

# **Are Future Teachers Ready to Work with Students with Anxiety Disorders?**

**Honors Thesis**

**Presented in Partial Fulfillment of the Requirements  
For the Degree of Bachelor of Arts in Psychology**

In the School of Psychology  
at Salem State University

By

Katrina Vallario

Joanna Gonsalves  
Faculty Advisor  
Department of Psychology

\*\*\*

Commonwealth Honors Program  
Salem State University  
2019

## Abstract

Childhood anxiety has garnered attention over the past couple of decades due to high prevalence rates and early onset (Centers for Disease Control and Prevention, 2013). This study investigated future educators' attitudes and knowledge regarding childhood anxiety disorders. An original survey was created and administered to education students at a state school in Massachusetts to assess their knowledge about anxiety, gauge their exposure to childhood anxiety, and measure attitudinal ratings about teachers' role in addressing childhood anxiety. Statistical analyses were conducted to see whether there were any curricular or experiential predictors of participants' attitudes or knowledge. No statistically significant correlations were found. However, almost all of the participants acknowledged that childhood anxiety was something that will be seen in their classrooms, and nearly half of participants responded with low confidence levels in regard to being adequately prepared to service children with anxiety.

*Key Terms:* anxiety; childhood; teachers; adolescence, school

## Table of Contents

1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 Treatment Options.....	3
1.3 Role of Schools in Supporting Children with Anxiety.....	6
1.4 Teacher Preparation in Massachusetts.....	9
1.5 Current study.....	10
2. METHODS.....	11
2.1 Participants.....	11
2.2 Instruments.....	11
2.3 Procedures.....	12
3. RESULTS.....	13
3.1 Examination of Child Anxiety Test Scores.....	13
3.2 Examination of Students' Self Reports about their Preparation and Expectations for Working with Children with Anxiety in the Classroom.....	16
4. DISCUSSION.....	20
5. CONCLUSION.....	22
6. REFERENCES.....	24
7. APPENDIX A.....	28
8. APPENDIX B.....	29

## Are Future Teachers Ready to Work with Students with Anxiety Disorders?

This study examines education majors' attitudes and knowledge about childhood anxiety. Anxiety disorders are the most prevalent mental health disorder among adults and adolescents (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005); (Merikangas, He, Burstein, Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen, 2010). According to the National Comorbidity Survey Replication, anxiety disorders have a 28.8% lifetime prevalence rate amongst adults (Kessler et al. 2005). An extension of this survey, the National Comorbidity Survey Replication Adolescent Supplement (NCS-A), found that 31.9% of adolescents have an anxiety disorder (Merikangas et al. 2010).

According to the DSM-V (2013), an anxiety disorder is one that has features of both fear and anxiety. Fear is characterized as an emotional response to a threat whereas anxiety is the anticipation of a threat. In children, an anxiety disorder is differentiated from normal developmental anxiety if it becomes excessive or surpasses the typical developmental periods. Generally, anxiety is diagnosed as a disorder if symptoms persist for longer than six months, though clinicians determine if the anxiety or fear warrants the diagnoses of a disorder, and use this timeframe as a guideline. Common anxiety disorders in children include separation anxiety disorder, specific phobia, social phobia, agoraphobia, panic disorder, and generalized anxiety disorder (Beesdo, Knappe, & Pine, 2009).

Separation anxiety disorders are the most common anxiety disorder among young children (American Psychiatric Association, 2013). This disorder is classified as excessive and developmentally inappropriate fear of separating from one that the individual is attached. Children with separation anxiety may have nightmares about separating from a caregiver, complain of frequent physical symptoms such as headaches or stomachaches when separating

from an attachment figure, be reluctant to leave the house or go to school, or refuse to sleep away from home. Separation anxiety is highly comorbid with generalized anxiety disorders.

Generalized anxiety disorders (GAD) are characterized as having “excessive anxiety and worry occurring more days than not for at least six weeks” (American Psychiatric Association, 2013). Symptoms include restlessness, fatigue, difficulty concentrating, irritability, muscle tension, and sleep disturbances. Individuals with GAD experience disruptions in areas of their life, such as work, family, school, or health. In children, GAD may present itself during sporting events, school performances, concerns about punctuality, and perfectionism. Many children with GAD seek reassurance and approval from peers and authority figures.

Prevalence rates of childhood anxiety have only recently started to be examined. One article published by the Center for Disease Control and Prevention (2013) stated that, up until a few decades ago, there was not enough surveillance of childhood mental health. The best way to increase awareness and prevention about mental health is to study it across a lifespan and monitor it yearly, hence the need for a better surveying system (Center for Disease Control and Prevention, 2013). Many studies rely on the memories of adults with anxiety recounting their earliest occurrences of anxiety symptoms. These studies, however, are prone to recall bias. Longitudinal studies, though costly and time consuming provide more accurate and useful information on childhood anxiety as they monitor children’s anxiety levels throughout childhood, adolescence and adulthood (Beesdo, Knappe, & Pine, 2009).

Over the past couple of decades, there has been a push, particularly by the National Institute for Mental Health, to better understand childhood mental illness. This has resulted in adding mental health sections to many national surveys. The National Health Interview Survey now includes the Strengths and Difficulties Questionnaire and the National Health and Nutrition

Examination Survey now includes the National Institute of Mental Health Diagnostic Interview Schedule for Children, Version 4. Most importantly, the National Comorbidity Survey Replication was extended to include disorders from the DSM-IV and is referred to as The National Comorbidity Survey Replication Adolescent Supplement (Merikangas et al. 2010).

The National Comorbidity Survey Replication Adolescent Supplement is a national, in-person survey designed to measure mental health disorders in adolescents age 13-18. It is the first national survey used to determine prevalence rates of mental disorders in the United States. 10,123 parents of adolescents within the continental United States were asked to complete a survey based on their adolescent's mental health. This study revealed that anxiety disorders were the most common health concern with 31.9% of the sample meeting qualifications for an anxiety disorder. Of this sample, 8.3% of participants presented a major anxiety disorder. Generalized anxiety disorder only made up 2.2% of the sample. Data from this study also showed that 50% of those diagnosed with an anxiety disorder had their onset before age 6 (Merikangas et al. 2010).

### **Treatment Options**

According to the National Survey of Children's Health (2016), approximately 59.3% of children with a diagnosed anxiety disorder receive treatment (Ghandour, Sherman, Vladutiu, Ali, Lynch, Bitsko, & Blumberg, 2016). Childhood anxiety disorders are associated with many negative side effects, such as impairments with academics, chronic depression, substance abuse, and an increased likelihood of an anxiety disorder in adulthood (Sulkowski, Joyce, & Storch, 2012). A delay of treatment may increase the risk of adverse consequences (Sulkowski, Joyce, & Storch, 2012)

The first treatment option recommended for an anxiety disorder in both adults and children and adolescents is cognitive behavioral therapy (CBT) (Murphy, Bengtson, Tan,

Carbonell, & Levin, 2000). CBT is an integration of two forms of psychotherapy: cognitive therapy and behavioral therapy (Thoma, Pilecki, & McKay, 2015). Behavioral therapy emerged around the 1950s and is centralized around the behaviorist branch of psychology (Thoma, Pilecki, & McKay, 2015). Behavioral therapy looks at how a person's behavior affects their environment. Many psychologists have contributed to behavioral therapy, including Ivan Pavlov (Pavlov, 1927) through his work with dog salivation, John Watson's "Little Albert" experiment (Reyner, & Watson, 1920), and Berrhus Skinner's operant conditioning (Skinner, 1963), Albert Bandura's social learning theory (Bandura, 1978), Joseph Wolpe's systematic desensitization (Wolpe, 1961), and Edna Foa investigating exposure on mental health (Foa & Kozak, 1986).

Cognitive therapy is the process of altering maladaptive thoughts (Kaczurkin & Foa, 2015). Being able to identify false thinking, assess what aspects are true or not, changing problematic behavior, and viewing situations extrinsically opposed to intrinsically, is all part of cognitive therapy.

Edna Foa's exposure therapy is now central to CBT treatment (Thoma N, Pilecki B, & McKay D, 2015). Exposure therapy is based on the emotional processing theory and focuses on associative networks (Kaczurkin & Foa, 2015). When a subject encounters a stimulus that mimics or resembles a feared stimulus, the associative networks respond, causing a fear response. The fear response does not reflect reality, causing unnecessary fear and dread. Often, this is perpetuated by avoidant behavior, as the benign stimulus does not have a chance to be recognized as such, perpetuating the fear. Exposure therapy slowly introduces the patient to the fear-inducing stimulus, but with no adverse consequences. Overtime, the continued exposure to the stimulus without a fear response will terminate the associative networks between the stimulus and fear.

CBT uses many techniques to reconstruct patient thinking and often focuses on psychoeducation. Typically, patients will have to apply what they learned about CBT to their own life to continue reaping its benefits. CBT practices also include relaxation training, focused breathing, exposure therapy, progressive muscle relaxation, modeling, and cognitive reinforcement (Sulkowski, Joyce, & Storch, 2012).

CBT is often used in combination with pharmaceutical treatment (Walkup, Albano, Piacentini, Birmaher, Compton, Sherrill, Ginsburg, Rynn, McCracken, Waslick, Iyengar, March, & Kendall, 2008). One study found that the most effective management of anxiety disorders was a combination of CBT and psychopharmacological treatment (Walkup et al. 2008). Selective serotonin reuptake inhibitors (SSRIs) are recognized as being the most effective drug for treating anxiety disorders (Kent, Coplan, & Gorman, 1998). SSRIs block the reuptake of serotonin in the synapses of the brain, which inhibits it from being sent back to the presynaptic neuron. This is thought to increase the concentration of serotonin in the synapses (Kent, Coplan, & Gorman, 1998). It should be noted, however, that there is still debate on the use of SSRI in treatment for anxiety in children (Locher, Koechlin, Zion, Werner, Pine, Kirsch, Kessler, Kossowsky, 2017). The adverse effects of SSRIs present themselves differently in children and adolescents than in adults. Notably, there is an increased risk of nausea and headaches among youth who receive SSRI treatment. More severely, an increased risk of suicidal thoughts has been linked to adolescent use of SSRIs (Locher et al. 2017). Despite this, SSRIs are still used regularly to treat anxiety disorder in youth due to their effectiveness. In a meta-analysis conducted by Locher et al. (2017), 35 double-blind studies were examined to determine the efficacy of SSRI treatment for childhood anxiety. The results showed a statistically significant difference in between the

placebo group versus SSRIs for anxiety disorders. This adds to the research showing SSRIs to be an effective treatment for childhood anxiety.

### **Role of Schools in Supporting Children with Anxiety**

According to the World Health Organization (WHO) (2002), prevention and promotion are two important components of mental health. The two elements work in combination with one another; prevention's goal being to avoid or minimize the effects of a disease while promotion aims to enhance overall health. Preventing mental disorders such as anxiety concerns addressing the risk factors and early symptoms of the disorder while promotion may focus on activities that help increase the quality of mental health. WHO makes the recommendation to allot public funds and programs aimed at the prevention and promotion of mental health, which originated from the document *Global Strategy for Health for All by the Year 2000* (WHO, 1981). One factor playing an important role in the welfare of mental health is education (WHO, 2002).

There has been one school-based mental health prevention program endorsed by the World Health Organization, and that is FRIENDS Resilience (FRIENDS Resilience, 2017). Founded in 1988, FRIENDS Resilience is an Australian developed cognitive behavior therapy (CBT) program used as prevention and treatment for anxiety and depression. FRIENDS is an acronym which stands for feelings, remember to relax, I can try my best, explore coping step plans and strategies for finding helpful solutions, now reward yourself for trying your best, don't forget to practice, and stay calm. FRIENDS empowers participants to cope with mental health by "engaging with positive thoughts, emotions, and self-regulation strategies" (FRIENDS Resilience, 2017). Teachers and administrators can be trained in this program and use the FRIENDS curriculum to teach CBT practices in the classroom. There is also a portion of the program that is completed outside of school with parent support. The program is suited for ages

four through adulthood, and it can be implemented within a school system, community, government department, or clinic.

There are many studies that have shown FRIENDS Resilience programs to be effective in reducing anxiety levels. In a meta-analysis conducted by Higgins & O'Sullivan (2015), seven studies exploring the FRIENDS program were analyzed for the program's efficacy. All studies showed statistically significant outcomes based on pre- and post- assessment scores on the Spence Children's Anxiety Scale (SCAS) compared to a control group. Another meta-analysis conducted by Johnstone, Kemp, & Chen, (2018) compared results from 14 articles that researched efficacy rates of school-based prevention programs. Prevention programs included FRIENDS, the Aussie Optimism Program (AOP), and the Penn Prevention Program (PPP). While all programs showed improvement on mental health scores, FRIENDS showed statistically significantly fewer symptoms of anxiety post-treatment than the other programs.

While FRIENDS has yielded positive results, it is based out of Australia. In the United States, there is an absence of empirically-studied CBT school based programs, especially in urban communities (Ginsburg, Becker, Kingery, & Nichols, 2008). School-based CBT programs allow students to receive treatment that may otherwise go without (Ginsburg et al. 2008). Challenges arise when trying to implement CBT programs into a school setting, including a lack of time and training of service providers such as guidance counselors, school psychologists, or social workers (Sulkowski, Joyce, & Storch, 2012). Ginsburg et al. (2008) argues that a collaborative approach between researchers, clinicians, and consumers, or school districts, is the best way to implement more preventative school-based anxiety programs. Training remains the crucial step toward implementation of these programs (Ginsburg et al. 2008). Despite many obstacles prohibiting schools from adopting CBT prevention programs, schools continue to be

the main source for accessing mental health services in the United States (Sulkowski, Joyce, & Storch, 2012).

CBT programs are not the only way school districts support children with anxiety disorders. Under the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004, children with a diagnosed disability are required by law to have access to services aimed to increase their successfulness in school (Sulkowski, Joyce, & Storch, 2012). These services fall under either an individual education plan (IEP) or a 504 accommodation. IDEIA does not, however, recognize anxiety as an eligible disability to receive services. Individual states have some control over their definitions of certain disabilities and certain states include anxiety disorders under “Emotional Disturbances” or “Other Health Impairment.” In Massachusetts, Emotional Impairment is defined as the following:

“The student exhibits one or more of the following characteristics over a long period of time and to a marked degree that adversely affects educational performance: an inability to learn that cannot be explained by intellectual, sensory, or health factors; an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms or fears associated with personal or school problems.” (Massachusetts Department of Elementary and Secondary Education, 2006)

Based on this definition, a child with an anxiety disorder in Massachusetts would only qualify for special education services if they are experiencing academic impairment. In other words, support is only given to students who are already experiencing negative effects of an anxiety disorder. Relying on IEPs and 504 accommodations focuses more on remedying anxiety opposed to

anxiety prevention and promotion. This current model implemented by Massachusetts, along with many other states, neglects the recommendations made by WHO (2002) to a lot public funding toward the prevention of mental health.

### **Teacher Preparation in Massachusetts**

In Massachusetts, in order to receive an initial license in education a candidate must have completed an approved Education Preparation Program (MDESE, 2018). Approval of an Education Preparation Program is based on the standards set by the Massachusetts Department of Elementary and Secondary Education's *Guidelines for Program Approval* (2016). The guidelines "support the rigorous, high quality standards set for teacher preparation" and ensure that educators are prepared to teach "all children" and "diverse student learners" (MDESE, 2016). Diverse student learners are defined as "Students from diverse ethnic, racial, gender, socioeconomic, and exceptional groups (e.g., students with special education and/or English Language Learner designations)" (MDESE, 2016). Other than the stipulation that programs must prepare candidates to work with diverse student learners, there are no other requirements for content geared toward children with disabilities, including those with anxiety disorders, in preparation programs.

The public university in Massachusetts where this study was conducted includes the class "Teaching Students with Exceptional Learning Needs" as part of the education program requirements. This one semester, 3-credit class covers a wide range of learners and briefly discusses how students can accommodate specific learning needs. This is the only required class that prepares students to work with children with disabilities within a general education classroom. The description of the course is as follows.

“All teachers teach all students; therefore all teachers must prepare to work with students with exceptional learning needs (ELN), This course will develop participants’ understanding of collaborative roles of professionals who work with children with ELN. The focus of the class will be on how to develop an inclusive, welcoming classroom environment where all learners thrive through the use of differentiated instruction, universal design for learning, and the appropriate application of assistive and adaptive technologies. Topics include IEPs, 504 plans, and gifted education emphasizing teaching methodologies and tools appropriate to inclusive, welcoming environments: universal design for learning, differentiation, and the use of adaptive and assistive technologies”

Consistent with the qualifications of the Massachusetts Department of Elementary and Secondary Education’s teacher preparation program requirements, this class prepares students to teach all learners. However, the definition of all learners is vague, and nowhere in the course description are anxiety disorders mentioned. That being said, students who have taken this course may not necessarily learn how to work and accommodate children with anxiety disorders, unless that child is on an IEP.

### **Current Study**

Considering the high prevalence rates of childhood anxiety disorders, the low treatment and prevention program rates, and the minimal requirements for teacher preparatory programs to address student disabilities, this study seeks to identify future educators’ perceptions of childhood anxiety and their capabilities to support children with such a disorder. An original survey was derived to measure student’s knowledge about childhood anxiety as well as gauge their perceived abilities to work with children with anxiety disorders. It is hypothesized that students who have received treatment for an anxiety disorder will score higher on the anxiety

disorder test and will plan to utilize anxiety-management strategies in their future classrooms. It is also hypothesized that students who have had experience with classroom-based anxiety-management techniques will plan to use these in the future.

## **Methods**

### **Participants**

Invitations to complete the survey were sent to all undergraduate and graduate students enrolled in teacher preparation programs at a public university in Massachusetts in the spring of 2019. There were a total of 41 respondents, 38 of whom were female and 3 were male. Participants ranged in age from 20 to 34, with 22 being the average age. 8 participants were undergraduate students, 3 were graduate students, and 30 were in a combined undergraduate and graduate program. Areas of developmental study varied between participants with 20 focusing on early childhood, 13 studying elementary education, 3 focusing on middle or high school, and 5 participants focusing on general education.

### **Instruments**

Participants were asked to complete an original survey, which includes a test to assess participants' knowledge about anxiety, as well as a survey about participant demographics and participants' attitudes toward student anxiety in their future classroom. The test was a mix of true or false and multiple-choice questions and was designed to gauge how much participants knew about anxiety as well as childhood anxiety disorders. Sample questions include "which is the most prevalent class of mental disorders in children under 18 years of age in the United States today?" and "true or false: children usually out-grow an anxiety disorder." The full test can be found in Appendix A.

The survey included questions about participant age, gender, degree program and credits completed. A section measuring participant exposure to anxiety was also included. Participants were given fixed response options 1-4 from “I have occasional anxiety” to “I have a diagnosed anxiety disorder” in order to determine their personal experiences with anxiety. A yes or no question regarding their relationships with family and friends with a diagnosed anxiety disorder was also asked. Participants were also asked to complete questions about their experience in various childcare settings. Participants reported their experience with babysitting, camp counseling, pre-practicum hours, and other childcare backgrounds on a scale from none - to a great amount.

Finally, participants were asked to provide attitudinal ratings about a teacher’s role in addressing childhood anxiety as well as their future classroom plans. The five-point Likert scale ranged from strongly disagree to agree. Two statements, “I have a good understanding of childhood anxiety” and “I have been taught how to support children in my class with childhood anxiety” were included to measure confidence levels with the subject of anxiety disorders. The rest of the rating scale was used to assess attitudes toward childhood anxiety in the classroom. The rating system included statements such as, “as a teacher, I should take responsibility to educate my students about anxiety” and “I will teach the students in my class self-help strategies for calming down.” These were designed to gauge the likelihood of future teachers including anxiety prevention strategies in the classroom and their beliefs on whether or not they view it as their responsibility to help children cope with mental health. The full set of attitudinal items can be found in Appendix B.

## **Procedures**

The sample was drawn from students enrolled in teacher preparatory programs at a public university in Massachusetts. Invitations to complete the survey were posted on the university's social media pages and sent to all undergraduate and graduate students enrolled in education programs at the university. The researchers utilized SurveyMonkey to administer the survey and gather results. Using SurveyMonkey logic, non-education students (i.e, participants who did not select an education major, minor, licensure or grad degree program) were automatically redirected to the Survey Completion/Thank you page and were not included in the sample.

Participants were not asked to state their names to ensure anonymity. To protect the confidentiality of participants' responses, no computer addresses were collected and SSL data encryption was enabled through SurveyMonkey. All reports of the study involved aggregated data and not individual responses. There was minimal risk involved in participating in the study. This study did ask students about their experience with anxiety, but a list of mental health resources offered by the university was provided for participants at the end of the survey. Consent was obtained at the beginning of the study as participants had to agree to the terms and conditions of the study before continuing. There were no repercussions if participants decided to withdraw from the study. The purpose of the study was disclosed once the participants completed the study. Participants were also given the contact information of the researchers if they wished to follow up on the study's results. A copy of the disclosure statement can be found in the Appendix.

## **Results**

### **Examination of Child Anxiety Test Scores**

A Pierson Correlation was calculated between anxiety test scores and self-assessment ratings of knowledge on childhood anxiety. The correlation was not significant ( $r = -.17, df=38$ ).

Table 1 depicts the descriptive statistics of the test scores measuring anxiety knowledge. The mean test score for all participants was 6.22 out of a possible score of 8 with a standard deviation of 1.04. Participants were broken up into four groups representing an early childhood concentration, an elementary concentration, a high school concentration, and a general education concentration. The mean test scores for all concentrations fell around 6 out of a possible score of 8. The two highest scores were groups 1 (early childhood education) and group 4 (general education). Group 4 had the highest average score with 6.4 and group 1 had a close mean score of 6.3.

**Table 1**  
**Descriptive Statistics of Test Scores**

	N	Mean Test Score	Std. Deviation
Early Childhood	20	6.30	1.302
Elementary	13	6.08	.760
Secondary	3	6.00	1.000
General	5	6.40	.548
Total	41	6.22	1.037

A one-way analysis of variance was performed to explore any significant relationships between test scores and developmental concentrations. No statistically significant differences were found between developmental groups.

A regression was also performed to examine the relationship between exposure to childhood anxiety in participants' college curriculum, their field and work experiences, as well as their personal experience on anxiety knowledge test scores. None of the factors were found to have predicted participants' anxiety knowledge test scores. Table 2 (below) shows the results from the regression.

**Table 2**  
**Regression of Participant Factors on Test Scores**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.139	1.469		4.180	.000
Have you been in a college class that has addressed adult anxiety?	-.658	.468	-.258	-1.406	.171
Have you been in a college class that addressed childhood anxiety?	.066	.374	.033	.177	.861
Degree Program Focus	.050	.183	.050	.274	.786
Childcare Experience	.061	.045	.249	1.344	.190
In these roles, have you ever worked with children with anxiety?	-.053	.212	-.047	-.250	.804
Which of the following best describes your experience with anxiety?	.024	.156	.031	.154	.879
Do any of your close friends or family members have a diagnosed anxiety disorder?	-.815	.487	-.319	-1.673	.105
Are there some strategies you will likely use in your classroom to reduce anxiety in students? If so, give some examples.	.560	.420	.240	1.333	.193

## **Examination of Students' Self Reports about their Preparation and Expectations for Working with Children with Anxiety in the Classroom**

Participants were asked to rank their agreement with 11 statements based on a 5-point Likert scale. The first two statements were designed to measure future educators' self-identified knowledge and preparedness regarding childhood anxiety. These two statements also yielded contradictory results. For the first statement, "I have a good understanding of childhood anxiety," 58.9% of participants selected either agree or strongly agree. 17.9% of participants disagreed that they have a good understanding of childhood anxiety and the remaining 23.08% selected neither agree nor disagree. The second statement, "I have been taught how to support children in my class with childhood anxiety," showed greater participant disagreement with 41.03% selecting disagree and 5.13% selecting disagree. 15.38% of participants gave a neutral response, 33.33% agreed with the statement and only 5.13% of participants strongly agreed that they have been taught to support children with anxiety.

The remaining 9 statements measured future educators perceptions about childhood anxiety disorders. Most of the statements had participant ratings of either agree or strongly agree. The first of the 9 statements, "Childhood anxiety is an issue that I will have to address within my classroom" received unanimous positive response with 41.03% of participants strongly agreeing, 56.41% agreeing, and only 2.56% giving a neutral response. All of the statements and participant ratings can be found below in Table 3.

**Table 3**  
**Participants' Attitudes and Perception on Childhood Anxiety Disorders (N=39)**

	<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>NEUTRAL</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
I have a good understanding of childhood anxiety.	0.00%	17.95%	23.08%	51.28%	7.69%
I have been taught how to support children in my class with childhood anxiety.	5.13%	41.03%	15.38%	33.33%	5.13%
Childhood anxiety is an issue that I will have to address within my classroom.	0.00%	0.00%	2.56%	56.41%	41.03%
As a teacher, I should take responsibility to educate my students about anxiety.	0.00%	0.00%	15.38%	56.41%	28.21%
As a teacher, I should take measures that will reduce anxiety in my students.	0.00%	0.00%	2.56%	33.33%	64.10%
I plan on implementing activities that encourage mindfulness in my classroom.	0.00%	0.00%	0.00%	46.15%	53.85%
As a teacher, I view it as my responsibility to teach the children in my class empathy.	0.00%	0.00%	2.56%	41.03%	56.41%
As a teacher, I view it as my responsibility to teach relaxation skills to my students.	2.56%	0.00%	5.13%	51.28%	41.03%
I will teach the students in my class self-help strategies for calming down.	0.00%	0.00%	0.00%	43.59%	56.41%
I will promote intrapersonal motivation over material motivation in my classroom.	0.00%	0.00%	15.38%	51.28%	33.33%
As a teacher, it is my job to teach children social and emotional regulation.	2.56%	0.00%	5.13%	56.41%	35.90%

A one-way analysis of variance was performed to test overall differences in perceptions by developmental focus of degree program. The four areas of developmental focus were early childhood education (preschool - second grade), elementary (first grade-sixth grade), secondary education (seventh grade- twelfth grade), and general education (specialized subjects, i.e. art). No statistically significant results were found from this test. The descriptive statistics for the developmental groups can be found in Table 4 below.

**Table 4**  
**Descriptive Statistics for Perceptions**

	N	Mean	Std. Deviation
Early Childhood	20	3.42	.32
Elementary	12	3.44	.43
Secondary	3	3.29	.28
General	4	3.08	.73
Total	39	3.38	.41

A regression was performed to examine the affects of exposure to childhood anxiety in the program curriculum, field and work experience with children, and personal experiences on participants overall self-report of preparation and expectations for working with children with anxiety disorders. The only factor that showed to be a statistically significant predictor of self-reported perceptions was the degree program focus,  $b = -.384$ ,  $t = -2.002$ ,  $p = .05$ . The results can be seen in Table 5.

**Table 5****Regression of Exposure to Childhood Anxiety in the curriculum, field/work experience, and personal experience on Overall Self Report of Preparation and Expectations for Working with Children with Childhood Anxiety**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.660	.664		5.514	.000
Have you been in a college class that has addressed adult anxiety?	-.074	.201	-.073	-.369	.715
Have you been in a college class that addressed childhood anxiety?	-.121	.162	-.148	-.745	.463
Degree Program Focus	-.165	.082	-.384	-2.002	.051
Childcare Experience	-.004	.020	-.038	-.193	.848
Have you ever worked with children with anxiety?	.028	.094	.060	.301	.766
Participants' experience with anxiety	-.033	.066	-.104	-.503	.619
Close friends or family members with an anxiety disorder	.179	.215	.166	.832	.413
Will you use anxiety reducing strategies in your future classroom?	.009	.178	.010	.052	.959

## Discussion

This study surveyed undergraduate and graduate students enrolled in teacher preparation programs to gain insight on their knowledge of anxiety and their attitudes and perceptions toward childhood anxiety in the classroom. It was hypothesized that students who have received treatment for an anxiety disorder would score higher on the anxiety disorder test and will plan to utilize anxiety-management strategies in their future classrooms. It was also hypothesized that students who have had experience with classroom-based anxiety-management techniques would plan to use these in the future. Neither of these hypotheses were supported by the data.

After analyzing the collected data, there were no predictors of participants' anxiety knowledge test scores. There was one statistically significant predictor of participants' attitudes toward childhood anxiety in the classroom and that was participants' developmental focus of degree program. Participants enrolled in early childhood and elementary education programs reported higher levels of agreement toward statements about expectations of childhood anxiety in the classroom. It is important to note, however, that there were more early education and elementary education participants than the other two developmental focus areas. There were only five participants enrolled in a general developmental focus area and only three participants focusing on middle or high school education. Because there are so few general and secondary education participants in the sample, this survey does not represent all students in the teacher preparation program at this university. Rather, this survey mostly represents future educators studying at this university to teach in grades pre-school through sixth-grade.

The average anxiety test score was only 6.22 out of 8, which is a score of 77%. Considering that 31.9% of children meet criteria for an anxiety disorder (Merikangas et al. 2010), teachers will most likely encounter children with anxiety in their classrooms. When

looking at the test score in this light, a score of 77% of anxiety knowledge suggests there is some under- preparation to support the large number of children with anxiety disorders. Taking a closer look at the test responses, only 56% of participants knew anxiety disorders are the most prevalent mental health disorder for children under 18 years old. Only 41.46% of participants were aware of the prevalence of children diagnosed with an anxiety disorder. Finally, 73.7% of participants recognized cognitive-behavioral therapy as the most effective treatment for childhood anxiety disorders. This suggests that students at this university do not have adequate background knowledge on childhood anxiety, and therefore this opens up debate on whether they are prepared to support children with anxiety disorders.

As previously mentioned, no statistically significant predictors of participant test scores were found. This may be attributed to the test's design. Half of the questions on the test were true or false, and most participants answered these questions correctly. The test itself may not have been a valid assessment of anxiety knowledge, as the answers to the true or false questions do not reflect the varying degree of knowledge about the topic. If the test is not a valid measurement, that could explain why there were no participant factors that predicted test scores.

The participants' ratings on the statements created to measure self-identified knowledge and preparation as well as attitudes and perceptions about childhood anxiety in the classroom yielded interesting results. Nearly all participants, 97.44%, either agreed or strongly agreed that childhood anxiety is an issue that teachers will have to address in the classroom. Despite most participants acknowledging that childhood anxiety is something they will need to be prepared for, only 38.46% of participants agreed or strongly agreed that they have been taught how to support children with anxiety disorders. This discrepancy between not being equipped to

sufficiently meet the needs of students with anxiety disorders, despite the high recognition that anxiety disorders must be addressed, is one that teacher preparation programs must remedy.

### **Conclusion**

Further research on teacher preparation to work with children with anxiety disorders is needed. With research suggesting that nearly half of all anxiety disorders emerge by age 6 (Merikangas et al. 2010), teachers will have some children in their classrooms with anxiety disorders. Massachusetts requires teacher preparation programs to prepare students to work with “exceptional groups,” (MDESE, 2016) which refers to a wide range of diverse learners, including those with anxiety disorders. The low anxiety knowledge test scores as well as self-reported feelings of under preparedness to teach children with anxiety disorders suggests that teacher preparation programs need to do more to prepare future educators to meet the needs of children with anxiety disorders.

After considering the data collected from this study, it is recommended that this university add content regarding childhood anxiety into their teacher preparation program curriculum. The only class at the university that touches upon childhood anxiety disorders is “Teaching Students with Exceptional Learning Needs.” After looking at the course description, anxiety disorders are not specifically covered in the class. One way to ensure education majors are prepared to work with children with anxiety disorders would be to add this as one of the objectives of the course, specifically stating it in the course description. Students could also be given an assessment before leaving the course to ensure students have received adequate knowledge to work with students with anxiety disorders. Regardless if teachers are trained to help children with anxiety disorders in “Teaching Students with Exceptional Learning Needs” or

in a class specifically designed for this purpose, one thing is clear and that is focus needs to be placed on preparation to work with children with anxiety disorders.

## References

- American Academy of Child & Adolescent Psychiatry. (2017). Anxiety and Children. Retrieved from [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/The-Anxious-Child-047.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/The-Anxious-Child-047.aspx)
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5<sup>th</sup> ed.). Arlington, VA.
- Centers for Disease Control and Prevention. (2013). Mental Health Surveillance Among Children — United States, 2005–2011. *Morbidity and Mortality Weekly Report*, 62(2).
- Bandura, A. (1978). Social Learning Theory of Aggression. *Journal of Communication*. 28. doi:10.1111/j.1460-2466.1978.tb01621.x
- Beesdo, K., Knappe, S., & Pine D. (2009). Anxiety and Anxiety Disorders in Children and Adolescents: Developmental Issues and Implications for DSM-V. *Psychiatric Clinical North Am.*, 32(3). 483–524. doi:10.1016/j.psc.2009.06.002.
- Fao, E.B., & Kozak, M.J. (1986). Emotional Processing of Fear: Exposure to Corrective Information. *Psychological Bulletin*. 99(1).
- Friends Resilience. (2017). Retrieved from <https://www.friendsresilience.org/about-us/>
- Ghandour M., Sherman L., Vladutiu C., Ali M., Lynch S., Bitsko R., & Blumberg S. (2019). Prevalence and Treatment of Depression, Anxiety, and Conduct Problems in US Children. *The Journal of Pediatrics*, 206. doi.org/10.1016/j.jpeds.2018.09. 021
- Ginsburg, G.S., Becker, K.D., Kingery, J.N., & Nichols, T. (2008). Transporting CBT for Childhood Anxiety Disorders into Inner-City School-Based Mental Health Clinics. *Cognitive and Behavioral Practice*, 15,149-158. doi: 1077–7229/08/148–158.

- Higgins, E., & O’Sullivan, S. (2015). “What Works”: Systematic Review of the “FRIENDS for Life” Programme as a Universal School-Based Intervention Programme for the Prevention of Child and Youth Anxiety. *Educational Psychology in Practice*, 31(4), 424-438. <http://dx.doi.org/10.1080/02667363.2015.1086977>
- Johnstone, K.M., Kemps, E., & Chen, J. (2018). A Meta-Analysis of Universal School- Based Prevention Programs for Anxiety and Depression in Children. *Clinical Child and Family Psychology Review*, 21, 466–481. <https://doi.org/10.1007/s10567-018-0266-5>
- Kaczurkin A.N., & Foa E.B. (2015). Cognitive-Behavioral Therapy for Anxiety Disorders: an Update on the Empirical Evidence. *Dialogues in Clinical Neuroscience*. 17(3). PMID: 26487814
- Kent, J.M., Coplan, J.D., & Gorman, J.M. (1998). Clinical Utility of the Selective Serotonin Reuptake Inhibitors in the Spectrum of Anxiety. *Society of Biological Psychiatry*.44.
- Kessler R.C., Berglund P., Demler O., Jin R., Merikangas K.R., & Walters, E.E. (2005) Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 62(6):593–602. doi:10.1001/archpsyc.62.6.593
- Locher, C., Koechlin, H., Zion, S.R., Werner, C., Pine, D.S., Kirsch, I., Kessler, R.C., Kossowsky, J. (2017). Efficacy and Safety of Selective Serotonin Reuptake Inhibitors, Serotonin-Norepinephrine Reuptake Inhibitors, and Placebo for Common Psychiatric Disorders Among Children and Adolescents A Systematic Review. *JAMA Psychiatry*. 174(11):1177–1185. doi:10.1001/jamapsychiatry.2017.2432
- Massachusetts Department of Elementary and Secondary Education. (2006). Special Education. Retrieved from <http://www.doe.mass.edu/sped/links/emotional.html>

- Massachusetts Department of Elementary and Secondary Education. (2018). Education Laws and Regulations. Retrieved from <http://www.doe.mass.edu/lawsregs/603cmr7.html?section=04>
- Massachusetts Department of Elementary and Secondary Education. (2016). Guidelines for Program Approval [PDF file]. Retrieved from <http://www.doe.mass.edu/edprep/ProgramApproval.pdf>
- Merikangas, H., Burstein M., Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen. (2010). Lifetime Prevalence of Mental Disorders in US Adolescents: Results from the National Comorbidity Study-Adolescent Supplement (NCS-A). *Journal of American Academic Child Adolescent Psychiatry*. 2010 October ; 49(10): 980–989. doi:10.1016/j.jaac.2010.05.017.
- Murphy, T.K., Bengtson, M.A., Tan, J.Y., Carbonell, E., & Levin, G.M. (2000). Selective Serotonin Reuptake Inhibitors in the Treatment of Pediatric Anxiety Disorders: a Review. *International Clinical Psychopharmacology*, 15(2). 11110019
- Pavlov, I.P. (1927). Conditioned Reflexes: an Investigation of the Physiological Activity of the Cerebral Cortex. *Annals of Neuroscience*. 17(3). 10.5214/ans.0972-7531.1017309
- Skinner, B.F. (1963). Operant Behavior. *American Psychologist*.
- Sulkowski, M.L., Joyce, D.K., & Storch, E.A. (2012) Treating Childhood Anxiety in Schools: Service Delivery in a Response to Intervention Paradigm. *Journal of Child and Family Studies*, 21, 938-947. doi:10.1007/s10826-011-9553-1
- Thoma N., Pilecki B., & McKay D. (2015). Contemporary Cognitive Behavior Therapy: A Review of Theory, History, and Evidence. *Psychodynamic Psychiatry*, 43(3).

- Walkup, J.T., Albano, A.M., Piacentini, J., Birmaher, B., Compton, S.N., Sherrill, J.T., Ginsburg, G.S., Rynn, M.A., McCracken, J., Waslick, B., Iyengar, S., March, J.S., & Kendall, P.C. (2008) Cognitive Behavioral Therapy, Sertraline, or a Combination in Childhood Anxiety. *The New England Journal of Medicine*. 359(26).
- Watson, J.B. & Rayner, R. (1920) Conditioned Emotional Reactions. *Journal of Experimental Psychology*. 3(1).
- Wolpe J. (1961). The Systematic Desensitization Treatment of Neurosis. *The Journal of Nervous and Mental Disease*. 132(3).
- World Health Organization. (2002). *Prevention and Promotion in Mental Health*. France. ISBN: 92 4 156216 1.
- World Health Organization. (1981). *Global Strategy for Health for All by the Year 2000*. Switzerland. ISBN 92 4 180003 8.

## Appendix A

## Childhood Anxiety Test

1. Which is the most prevalent class of mental disorders in children under 18 years of age in the United States today?
  - a) Behavior disorders
  - b) Mood disorders such as depression
  - c) Anxiety disorders
  - d) Substance use disorders
2. What age do childhood anxiety disorders typically emerge by?
  - a) 3
  - b) 7
  - c) 13
  - d) 17
3. True or False: Children usually out-grow an anxiety disorder.
  - a) True
  - b) False
4. True or False: Children with anxiety disorders are more likely to have difficulty with academics than those who do not.
  - a) True
  - b) False
5. True or False: Children with anxiety usually receive appropriate medical and psychological treatment.
  - a) True
  - b) False
6. What percentage of adolescents are diagnosed with an anxiety disorder?
  - a) 85%
  - b) 52 %
  - c) 32%
  - d) 15%
  - e) 8%
7. Which treatment is the most effective for children with an anxiety disorder?
  - a) Medication
  - b) Cognitive-behavioral Therapy
  - c) Play Therapy
  - d) Family Therapy
8. True or False: There are no adverse consequences to delaying treatment of a childhood anxiety disorder.
  - a) True
  - b) False

## Appendix B

## Teacher Preparation Survey

Choose the degree to which you agree with each statement.

0 = Strongly Disagree 1 = Disagree 2 = Neutral 3 = Agree 4 = Strongly Agree

1. I have a good understanding of childhood anxiety.
2. I have been taught how to support children in my class with childhood anxiety.
3. Childhood anxiety is an issue that I will have to address within my classroom.
4. As a teacher, I should take responsibility to educate my students about anxiety.
5. As a teacher, I should take measures that will reduce anxiety in my students.
6. I plan on implementing activities that encourage mindfulness in my classroom.
7. As a teacher, I view it as my responsibility to teach the children in my class empathy.
8. As a teacher, I view it as my responsibility to teach relaxation skills to my students.
9. I will teach the students in my class self-help strategies for calming down.
10. I will promote intrapersonal motivation over material motivation in my classroom.
11. As a teacher, it is my job to teach children social and emotional regulation.