>	.282 <sup>b</sup>	.268 <sup>b</sup>	.383 <sup>a</sup>	.249 <sup>b</sup>	.130	.175	.220	.212	1	.478 <sup>a</sup>	.529 <sup>a</sup>	.316 <sup>a</sup>
	Q11	.459 <sup>a</sup>	.400 <sup>a</sup>	.518 <sup>a</sup>	.481 <sup>a</sup>	.372 <sup>a</sup>	.323 <sup>a</sup>	.080	.244 <sup>b</sup>	.116	.478 <sup>a</sup>	1	.391 <sup>a</sup>	.255 <sup>b</sup>
	Q12	.397 <sup>a</sup>	.227	.271 <sup>b</sup>	.314 <sup>a</sup>	.306 <sup>b</sup>	.324 <sup>a</sup>	.148	.167	.377 <sup>a</sup>	.529 <sup>a</sup>	.391 <sup>a</sup>	1	.209
	Q13	.287 <sup>b</sup>	.161	.205	.136	.399 <sup>a</sup>	.511 <sup>a</sup>	.415 <sup>a</sup>	.366 <sup>a</sup>	.230	.316 <sup>a</sup>	.255 <sup>b</sup>	.209	1

Note: N is 69. No missing data in the survey. Correlation: Very weak ( $r = .00 \sim .19$ ), weak ( $r = .20 \sim .39$ ), moderate ( $r = .40 \sim .59$ ), strong ( $r = .60 \sim .79$ ), and very strong ( $r = .80 \sim 1.0$ ).

<sup>a</sup> Correlation is significant at the 0.01 level (2-tailed);

<sup>b</sup> Correlation is significant at the 0.05 level (2-tailed)

When asked: *In my opinion, a "bad" grade is a(n)*, 46% of the students considered B a bad grade, 42% considered C a bad grade, 10% considered D a bad grade, and 1% considered F a bad grade. In other words, the students took their grades seriously and had high expectations for

themselves. This is consistent with the findings in Table 3, which show that because of the high expectation they hold for themselves, students feel most anxious about the test results than preparing for or taking a test.

### **Intervention**

After evaluating the students' needs relating to academic anxiety, we began to introduce various coping skills during English class. The first coping skill that was introduced to the students was the use of stress balls or other fidgets to reduce stress and refocus their attention. Stress balls, playdough, putty, and other small squeezable items mainly made from foam were made available to the students in three of the classrooms the students circulate on a daily basis. The students have constant access to them during class and while testing. We chose tools that are manipulative in nature and do not require any visual attention to allow students to focus on the goings-on in class while providing "organizing tactile input and an outlet for nondisruptive [and discreet] small movement" (Biel, 2017, p. 12). Various research into the effectiveness of fidgets and manipulatives shows that a number of students find that fidgeting with an object in their hand helps them stay focused while allowing them to work on something for an extended period of time or while having to sit and be attentive. Isbister's (2017) research on sensation seeking shows that many people often "seek to adjust their experiences and their environments so that they provide just the right level of stimulation". Stress balls, fidgets, and other non-audible manipulatives grant students that freedom, while respecting that other students might need a quiet environment to work to their best ability.

The second introduced coping skill was the concept of mindfulness. Taking advantage of the current popularity of mindfulness, we decided to introduce our students to what Young (2016) calls "mindful awareness [...] often defined as focusing on present experience" (p. 5). We introduced our students and faculty to two apps: *Calm* and *MindYeti*. The *Calm* app offers a variety of strategies such as calming music and stories to help induce sleep, guided meditations, meditative and themed stories, and video lessons on mindful movement and stretching. All of these resources vary in length from 3 minutes to up to 30 minutes. The *Calm* app consists of mindfulness activities, guided meditations, and meditation exercises geared towards adolescents and adults, while *MindYeti* consists of guided mindfulness sessions geared towards elementary age students and their caregivers. On Harvard Health Blog, Dr. Elizabeth Hoge, psychiatrist for the Center for Anxiety and Traumatic Stress Disorder at Massachusetts General Hospital and assistant professor of psychiatry at Harvard Medical School, deems mindfulness activities such as guided meditations a good fit for people suffering from anxiety. She stated, "people with anxiety have a problem dealing with distracting thoughts that have too much power... They can't distinguish between a problem-solving thought and a nagging worry that has no benefit" (Harvard Health Blog, 2019). She explains that many people suffering from anxiety who have been introduced to mindfulness activities find it helpful to practice them with a group rather than alone. The meditations provided by *Calm* and *MindYeti* are short enough to easily be included into the daily schedule of the classrooms without taking up too much instructional time, and varied enough so students do not lose interest in it quickly and can easily be done as a whole group or alone by individual students.

The third strategy was the use of mandala coloring sheets with positive affirmations before and after taking tests. Curry and Kasser (2005) conducted a study on the effectiveness of mandala vs. freeform coloring for set periods of time to reduce anxiety. Based on their data, the authors came to the conclusion that coloring mandalas yielded a relief from anxiety, whereas

freeform coloring did not yield any relief. Curry and Kasser's (2005) findings suggest that structured coloring of reasonably complex geometric patterns may induce a state of mind similar to meditation which benefits individuals who suffer from anxiety. This coping strategy is based on the method of "coloring therapy", a method intended to reduce anxiety which combines forms of art and therapy. Mandalas are symmetrical forms with repetitive patterns and often complex and intricate details. Curry and Kasser explain that coloring these symmetrical patterns and focusing on the intricate details helps draw individuals into a state similar to that of meditation: "the practice of calmly limiting attention and thought through the use of mental exercises" (Curry & Kasser, 2005, p. 81). This provides people suffering from anxiety with an opportunity to quiet their thoughts and take a step back from any "inner dialogue" that might cause anxiety. Mandala coloring sheets were distributed to the students and hung in strategic places so the students had constant access them.

The fourth and final strategy was reinforcement of test-taking skills to reduce anxiety during graded assessments. When asked, our students mentioned lack of test-taking skills as one of the causes for their test-taking anxiety. We then reintroduced our students to test-taking skills compiled by *Scholastic* and created a checklist of test-taking skills for students to use during tests (see Figure 2). Tips included underlining all aspects that need to be answered in questions; underlining clues to answers in the text; reading directions, questions, graphs, and charts thoroughly and more than once; finding "traps" in questions (e.g. find the answer that is incorrect); using process of elimination; and double checking over answers.

### Test Taking Checklist

**Check each task if you can answer it with an honest 'yes'.  
If your answer is 'no' on any of the tasks, you are not  
ready to hand in your test.**

I have read all of the instructions on the test.	
I have read all of the questions in their entirety.	
I have consulted and taken into consideration all graphs, pictures, and charts.	
I have found and circled "traps" in the questions.	
I have underlined all of the aspects of the questions that needed to be answered. I have checked my answers against everything I have underlined in the questions.	
I have used the process of elimination on multiple choice questions when I wasn't sure what the answer was.	
I have double checked my answers.	
I have read over the entire test (questions and answers).	
<b>Now I am ready to hand in my test.</b>	

Figure 2. Test Taking Checklist

## Professional Training for Other Teachers

To maximize the effectiveness of the interventions, we also trained other teachers about how to use these interventions. We encouraged students and teachers to implement and reinforce them on a regular basis—daily, if possible. Stress balls and other fidgets were made available to the students and were in daily use before and during class, during study hall, and during break time. Several of our teachers used short 3-minute guided meditations found on the mindfulness app *Calm* to help students center and redirect their attention and focus before tests and quizzes or at the beginning of class. Finally, students received instruction on effective test-taking skills to lessen anxiety while testing mainly from the school counselor, but also from classroom teachers. All strategies are reinforced during middle school advisory time, a 25-minute time period in which students get together with their advisors to improve school climate, work on interpersonal and social skills, and address other important topics such as bullying, community service, and managing the everyday life in middle school.

## Student feedback

Students stated they wanted to learn more about how to manage test anxiety while some students stated that they do not have test anxiety. Commentary from students indicates that while the introduced strategies were beneficial, students often forgot to use them when feeling anxious. We asked some students to share what coping skills they used to ease their anxiety before, during, and after a test. Through sharing, other students learned that simple strategies could help them manage their anxiety. Furthermore, some students were initially not aware of their anxiety and how it could affect their academic and personal lives. Through the collaboration between the classroom teacher and the school counselor, more students became aware that their anxiety might come from caring about their parents' feeling and their own expectations for academic achievement.

## Discussion

There are several important findings in the present study. First, the percentages of higher anxiety and lower anxiety results of the present study give teachers, school counselors, and administrators a general idea about the distribution of students' test anxiety. However, low percentage of anxiety does not mean that it is not worth paying attention. In fact, one student with severe anxiety is one too many and that anxiety can further develop into anxiety disorders. According to the National Institute of Mental Health (2019), individuals with anxiety disorders may face various significant problems in life, at work, and school, such as test phobia. Teachers and school counselors thus should pay close attention to individual students with higher anxiety, regardless of the percentage of higher and lower anxiety. Also, they must take into account self-reported anxiety levels, which can be described differently by each student. Therefore, direct assessment methods like observations and ratings of student anxiety levels by trained personnel are still needed to get more accurate data.

It is worth discussing an ethical issue here. As educators, we know that we are not supposed to underestimate the influence of students' anxiety. However, we do not want to monger unnecessary fear, either. While a bit of anxiety within a healthy range is also the impetus to prepare, not every anxiety is going to turn into full-blown mental health issues. Further, many people may never have to "test" again after their schooling in such formal ways, so "test phobia"

may not be the lifelong concern implied here. And finally, we do not want “test anxiety” to become a misused language that continuously pathologizes our youth.

Second, the results of the present study show that the majority of the students had higher anxiety *after* a test because they were concerned about their parents’ feelings and they would be disappointed in themselves when they received poor grades. In other words, it is not the TEST students are anxious about, but the response to the outcome. The anxiety is about the EVALUATION of the test, and other people’s responses to the results—not the test itself. Therefore, teachers and school counselors should continue monitoring students, especially those who have higher anxiety especially after a test. Educating parents on anxiety and boosting students’ self-esteem should also be emphasized in school.

Third, among the thirteen questions used here, only two questions have a significantly positive correlation, which means that students’ anxiety before, during, and after a test do not necessarily impact each other. Some students may not feel anxious before taking a test. However, after seeing the test questions and knowing that the test questions are more difficult than expected, their anxiety level may change. This highlights a need to differentiate anxiety interventions before, during, and after a test. Given the fact that students’ anxiety level is higher after a test, future studies are recommended to add questions about physical, emotional, behavioral, and cognitive symptoms after taking a test to Nist and Diehl’s (1990) questionnaire. Continuously revising existing questionnaires to create a more comprehensive measure in the future will allow teachers and school counselors to make early preventative actions possible.

Fourth, in terms of interventions, on occasion we found it difficult to determine if students used the fidgets as sensory tools or toys. Initially, we wanted to ensure that the items were used in a way that would allow for the desired benefit as discussed by Lindsey Biel (2017) that “to manage sensory issues, anxiety, and attention challenges by redirecting their physical and emotional energy into an object. This lets [the students] remain calm and tuned in” (p. 12). However, during the lesson, it was challenging to decide when the fidgets should be removed if students misused it. In future studies, we should introduce the sensory systems more explicitly and talk about how fidgets can help reduce students’ test anxiety when they are used properly. Often, if teachers tell students the goals of an activity/item and ask them to outline fair “rules” for the class to follow, including when they will be taken or put away, they are more likely to buy into those rules and follow them, or at least be less upset when teachers have to hold them to the expectations they helped set.

Fifth, in spite of most students’ buy-in of the coping skills, we encountered a general reluctance among some of the teachers to continuously implement the above mentioned strategies in their classroom for fear of losing instructional time. In a competitive learning environment where students’ academic performance is regarded as the main mission of schools, the importance of coping skills may be overlooked. Thus, including students’ voices of using coping skills, obtaining school administrators’ and parents’ support, and collaborating with school counselors’ professional development training are factors that will affect teachers’ buy-in of coping skills.

Lastly, we also ran into a problem of funding. As part of our coping skills, we had hoped to introduce a wider variety of coping tools such as more flexible seating options, but we were unable due to funding issues. That is one of the main reasons why we decided to introduce the coping tools we did: they were readily available or already in use, they did not take up much

instructional time, and the faculty and staff was easily convinced of their effectiveness. Upon the completion of the study, we created a one-page summary to school stakeholders with suggestions (see Appendix 1).

One limitation of this study is that we did not analyze the differences among students of different genders or ethnicities. This was because the purpose of the present study was to help students acknowledge their anxiety and learn how to navigate it regardless of their genders and ethnicities. However, in future studies, we will definitely recommend adding these factors to see if students' differences in gender and ethnicity affect their test anxiety differently.

### **Conclusion**

Giving students concrete checklists to complete before handing in a test can alleviate some anxieties. Students should be taught test-taking strategies to bolster their confidence and also to develop grade-level appropriate skills. Posting the Test-Taking Checklist in the classroom as a poster can be a visual reminder for students. A verbal reminder of the checklist could be beneficial for students who retain information better through auditory experiences. Before delivering tests, a teacher could implement a mindfulness exercise through the *Calm* app or other mindfulness website to alleviate some anxieties. If time allows after delivering an assessment, students could be encouraged to engage in a mandala coloring or other tactile experience to diminish any lingering anxieties. Allowing students to be aware of their anxieties and giving them tools to manage them can have a long-lasting positive impact on the students' test-taking experience.

School counselors can have a great impact on aiding in the reduction of test anxieties for the students as well. The school counselor can advocate for the effectiveness of mindfulness in the school setting as well as arming the students with coping skills to combat the anxieties in the school setting. Some means of teaching coping skills and test-taking strategies could be through small group sessions, short-term individual counseling, and push-in classroom lessons. Conducting a needs assessment could be a valuable tool in targeting students that can benefit greatly from small group or individual sessions. School counselors can also utilize bulletin boards in the hallways to display coping strategies for all students to try. Presenting the effects of anxieties in the classroom to parents could help with infusing the practices in home and school settings. As with other school-based stakeholders, the administration team should be up-to-date with current research on test anxieties and test-taking strategies. With the knowledge of research-based strategies, the administration can help support the program through funding and advocating for the use of strategies at school.

Furthermore, because students may be seeking ways to address and manage anxieties, parents are encouraged to become familiar with, and use, coping strategies at home. Parents should listen to their child's concerns and reach out for support from the education team. Practicing coping skills at home can help a student identify what works for them and parents may have other strategies for their child to try. Creating healthy conversations around test anxiety can help destigmatize any negative emotions that student may be experiencing. Modeling mindfulness at home can help normalize the experiences for the student. Students are encouraged to evaluate anxiety levels and to try strategies that are presented. Sometimes strategies are effective in different settings and the strategies may become more natural after repeated attempts. Be resourceful and ask for support from your parents, teachers, and school counselor. It is our

hope that this will lead to our students' understanding of the uniqueness of each individual and the understanding and appreciating of diversity amongst them.

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## Appendix 1. One-Page Summary to School Stakeholders

### Helping Students Acknowledge and Navigate Anxiety

#### Rationale

Teachers and school counselors have the responsibility not only to build a positive school climate in which students want to perform and stretch themselves academically and socially, but also to create an environment in which students know that their teachers are aware of their needs, anxiety, and other factors holding them back from reaching their potential.

#### Participants

The participants in our survey were 7th and 8th grade students.

#### Instrument

##### *The Survey Questionnaire (Before the Test)*

1. I have visible signs of nervousness such as sweaty palms, shaky hands, and so on right before a test.
2. I have “butterflies” in my stomach before a test.
3. I feel nauseated before a test.
4. I have trouble sleeping the night before a test.

##### *The Survey Questionnaire (During the Test)*

5. I read through the test and feel as if I do not know any of the answers.
6. My mind goes blank during a test.
7. I make mistakes on easy questions or put answers in the wrong places.
8. I have trouble choosing answers on a test.

##### *The Survey Questionnaire (After the Test)*

9. When receiving a lower than expected grade, I worry about my parents' reaction.
10. When I receive a lower than expected grade, I am disappointed in myself.
11. When receiving a low grade, I wonder what my teacher thinks of me as a student.
12. I feel like I have failed when I receive a low grade.
13. I remember the information that I blanked on once I get out of the testing situation.

#### Results

1. The means and percentages indicate that students exhibited lower anxiety before and during the test.
2. Most students were concerned about their parents' feeling and felt disappointed in themselves when getting a poor grade.
3. Students' anxiety level before, during, and after a test do not necessarily affect each other.
4. Fidgets might be used as toys rather than sensory tools by students.
5. Teachers might be reluctant to implement coping skills for fear of losing instructional time.
6. Introducing a wider variety of coping tools is beneficial to students but funding might not allow.

#### Suggestions

1. Teachers and school counselors should pay close attention to individual students with higher anxiety.
2. Teachers and school counselors should monitor students who have higher anxiety especially when they were waiting for the test results or after getting undesirable grades. Educating parents and boosting students' self-esteem should be emphasized in the school system.
3. There is a need to differentiate anxiety interventions before, during, and after a test.
4. Sensory systems should be explained explicitly as how fidgets can help reduce students' test anxiety.
5. Students' voices of using coping skills, school administrators' support, parents' advocacy, and school counselors' professional development training are all detrimental to teachers' buy-in of implementing coping skills continuously.