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A Qualitative Study of Teachers' Knowledge of Anxiety and Their Feelings of Preparedness to Support Students with Anxiety

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A Qualitative Study of Teachers' Knowledge of Anxiety and Their Feelings of Preparedness

to Support Students with Anxiety

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TEACHERS' KNOWLEDGE & PREPAREDNESS FOR STUDENTS WITH ANXIETY

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Support Students with Anxiety

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Approvals

In the judgment of the following signatories, this Dissertation meets the academic standards that have been established for the Doctor of Philosophy degree.

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Dedication

To any child who feels unloved, unsafe, unsupported, misunderstood, or unprotected in school or

elsewhere. This and all my work are for you.

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Abstract

The incidence of anxiety disorders, one of the most prevalent mental health disorders, in students has increased since the COVID-19 pandemic. Yet, these disorders continue to be underdiagnosed and untreated in schools, leading to impaired learning, social relationships, and health issues. If teachers, who spend a considerable amount of time with students, identify anxiety and enforce successful interventions, it can lead to positive student outcomes. Therefore, this qualitative study examined teachers' knowledge of anxiety and their feelings of preparedness in teaching students with anxiety. Thirteen general education elementary teachers with two to three years of experience were interviewed. The participants responded to questions on six scenarios exploring student anxiety symptoms and recommended strategies for addressing student concerns. They responded to direct questions about their preparation courses, professional development (PD) opportunities, knowledge of anxiety prevalence and symptoms, and comfort level working with students with anxiety. The results indicate a theory-to-practice gap: most teachers did not correctly identify the anxiety symptoms of the children in the scenarios despite hypothesizing that 50–90% of all students had anxiety, but they listed some signs when specifically asked. Although the teachers had no mental health coursework and inadequate PD regarding the impact of student anxiety, they reported being very comfortable working with such students. Future research may explore whether there is a relationship between teacher training on anxiety in students and their response to real-life situations.

Keywords: student anxiety, teacher preparation, teachers' knowledge of anxiety

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Chapter One: Introduction

I handed the young teacher a tissue. "I have tried everything," she choked, almost in a whisper, staring expressionless at the paint-splattered classroom table. I looked around the third-grade classroom, which resembled the aftermath of an earthquake with tipped chairs, trashcan contents strewn about, and an art supply cart that appeared to have exploded. With seven more months of the school year left, I wondered how this teacher was going to sustain her efforts. The veteran principal's quick but panicked glance at me from across the table made me realize I wasn't alone in this concern.

The deflated teacher was right. She *had* tried everything, that is, everything she knew. For twelve years, my job was to analyze, coach, and educate distressed public-school teachers like her. When I first graduated with my bachelor's degree in intensive special education from Boston University, I naively thought the most difficult part of my job would be understanding struggling students and finding the right interventions to help them access education and improve behavior. My passion and innate ability to analyze students with layered needs and complex behavior patterns went only so far. What became apparent, after only a few years as an inclusion and behavior specialist, was that my paramount role in helping children was actually educating the teacher on how to meet the needs of their student.

In a little more than a generation, educators saw the face of the classroom change. Long gone are the days when a teacher's largest behavior problem was a student talking out of turn. Currently, overstretched, underprepared teachers struggle to manage a changing student population with increasing trauma, anxiety, depression, attention-deficit/hyperactivity disorder (ADHD), and autism. Statistically, these students represent a majority of the average classroom (Merikangas et al., 2010). Yet while the classroom landscape has changed, teacher preparation

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coursework has not, typically mandated only one course in behavior management and none to speak of in mental health. Principals have no more preparation than teachers in this area, and school psychologists generally have training, but have no teaching experience, making it difficult for them to give practical advice to unprepared teachers that will translate easily into the busy classroom setting.

I believe that the best way to help a struggling child is to educate and fortify that child's teacher. This is a simple idea but one that is far from simple to achieve. My passion lies in building capacity within schools to help at risk-students and enable teachers to ascertain that challenging behavior *can* be understandable; relatable; and, most importantly, ameliorated by teaching the students certain skills and creating a safe and supportive classroom environment. In this dissertation I sought to elucidate teachers' understanding of anxiety and their feeling of preparedness to work with students with anxiety, as teachers are the key to students' success.

Statement of the Problem

In the past decade, there has been an increased need to provide mental health support to children in schools, especially since the COVID-19 pandemic began (Bryant et al., 2020; Bryce, 2020; Fegert et al., 2020; Imran et al., 2020). For the purposes of this paper, the following clinical definition of anxiety: "anxiety is an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness, or a rapid heartbeat" (American Psychological Association, 2021).

Historically, anxiety disorders have been one of the most prevalent mental health disabilities. They have affected 9–31.9% of adolescents in the United States and there has been a

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21% increase in their incidence in children aged 3–17 between 2019 and 2020 (Benton et al., 2021; Merikangas et al., 2010). Anxiety disorders can affect children at an early age – the median age of anxiety onset is six. This is significantly younger than the median onset age for any other mental health disabilities (11 for ADHD, 13 for mood disorders, and 15 for substance abuse; Merikangas et al., 2010). In a study of 1,342 preschool-aged children, 22.2% were found to have an anxiety disorder, highlighting its prevalence across the lifespan (Paulus et al., 2015). Notably, the COVID-19 pandemic has also increased the prevalence of stress and anxiety in the general population, affecting 29.6–33.7% of the people in the United States (Racine et al., 2021; Salari et al., 2020). The life changes resulting from measures such as social distancing, social isolation, school discontinuance, lack of access to school-based and community mental health support, food insecurity, and an increase in parent stress and mental illnesses have had an adverse impact on children (Benton et al., 2021; Bryant et al., 2020; Bryce, 2020; Fegert et al., 2020). Consequently, children and adolescents are at risk of increased anxiety and other mental health issues (Benton et al., 2021; Fegert et al., 2020; Imran et al., 2020).

Due to a lack of awareness and stigma, only one-third of the children with mental health disabilities in the United States pay visits to mental health specialists in a year (Merikangas et al., 2010). Almost 80% of the students with anxiety disorders do not access school- or community-based mental health treatment (Merikangas et al., 2011). Schools are a logical place to deliver such support, because, if left untreated, mental health challenges can negatively impact students' academic and behavioral performance; thus, the education sector is and has been the most customary and de facto pathway through which children and adolescents receive mental health services (Benton et al., 2021; Duong et. al, 2021; Siperstein et al., 2011).

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In addition to programs developed for school psychologists and counselors, involving teachers is paramount to effectively reaching students with successful practices (Siperstein et al., 2011). Teachers spend most of their time with students and are in a unique position to identify and support those experiencing mental health issues (Johnson et al., 2011). Teachers also have experience with student behavior and can identify atypical behavior in students. According to Franklin et al. (2012), teachers are involved in school-based mental health programs 40% of the time. Teachers support students' mental health by collaborating with school mental health teams, implementing Tier 1 interventions within programs such as Positive Behavior Interventions and Supports (PBIS), enforcing positive classroom management practices, and facilitating social emotional learning curriculums (von der Embse, Rutherford, et al., 2018).

However, teachers' lack of knowledge and skills to support students with anxiety can have negative consequences (Ginsburg et al., 2019). With little or no training on identifying and assisting students' anxiety, teachers are less likely to implement interventions and make accommodations to promote anxious students' academic and social success (Ginsburg et al., 2019). Moreover, the lack of knowledge about mental health disorders can lead to inaccurate perceptions about students and discourage appropriate interventions and responses (Nelson, 2019). Their lack of skills in this regard can lead to stigmatized perception and pathologizing of the problems, which can impede the implementation of interventions (Shah & Kumar, 2012). This can also have dire consequences such as teachers neglecting to refer a suicidal student to mental health specialists (Nelson, 2019). Notwithstanding, when teachers possess knowledge about anxiety, students' social-emotional, behavioral, and academic functioning improve (Ginsburg et al., 2019; Zee & Koomen, 2016).

Notably, teachers receive little to no education or training on children's mental health (Andrews et al., 2014) and often struggle to effectively refer students with emotional and behavioral health challenges to the appropriate mental health staff (Eklund & Dowdy, 2014). Teacher training programs mostly focus on the academic and behavioral aspects of students and neglect their mental-health needs (Andrews et al., 2014; Figueroa, 2013). For instance, surveys have been conducted on teachers' feelings of unpreparedness in working with students with anxiety. In a survey of almost 300 teachers, only 4% "strongly agreed" that they were adequately prepared to meet their students' mental health needs (Reinke et al., 2011). However, teachers are largely aware of the need for training on students' mental health requirements and addressing the needs of students with anxiety through effective strategies and behavioral interventions (Figueroa, 2013; Reinke et al., 2011).

In terms of treatment, three types of interventions have shown promise in helping students with anxiety: cognitive behavioral therapy (CBT), mindfulness, and trauma-informed practices. However, there is little research supporting the efficacy of these approaches when implemented by classroom teachers. There is robust research to support CBT as a successful clinical practice and some on mindfulness approaches as an effective tool to reduce anxiety in students. Despite the relationship between trauma and anxiety, however, trauma-informed practices have not proven to be helpful in this regard.

The few studies evaluating the CBT, mindfulness, or trauma-informed practices implemented by a teacher have suggested that these attempts have rarely been successful in reducing students' anxiety (Anālayo, 2019; Bakosh et al., 2015; Carsley et al., 2015; Cooper & Jacobs, 2011; Dobkin et al., 2012; Gee et al., 2020; Holistic Life Foundation, 2014; Katz, 2012; Kuypers & Winner, 2011; O'Callaghan & Cunningham, 2015; Ortiz & Sibinga, 2017; Parker et

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al., 2014; Reilly, 2015; Saltzman, 2014; Semple et al., 2017; Tweedie et al., 2017). In such cases, the practice may not have been helpful, the teacher may not have effectively implemented it, or the teacher may have lacked the training to understand and intervene on behalf of anxious students. Future research and subsequent teacher training are needed to help teachers understand how to incorporate the best classroom practices for students with anxiety.

The three successful treatment options for reducing anxiety in children are geared to be implemented by school counselors and psychologists as opposed to the general education classroom teacher (Burke, 2010; Essau et al., 2012; Jaycox et al., 2018; Waibel, 2017). There are only a few school-based curriculums with effective practices for students with anxiety, but many of them have little to no research supporting their effectiveness (Semple et al., 2017; Tweedie et al., 2017).

Teachers serve an essential role in providing services to students with mental health needs, as they have the most access to students and spend a significant amount of time with them (Johnson et al., 2011; Sanchez et al., 2017). Teachers also have experience with student behavior and can often distinguish between expected and atypical behavior in students, even if they do not know the underlying cause or how to intervene (Anālayo, 2019; Andrews et al., 2014; Bakosh et al., 2015).

In addition, school staff struggle to identify students who have internalizing conditions such as anxiety and depression and tend to focus on students with externalizing conditions such as ADHD (Loades & Mastroyannopoulou, 2010; McIntosh et al., 2014; Papandrea & Winefield, 2011). Teachers may thus find it difficult to identify the needs of students with anxiety and other internalizing conditions, leaving them unprepared to support those students.

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Purpose of the Study

This study seeks to understand elementary general education teachers' knowledge of anxiety and their feelings of preparedness to work with students with anxiety. Further insight into this topic is vital to understand whether anxious students are being identified and adequately supported in the classroom. If teachers do not understand anxiety or feel they are unprepared to support suffering students, the children can be overlooked and may not receive adequate reinforcement. If teachers successfully identify students with anxiety and subsequently refer them to specialists and provide them with the necessary support in class, the students' life trajectory can be improved (Ginsburg, Pella, Ogle, et al., 2021; Ijadi-Maghsoodi et al., 2018; Zee & Koomen, 2016). It may reduce the likelihood of continued mental illness and improve their social, behavioral, and academic outcomes. Furthermore, teachers can have a greater opportunity to focus on a curriculum and academic rigor that benefit all students.

There is a significant research-to-practice gap in the mental health practices and interventions in schools. Teachers' knowledge and skills directly impact the wellbeing of students struggling with anxiety. Therefore, understanding teachers' perspectives can be useful for the researchers and school psychologists advocating for increased evidence-based interventions in school settings and thus bridge the research gap.

Research Questions

This study was guided by two research questions:

1. What is general elementary education teachers' knowledge about the prevalence, symptoms, and characteristics of anxiety in children?

2. How prepared do teachers feel to effectively support students with anxiety in the classroom?

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Theoretical Framework

This study used cognitive behavior theory as a theoretical framework (Dobson & Dobson, 2018; Dobson & Dozois, 2010; González-Prendes & Resko, 2012), with the premise that an individual's cognitive processes in the form of meanings, judgements, assessments, and assumptions about certain events play a primary role in their subsequent behavioral and emotional responses to those events (González-Prendes & Resko, 2012). The theory is based on three fundamental assumptions: 1) cognitive processes such as thoughts and assumptions can be known, 2) an individual's thinking affects how they react to events, and 3) cognition can be changed (Dobson & Dobson, 2018; Dobson & Dozois, 2010; González-Prendes & Resko, 2012). Using this theoretical framework, this study attempted to determine teachers' thoughts about students and anxiety in general and understand how their thoughts, assumptions, assessments, and judgements about students' observable behaviors lead them to respond in certain ways.

Definition of Terms

Table 1 defines the terms used in this paper to guide the literature review and to refer to the literature highlighted throughout.

Table 1

Definitions of Terms

Terms	Definition
Anxiety	Anxiety is "an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat" (American Psychological Association, 2021).

Terms	Definition - continued
Successful Practices	Successful practices include those that meet the criteria for practice-based evidence and/or evidence-based practice, as these criteria have been well-established and accepted in the field of education (Margison et al., 2000).
Practice-Based Evidence	This refers to the process of gathering good-quality data from routine practice (Margison et al., 2000).
Evidence-Based Practice	This refers to an activity, strategy, or intervention that demonstrates a statistically significant effect in improving student or other relevant outcomes based on the criteria outlined by the Every Student Succeeds Act (ESSA). ESSA (2015) states that the term "evidence-based" means "demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes" (ESSA, 2015, p. 2091) according to certain criteria. It categorizes the criteria from strongly evidence-based to promising (Skinner & Kuenzi, 2019).
Cognitive Behavior Therapy (CBT)	This is a short-term, goal-oriented psychotherapy treatment with a practical approach to problem-solving. Its goal is to change unproductive thinking or behavior patterns. CBT works by changing a person's attitudes and behavior by focusing on their thoughts, images, beliefs, and attitudes and the relationship between these thoughts and the person's behavior (Martin, 2018).
Mindfulness	Mindfulness is a "social practice that leads the practitioner to an ethically minded awareness, intentionally situated in the here and now" (Nilsson & Kazemi, 2016, p. 190).
Trauma-Informed Care	Trauma-informed care recognizes the pervasiveness of trauma and commits to identifying and addressing it as early as possible. It involves seeking to understand the connection between presenting symptoms and behaviors and the individual's past trauma. As a practice and set of interventions, it uses trauma history as part of the efforts to promote healing and growth. At the most basic level, trauma-informed care involves the provision of services and interventions that do no harm, for example, that do not inflict further trauma on the individual or reactivate past traumatic experiences (Hodas, 2006, p. 6).

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Overview of the Method

This qualitative study used interviews of 13 general education elementary teachers to investigate their knowledge of anxiety and their feelings of preparedness to teach students with anxiety. It used a phenomenological methodology, that is, an approach to understand a phenomenon by exploring it from the perspective of those experiencing it. Knowledge and perspective are derived from an individual's lived experiences and formal training (Teherani et al., 2015). Therefore, open-ended research questions were used to allow teachers to share their knowledge and perspective from various sources and not just their formal training.

Limitations

This study had several limitations. First, the lack of previous research on the topic. There were limited studies found that addressed teachers' knowledge of anxiety or their skills in implementing effective strategies.

Another limitation is the timing of this study. Due to the pandemic, anxiety may have been at the forefront of many teachers' minds in a way that it might not have been previously. There is a possibility that this study's results reflect that heightened awareness, which may not persist in the future. Thus, this study's findings illustrate an awareness of student anxiety that is not stable or accurate for future researchers to reference.

This study was conducted in the 2021-2022 school year when COVID 19 precautions were in place in many schools. Such precautions such as mandatory quarantining, contact tracing, and restricted visitor policies, prevented me from designing the study to include in-person observations. This is a limitation as it would be enlightening to verify teachers' reporting of how they would handle certain situations with first hand observations.

Some teachers were familiar with my work and philosophies on student behavior. For example, one teacher from Oklahoma had read my book and referenced it throughout the interview. Furthermore, several participants were from a certain district in Massachusetts where I had presented and consulted previously. Although some teachers had not yet been employed when I presented and consulted in their school district, they were familiar with me as their colleagues, special education director, and superintendent have implemented systemic changes based on my work, such as the district-wide use of the behavior plan form. The superintendent emailed five teachers I interviewed and shared the recruitment letter I provided with background information and praise for my work. Consequently, some participants may have responded based on what they thought I wanted to hear.

Finally, the sample size of 13, makes it difficult to generalize the results. The participants' interview responses do not necessarily represent the viewpoint of all the teachers from their states. Interviewing three teachers from rural Arkansas; one from Tulsa, Oklahoma; and nine from the suburban and urban areas of Massachusetts is likely to have highlighted several differing variables in their locations that could have can created complications in deriving patterns from the data. For example, the responses of the teachers from rural Arkansas could be influenced by factors such as sparse resources, student population in poverty, and strict practices to address behavioral issues that are commonplace in Arkansas.

Organization of the Paper

Chapter One provided the introduction, problem statement, purpose of the study, research questions, definitions of terms, overview of the methods used, study limitations, and the paper layout. Chapter Two contains the literature review on topics outlined in the research questions. This is followed by a discussion of the methodology and data collection in Chapter Three.

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Chapter Four reports the data analysis, whereas Chapter Five covers the findings of the interviews. Finally, Chapter Six provides a summary of the research findings, conclusions, limitations, and recommendations for future research.

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Chapter Two: Literature Review

Since anxiety disorders are among the most prevalent of all mental health disabilities, optimizing the school setting for suffering students is key to their success. For effective implementation of such measures, teachers, school psychologists, and counselors must be involved. Given the overwhelming need for such measures, the following question arises: Are teachers knowledgeable about anxiety and prepared to support students with anxiety? Accordingly, this literature review seeks to discuss students' needs, define which practices are successful in treating students with anxiety, determine whether schools implement such practices, and establish whether teachers are adequately trained to teach students with anxiety.

The findings from this literature review informed the development of the interview questions by focusing on the data on the prevalence of anxiety in youth (Bitsko et al., 2022; Merikangas et al., 2010; Okwori, 2022), biological basis of anxiety (Fellman et al., 2020; Hepsomali et al., 2019; Moran, 2016; Opris et al., 2019), why it is important to focus on elementary-aged students (Carpenter et al., 2017; Leyfer et al., 2013; Mian et al., 2015), what is known about supporting students with anxiety (Carpenter et al., 2017; Fjorback et al., 2011; Hofmann et al., 2010; Kreuze et al., 2018), understanding teachers' knowledge of anxiety (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021; Ohrt et al., 2020; Reinke et al., 2011), determining whether schools effectively implement successful practices (Creed et al., 2015; Gee et al., 2020; Jaycox et al., 2018; Waibel, 2017), and examining whether teachers are adequately trained to teach students with anxiety (Mazzer & Rickwood, 2015; Nygaard et al., 2022; Osagiede et al., 2018).

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Why Anxiety Disorders in Elementary-Aged Students?

Mental illness in children has become increasingly common. According to the National Comorbidity Survey–Adolescent Supplement (NCS-A) on US youth, about 49.5% have a mental illness before the age of 19 and 22.2% will experience severe impairment (Merikangas et al., 2010). Anxiety disorders are the most prevalent of all mental health disabilities, affecting 831.9% of adolescents in the United States and warranting specific focus and intervention (Bitsko et al., 2022; Merikangas et al., 2010; Okwori, 2022). Anxiety disorders can affect children at an early age, with the median age of onset being six (Petresco et al., 2014). This is significantly younger than the median age of onset for other mental health disabilities: 11 for ADHD, 13 for mood disorders, and 15 for substance abuse (Merikangas et al., 2010). In a study of 1,342 preschool-aged children, 22.2% were found to have an anxiety disorder, highlighting the prevalence of anxiety disorders at all ages (Paulus et al., 2015).

Given the prevalence of mental health issues in students and the early onset of anxiety disorders, it is unsurprising that such students are at a lifelong risk of avoidance and diminished learning and increased behavior issues, anxiety, and depression (Ginsburg, Pella, Ogle, et al., 2021). They may also face poor outcomes in adolescence and adulthood, such as exclusionary discipline (e.g., suspensions), school dropout, impaired social functioning, criminal involvement, suicidality, substance abuse, and employment and health problems (Comer et al., 2011; Paulus et al., 2021).

Impact of COVID-19 on Student Mental Health

Students' socioemotional challenges are on the rise and the rates of anxiety and depression in adolescents have doubled (Racine et al., 2021). During a pandemic that impacts the everyday life, children's and teens' anxiety levels can be higher, and they may face greater

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subsequent trauma. According to trauma researcher Dr. Bessel Van Der Kolk, the COVID-19

pandemic is a "pre-traumatic condition" due to the core preconditions for becoming traumatized:

immobilization and uncertainty. In addition, those with preexisting post-traumatic conditions are

particularly vulnerable (Mcowen & Biello, 2020). Trauma and chronic stress impair students'

ability to learn, specifically in terms of attention, concentration, and memory. Moreover, students

with preexisting conditions are at a greater risk when school is disrupted, as early treatment is

paramount for best outcomes and many services are provided in school, students from low-

income families often receive services only in school (Kluger, 2020), and those with special

needs and learning challenges are also greatly impacted by the disruption in services.

Equity and COVID-19. The pandemic is also widening the achievement gap for

children living in poverty and children of color, who experience higher rates of illness and death

and greater economic impact (Lewis & Michener, 2020). Black and Latinx parents are more

likely to have front-line jobs and thus less likely to be able to help with at-home learning and are

at higher risk of infection. Following George Floyd's death in May 2020, racial trauma has also

been in educators' minds (Eichstaedt et al., 2021). The disproportionate adverse effects of

racism, of viewing traumatic videos of police killings, and of the pandemic on the mental health

of children of color *must* be addressed in the aftermath of the pandemic (Bor et al., 2018; Tynes

et al., 2019).

Why Intervene in the Elementary Years?

Despite its high prevalence, anxiety disorders are underdiagnosed and untreated in

primary care settings (Carpenter et al., 2017). Childhood anxiety can have multiple negative

outcomes such as issues in learning, social relationships, and family functioning and health

problems such as sleep difficulties (Carpenter et al., 2017; Leyfer et al., 2013). Carpenter et al.

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(2015) found that anxiety disorders in preschool years predict issues in brain development, specifically brain structures associated with emotional processing in the later years. Due to its early onset age, timely intervention is needed to mitigate the effects of anxiety in students (Merikangas et al., 2010; Mian et al., 2015). With early identification and services, children can obtain skills to become successful in school and throughout life (Csillag et al., 2016; de Pablo et al., 2021; Paulus et al., 2015). This can also lead to increased brain plasticity and neural integration critical for adaptive responses to anxiety (Carpenter et al., 2015).

However, many providers and parents often mislabel anxiety symptoms as the child being "slow to warm" and expect them to grow out of it (Carpenter et al., 2017). This misunderstanding and a general lack of identification of anxiety symptoms becomes a barrier in supporting students with anxiety symptoms in school and at home (O'Brien et al., 2016; Reardon et al., 2018).

Why School-Based Intervention?

As discussed earlier, due to the lack of awareness and stigma, only one-third of U.S. children receive professional help for their mental health disabilities (Merikangas et al., 2010), and almost 80% of the students with anxiety disorders do not access school or community-based mental health treatment (Merikangas et al., 2011). Schools are a logical place to deliver mental health supports, as mental health challenges left untreated can negatively impact students' academic and behavioral performance. Schools are already the most universal place which children and adolescents receive mental health services, as they are a naturally inclusive, accessible and comfortable location for students and the implementation of mental health services in schools can improve social, emotional and academic functioning (Duong et al., 2021; Hoover et al., 2020; Siperstein et al., 2011). Mental health supports provided in school settings

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can lead to positive social, emotional, and behavioral outcomes for students (Hoover et al., 2020; Kase et al., 2017; O'Dea et al., 2019), including a reduction in their anxiety and depression (Calear & Christensen, 2010; McIntosh et al., 2014).

Anxiety interferes with several brain functions that are required in learning (Moran, 2016; Rozenman et al., 2014). It affects an individual's ability to focus, as their brains are focused on the anxiety or managing it instead of learning (Ng & Lee, 2015). It also negatively impacts working memory (WM), aptitude, and attention, which are required for optimal learning (Klados et al., 2019; Namkung et al., 2019; Skagerlund et al., 2019; White, et al., 2021). Furthermore, worry and physiological anxiety can predict youths' academic achievement and cognitive functioning, as higher levels of these issues are associated with lower scores on intelligence testing (Castagna et al., 2021).

While the main goal of teachers is to educate students, their role can be expanded to include understanding and interceding to reduce students' mental health symptoms. This can result in improved academic and behavioral performance of anxious students from all backgrounds, ethnicities, and those who have experienced trauma (Ginsburg, Pella, Ogle, et al., 2021; Ijadi-Maghsoodi et al., 2018; Zee & Koomen, 2016). However, several challenges impede the implementation of effective mental health support in school, such as competing initiatives, parents' fear that mental health concerns can be used to exclude or separate students from the general education environment, and disparities in the resources and mental health care provided in different schools (Hoover et al., 2020). Moreover, mental health issues in schools often occur after a catastrophe such as a school shooting, and the service implementation post such events can be unorganized and unsustainable (Hoover et al., 2020).

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Inequity in Access to Services

First-generation immigrants and children from racial and ethnic minority backgrounds experience a disparity in access to services, which may translate into a more chronic lifelong illness. Racial and ethnic minority students show similar rates of mental health disabilities as non-Latinx white students in childhood and adolescence, but they are at elevated risk in adulthood (Alegría et al., 2015). Such students, and those who are first-generation immigrants, face additional barriers to mental health care and are less likely to receive services (Georgiades et al., 2018), with Latinx students facing a particularly large unmet need due to racism, stigma, and language barriers (Cabassa et al., 2014). Undocumented immigration status also negatively impacts a student's negatively impacts a student's ability to identify mental health struggles, as the symptoms are seen as a natural product of their undocumented status and related challenges (Cha et al., 2019). Additionally, for many immigrants, lack of insurance and transportation, parents' lack of flexibility in their job to take children to medical appointments, and language barriers can prevent access to mental health care outside of school (Cabassa et al., 2014; Saloner et al., 2017; Swick & Powers, 2018; Walker et al., 2015).

Increasing Equity with School-Based Mental Health Services

School-based mental health services can reduce the socioeconomic and racial/ethnic disparities by ensuring that services are available to all children (Alegría et al., 2015; Atkins et al., 2017; Swick & Powers, 2018). Hoover and Bostic (2021) found that non-white students were significantly more likely to access school-based mental health services than community supports. By implementing successful practices, schools can also reduce the inequities in the quality of general and special education for students from marginalized populations (Siperstein et al., 2011). Furthermore, providing school-based mental health services can also be less stigmatizing,

offer easier access to children, and allow children the time and space to practice strategies and receive coaching in real-life situations (Hoover et al., 2020; S. Terrasi, personal communication, December 12, 2018).

However, disparities in such services continue to exist. For example, Green et al. (2020) found that students from racial and ethnic minority groups and those whose parents had fewer years of education were more likely to receive school-based mental health services in segregated settings such as special classrooms or schools, as opposed to preventative measures in the general education settings. In addition, due to culturally inappropriate outreach, Latinx students were found to be less likely to access school-based mental health services than white children (Locke et al., 2016).

Biological Relationship Between Anxiety and Cognition

The relationship between anxiety and cognitive and behavioral performance is not well understood. Many symptoms of the generalized anxiety disorder (GAD) and other disorders such as excessive worrying and somatic complaints are easily observable and measurable, but the underlying causes are more difficult to detect or understand. Neuroimaging technology and other recent scientific developments have allowed the exploration of the neurobiological factors in anxiety disorders. This literature review mainly focused on the impact of anxiety on WM and other cognitive processes as well as the amygdala as an underlying cause of anxiety disorders.

Processing Efficiency Theory and Attentional Control Theory Frameworks

Two predominant theories explain the relationship between anxiety and performance: processing efficiency theory (Eysenck & Calvo, 1992) and attentional control theory (Eysenck et al., 2007). The framework from these complementary theories have been used in many studies to

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conceptualize anxiety's impact on WM and other cognitive processes (Hepsomali et al., 2019; Shi et al., 2019).

Processing efficiency theory suggests that anxious worry (anxiety is characterized by rumination and/or negative or distracting thoughts) reduces WM capacity by making use of executive resources, which are then unavailable for WM processes. The greater the worry and difficulty of a task, the greater the disruption. The theory also states that the efficiency of the processing is more affected than the effectiveness (accuracy or quality) of the task, meaning that a student could receive a good grade but the time and effort exerted to achieve the task would be disproportionately high (Derakshan & Eysenck, 2009; Hepsomali et al., 2019).

Attentional control theory states that anxiety impacts performance because it impairs an individual's ability to attend to a task and maintain goal focus. In addition to decreasing attentional control, it increases the attention toward threat-related stimuli. The theory expands on processing efficiency theory to suggest that the adverse effects of anxiety on processing efficiency depend on two specific central executive functions involving attentional control: inhibition of distracting thoughts/behaviors and shifting attention to a task (Eysenck et al., 2007; Shi et al., 2019; Songco et al., 2020).

Anxiety and Working Memory

Anxiety is related to diminished performance across various tasks (Fellman et al., 2020; Hepsomali et al., 2019; Moran, 2016; Opris et al., 2019). It includes a heterogeneous set of symptoms and traits (Fajkowska et al., 2018; Moran, 2016). However, this literature review considers two main types of anxiety: (1) "apprehension," characterized by worry/apprehension and verbal rumination, typically about future events (Fajkowska et al., 2018; Songco et al., 2020;

Vytal et al., 2012), and (2) "arousal," characterized by an increase in physiological symptoms such as heartrate and sweating (Fajkowska et al., 2018; Vytal et al., 2012).

WM is a temporary storage system that retains a limited amount of information to support more complex cognitive processes and is therefore central to cognitive functioning (Baddeley, 2017; Fellman et al., 2020; Held et al., 2020). It has several individual components: phonological, visuospatial, and central executive. The last component is involved in all tasks and supports the attention to and maintenance of task goals, reducing interference from distractions or deterring responses (Baddeley, 2017). WM is also responsible for temporarily maintaining and manipulating information before it erodes, decision making, and understanding false beliefs (Fellman et al., 2020). The various findings in the literature regarding the relationship between WM and anxiety may be better understood and analyzed by considering that the different types of anxiety and WM components interact in different ways, for example, in the maintenance of phonological information versus spatial information (Vytal et al., 2012; Vytal et al., 2013).

Impact of the Anxiety Type on Specific Working Memory Systems. Much of the literature suggests that worrying negatively impacts WM processing efficiency (Held, et al., 2020; Vytal et al., 2013). It affects phonological tasks more significantly, as it involves language, while arousal impacts spatial tasks (Beilock & Ramirez, 2011; Coy et al., 2011; Vytal et al., 2012; Vytal et al., 2013). Anxiety can also cause increased negative off-task self-talk, a verbal-linguistic form of cognition, and therefore interferes most with the performance on tasks that involve processing verbal stimuli in WM (Coy et al., 2011).

High worriers or ruminators have a stronger WM impairment than low worriers or ruminators, as worrying takes up more WM capacity (MacLellan & Derakshan, 2021). MacLellan and Derakshan (2021) observed less WM capacity in participants who thought of a

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worrisome topic after reading an anxiety-provoking word than a positive topic via a pleasant or neutral word. Dunger (2016) found a selectively disrupted accuracy of spatial and verbal WM performance in experimentally induced state anxiety. Vytal et al. (2012, 2013) determined the components of anxiety (worry and arousal) that were more likely to affect a WM type: Arousal interferes with spatial processes and worry impedes verbal WM. They suggested that these mechanisms share more neural circuitry, with worry and phonological WM engaging regions in the dorsal, medial, and prefrontal cortices when performing verbal information coding and verbal-based worry and anxious arousal and spatial WM engaging both medial and ventral prefrontal regions when performing spatial attention tasks.

Vytal et al. (2012, 2013) also noted that worrisome thoughts can be ameliorated by top-down control of anxiety symptoms and are thus more susceptible to compensatory strategies. However, anxious arousal is a survival mechanism, protects an individual from potential threats, and is therefore less amenable to top-down control (Vytal et al., 2012, 2013).

Finally, according to Batashvili et al. (2020), arousal anxiety can contribute to state anxiety in certain academic tasks. Specifically, they found that highly anxious math students had a threat-level response to numbers as opposed to letters, which negatively impacted their performance.

Anticipatory Anxiety and Working Memory. When and where anxiety impacts WM is also significant. Hyun et al. (2019) closely analyzed how anticipatory anxiety impacts WM in everyday life situations by examining the association between stress anticipated for the upcoming day and cognitive function later on that day. They found that high levels of stress anticipation upon waking resulted in poorer WM performance throughout the day. Conversely,

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the previous night's stress anticipation did not significantly impact WM performance the next day (Hyun et al., 2019).

Anxiety, Working Memory, and Math Performance. Math anxiety is widespread in students and warrants specific focus (Lau et al., 2022). Math anxiety is characterized by intrusive thoughts, which disrupt the critical cognitive skills required for solving math problems (Lau et al., 2022). The higher the WM capacity of individuals, the better their performance on academic tasks such as problem solving and reasoning, skills typically used in math tasks (Skagerlund et al., 2019). However, many studies have found that anxiety impairs WM ability in such tasks (Klados et al., 2019; Namkung et al., 2019; Skagerlund et al., 2019).

According to Pellizzoni et al. (2022), children with poor WM are likely to be weak in mathematics. They suggested that anxiety is a crucial variable that can consistently affect students' performance in match in elementary school years. They also found that GAD affected math performance in the early grades when it also undermined WM, whereas math anxiety did not appear until the later elementary years. This study had important implications in the educational setting as it highlighted the teacher's role in assessing the relationship of emotions to the learning process. Furthermore, Pellizzoni et al. (2022) also suggested that children with math-related challenges can benefit from early intervention to help them cope with their anxiety in parallel with more specific math training.

Anxiety and Error Processing

Regulating performance according to the task demands involves identifying and processing errors during performance and responding or adjusting to those errors (Seow et al., 2020). Many studies have attempted to learn how anxiety impacts error processing and found that it increases the likelihood of error-related negativity (ERN), a negative reaction that takes

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place after an error is made (Seow et al., 2020). Several studies on ERN in adults suggest that high ERN scores (higher anxiety after an error) do not necessarily impact the task accuracy but rather affect the person's mood or behavior after the error has occurred. Since identifying and responding to errors is a large part of performance, the following sections will review the literature on the impact of anxiety on error processing.

      Impact of Anxiety on Error-Related Negativity. Highly anxious individuals have been found to have a high ERN (Meyer et al., 2018). This finding was consistent with the attentional control theory (Eysenck et al., 2007), according to which anxious participants use more cognitive resources after making errors, proving that the measured anxiety does not impede performance. One study suggests that highly anxious participants may call on extra emotional control regions within the rostral anterior cingulate cortex (ACC) while completing a task. The rostral ACC is typically understood to be a part of the brain that exhibits conflict-specific effects during the early detection of errors. Moreover, less anxious participants showed a more typical dorsal ACC contribution after errors while the highly anxious ones showed an elevated contribution. Individuals with high anxiety utilized ACC more after errors, showing that this region was working harder to stay on the task (Aarts & Pourtois et al., 2010).

      Hajcak and Foti (2008) were pioneers in studying the relationship between the startle reflex, the reaction to a loud noise that measures arousal anxiety, and ERN. They explored the impact of arousal anxiety on ERN and found that the startle magnitude was larger after making an error than after a correct response. They suggested that like an electric shock, errors can provoke a defensive state and prime defensive systems arguably to protect an individual from harm.

The relationship between ERN and anxiety can begin in childhood. According to Meyer et al. (2013), anxious children demonstrate a larger and more negative ERN and the relationship between anxiety and ERN is evident by age six. They also suggested that ERN scores may be a marker for future anxiety. In this regard, Filippi et al. (2020) found that in children, aged 2 to 7 who met the criteria for poor behavior inhibition, an enhanced ERN predicted greater social anxiety by age twelve. ERN scores may also indicate a risk factor for developing clinical anxiety in adolescents (Meyer et al., 2018).

Underlying Causes of Anxiety: The Role of the Amygdala

The amygdala, a part of the limbic system, is crucial in both learned emotional responses, the regulation of the physiological and behavioral responses to stress, emotional modulation of memory storage and retrieval (Zhang et al., 2021). It is an almond-shaped region located in the anterior portion of each temporal lobe. The right and left amygdalae make up only 0.3% of the volume of the brain, at a total of $2.25cm^3$ (Schumann et al., 2011). It is a complex region made up of 13 subregions or nuclei and cortical areas, including the basolateral amygdala (BLA), central amygdala (CeA), and medial amygdala (MeA). It resides at the tip of each hippocampus and its subregions have specific roles (Schumann et al., 2011). The BLA is the entry point for sensory information from the thalamus and brainstem into the amygdala or indirectly through the thalamus via the cortex. The CeA is traditionally considered the amygdala's main output station and connects to the BLA and insular cortex. The CeA therefore, regulates fear retrieval, fear renewal and memory. The MeA receives input for the olfactory bulbs and sends efferents to the basal forebrain, hypothalamus and brainstem (Zhang et al., 2021). Neuroimaging studies have implicated the amygdala as a crucial region involved in emotional reactivity and found that successful emotional regulation modulates amygdala reactivity and activity (Lapate et al., 2012).

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Alterations in the amygdala structure and functioning have been found in patients with anxiety and depression (Hamilton et al., 2012; Liu et al., 2015; Roy et al., 2013). However, the increased activation of the amygdala as a factor in patients with anxiety appears infrequently in the literature (Wehry et al., 2015). Much of the recent research suggests that communication and functional connectivity between the amygdala and other brain regions (including the prefrontal cortex, insula, and ACC) are important for and impact emotional regulation and reactivity (Kim et al., 2011; Mah et al., 2016).

In terms of GAD, studies focusing on its biological bases in adolescents were less robust than those on adults, and there are varying accounts of its neurobiological bases. While research at the turn of the millennia supported that people with GAD have larger amygdala, this has not been corroborated by recent studies (Schumann et al., 2011). However, a few studies in the past decade supported that enlarged amygdala volume contributes to anxiety. Hill et al. (2010) found that the amygdala was enlarged in adolescents who showed characteristics of behavioral inhibition in early childhood, a trait found in many anxiety disorders. Similarly, Seguin et al. (2022) discovered that children with autism, OCD, or ADHD had higher anxiety scores and larger right central nuclei volumes than typically developing children. Other explanations of the neurobiological bases of GAD are more common in recent literature.

Recent evidence supports that people with GAD may have a hyperactive amygdala (Zhang et al., 2018). Some studies have found hyperactivation in the amygdala of adults with anxiety disorders. For example, Hyde et al. (2011) examined increased amygdala activity, which correlated with anxiety severity in people who rated themselves as having low-level social support. Strawn and Bitter, et al. (2012) reported that amygdala activation was not found in adolescents with GAD viewing non-emotional stimuli. Similarly, in a study monitoring the

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amygdala activity in 30 adults with GAD, the participants were found to exhibit over engagement of the amygdala and frontal brain regions (Fitzgerald et al., 2017). An increase in bilateral amygdala hyperreactivity was also found in children and adolescents with social anxiety (Bas-Hoogendam et al., 2020). Conversely, people who reported having a high-level social support were found to have lower amygdala activity. Furthermore, there is literature suggesting that the amygdala is hyperactive in adolescents with GAD as well (Wehry et al., 2015), but it is sparse.

Another neurobiological aspect, duration of exposure to stressful stimuli, explains amygdala dysfunction in adolescents with GAD. Longer exposure to stressful stimuli can impact amygdala activation (Yassa et al., 2012), specifically a hyperactivation of the amygdala (Zhang et al., 2018). Yassa et al. (2012) also found a corresponding increase in the bed nucleus of the stria terminalis (BNST), a brain region thought to be involved in the chronic regulation of sustained anxiety as opposed to the amygdala, which is said to regulate brief emotional stimuli. The increased activity in the BNST suggests that people with GAD disengage the amygdala and engage the BNST faster than in healthy people, implying that prolonged anxiety-provoking stimuli engage different brain regions and the length of the stimuli needs to be taken into account when deciphering amygdala activation.

Relationship Between Amygdala and Other Brain Regions

A significant amount of literature shows that adolescents with GAD exhibit dysfunctional connectivity between the amygdala and other brain regions. Significant research reports the dysfunctional connectivity between the amygdala and prefrontal cortex (PFC) in people with GAD (Fitzgerald et al., 2019; Makovac et al., 2016; Mochcovitch et al., 2014; Strawn, Wehry, et al. (2012). To best understand this altered connectivity in adolescents with GAD, the traditionally

understood connectivity between the amygdala and PFC in healthy patients must be examined.

Gluck et al. (2008) described two distinct emotional learning pathways between the amygdala

and PFC. The former receives sensory information directly from the thalamus in the first

pathway and via the PFC from another. The first pathway is faster and allows the individual to

react quickly to stimuli, but the second pathway allows the cortex to provide extra information to

help determine whether the fear response is necessary and allows the termination of this

response. A healthy intrinsic functional connectivity (iFC) between the amygdala and PFC

supports emotional regulation. Conversely, the attenuated connectivity between the two could

highlight why adolescents suffer from GAD (American Psychiatric Association, 2013).This is

especially relevant as anxiety in youth is a great predictor of anxiety disorders in adulthood

(Wehry et al., 2015).

      Strawn, Bitter, et al. (2012) asked adolescents with a GAD diagnosis to look at neutral

and emotional faces. They found an altered connectivity between the amygdala and VPFC in the

adolescents looking at emotional faces. Overall, there was an increased activation of the left

medial PFC and right VPFC while the participants with GAD viewed emotional faces, thus

supporting the compensatory role of the VPFC in modulating anxious reactions (Strawn, Bitter,

et al., 2012). The authors also found that VPFC activation in youth with GAD is inversely related

to the severity of anxiety symptoms.

      However, not all studies assessed the iFC of the amygdala and other brain regions while

stimulating adolescents with GAD. Many examined the iFC while participants were in a resting

state. People with high anxiety have a negatively correlated amygdala-VPFC connectivity even

while at rest, whereas those with low anxiety have a positive connectivity (Kim et al., 2011).

Similar results were found in children and adolescents with anxiety disorders. In an fMRI

resting-state study (Hamm et al., 2014), youth diagnosed with anxiety disorders were found to have hypoconnectivity between the left amygdala and VPFC.

Several studies examining the amygdala-PFC connectivity in adolescents with GAD have yielded similar results. For example, Liu et al. (2015) found a decreased resting-state functional connectivity between the left amygdala and left VPFC in adolescents with GAD compared to healthy adolescents. They also found a negative correlation between GAD severity scores and the connectivity between the left amygdala and left dorsolateral PFC (DLPFC). The authors suggest that this may indicate a compensatory modulation function of the DLPFC.

Meanwhile, Roy et al. (2013) expanded the understanding of the amygdala-PFC connectivity by analyzing iFC through specific amygdala subdivisions, including the BLA (associated with learning processes such as fear conditioning and influenced by the PFC), centromedial amygdala (modulates information from the BLA and sends it to the motor and autonomic brain centers), and superficial amygdala (SFA) (associated with olfactory and social behavior such as the modulation of the approach-avoidance behavior). The authors found that adolescents with GAD had a negative iFC between the CMA, specifically the right CMA, and VPFC regions. Conversely, they found that adolescents with GAD exhibited a positive iFC between right SFA and dorsomedial VPFC (DPFC), consistent with the data for adults with GAD. The results highlight the poorly understood difference between the DPFC and VPFC. The latter, including the ACC, is involved in emotional regulation responses such as fear extinction through connections with the amygdala. The former, however, is involved in the cognitive appraisal of emotion. Several studies also found poor prefrontal cortex and amygdala coupling or connectivity in participants with anxiety but implemented the reappraisal, or reinterpreting the emotional situation, as an effective emotional regulation strategy (Herwig et al., 2019; Li et al.,

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2018; Morawetz et al., 2017; Paschke et al., 2016). Studies have found increased connectivity

between the amygdala and the right dorsolateral prefrontal cortex (dlPFC), the left ventrolateral

prefrontal cortex (vlPFC), and the dorsomedial prefrontal cortex (dmPFC) when reappraisal is

used (Berboth & Morawetz, 2021).

Research on treatment effect also highlights the attenuated iFC of the amygdala and PFC

in adolescents with GAD. In a study where a selective serotonin reuptake inhibitor (SSRI) or

cognitive behavior therapy (CBT), evidenced-based treatments of GAD, were administered to

adolescents, an increase in VPFC activity was noted during treatment. The increased VPFC

activity could explain the reduced symptoms despite the patients' negative amygdala-VPFC

connectivity (Maslowsky et al., 2010).

Furthermore, alterations in the connectivity between the amygdala and other brain

regions have also been documented. The insula, a part of the cerebral cortex situated in the

fissure between the temporal lobe and parietal and frontal lobes (Hamm et al., 2014), is involved

in the perception of introceptive or internal states and integrates such information with inputs

through the amygdala (Roy et al., 2013). Recent studies suggest that this process is altered in

people with anxiety, as they have difficulty differentiating typical fluctuations in introceptive

states from adverse bodily signals, leading to worry (Paulus & Stein, 2010). For instance, Hamm

et al. (2014) discovered a hyperconnectivity between the right amygdala and insula in young

people with anxiety disorders. Liu et al. (2015) discovered an increased right amygdala

functional connectivity with the insula in adolescents with GAD when exposed to fearful faces

and a positive correlation between the amygdala-insula functional connectivity and GAD

severity.

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In addition to the compensatory function of the PFC as previously discussed, Liu et al. (2015), Roy et al. (2013), and Strawn, Wehry, et al. (2012) found that alterations in several other brain regions during emotional processing may have a compensatory function in adolescents with GAD and poor amygdala PFC connectivity. The connectivity between the amygdala and cerebellum, for example, has implications for a compensatory function. Liu et al. (2015) discovered an increased right amygdala functional connectivity with the cerebellum, superior temporal gyrus, putamen, and ipsilateral amygdala extended to the parahippocampus in adolescents with GAD. Roy et al. (2013) found a complex pattern of connectivity between the amygdala and cerebellum and a significant positive IFC between the BLA and a cluster in brainstem extending to the cerebellum in adolescents with GAD, as opposed to no connection in healthy participants. However, a second cluster encompassing the cerebellum and brainstem had a greater negative iFC to the right SFA whereas healthy subjects showed no significant relationship. The positive connectivity between the amygdala and cerebellum occurs in adolescents with GAD with a compromised amygdala-PFC connectivity (Liu et al., 2015). Liu et al. (2015) also proposed that the amygdala-cerebellum functional connectivity is significantly negatively correlated with anxiety severity in adolescents with GAD. This is important as it presents the cerebellum as having a possible compensatory role (Liu et al., 2015).

The understanding of the neurobiology of GAD is crucial because it can help in the development of effective tools for the diagnosis and severity assessment of GAD in patients. Modern advances in developmental epidemiology and neurobiology for anxiety disorders have already contributed to advanced assessment measures and improved outcomes for youth with anxiety disorders. However, there is little research on the assessment and treatment of children

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and adolescents with GAD compared to those on adults, so clinicians need to be cognizant of the specific needs of young people (Freidl et al., 2017).

School-Based Supports for Students with Anxiety

In terms of school-based interventions for anxiety, both evidence-based measures to reduce anxiety and the accessibility of services in the school setting must be considered. A review of the literature on successful treatment practices for children with anxiety disorders showed that three main intervention categories, mentioned earlier, met both criteria: (1) CBT, (2) mindfulness practices, and (3) trauma-informed interventions.

Significant research supports CBT as a successful clinical practice for reducing anxiety in students (Carpenter et al., 2017; Kreuze et al., 2018). Some studies have also found mindfulness approaches to be an effective treatment (Fjorback et al., 2011; Hofmann et al., 2010). However, despite the relationship between trauma and anxiety, there is scant and dated research suggesting that trauma-informed practices alone are effective in this regard (Covington et al., 2008; Silverman et al., 2008). Furthermore, despite their proven usefulness, there is little research on whether these approaches are being implemented by teachers in schools. In the rare instances when CBT, mindfulness, or trauma-informed practices have been implemented by a teacher, research suggests that the attempts were unsuccessful in reducing anxiety in students (Carsley et al., 2015; Jaycox et al., 2018; Semple et al., 2017; Waibel, 2017).

Many practices for reducing anxiety in children are designed to be implemented by mental health professionals in clinical settings (Bar-Haim, 2010; Davis et al., 2011; Jaycox et al., 2018; Waibel, 2017). However, school psychologists, the primary support provided by schools, are currently stretched across a large student population and may be inadequate in supporting and preparing teachers. To effectively reach students, involving the teachers is paramount (Sanchez et

al., 2017); therefore, this literature review also focused on the current endeavors by schools, particularly teachers, to administer these interventions.

As shown in Table 1, this study defined successful practices as those that meet the criteria for practice-based evidence and/or evidence-based practice that have been well established and accepted in education (Margison et al., 2000) and outlined by the Elementary and Secondary Education Act (ESEA, 2015). ESEA categorizes the criteria from strongly evidence-based to promising. The categories are as follows: (I) strong evidence for at least one well-designed and well-implemented experimental study, (II) moderate evidence from at least one well-designed and well-implemented quasi-experimental study, or (III) promising evidence from at least one well-designed and well-implemented correlational study with statistical controls for selection bias or (I) and (ll) demonstrates a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes and (II) includes ongoing efforts to examine the effects of such activity, strategy, or intervention (ESEA, 2015, § 8101). The definitions of both practice-based evidence and evidence-based practice will guide the inclusion of successful practices in this paper.

Cognitive Behavioral Therapy Interventions

CBT has been shown to reduce anxiety in children and adults and have a positive impact on other domains such as general functioning, depressive symptoms, social competency, and neurobiological functioning (Kreuze et al., 2018; Wootton et al., 2015). The American Psychiatric Association (2013) found that CBT reduced the level and frequency of distress and improved the general functioning, such as positive interactions and competency with peers, family, and school, in children and adolescents with anxiety symptoms. It has also been preventative and effective in reducing the possible development and severity of depression in

anxious children and adolescents (Freidl et al., 2017; Kreuze et al., 2018). Furthermore, several programs translate CBT techniques into curricula for educators, which have proven to be effective in addressing students' anxiety.

   Definition and History of Cognitive Behavioral Therapy. Psychiatrist Aaron Beck invented the term cognitive therapy in his early research on depression in the 1960s (Beck & Carlson, 2006). He developed a cognitive theory on emotional disorders to explain the shifts in information processing in patients. His treatment approach emphasized changing patients' thoughts and beliefs. As opposed to the dominant Freudian approach, Beck engaged in active dialog with patients and believed that they could adopt reason in their thinking. He termed the approach cognitive therapy because of the emphasis on thoughts. This approach has since been adapted and modified to fit several diagnoses such as anxiety, trauma, and eating disorders (Beck & Carlson, 2006).

   CBT first began to appear in the literature in the 1960s and was a combination of behavioral and cognitive theories (Benjamin et al., 2011). Behavior therapy in and before the 1960s was controversial, and its use was typically limited to severe behavioral problems. Respondent conditioning and its use in the treatment of anxiety greatly influenced early behavior therapy. In this conditioning, a conditioned stimulus (CS), which will not necessarily cause a fear response, is paired with an unconditioned stimulus (UCS), which creates an unconditioned response to fear. According to Benjamin et al. (2011), with repeated pairing, the CS can elicit a fear response in the subject. Menzies and Clarke (1995) questioned respondent theory as it did not explain how complicated human distress is in detail.

   Subsequently, research focused on operant learning theory, which analyzes the impact of the response of the environment to a behavior. Children's inappropriate behavior can be

reinforced by their parents' attention or their appropriate behaviors may be unintentionally punished by the parents' response, as is the case if a child does not get any attention for playing quietly. In this context, Kazdin (2008) and Benjamin et al. (2011) examined how parent responses can shape a child's behavior.

Benjamin et al. (2011) suggested that Meyers and Craighead, among others, began the shift toward CBT. Meyers and Craighead (1984) furthered cognitive psychology by proposing that even without respondent or operant behavior therapy, a person can learn by observing another person's behavior. They incorporated this explanation of cognitive information processing in processes such as modeling, self-instruction training, and problem solving. Moreover, Kendall and Hollon (1979) explained that CBT is a combination of evidence-based behavior therapy and cognitive-mediated processes that influence behavior. Benjamin et al. (2011) argued that this explanation of cognitive information processing created a shift from pure behavioral therapy to CBT.

For the purposes of this literature review, CBT will be defined as a short-term, goal-oriented psychotherapy treatment that has a practical approach to problem-solving. The goal of CBT is to change unproductive thinking or behavior patterns. CBT works by changing a person's attitudes and behavior by focusing on the person's thoughts, images, beliefs, and attitudes and the relationship between these thoughts and the person's behavior (Martin, 2018).

CBT and Anxiety. As discussed earlier, CBT has been established as an evidence-based treatment modality for children and adults with various mental health disabilities such as anxiety disorders. In particular, a sizable body of research over decades support it as an effective treatment for anxiety disorders (Carpenter et al., 2017; Martin, 2018; Warwick et al., 2017). It

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has also been proven as having long-term effectiveness in youth with anxiety disorders (Kodal et al., 2018).

In a systematic review, Carwright-Hatton et al. (2004) supported CBT as one of the most effective treatments for children aged 6 and older with anxiety. The participants who underwent CBT showed a 56.5% remission rate as opposed to 34.8% in the control group. These results were repeated in more current research (Freidl et al., 2017; Kendall et al., 2015; Seligman & Ollendick, 2011). Furthermore, Kreuze et al., 2018, found that anxiety-focused CBT improved general functioning as well as depressive symptoms in children and adolescents with anxiety disorders, as depression can result from anxiety-related issues (Cummings et al., 2014).

In a meta-analysis, Warwick et al. (2017) concluded that approximately 60% of the children with anxiety disorders completely recovered after undergoing CBT. CBT has also resulted in positive neurobiological changes in people with several types of anxiety disorders, modifying the dysfunctional neural activity (Bomyea et al., 2020; Goldin et al., 2014).

On its treatment success, Mennuti et al. (2012) stated that CBT is effective because emotions and subsequent behaviors are a result of a child's perception of an event, not just the event itself. That is, the child's perception influences their behavior and emotions. Therefore, the goal of CBT is to change their negative perception to a more accurate or positive interpretation of events (Mennuti et al., 2012). The authors also noted that there is a growing body of literature on CBT use with young clients and that several excellent resources have been developed on the practical use and implementation of CBT strategies with youth.

CBT is evidence-based for students with other emotional and behavioral disabilities in addition to anxiety as well, such as depression, ADHD, conduct disorder, depression, eating disorders, and oppositional defiant disorder (Creed et al., 2015; Mennuti et al., 2012). CBT

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strategies can also reduce anxiety and any subsequent challenging behaviors in youth with autism (Keehn et al., 2013; Wood et al., 2020). Moreover, according to Ehrenreich-May and Bilek (2012), although anxiety and depression co-occur commonly, there are few overlapping treatment options other than CBT. They reported that CBT is of use for young children exhibiting symptoms of anxiety or depression prior to adolescence, as it can prevent the development of a more severe illness. Thus, the positive impact of CBT on such a broad range of mental health disabilities as well as social/emotional and behavior challenges in students supports the importance of schools embracing CBT (Creed et al., 2015; Young & Smith, 2017).

However, there remain few resources on CBT use in school settings. By not using empirically supported CBT strategies, schools miss the opportunity to help the students in need (Creed et al., 2015).

CBT and Technology. In general, 80% of the children with anxiety do not receive treatment due to financial issues, time restraints, lack of insurance, shame of stigma, or unavailability of services (Herzig-Anderson et al., 2012; Merikangas et al., 2011). Combining CBT with technology can bridge the access gap for many students as it is cost effective, involves easy data access, and is standardized (Khanna & Kendall, 2015; Vigerland et al., 2013). Computer-based CBT can be delivered via internet, downloadable software, or smartphone applications (Pennant et al., 2015). It can thus allow a large number of students to access CBT without the barriers of stigma, money, time, or transportation (Donovan & March, 2014).

Translation of Clinical CBT Strategies into the Classroom. Kendall and Hollon's (1979) initial book on CBT is a paramount resource for individuals with anxiety. However, Mychailyszyn et al. (2011) proposed that several aspects of such a CBT program must be

modified for school settings, such as creating shorter sessions, to ensure effective

implementation by school counselors and psychologists.

Several curricula have bridged CBT clinical practice and teacher implementation,

allowing teachers to use CBT strategies to support students with mental health disabilities. Many

such school-based programs have been successful in treating students with aggressive and

disruptive behaviors, social skill challenges, and ADHD (Creed et al., 2015; Heller et al., 2013;

Powell et al., 2011; Schultz et al., 2011).

Some CBT programs implemented by teachers have shown positive outcomes for

students with behavior and social challenges (Creed et al., 2015). For example, the *I Can

Problem Solve* (ICPS) approach is a CBT-based, teacher-led curriculum that improves students'

behavior and social skills through 59 classroom lessons (Boyle & Hassett-Walker, 2008).

Teacher-child interaction therapy, a modification of the parent-child interaction therapy (PCIT),

is another CBT-based, teacher-led curriculum that increases teacher attention to positive student

behavior and positive teacher-student relationships and reduces teacher distress when dealing

with students' behavioral issues (Fernandez et al., 2015). However, neither ICPS nor PCIT

targets anxiety reduction (Boyle & Hassett-Walker, 2008; Fernandez et al., 2015).

However, school-based CBT programs that target anxiety have less representation in the

literature (Creed et al., 2015). School-based CBT strategies are also resource and time intensive,

which are barriers to implementation (Creed et al., 2015). Some studies illustrate that few

school-based programs have shown immediate improvement in student anxiety but without any

long-term effectiveness (Gee et al., 2020). Furthermore, there is little research on the efficacy of

school and teacher implementation of most school-based programs (Creed et al., 2015).

A CBT-based manual that has been shown to effectively reduce anxiety in students is the well-known *coping cat program* (Kendall & Hendtke, 2006)*.* Using CBT approaches, this program teaches students to recognize and understand emotional and physical reactions to anxiety, clarify their thoughts and feelings in anxious situations, and develop a coping strategy and provides a system of evaluation. The program was found to reduce anxiety in children (Freidl et al., 2017; Kendall et al., 2008; Mychailyszyn et al., 2011) and resulted in their full recovery, remission, or less severe anxiety symptoms at one- and six-year follow-ups (Ginsburg et al., 2014; Silk et al., 2018). According to Benjamin et al. (2011).

To make the principles of the *coping cat program* more accessible, a computer-based CBT program, *Camp Cope-A-Lot*, was created. This is a six-session, cost-effective, accessible program available to school children aged 7–13 years (Schroeder, 2014). However, there is no research supporting its effectiveness (Sulkowski et al., 2012).

Another CBT-based self-regulation and skill-building curriculum is *Zones of Regulation: A Curriculum Designed to Foster Self-Regulation and Emotional Control* created by Kuypers and Winner (2011); this can be implemented by teachers in any classroom. *Zones of Regulation* teaches students to self-monitor and regulate their actions by recognizing which "zone" or emotional/regulation state they are currently in and learn the corresponding regulating strategies to calm themselves. Although there is no published research on the use of this approach, it was cited as a "promising practice" by *Attention* magazine (Katz, 2012).

Another CBT-based school curriculum that is most robustly supported is the Friends for Life program (Barrett et al., 2000). This Australian program has historically been endorsed by the World Health Organization (2004) as the only effective evidence-based program to treat children with anxiety. It was also cited as one of the most largely supported programs for internalizing

disorders because of the large number of type-one randomized control trials conducted internationally (Cooper & Jacobs, 2011). Studies have shown that the program has effectively reduced anxiety in children, although the school-based curriculum was implemented by mental health professionals trained in the program in most of the research (Essau et al., 2012). Barrett and Turner (2001) were the first to examine the effectiveness of the *FRIENDS* program conducted by both teachers and psychologists. Barret and Turner found that all the participating children experienced significant reduction in anxiety compared to the control group. They also found no significant difference in the results between teacher-led and psychologist-led groups and thus concluded that both implemented the program equally well. Positive results have been repeated by studies in recent years (Fjermestad et al., 2020; Moharreri & Heydari Yazdi, 2017; Rodgers & Dunsmuir, 2015).

The final CBT program to be discussed is *Cool Connections*. O'Callaghan and Cunningham (2015) conducted a pilot study on the impact of this program, which was implemented in an elementary classroom in Northern Ireland by a teacher, an education welfare officer, and two classroom assistants, supported by the school psychologist. After ten sessions, there was a significant reduction in students' anxiety.

Mindfulness-Based Practices

Similar to CBT, mindfulness practices can improve anxiety symptoms and reduce depression in adults (Carpena et al., 2019), especially when paired with Western psychological methods (Song & Lindquist, 2015), such as CBT specifically (Janssen et al., 2018). However, there is less research on its benefits in children with anxiety compared to CBT (Burke, 2010). This section provides a review of the history of mindfulness and the relevant literature, including the implications of using these interventions with students who have anxiety disorders. The

literature review will also cover the accessibility of this approach in the form of a curriculum geared for teachers and schools and its benefits for teachers.

Mindfulness: History and Definition. Mindfulness is a prominent part of all types of meditation and originated from Buddhist methodologies. According to Sujato (2012), although mindfulness principles can be found in several Buddhist texts, the *Satipatthana Sutta*, a compilation of Buddha's ideas and teachings, is generally accepted as the original manuscript providing instruction and guidance on mindfulness. These teachings involve the mental skill of non-judgmental awareness or having a bodily awareness and knowing the mental state as it is without evaluating or trying to change it (Sujato, 2012). The author also noted that the word mindfulness comes from the word "*sati*," meaning to recollect. The meditation practices that assisted monks to memorize and recite long passages was over time used to focus on the body, feelings, consciousness, and other mental concepts, which is the practice used today. The *Satipatthana Sutta* outlines these four factors and the present-attention and recollection practices for each of them.

Although mindfulness techniques have been in practice for years, research on it began only in the 1970s. John Kabat-Zinn's invention of the mindfulness-based stress reduction program (MBSR) in 1979 marks the beginning of this field of research. Kabat-Zinn (1996) defines MBSR as a "well-defined and systematic patient-centered educational approach which uses relatively intensive training in mindfulness meditation as the core of a program to teach people how to take better care of themselves and live healthier and more adaptive lives" (p.2). He developed the instruction around the seven attitudinal pillars of mindfulness meditation: non-judging (encouraging the student to be an impartial witness to their own experience), patience (the wisdom that things occur in their own time), a beginner's mind (attempting to divorce

thinking from what is known and witness a moment as if for the first time), trust (developing a trust in self-intuition even if mistakes happen), non-striving (only goal is to be yourself), acceptance (accepting things as they are in the present moment), and letting go (letting things be and accepting them as they are). MBSR includes daily mindfulness, yoga, and homework over a set number of weeks, typically eight.

In the early 2000s, mindfulness-based cognitive therapy (MBCT) was developed in a similar educational format to target depression (Segal et al., 2002). This program focuses on the suppression or challenging of negative and unproductive thoughts, similar to CBT.

The definition of mindfulness varies in the literature as it has different interpretations. One such operational definition is, "Mindfulness is nonreactive, nonelaborative, nonverified awareness that has meta-cognitive functions, monitoring ongoing awareness and discriminating wisely between aspects of awareness content so that awareness and behavior can be directed according to the goals of genuine happiness, virtue, and truth" (Kang & Whittingham, 2010, p. 170). This is similar to many Western definitions but may be lacking the concepts embraced in Buddhist traditions.

Meanwhile, Bishop et al. (2004) conducted a series of meetings with experts in the field of mindfulness to formulate an operational definition to guide future research and implementation. They proposed a two-component model of mindfulness. The first component involves the self-regulation of attention, meaning that attention is maintained on immediate experience. This self-regulation of attention allows a meta-cognitive awareness of mental events in the present moment, including sustained attention, attention switching, and inhibition of elaborative processing. The second component involves a person's orientation to an experience. In addition to self-regulation of attention, an individual must have a non-elaborative awareness

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of the current experience within and an orientation of curiosity, openness to experiences, and acceptance. This also encompasses gaining insight into the mind (Bishop et al., 2004).

The comprehensive definition of mindfulness used in this paper was developed by Nilsson and Kazemi (2016). These authors analyzed 33 definitions found in peer-reviewed journals over a 30-year period and categorized them based on the four key themes of awareness and attention, present-centeredness, external events, and cultivation, because they are a component of most Western definitions. They explained that the discrepancy between the Western definitions is the omission of the concept of ethnically minded awareness. According to them, Western definitions need to include the Buddhist idea of mindfulness as a sociopolitical tool with the potential to contribute to justice, peace, and ecological balance worldwide. To bridge the gap between the Western and Buddhist descriptions, Nilsson and Kazemi (2016) offered their comprehensive definition of mindfulness: a "social practice that leads the practitioner to an ethically minded awareness, intentionally situated in the here and now" (Nilsson & Kazemi, 2016, p. 190).

Mindfulness and Anxiety. Mindfulness, MBSR, and MBCT approaches have been effective in improving mental health (Kemeny et al., 2012). In a systematic review of randomized controlled trails, Fjorback et al. (2011) found that 11 out of 21 MBSR and MBCT studies resulted in positive outcomes for people with mental health challenges. Furthermore, some studies have also shown mindfulness to be helpful for people with anxiety disorders (Hofmann et al., 2010).

MBSR varies from traditional meditation in that it allows participants to focus on more than one stimulus, not just one mantra, and has helped patients with generalized anxiety disorder or panic disorder (Kabat-Zinn et al., 1992). Kabat-Zinn et al. (1992) discovered that 20 of the 22

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participants with GAD or panic disorder who participated in an MBSR program showed significant reduction in anxiety and depression after treatment. These positive changes were also maintained at the three-month follow-up, and those experiencing panic also felt alleviated.

Subsequent studies have supported the findings of Kabat-Zinn et al. that MBSR can reduce anxiety in patients (Gold et al., 2010; Janssen et al., 2018). Using fMRI, Goldin and Gross (2010) found that patients with social anxiety disorder who attended a weekly 2.5-hour session of MBSR for 8 weeks faced decreased negative emotion experience, reduced amygdala activity, and increased activity in the brain regions responsible for the directionality of attention. The authors also reported that MBSR training in patients with social anxiety disorder may reduce emotional reactivity while fostering emotional regulation.

MBCT can be effective in treating people with anxiety disorders (Janssen et al., 2018). Kaviani et al. (2011) found MBCT to be effective in helping participants deal with their anxiety and depressive feelings before, during, and after stressful circumstances. Marshall (2012) reported that patients found mindfulness to be more effective than a period of relaxation in reducing anxiety. They also concluded that the effectiveness was due to the role of attention in mindfulness and that the top-down attentional component of mindfulness ameliorates the maladaptive attentional processes characteristic of anxiety disorders.

The literature on the impact of mindfulness on children and adolescents with anxiety disorders is less robust. Burke (2010) reported that there is much research in support of mindfulness practices in adults and significant interest and application of mindfulness in children and adolescents. However, further research is needed. In a more recent study, Semple et al. (2010) studied the effects of MBCT in children who were largely from low-income families and ethnic minorities. They found that mindfulness was heled reduce the attentional and behavioral

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problems and anxiety in some children who had elevated anxiety levels pre-test. The authors

concluded that mindfulness is a promising intervention for attentional and behavioral problems

and may reduce childhood anxiety symptoms. Semple and Burke (2019) state that current

evidence suggests that mindfulness may be effective in the mental health improvement of

children and adolescents, but note there are significant methodological limitations of many

studies. That in addition to the heterogeneous nature of the studies make it difficult to form

conclusions on effectiveness.

There is contrary literature on the effectiveness of mindfulness to reduce depression.

Some studies have found mindfulness to be favorable (Perry-Parrish, et al., 2016), and others

finding mindfulness to have no effect on depression (Crescentini, et al., 2016).

There is some recent support of mindfulness in combination with CBT, such as MBCT,

can be helpful in reducing anxiety in children or adolescents (Janssen et al., 2018), but there is

also a large amount of literature on effectiveness of mindfulness meditation or MBSR that is

dated. Beauchemin et al. (2008) studied the effect of a five-week mindfulness meditation

intervention administered to adolescents with learning disabilities and anxiety. All the outcome

measures indicated significantly decreased state and trait anxiety, enhanced social skills, and

improved academic performance. According to the authors, these results suggest that

mindfulness meditation decreases anxiety and detrimental self-focus of attention, which then

promotes social skills and academic outcomes. Along the same lines, Biegel et al. (2009) studied

the impact of mindfulness on a group of adolescents in outpatient care with heterogeneous

diagnoses. Compared to the control group, the adolescents who participated in MBSR reported

reduced symptoms of anxiety, depression, and somatic distress as well as increased self-esteem

and sleep quality. Saltzman and Goldin (2008) offered adaptations of MBSR for children and

adolescents and their parents, including modifications involving the use of emotion words (as many children have a meager vocabulary) and the overall vocabulary used when speaking to young children. Using these adaptations, they found improvement in children's attentional control, reduction in negative emotional reaction to physical and social threat scenarios, and improved self-judgement and self-compassion after MBSR participation.

Some studies found mindfulness to be helpful for presenting problems other than anxiety. Schmitz et al. (2021) studied the effects of mindfulness on African American urban adolescents and found mindfulness to be a potential protective factor against PTSD symptom severity. In studies of low-income urban middle school boys, MBSR participants showed less anxiety, better coping, and a possible attenuation of cortisol response to academic stress (Sibinga et al., 2013; Sibinga et al., 2016). In another study, urban middle-school students showed significantly lower levels of somatization, depression, negative affect, negative coping, rumination, self-hostility, and posttraumatic symptom severity after MBSR (Sibinga et al., 2016). Other studies of children in foster care or from low-income households, who are more likely to have chronic stress or trauma exposure, have shown positive effects of mindfulness-based interventions (Jee et al., 2015; Sibinga et al., 2014; Sibinga et al., 2016).

As with all research, studies should also focus on children from diverse sociocultural backgrounds. However, as found by Liehr and Diaz (2010), more research needs to be done to discern the effect of mindfulness on minority children. In their pilot study, they found that mindfulness reduced depressive symptoms but did not see a difference in the anxiety symptoms in minority children. They suggest that larger studies be conducted to determine if marginalized groups of children are responsive to mindfulness.

Compounding the sparse evidence on the effectiveness of mindfulness in supporting children and teenagers with anxiety when facilitated by a licensed mental health professional, the integrity of the therapy remains in question when implemented by teachers with varying levels of training. Currently, no credentialing is required for teaching mindfulness. While there are certificate programs to become an MBSR instructor (Mindfulness-Based Professional Education citation), many of these have veered off from Jon Kabat-Zinn's original model which may impact effectiveness (Ortiz & Sibinga, 2017). Furthermore, much of the research on mindfulness interventions can vary in terms of the qualifications of those implementing the methods. In addition, finding practitioners who have completed both MBSR and trauma-informed training and have specific qualifications to work with children and teenagers is challenging (Ortiz & Sibinga, 2017). Importantly, trauma therapists who offer mindfulness practices have varying degrees of experience as well (Waelde et al., 2016).

It is paramount to understand that the lack of competence of the teacher delivering mindfulness curricula in school can have an adverse effect on children and teenagers with trauma histories and even cause them harm if negative reactions to mindfulness are not handled skillfully (Crane et al., 2010; Dobkin et al., 2012). Due to the possible danger of several adverse effects for people with trauma and mental health challenges, mindfulness should be combined with professional assistance by a mental health expert with knowledge of other practices (Anālayo, 2019).

Translation of Clinical Mindfulness Strategies into the Classroom. Semple et al. (2017) stated that mindfulness-based curricula are being implemented in schools, but many have little to no research supporting their effectiveness. However, research on the topic is emerging, and some studies support several mindfulness-based classroom curricula.

One such curriculum is *Master Mind*, created by Parker et al. (2014), an MBSR-trained practitioner and experienced child psychologist. Dr. Parker, in conjunction with other scientists in her behavioral sciences research corporation (innovation Research and Training, Inc. [iRT]), attempts to translate research into an accessible mindfulness-based curriculum. *Master Mind* was developed for elementary school and the *Moment Program,* released shortly thereafter, was geared for middle-school students. The *Master Mind* program was designed for teachers to effectively implement mindfulness training in the classroom. Here, the teachers receive a one-day in-person workshop and are then provided with lessons, student workbooks, and software (Semple et al., 2017). Parker et al. (2014) studied the impact of *Master Mind* on students' substance abuse, self-regulatory abilities, executive functioning, and anxiety and found significant improvement in executive functioning skills. Teacher-rated social problems also reduced in the students who participated compared to those who did not. Girls were found to have lower anxiety levels on the post-test and boys had slight improvements in self-control. However, there was no statistically significant reduction in substance abuse.

Another curriculum is the *Stress Reduction and Mindfulness Curriculum*, developed by Ali and Atman Smith and Andres Gonzalez (Holistic Life Foundation, 2014), that is taught 4 times a week for 45 minutes to students over a 12-week period or twice a week over a 24-week period. Mindfulness breaks such as meditation are taught to students and schools are encouraged to supplant them with suspensions or more punitive measures. In a controlled trial of four urban schools, two of which were used as a control group, students (mostly African American and living in low-income neighborhoods) showed improvement in rumination, intrusive thoughts, and emotional arousal (Mendelson et al., 2010). The authors also found the program to be feasible and acceptable to youth, teachers, and school administrators.

Still Quiet Place by Amy Saltzman (2014) is designed for children aged 5–18 years and allows teachers to choose an in person or online 10-week program. Students are taught during a 45-60-minute class period over 8 weeks, and each of them receives a CD of guided meditation practices. No research on the efficacy of the program when implemented in schools could be found, but one non-randomized controlled study was conducted for this family-based intervention program, which showed some preliminary positive results (Semple et al., 2017). This study did not measure anxiety in students.

Finally, *Inner Explorer* by Janice Houlihan and Laura Bakosh (Inner Explorer, 2011) teaches mindfulness to children in schools and has been adopted in several states in the United States. The lessons target either elementary or middle-school age groups and are delivered through MP3 audio instructions. Each short segment is played once a day for an 18-week period. Bakosh et al. (2015) conducted a non-randomized study of students in two suburban third-grade classrooms. After a 60-minute workshop, teachers implemented the automated lessons over 8 weeks. Compared to the control groups, student grades improved in reading and science, and there was a marked decrease in discipline procedures (e.g., being sent to the principal, calling home). However, the impact on student anxiety was not measured here as well.

Other mindfulness interventions have also been studied in terms of their effect on student anxiety. For example, Carsley et al. (2015) studied the effects of a mindfulness coloring activity on elementary students' test anxiety by implementing a coloring activity before a test. The results, however, were not conclusive.

Benefits for Teachers. Teachers who are less stressed or better able to cope with stress are likely to perform better and have more stamina for working with students with behavioral issues. Mindfulness can have a positive impact on not only students but also teachers. According

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to Lavy and Berkovich-Ohana (2020), teachers who participated in the mindfulness self in school relationship (MSSR) program experienced increased emotional regulation, empathy, and compassion and a subsequent increase in nurturing relationships with students; this resulted in an improvement in students' wellbeing. Additionally, research on MBSR has shown that teachers found an increased ability to manage stress and respond less reactively to students; improved sleep quality, teacher-focused attention, working memory, self-compassion, and self-efficacy in classroom management; and decreased work-related stress, burn out, depression, and anxiety (Cook et al., 2017; Frank et al., 2015; Hwang et al., 2017; Jennings et al., 2013; Lomas et al., 2017; Meiklejohn et al., 2012; Roeser et al., 2013; Singh et al., 2013). The students also benefitted from their teachers' engagement in MBSR, for example, in terms of social and academic development, compliance, and learning (Cook et al., 2017; Frank et al., 2015; Singh et al., 2013).

Kernochan et al. (2007) discovered that teachers who engaged in mindfulness practices learned to interact with "hostile" students with more openness instead of defensiveness as they monitored and accepted their own feelings of anger and stress. Gold et al. (2010) found that after an eight-week MBSR course, teachers saw improvements in terms of depression, anxiety, stress, self-confidence and self-efficacy, sense of task and time pressure, difficulties with planning and problem solving, and taking time to relax. According to Mañas et al. (2011), compared to a control group, secondary teachers who participated in mindfulness training found significant decreases in their stress levels, number of sick days utilized, and feelings of pressure as well as an increase in motivation and coping skills. Finally, Franco et al. (2010) reported that secondary teachers who completed a mindfulness-based course reported significant improvement in psychological distress that was maintained four months later.

Trauma-Informed Practices

There is a relationship between traumatic events, particularly those experienced in childhood, and anxiety disorders (Cougle et al., 2010; Douglas et al., 2010). According to a study by Heim and Nemeroff (2001), exposure to early adverse experiences is associated with neurobiological changes in children and adults, which can lead to an increased risk of developing anxiety disorders and other psychopathologies. Hovens et al. (2010) added that exposure to childhood trauma can lead to the development of anxiety disorders in adulthood.

In this context, Cougle et al. (2010) reviewed data from the National Comorbidity Survey-Replication and found a relationship between childhood experiences of sexual abuse and the development of social anxiety disorder, panic disorder, GAD, and PTSD. In contrast, physical abuse was associated with specific phobia and PTSD only. Similarly, PTSD can be a result of a natural disaster or war (Bosqui et al., 2017; Cohen et al., 2019). Douglas et al. (2010) explained that adverse childhood events (ACEs), including abuse, neglect, witnessing violence, and experiences of war or natural disasters, are associated with negative outcomes. They reported that children with high ACE scores, which reflect the total number of adverse events in childhood, are at risk of developing various medical and psychiatric illness such as depression, anxiety disorders, and PTSD as adults.

Trauma-Informed Practices: History and Definition. Traumatic stress has been documented in the literature since the nineteenth century in both military and civilian contexts (Lasiuk & Hegadoren, 2006). Although some phrases were coined to describe traumatic stress during the American civil war, such as having a "soldier's heart," it was not until World War 1 that the term "shell shock" encompassed the more physiological symptoms (Benedek & Ursano, 2009). However, this was seen as resulting from a character weakness in the soldier and often as

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a symptom of homesickness (Lasiuk & Hegadoren, 2006). By World War II, it became

commonplace to allow soldiers to rest before returning to battle if they were experiencing "battle

fatigue." During the Vietnam War, talk therapy emerged as a recommendation for PTSD (Greene

et al., 2004).

Even though women are at a higher risk of developing PTSD, they were not part of the

conversation until the 1960s, when rape and domestic violence began to be included in the

conceptualization of trauma (Lasiuk & Hegadoren, 2006; Olff, 2017). In 1980, the American

Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Third Edition*

(DSM-III) (Spitzer & Williams, 1980), included PTSD as a diagnosis for the first time and

categorized it under anxiety disorders (Benedek & Ursano, 2009). In 1989, the National Center

for PTSD was founded by the Department of Veterans Affairs to provide best practices for people

who have suffered from trauma (United States Department of Veterans Affairs, 2018).

Children were not included in the PTSD category until 1994 (American Psychiatric

Association, 1994). The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) study

attempted to understand the relationship between multiple childhood traumatic events and

adverse outcomes later in life. The initial phase of the study began in 1995 with more than

17,000 participants exposed to childhood maltreatment and family dysfunction. These

participants were tracked, and the data collected included their behavior and health status.

"Almost two-thirds of participants reported at least one [ACE], and more than one of five

reported three or more ACEs" (Steele & Malchiodi, 2012, p. 33). The short- and long-term

outcomes of such childhood exposures include health and social problems such as heart and liver

disease, alcoholism, drug abuse, fetal death, and interpersonal violence (Center for the Disease

Control and Prevention, 2011). The ACE study highlighted that childhood trauma impacts

individuals' physical well-being and overall health as well as their psychosocial development (Steele & Malchiodi, 2012).

In 2001, the National Child Traumatic Stress Network was established by Congress, systematizing trauma-informed care programming in response to the increasing awareness and knowledge on the impact of trauma (National Child Traumatic Stress Network, 2001). The DSM-IV, published in 1994, had a more encompassing definition of PTSD. In the DSM-V, released in 2013, traumatic events that induced PTSD was expanded to include direct and indirect involvement and witnessing such an event (American Psychiatric Association, 2013).

Substance Abuse and Mental Health Services Administration (SAMHSA) offers a definition of trauma: "Trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (SAMHSA, 2014a, p. 7). Some people experience a single specific traumatic event, and others, especially those with mental health or substance abuse treatment challenges, are exposed to multiple or chronic traumatic events (SAMHSA, 2014b).

There are other definitions of trauma-informed care throughout the literature. For the purposes of this study, Hodas' (2006) definition of trauma-informed care was used:

> Trauma informed care has many facets. It refers to recognition of the pervasiveness of
> trauma and a commitment to identify and address it early, whenever possible. Trauma
> informed care also involves seeking to understand the connection between presenting
> symptoms and behaviors and the individual's past trauma history. As a practice and set of
> interventions, trauma informed care involves professional relationships and interventions
> that take into account the individual's trauma history as part of efforts to promote healing

and growth. At the most basic level, trauma informed care involves the provision of services and interventions that do no harm – e.g., that do not inflict further trauma on the individual or reactivate past traumatic experiences. Beyond this, trauma informed care helps the individual to heal. (p. 6)

Furthermore, to consider all sociocultural factors affecting children from marginalized groups, it is important that schools use trauma-informed interventions that are developed specifically for youth from diverse backgrounds so that the program is evidence-based for the actual population of children (Maynard et al., 2019).

Trauma-Informed Practices and Anxiety. Experiences of trauma can lead to anxiety disorders in youth (Briggs-Gowan et al., 2010; Pfefferbaum et al., 2019). While trauma-informed practices target a reduction in symptoms and challenges associated with PTSD, externalizing and internalizing behaviors, including anxiety and depression are also often targeted. The evidence is scarce on the effectiveness of trauma-informed practices in schools on any of the above-mentioned concerns as it is loosely defined and may not include evidence-based practices (Maynard et al., 2019). The evidence for trauma-informed practices reducing anxiety in children and adolescents is even more limited but there is some support (Jensen et al., 2014).

Overall, trauma-informed practices do not solely target anxiety (Maynard et al., 2019), but when trauma-informed practices are paired with CBT, Trauma-focused cognitive–behavioral interventions can show a reduction in anxiety in adolescents and teenagers (Jensen et al., 2014; O'Callaghan et al., 2013). Additional studies have found that trauma-focused cognitive–behavioral interventions can also reduce abuse-related fear and generalized anxiety in children (Deblinger et al., 2011), as well as improve separation anxiety in three to six year old children (Scheeringa et al., 2011).

Trauma-Informed Practices at the School-Wide Level. Schools have the potential to be a promising venue for trauma-informed care (Wiest-Stevenson & Lee, 2016). In a trauma-informed school model, all staff members must have a basic understanding of trauma and its impacts, be able to recognize its symptoms, and be capable of effectively and empathetically responding to the needs of trauma-exposed students (Wiest-Stevenson & Lee, 2016). Working together, they are integral for implementing trauma-informed practices. If administrators focus on shifting the school climate to become more trauma-informed by providing education for faculty members on the impact and prevalence of trauma, teachers will be able to identify, support, and provide for the needs of such students (Wiest-Stevenson & Lee, 2016). Significantly, despite some positive studies, there is limited evidence on the effectiveness of trauma-informed practices as few studies meet the criteria of using evidence-based trauma-informed practices (Maynard et al., 2019).

Translation of Clinical Trauma-Informed Strategies into the Classroom. Much of the literature regarding school-based trauma-informed practices does not directly involve the teacher's role in delivering these strategies. It rather focuses on practices that the school counselor and psychologists can facilitate and implement (Jaycox et al., 2018; Waibel, 2017). However, PD that emphasizes building teachers' understanding of and empathy with children who have trauma histories has been abundantly studied (Anderson et al., 2015; McIntyre et al., 2019). This review focused on curricula and protocols that involved teacher-delivered trauma-informed interventions.

Several studies have investigated the effectiveness of teacher-implementation of trauma-informed strategies to students exposed to war. For example, Wolmer et al. (2011) trained teachers to deliver 15, 45-minute manualized didactic modules weekly to their class after the

Lebanon War. These modules were on topics such as working through negative experiences, stress management, affect regulation, attentional control, identification and correction of negative thoughts, and using humor and other coping skills. There were significant improvements in the children's stress, mood, and PTSD symptoms, and these results were maintained three months post-intervention. Similarly, Gormez et al. (2017) studied the effects of a teacher-implemented eight-week trauma-informed protocol to elementary-aged Syrian refugees. They found a significant decrease in student anxiety and PTSD symptoms but no improvement in conduct, hyperactivity, peer problems, or prosocial behavior.

To treat war-traumatized refugees, Tweedie et al. (2017) trained teachers in a high school classroom in Canada in the Attachment, Regulation, and Competency (ARC) framework in response to a large influx of refugee students. ARC is not a manual but a set of guidelines to inform practice. While the authors reported little quantitative data, they provided positive and reflective quotes from participating teachers and students.

Thus, there are several teacher-friendly curricula to support students with trauma exposure, but little research has been conducted on teacher-implementation efficacy for student anxiety symptoms and the curriculums were developed in the early 2000s (Cole et al., 2005; Craig, 2008). Massachusetts Advocates for Children (MAC) developed *Helping traumatized children learn: Supportive school environments for children traumatized by family violence* (Cole et al., 2005). This free curriculum outlines trauma-sensitive educational methods designed for implementation by teachers and school staff. However, research supporting the curriculum's efficacy in reducing anxiety in students could not be found.

Another trauma-informed curriculum geared for teacher implementation is *Reaching and teaching children who hurt: Strategies for your classroom* (Craig, 2008). This book is written for

teachers and provides an understanding of the impact of trauma on children as well as ways to support the reading and writing skills of children with trauma histories. The topics it covers includes teacher self-care, creating trauma-sensitive schools, and PD. Again, no research on the implementation and use of this curriculum could be found.

A more recent trauma-informed universal mental health intervention, RAP Club (Relax, be Aware, do a Personal rating), has been utilized with students with trauma specifically criminal involvement (Arnold et al., 2021). Mendlesen et al., 2020 used a randomized controlled trial named Project POWER (Promoting Options for Wellness and Emotion Regulation) to evaluate the effectiveness of RAP Club. However, the results were subjective with teacher reporting and not sustained (Arnold et al., 2021) or showed few benefits (Mendelsen et al., 2020).

Teachers' Perceptions of Trauma-Informed Methods. Studies have shown that teachers tend to view trauma-related interventions more positively when they have prior experience with them (Baweja et al., 2016). In this study, pre- and post-testing revealed that teachers' perception of a problem and self-efficacy became significantly more aligned with the trauma-informed approaches following the training. The authors speculate that the positive impact on teacher attitude may increase their motivation to implement trauma-informed strategies with students (Vanderburg, 2017). In this context, McIntyre et al. (2019) obtained more complicated results after teachers participated in a two-day trauma-informed PD training. Pre- and post-testing measured whether trauma-informed approaches were thought to fit with existing school norms and evaluated teachers' knowledge of such approaches. While the teachers' knowledge growth was noteworthy, their perception of acceptability of the approach varied. Teachers who did not find trauma-informed practices to be a system fit showed decreased

acceptance of the approach and those who found the to be a positive system fit reported more acceptance.

The Role of Teachers in School-Based Mental Health Services

Effective school-based mental health services require collaboration between all mental health professionals and educators in the institute (Weist et al., 2012). As noted earlier, school psychologists play a key role in this collaboration and in providing the services. However, they are overburdened and cannot alone support students with anxiety. Here, teachers are critical for providing services as they have the most access to students (Sanchez et al., 2017). When school personnel, including teachers, use universal precautions, implement interventions multiple times per week, and incorporate mental health interventions into academic instruction, students experience a decrease in mental health problems (Sanchez et al., 2017). However, teachers may not have the training needed to do so effectively (Koller et al., 2004; Ohrt et al., 2020).

Teachers' Knowledge of Anxiety

Teachers have expressed that schools should be involved in interventions to support students' mental health but also stated that the interventions are the job of the school psychologists, not teachers (Reinke et al., 2011). Part of their hesitation comes from their lack of specific knowledge and skills to intervene (Reinke et al., 2011). In fact, most teachers never receive training in evidence-based interventions for students with anxiety (Ohrt et al., 2020; Reinke et al., 2011) and have little to no explicit knowledge of mental health disorders (Ginsburg, Pella, Ogle, et al., 2021; Miller et al., 2013; Miner, 2021). Teachers also face difficulty identifying the students who experience internalizing problems (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021), as anxious students tend to "fly under the radar" and are less likely to show obvious symptoms, disrupt the class, or break rules

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(Cunningham & Suldo, 2014). Thus, teachers do not adequately address the needs of students with mental health issues, do not refer them to specialists in a timely manner, and often misunderstand their needs (Andrews et al., 2014; Eklund & Dowdy, 2014; Miller et al., 2012; Reinke et al., 2011). Furthermore, internalizing and externalizing behaviors exhibited by students with a mental illness, particularly anxiety and depression, are difficult to identify and often misconstrued and misunderstood (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021).

Early and accurate identification of mental health needs is critical for schools to proactively implement interventions (Cunningham & Suldo, 2014). Teachers are often asked to identify students with anxiety as they know their students best. However, in a study on how well teachers could identify or "nominate" students with anxiety, Cunningham and Suldo (2014) found that classroom teachers did not recognize about 50–60 % of the students who consistently reported at-risk levels of depression and anxiety. That is, teachers have the skills to accurately identify students with externalizing behaviors (e.g., Kalberg et al., 2011), but their skills in recognizing internalizing behaviors and mental health struggles are unreliable and often inaccurate (Cunningham & Suldo, 2014).

The gap in teachers' knowledge and skills to support students with anxiety have consequences for both (Ginsburg et al., 2019). Teachers with little training in identifying and assisting students' anxiety are less likely to (1) implement effective accommodations and modifications that facilitate such students' academic and social success, (2) have and maintain a positive relationship with anxious students, and (3) reduce disruptions to other students' learning and instruction (Ginsburg et al., 2019). Inversely, teachers with the knowledge and skills can produce positive outcomes for both. When they possess knowledge about anxiety, students'

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socioemotional, behavioral, and educational functioning as well as the teacher-student relationship can improve, and teaching becomes more enjoyable with increased effectiveness (Ginsburg et al., 2019; Zee & Koomen, 2016).

The lack of knowledge about mental health disorders can also lead to inaccurate perceptions about students and inhibit appropriate interventions and responses (Nelson, 2019). Teachers' ignorance of their students' mental health needs can result in stigmatized perception, and they may over or under pathologize the problems, obstructing the implementation of related interventions (Shah & Kumar, 2012). Alarmingly, it can also have dire consequences such as teachers neglecting to refer a suicidal student to mental health specialists (Nelson, 2019). Scouller and Smith (2002) reported that only 11% of Australian high school teacher participants were aware of the high prevalence 12 of psychiatric disorders that indicated a risk factor for suicide. Moreover, the teachers discounted the significance of such factors. Therefore, Vieira et al. (2014) states that emphasis should be placed on how students with internalizing behaviors are misunderstood by teachers and subsequently do not receive mental health support. Misconceptions of students' mental health challenges can have lifelong negative effects (Nelson, 2019).

Literature on teachers' individual characteristics and their responses to child anxiety has illustrated the importance of teacher-child interaction for reducing anxiety (Allen & Lerman, 2018). In a study of teachers in the United Kingdom, Allen and Lerman (2018), found a relationship between child anxiety and teaching staff characteristics such as beliefs about anxiety, gender, and life experience. Specifically, male and more experienced teachers had less helpful responses to child anxiety and were in more need of support than female and less experienced teachers (Allen & Lerman, 2018). Similarly, Trudgen and Lawn (2011) found that teaching

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experience was not associated with an increased knowledge of anxiety and Headley and

Campbell (2011) reported that female primary school teachers were more likely than male

teachers to refer students with anxiety for mental health support in Australia. The negative

impact of teacher characteristics and responses is a risk factor for child anxiety but one that can

and should be reduced with teacher education (Allen & Lerman, 2018; Allen et al., 2013).

An overwhelming number of teachers feel that schools should be involved in addressing

students' mental health challenges (Reinke et al., 2011). However, they lack the training,

pedagogical knowledge, and practical strategies to support such students (Miller et al., 2012;

Nygaard et al., 2022; Osagiede et al., 2018).

Teacher Preparedness and Support

Teachers are in a unique position to identify and support students with anxiety as they

spend an enormous amount of time with them (Johnson et al., 2011). In their study of teacher

perceptions, Reinke et al. (2011) found that 89% of the teachers strongly agreed that schools

should be involved in supporting students with mental health issues but only 4% strongly agreed

that they have the relevant skills to address such needs. Although teachers often play an essential

role in school-based mental-health services (Franklin et al., 2012; von der Embse, Rutherford, et

al., 2018), they are underprepared to work with students with anxiety and other mental health

needs and report a lack of training on how to address student mental health in the classroom

(Mazzer & Rickwood, 2015; Nygaard et al., 2022; Osagiede et al., 2018). Specifically, they

struggle to effectively refer students who have emotional and behavioral health concerns (Eklund

& Dowdy, 2014), with noted difficulty identifying students who experience internalizing

problems such as anxiety and depression (McIntosh et al., 2014).

Preservice teacher training does not include supporting students' mental health (Council for Accreditation of Educator Preparation, 2015; Ohrt et al., 2020). Teachers receive little to no training in the best practices for such cases in their university preparation coursework (Ohrt et al., 2020). Instead, the coursework tends to focus on academics (Andrews et al., 2014; Figueroa, 2013). Teachers are aware of their need for training to identify symptoms of mental health concerns in students and the effective ways to address the needs of students with anxiety (Figueroa, 2013; Reinke et al., 2011). Largely, training on this topic is provided through in-service PD as opposed to teacher preparation certification courses, such as a university degree program (Ohrt et al., 2020). The PD sessions that do cover students' mental health challenges tend to concentrate on referral processes and early identification, as opposed to effective interventions (von der Embse, Kilgus, et al., 2018; von der Embse, Rutherford, et al., 2018; Pit-ten Cate et al., 2018). Furthermore, since teacher competency can translate to increased student outcomes (Pit-ten Cate et al., 2018), the lack of teacher training is harmful (Pit-ten Cate et al., 2018).

Teacher competency includes not only knowledge and skills but also their beliefs related to learning, motivation, self-regulation, and confidence in their ability to positively impact students (Kunter et al., 2013; Pit-ten Cate et al., 2018). Pit-ten Cate et al. (2018) suggested that there is a relationship between teacher attitudes, training, and experience and the quality of inclusion of students with special needs in general education classroom. According to them, to for the inclusion of students with special needs, along with providing knowledge and skills, teacher training must address their attitudes and facilitate their willingness to include such students (Borg et al., 2011; Forlin, 2010).

To better understand teacher perceptions, Reinke et al. (2011) examined how general education teacher's beliefs can impact their motivation to learn and implement successful practices for students with mental health disabilities. They investigated how teachers perceive their students' mental health needs, their knowledge and skills and training needs and experiences, their role in working with students with mental health issues, and barriers to serving such students. Of the 292 teachers interviewed across five urban and suburban preschool and elementary schools, a majority agreed that schools should be involved in supporting students with mental health disabilities. Over 50% of them had heard of evidence-based practices, but only 4% "strongly agreed" that they were adequately prepared to meet the mental health needs of their students. Twenty percent responded that they had received substantial training in behavioral interventions. They reported externalizing behavior, understanding the mental health needs of their students, and behavioral interventions as the top three areas in which they needed support (Reinke et al., 2011).

Professional Development for Teachers

PD is a mechanism for participants to learn evidenced-based interventions, the rationale and core components behind the evidence-based intervention, how the components impact students, and the skills for implementation (Owens et al., 2014). PD is also a frequently used mode in teacher training; therefore, decisions on the modes of PD is an important school-based or district-based consideration in supporting students with mental health disabilities. According to Owens et al. (2014), PD can involve "session-oriented" activities, such as lectures and exposure to manuals or active learning activities such as role-play scenarios, discussions, and observations of models.

MacFarlane and Woolfson (2013) found that teachers who had attended more in-service training sessions felt more positive about their skills to effectively include students with social and emotional behavior disabilities (SEBD). However, they found that the teaching experience negatively correlated with their willingness to work with the students. Overall, schools can implement positive changes in the behavior of students with mental health disabilities by considering the extensive literature on how to train teachers to use evidence-based practices (Reinke et al., 2011; Sanchez et al., 2017; Sumi et al., 2013). Thus, they will need to discern the successful programs and then prepare the teachers in the use of successful evidence-based interventions and programs. They may then provide the teacher preparation programs utilizing the best practices for adult learners (Reinke et al., 2011).

PD is most impactful for teachers when the training is content-focused and involves active listening and collaboration, effective practices, ongoing coaching and feedback, and reflective opportunities (Ohrt et al., 2020). These features facilitate teachers' active engagement, which is key for optimal learning (Darling-Hammond et al., 2017). Moreover, PD best translates into classroom practice when the training is embedded in the school environment and includes dynamic skill building (Minor et al., 2016). In addition, according to Hubel et al. (2020), training teachers in large groups, followed by assessment and feedback on their skill use, and individual coaching is optimal. They also found that although ongoing coaching was effective, performance feedback had a higher impact than modeling on teacher implementation of evidence-based strategies (Hubel et al., 2020).

Research on the effectiveness of professional learning also suggests that positive results are more likely to be achieved if professional learning opportunities are sustained over time; connect to classroom practice; and involve modeling, mentoring, and coaching (Bates & Morgan,

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2018; Leithwood, 2010). For example, Akiba and Liang (2016) studied 467 middle school mathematics teachers in 91 schools to determine what type of professional learning yielded the most teacher participation and student achievement growth over 4 years. Four modes were measured via surveys: PD programs, teacher collaboration, university or college courses, and professional conferences. The findings showed that teacher-centered collaboration (teacher collaboration and informal discourse) seemed to be more effective on student achievement outcomes than the other customary PD methods. Ongoing coaching and consultation were also an effective way to support the implementation of evidence-based interventions for teachers working with students with mental health disabilities (Carter & Van Norman, 2010; Ohrt et al., 2020; Reinke et al., 2012).

Furthermore, training sessions, the most common PD method, has been found to have little impact on changes in practice (Beidas et al., 2012; Darling-Hammond et al., 2017; McHugh & Barlow, 2010; Ohrt et al., 2020). However, Reinke et al. (2011) found that almost 70% of the teachers surveyed reported it as the most routine type of instruction they received to work with students with mental health disabilities.

Professional Development Combined with Mental Health Intervention Implementation. Effective intervention of school-based mental health programs requires best practices for teacher PD (Sumi et al., 2013). On this, Han and Weiss (2005) found that consultation and consistent performance feedback are effective in teacher implementation of such programs. They also found that the administrators' support, teachers' feelings of self-efficacy, and teacher acceptance of the program contributed to the effectiveness of the coaching model.

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In an evidenced-based academic, social, or behavioral curriculum, fidelity systems can improve the outcomes. Implementation fidelity refers to "the degree to which teachers and other program providers implement programs as intended by the program developers" (Dusenbury et al., 2003, p. 240). Moreover, the combination of fidelity checks, sustained coaching, and consultation is supported as an effective model for PD (Sumi et al., 2013).

In this context, Sumi et al. (2013) analyzed the effectiveness of *First Steps to Success,* a commercially available curriculum, designed for elementary students with moderate-to-severe behavior problems who are at risk of academic difficulties. Selected students received a behavior coach (an additional school staff member) for the first five days and then consistently for eight weeks. An external observer used implementation fidelity checklists thrice over the eight weeks to determine whether the teacher and coach delivered the curriculum correctly. The results showed improvement in the participants; specifically, it showed that a one-standard deviation increase in program fidelity increased the intervention effect on behavior rating scales from 25% to 68%.

Reinke et al. (2012) used coaching to support the generalization of the evidenced-based classroom management program The Incredible Years. With monthly training workshops, coaching is embedded in the program and conducted by individuals trained in evidence-based classroom management strategies. Fidelity measures for coaching effectiveness in the form of self-report were also put in place as part of an effective coaching model.

Hagermoser Sanetti and Fallon (2011) also studied the impact of implementation fidelity by examining four public school general education teachers who implemented The Good Behavior Game for ten weeks. After an initial training, the teachers had ongoing weekly

consultations and filled out a self-recording sheet daily. All four teachers showed effective adherence to the program.

A final example of ongoing coaching leading to implementation success can be found in the study by Carter and Van Norman (2010). The authors discovered a strong correlation between ongoing consultation and preschool teachers' implementation of Positive Behavior Interventions and Supports (PBIS).

Professional Development Models in Mental Health. Research on PD practices in the field of education is prolific and many successful practices have been established. One such established best practice to maintain the high-quality performance of mental health counselors is sustained coaching. For example, Beidas et al. (2012) studied therapists who did not have previous training in CBT but were working with children aged 8–17 with anxiety disorders and found that training alone did not result in the desired behavior changes in the therapists. However, ongoing consultation and coaching following the training influenced their skills. Active learning opportunities is another effective form of PD on professional learning for therapists.

The Role of the Administrator. According to MacFarlane and Woolfson (2013), teachers' perception of their school principals' expectations of including SEBD students was the variable that most predicted their positive behaviors and attitudes toward the students. Thus, school principals and leaders play an important role in promoting an inclusive environment in schools. Moreover, Correa and Wagner (2011) cited principal support as one of the most important factors in the retention of general education and special education teachers. Carver-Thomas et al., 2019 the most predictive condition for teacher turnover was a perceived lack of support from the administrator. They measured feelings of support on how teachers' rate the

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administrator's skills in encouragement and acknowledgement of staff, communication of a clear

vision, ability to run a school smoothly. Carver-Thomas et al., 2019 found that when teachers

strongly disagreed that their administrator was supportive, they were twice as likely to move

schools or leave the profession as compared to teachers who felt supported. It should be noted

that turnover is higher since the COVID pandemic, with teachers of color, in schools serving

low-income students of color, and high poverty and urban schools, making support from

administrators especially important in certain schools (Carver-Thomas & Darling-Hammond,

2019; DeMatthews et al., 2022).

Conclusion

This literature review provided information on the two research questions: What is

general elementary education teachers' knowledge about the prevalence, symptoms, and

characteristics of anxiety in children? How prepared do teachers feel to effectively support

students with anxiety in the classroom? In summary, teachers and schools are integral in

supporting students' mental health and can be essential in reducing the unwanted outcomes of

anxiety and other mental health challenges in young people. However, teachers have little to no

training in neurobiology or the best practices for reducing students' anxiety through teacher

preparation courses or PD opportunities. While there is robust research on CBT reducing anxiety

in students, studies on the successful application of CBT curricula in schools is deficient and

evidence of successful implementation by teachers even more rare. Furthermore, mindfulness

and trauma-informed practices have not been shown as largely helpful in reducing anxiety in

general, and school curricula and teacher implementation have had circumscribed options and

minimal success.

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       This review was used to inform the development of the interview questions for this study. The interview includes questions on if and where teachers gain knowledge about anxiety in students, how they intervene, and if they feel prepared to teach such students.

Chapter Three: Methods and Procedures

Gaining insight into teachers' knowledge of anxiety and their feelings of preparedness to support these students in the classroom is vital to understand whether anxious students are being identified and supported in the classroom. Without this knowledge or preparation, anxious children can be overlooked, under referred, and not receive support in the classroom. If students with anxiety are identified by teachers and subsequently referred to specialists and supported in class, their life trajectory will be improved with a reduced likelihood of continued mental illness and improvement in social, behavioral, and academic outcomes. Furthermore, this will allow teachers greater opportunity to focus on curriculum and academic rigor which may benefit all students.

Additionally, there is a significant research-to-practice gap in mental health practices and interventions in schools. Understanding the teacher perspective can also provide important information that can be used to bridge the research to practice gap in classroom mental health interventions. This study may contribute to the field as teachers' knowledge and skills directly impacts the wellbeing of students struggling with anxiety. Understanding the perspective of teachers can be useful for researchers and school psychologists advocating for increased implementation of evidence-based interventions in school settings.

Design of the Study

Qualitative Approach

A qualitative approach was used to examine teachers' knowledge of anxiety and their feelings of preparedness to work with students with anxiety. This approach seeks to empower individuals' stories by attempting to understand how they make meaning of their perspectives, experiences, and social world (Rapport, 2010). The social world is not independent of the

individual perceptions but is created through their social interactions with the surrounding environment (Hesse-Biber, 2010). This individualistic approach to interviewing provides an explanation of teachers' incongruent experiences, including their life experiences and how those contribute to their understanding and perspective of students (Hesse-Biber, 2010).

Phenomenology

Qualitative approaches are unusually diverse, complex, and unique, and this study used a phenomenological methodology. Phenomenology investigates the essence of a phenomenon by exploring it from the perspective of those who have experienced it (Teherani et al., 2015). Theologist Martin Heidegger proposed a hermeneutic phenomenological perspective, which suggests that individuals are influenced by the world in which they live and that consciousness is a product of a person's individual history and the culture in which they were raised. In addition, humans cannot experience a phenomenon without referring to their background knowledge (Lopez & Willis, 2004).

The hermeneutic perspective framed the current research design with the understanding that teachers derive their knowledge of anxiety and feelings of preparedness from their lived experiences as well as formal training. Specifically, the interview questions were designed in an open-ended format to allow the teachers to offer detailed information based on their life experience and not solely from their formal training. The interviews were recorded via Zoom and the notes developed from the audio- and video-recorded interviews were used to develop concepts and, in turn, theories regarding what teacher's knowledge of anxiety in students is and how prepared they feel to teach anxious students. Interview notes and transcripts were coded into various categories that arose. These categories and the subsequent filing systems were altered as

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needed based on the emerging theories. Any new data gathered were consistently compared with the previously collected data and further contributed to theory development.

The results obtained thus may benefit future researchers in theory development to observe the relationship between specific factors, including a direct relationship between the quality and quantity of a teacher's mental health training and their feelings of preparedness to support anxious students.

This study may also benefit future researchers by illuminating teachers' knowledge of anxiety in children, which is a timely skill given the increase in anxiety in the population in recent years (Racine et al., 2021). Additionally, future research may endeavor to discover how teachers determine what is underlying a student's behavior and what fuels their intervention choices.

Participants

Recruitment

Teachers were primarily recruited through criterion sampling by emailing letters to the administrators of school districts or educational service agencies with which the researcher had prior professional contact. These districts and agencies were in Massachusetts, Arkansas, and Oklahoma. These three states were targeted to explore some regional differences in teacher education and knowledge of anxiety. To encourage study participation, the participants were informed that they would receive a $25 gift certificate after the completion of the interview.

In Massachusetts, the administrators were contacted directly and requested to identify teachers in their first three years of teaching and to forward the recruitment letter provided to those teachers. In Arkansas, the Northcentral Arkansas Education Service Cooperative (NAESC) in Melbourne was the primary contact. NAESC has a program for new teachers that provides

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mentorship and PD opportunities to teachers in their first three years of teaching; the recruitment

letter was distributed to these teachers with 2-3 years of experience. In Oklahoma, the Tulsa

Public School administrators were contacted via email as the researcher had an ongoing

professional relationship with these schools. The administrators distributed the recruitment letter

to the qualifying teachers. In addition, participants from the three states were contacted through

Twitter and Facebook.

Interested teachers were encouraged to email the researcher to learn more about the study.

After answering the screening questions via email, those who agreed to participate were provided

with the details regarding the study purpose and requested to fill the consent forms before the

interviews began (see Appendix A).

Screening

Of the 17 teachers who responded, 13 who met the following inclusion criteria were

included in the study (as illustrated in table 2 below):

- Teaching elementary school (grades 1-6) for two to three years

- Did not possess a degree or license in special education or mental health

Table 2

Participant Outreach

Teaching Position	Region	Years of Experience
General Education Elementary (K-5) Teacher	Elementary Schools in Arkansas Elementary Schools in Oklahoma Elementary Schools in Urban and Suburban Massachusetts	2–3

When interested teachers emailed regarding their interest in participating, the researcher emailed screening questions to ensure the teacher met the criteria of having taught for 2-3 years and not having earned a degree in special education.

Demographic Information

At the beginning of each interview, demographic information including years of teaching, whether they have a master's degree, their degrees, age, race, ethnicity, and gender, was collected. All the 13 teachers who were interviewed in this study were female. One was from Oklahoma, three from Arkansas, and nine from Massachusetts. The interviews were conducted in September or October 2021; the current school year at the time was excluded when calculating their teaching experience. Ten of them had two years, two had two and a half years, and one had three years of experience. Eleven teachers had an undergraduate degree for elementary education, one had a technology and education undergraduate degree, and one had an undergraduate degree in humanities with a master's degree in elementary education. Six teachers had master's degrees: three of these were in elementary education, one in reading instruction, and two in arts and teaching. Their age ranged from 22–54 years.

Finally, at the time of the study, all the teachers taught between kindergarten and grade 6. Table 3 below lists the participants' pseudonyms, years of teaching, self-reported ethnicity and race, highest degree completed, and grade level they are currently teaching. Participants were informed that they could refrain from answering any question, including questions regarding sociodemographic information. All participants provided answers to all questions asked.

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Table 3

Participant Information

Pseudonym	Years of Teaching	Ethnicity/Race	Highest Education Level	Current Teaching Grade
T. Mackerel	2	Caucasian	Undergraduate degree in elementary education	K
A. Oyst	2	Caucasian	Undergraduate degree in elementary education	3rd
S. Smittt	2.5	Caucasian	Undergraduate elementary education	3rd
W. Shivel	2	Caucasian	Master's in elementary education	5th
E. Morton	2	Caucasian	Undergraduate degree in elementary education/American studies – master's in elementary education	5th
L. Coop	2	Asian/Chinese	Ongoing master's in elementary education and undergraduate degree in the same subject	3rd
K. Folton	2	Caucasian	Master's in elementary education and undergraduate degree in humanities	1st
P. Karma	2	Caucasian	Undergraduate degree in elementary education	4th
T. Katman	2.5	Caucasian and Indian	Undergraduate degree in elementary education	K for 2 yrs now 4th
K. Wrey	2	Caucasian	Undergraduate degree in technology and education	6th
B. Short	2	Caucasian	Master's degree in arts and teaching and undergraduate degree in master's in elementary education	1st last year, now 5th
M. Connor	2	Caucasian	Master's degree in arts and teaching and undergraduate degree in master's in elementary education	6th and 5th
J. Miser	3	Caucasian	Master's degree in reading and undergraduate degree in master's in elementary education	4th and 3rd

Table 4 summarizes the sociodemographic data of the participants. There were no male teachers included in the study, and all but three teachers were under thirty years old. Nine teachers interviewed were from Massachusetts, three were from Arkansas and one teacher was from Oklahoma. Ten of the teachers had two years of teaching, two teachers had two and a half years of teaching and one teacher interviewed had three years of teaching. Three teachers were teaching third grade at the time of this study and four teachers were teaching in forth, three teachers were teaching in fifth grade, one teacher was teaching in kindergarten, first, and sixth grades.

Table 4

Sociodemographic Characteristics of Participants

Gender	Number of Participants
Male	0
Female	13

Age	
20-24	6
25-30	4
<30	3

State	
AK	3
MA	9
OK	1

Data Collection

All the interviews were conducted individually using the Zoom platform. Each interview lasted approximately one hour and was conducted at the interviewee's convenience after school hours. A pseudonym, not connected to the teachers' age, ethnicity, or geographic location, was given to each participant to ensure confidentiality; these pseudonyms were used for all documentation, transcriptions, and notes.

Development of the Instrument

The interviews (see Table 5 or Appendix B for full interview guide) consisted of three sections: 1) demographic questions (as discussed above), 2) six scenarios presented to the participant and followed by specific questions, and 3) 23 questions on knowledge and preparedness. The participants responded to the scenarios before being asked to think specifically about anxiety and its impact on learning and behavior; this was done to avoid biasing the participants answers to include anxiety as an underlying cause of behavior in the students depicted.

The interview questions were adapted from several sources such as the Anxiety Symptoms Knowledge Assessment (ASKA; Deacon, 2015), Teachers' Awareness of Anxiety Symptoms (TAAS; Figueroa, 2013), Knowledge of Anxiety Disorders Questionnaire (KADQ; Beaunoyer et al., 2019), and Childhood Anxiety Test (CAT) and the Teacher Preparation Survey (CATTPS; Vallario, 2019). The ASKA contains several multiple-choice questions regarding the characteristics of anxiety in students (Deacon, 2015). TAAS includes case scenarios of children behaving in different ways that teachers need to respond to.

Some scenarios were used verbatim, some adapted to fit this study, and others created by the researcher. The scenarios (see Table 5 or Appendix B) were followed by multiple-choice

questions (Figueroa, 2013), many of which were adapted from the KADQ (Beaunoyer et al., 2019) and include measures to understand the knowledge of anxiety disorders such as GAD and social anxiety. Other questions were adapted from the CAT and CATTPS (Vallario, 2019).

Scenarios

The scenarios were created to reflect the trends in teacher knowledge obtained from the literature review, such as a lack of identification of internalized behaviors. They gave a snapshot of the classroom experience to understand the participants' knowledge about anxiety and their perceptions of students (Nelson, 2019). The interviewees were asked to provide the names of six random students in advance for each scenario, to prevent cultural bias and a bias from the pre-prescribed names with which the teacher might have a personal association.

The scenarios were used in the interview to better understand why students with anxiety are often misunderstood and misdiagnosed without any proactive implementation of interventions in schools (Cunningham & Suldo, 2014; Kalberg et al., 2011). Each scenario describes a student's behavior that could be due to underlying anxiety, and guided by a phenomenological design, the teachers are asked general open-ended questions, including what could be underlying the behavior and how they would intervene. The questions were general and so that teachers would answer based on their knowledge from lived experience and other forms of meaning, as opposed to implying the desire for textbook answers.

To explore their feelings regarding the scenarios, the teachers were asked to describe their stress level in each scenario on a scale of 1 (low level of stress) to 5 (high level of stress). They were questioned about their stress level after they had discussed the perceived underlying cause of the behavior and the interventions they would pursue; this gave them time to process the scenario before answering. The questions were designed to capture the teachers' in-the-moment

interpretation of the cause of the student's behavior, to determine if they could identify anxiety as the underlying cause and whether they could suggest successful practices as an intervention.

Scenario 1 – Disengaged in Work and Argumentative. The first scenario describes a student who is not engaging in work and has gradually become argumentative. As outlined in the literature review, when students' mental health issues are unaddressed, it can lead to poor academic and behavioral outcomes (Duong et al., 2021; Hoover et al., 2020), and providing support can lead to positive social, emotional, behavioral improvements for students (Hoover et al., 2020; Kase et al., 2017; O'Dea et al., 2019). This scenario was chosen to determine if the teachers could identify anxiety as a possible cause for the student's poor academic engagement and argumentative behavior and if the interventions they suggested were consistent with the successful practices for students with anxiety (as reviewed earlier).

Scenario 2 – Competitive and Intolerant of Mistakes. The second scenario describes a student who is competitive with classmates and does not tolerate mistakes. As described in the literature review, anxiety impacts error processing and also increases the likelihood of ERN (Seow et al., 2020). High ERN scores and high anxiety after an error does not impact task accuracy but affects the individual's mood and behavior after the error is made (Seow et al., 2020). This scenario was presented to examine whether teachers could recognize the student's negative reaction to mistakes as a possible manifestation of anxiety and if their suggested interventions were consistent with the successful practices described earlier.

Scenario 3 – Inattentive. The third scenario describes an inattentive student who is quiet and does not act out. This scenario was included as the literature review highlighted that teachers' identification of students with internalized behaviors is unreliable and often inaccurate (Cunningham & Suldo, 2014). Specifically, teachers have been found to face difficulty

identifying students with internalizing presentation of anxiety and depression (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021). This is especially true of students who are subtle and do not engage in behaviors that disrupt class and break rules (Cunningham & Suldo, 2014). The scenario was provided to determine if teachers could associate less obvious behaviors as a symptom of anxiety and if the interventions were consistent with the successful practices.

Scenario 4 – Parents Request Virtual Classes as the Student Does Not Like School.

As discussed earlier, anxiety can be of two types: apprehension type, characterized by worry and negative rumination (Fajkowska et al., 2018; Songco et al., 2020; Vytal et al., 2012), and arousal, characterized by physiological symptoms such as an increased heart rate (Fajkowska et al., 2018; Vytal et al., 2012). All the teachers in this study were novice teachers during the COVID-19 pandemic, when virtual schooling was mandated or offered as an option to many students. This scenario was chosen as it describes a familiar pandemic and post-pandemic scenario and provides an example of a student reporting apprehension-type anxiety (and possibly arousal type) and making negative comments about school. The goal here was to examine if teachers could identify anxiety as an underlying cause to the student's negative comments about school and if the interventions were consistent with the proven successful practices.

Scenario 5 – Behind in Math and Acting Out. As described in the literature review, anxiety is a crucial variable that can consistently impair math achievement in elementary school years (Pellizzoni et al., 2022). Challenges in math can be due to the impairing impact that anxiety has on the WM for math tasks (Klados et al., 2019; Namkung et al., 2019; Skagerlund et al., 2019). In fact, Pellizzoni et al. (2022) suggests that teachers play an important role in identifying students' emotional relationship with academics and recommend that children with math challenges can benefit from early intervention to help cope with their anxiety, in parallel

with more specific math training. This scenario of a student behind in math and acting out in class helped determine if the teachers could identify that a student with poor math performance, who was adequate in other subjects, potentially had anxiety and if their suggested interventions were consistent with the successful practices.

Scenario 6 – Aggressive with Peers at Recess and Frustrated with Writing.

Understanding the biological basis of anxiety can shed light on why students behave in certain ways. Neuroimaging studies implicate the amygdala as crucial in emotional reactivity (Gluck et al., 2008). Abnormalities in its structure and functioning have been found in patients with anxiety (Hamilton et al., 2012; Liu et al., 2015; Roy et al., 2013). Such disfunctions in the amygdala can impact emotional reactions and regulation (Kim et al., 2011). This scenario of a student who is aggressive with peers at recess and frustrated during writing tasks, helped determine if teachers could identify the student's aggressive behaviors with peers and the obvious manifestations of frustration as a symptom of anxiety and if the interventions were consistent with the successful practices.

Knowledge and Preparedness Questions

The knowledge and preparedness questions (Table 5 or Appendix B) for this study were developed by combining and modifying many questions from the following instruments, Anxiety Symptoms Knowledge Assessment (ASKA; Deacon, 2015), Teachers' Awareness of Anxiety Symptoms (TAAS; Figueroa, 2013), the Knowledge of Anxiety Disorders Questionnaire (KADQ; Beaunoyer et al., 2019), and the Childhood Anxiety Test (CAT) and the Teacher Preparation Survey (CATTPS; Vallario, 2019). In order to assess the teachers' knowledge of anxiety and how it manifests in students as well as how prepared they feel to work with such students. As discussed earlier, teachers receive little to no coursework in university preparation

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programs or school-based trainings on how to address student mental health in the classroom (Mazzer & Rickwood, 2015; Nygaard et al., 2022; Ohrt et al., 2020; Osagiede et al., 2018). To determine if the participants' training was consistent with the literature, questions 10, 11, and 12 specifically asked if they had any mandated coursework or PD in mental health, specifically regarding anxiety in students. Furthermore, teachers largely under identify anxiety and mental health issues in students (Kalberg et al., 2011). Therefore, questions 2, 3, 4, and 5 asked the participants to list the symptoms of anxiety in different contexts such as school and home as well as academic, behavioral, and social symptoms. The phenomenological methodology guides further inquiry into teacher's skills in identifying anxiety in students and therefore questions 2, 3, 4, and 5 were chosen to discover if teachers were able to list symptoms accurately via an open-ended design. The literature states that teachers haven't been trained in how to identify and best support students with anxiety, if that is the case with teachers in this study, these questions are less structured and may capture a description of teachers' knowledge encompassing their background knowledge and life experiences (Lopez & Willis, 2004). Lack of training can lead negative outcomes for teachers as well as students. Conversely, when teachers are adequately trained to address student anxiety, teacher and student relationships can improve, and teachers feel more effective leading to more favorable feelings toward their jobs (Ginsburg et al., 2019; Zee & Koomen, 2016). Furthermore, to examine if the lack of training affects teacher confidence and feelings of competence, the follow-up questions 14 and 19 ask specifically about the teachers' comfort level in working with students with anxiety and those with behavior issues.

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Table 5

Interview Questions for Teachers' Knowledge of Anxiety and Feelings of Preparedness

Scenario Questions
"I am going to read you a few classroom scenarios. I would like you to tell me what is underlying each student's behavior. There are no wrong answers."
"Also, could you please list six random children's names to be used in the scenarios? Please avoid choosing the names of former students" *"At the end of the interview, I will address any questions you may have about the scenarios or any other item."*

Scenario 1 (Boy)	
Name #1 is a bright and quiet third-grade student, and lately, he has been refusing to complete his assignments in class. In addition, he frequently does not complete his assigned work or forgets it at home. He is at risk of failing and has begun to make frequent excuses to the bathroom and the nurse's office because of stomachaches or headaches. The parents took him to visit the doctor, and the physician said that Name #1 is healthy and fine. Gradually, Name #1 has become increasingly argumentative with his teachers, in addition to not completing assignments and exhibiting meltdown behavior.	*What might be underlying Name #1's behavior?* *How would you intervene with Name #1?* *What would your stress level be in this moment, on a scale of 1-5?*

Scenario 2 (Girl)	
Name #2 is a very hard-working fifth-grade student with good academic performance. The teachers and parents are very proud of her. She is very active, popular, organized, competitive, and holds high expectations of herself. However, some students complain that she is too bossy and has little patience for some of them. Last week, she got into an argument with her group members because they had forgotten to complete part of the lab work, which had lowered her grade. A few days later, *Name #2* forgot to complete a small portion of the math test, and she was very upset and sobbed in the bathroom. She was concerned that her parents and friends would think less of her, because of her lower grade.	*What might be underlying Name #2's behavior?* *How would you intervene with Name #2?* *What would your stress level be in this moment 1-5?*

Scenario 3 (Girl)

Name #3 is a very active second-grade student with good communication skills. However, at times, she needs reminders to stay on task and stay in her seat. Parents think this is a typical behavior of a young child and that the teacher is overly concerned about *Name #3's* outgoing behavior. Lately, the child's focus has gotten worse, she gets off-task easily, and she becomes frustrated and angry when the teacher redirects her. At times, she will refuse to engage in writing assignments, even though she has had to miss recess as a result. She is beginning to make frequent excuses to visit the bathroom or nurse's office. Parents insist that the school is overreacting to the situation.

What might be underlying Name #3's behavior?

How would you intervene with Name #3?

What would your stress level be in this moment, on a scale of 1-5?

Scenario 4 (Boy)

Name #4 is a fifth-grade student and has many friends. His mother called the guidance counselor one day and shared that *Name #4* does not want to come to school. Consequently, the parent is considering virtual schooling for the boy. However, teachers report that *Name #4* is very cooperative and takes part in class whenever he is present. The guidance counselor met with *Name #4*, who shared that he Is afraid of failing math tests, even though he has been passing all the tests.

What might be underlying Name #4's behavior?

How would you intervene with Name #4?

What would your stress level be in this moment, on a scale of 1-5?

Scenario 5 (Boy)

Name #5 is an active second-grade student. He is about six months behind in math and on grade level in reading. *Name #5* can become easily frustrated with academic tasks and often acts out by, for example, throwing his materials onto the floor, yelling, leaving the class without permission, and arguing and insulting the teacher. He does not show these behaviors in the PE or art classes.

What might be underlying Name #5's behavior?

How would you intervene with Name #5?

What would your stress level be in this moment, on a scale of 1-5?

Scenario 6 (Boy)

Name #6 is a fourth-grade boy who is talented at sports, particularly soccer. He is often sent to the office during recess and lunch for hitting peers, throwing objects at peers, and yelling insulting remarks at them, particularly during

What might be underlying Name #6's behavior?

recess games. He does not seem to calm down after an incident for the rest of the day. In the classroom, he can be easily frustrated with writing tasks and grasps his head, bangs his fists on the desk, and makes statements like, "This is stupid!"	*How would you intervene with Name #6?* *What would your stress level be in this moment, on a scale of 1-5?*

Questions Regarding Knowledge of Anxiety
"Now I'm going to ask you some questions about students with anxiety."

Questions	Probing Questions
1. What percentage of children and adolescents in the U.S. would you guess have anxiety disorders in their lifetime?	If they cannot give a percentage off the top of their heads, they are asked to choose one of the below options: a) 1–10% b) 10–20% c) 20–30% d) 30–60% e) 60–80%
2. What does anxiety look like in kids? What are some symptoms of anxiety that parents might see outside of school?	What does that look like? Could you tell me more about it?
3. What are some of the symptoms of anxiety that a student might display in the classroom?	What does that look like? Could you tell me more about it?
4. What are some of the social, emotional, or behavioral symptoms of anxiety?	What does that look like? Could you tell me more about it?
5. What are some of the academic symptoms of anxiety?	What does that look like? Could you tell me more about it?
6. What behaviors of a student may unlikely be due to anxiety?	
7. What are some possible outcomes for students who have untreated anxiety?	
8. How are anxiety and depression different?	

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Questions Regarding Preparedness
Now I'm going to ask you some questions about your training and your work in the classroom.
There are no right or wrong answers. I just want to hear about your experiences.

---

1. Have you taught students with anxiety?   How did you know the student had anxiety?

2. Were you trained on how to support the students with anxiety in your classroom?   If so, can you explain further?

3. In your teacher education program, were any mental health courses required?   If yes, how many? Were any after your graduation?

4. Did you receive any professional development training (post-graduation) on how to identify students with anxiety and the symptoms of anxiety disorders in children and adolescents?   If yes, where?

5. What PD would be helpful to you now?

6. How comfortable are you working with students struggling with anxiety?

7.   If a student in your class shows symptoms of anxiety, to whom would you refer them?

8. Is teaching students about anxiety part of your job as a classroom teacher?   Do you feel comfortable teaching students about anxiety?

9. What classroom strategies do you typically use for students with anxiety?

10. Do you think teaching students about relaxation and coping strategies is part of your job as a classroom teacher?   Do you feel comfortable teaching these skills?

11. How comfortable are you with students who exhibit behavior challenges?   Where did you learn about this?

12. Did you receive training on working with students with behavioral issues?   Was the PD voluntary?

13. How applicable is your training to your everyday experience in the classroom?
14. Do you think teaching behavior and emotion regulation strategies is part of your job as a classroom teacher?   Do you feel comfortable teaching these skills?

15. What classroom strategies do you typically use for students with behavior challenges?

Procedure

In the following sections the procedure of the study will be outlined. The procedure included interviewing participants via Zoom and recording the interviews and transcribing them. How data was managed and analyzed will also be explained.

Interviews

Along with the interviews that took place via Zoom or phone, follow-up interviews were scheduled as needed for clarification. The interview process involved asking specific questions, receiving an answer, and asking a variety of follow-up questions (Conrad & Blair, 2009).

To prevent the researcher's assumptions and biases influencing the questions, reflection on personal biases was done prior to each interview. The interviews were conducted with an open-mindedness and eagerness to understand the teachers' perspectives. The open-ended approach encouraged a natural discourse and allowed the interviewees' voices to be heard. Open-ended questions are best answered by an approach that does not see a finite set of variables (Creswell & Poth, 2018). Additionally, inquisitory techniques were used at first to understand how the interviewee may have processed a particular question (Beatty & Willis, 2007). Finally, the interviews were transcribed verbatim via a transcription service to allow for optimal individual subjectivity and then summarized (Rapport, 2010).

Data Management

The data were organized into digital files, stored securely on the researcher's home laptop, and labeled with the pseudonyms. The audio files were transcribed, which was then edited to replace the actual names with the aliases. A backup copy of all the data was stored in a USB drive, which was secured in a lockbox in the researcher's home. The data will remain on the researcher's laptop and the USB drive until this dissertation is completed and the results are accepted by the dissertation committee. Then, the data on the laptop will be permanently deleted and but stored in the USB drive for two additional years, after which they will be deleted.

Data Analysis

This study utilized a phenomenological approach, whose distinguishing characteristic is the detailed description of the phenomena being studied (Eddles-Hirsch, 2015). Participants' descriptive responses presented their experience with students experiencing anxiety. The researcher used these descriptive data to understand the phenomenon and not reflect based on preconceived perceptions (Eddles-Hirsch, 2015). A thoughtful reduction process allowed the researcher to keep an open mind while listening to the participants (Moustakas, 1994). In general, it is imperative to gather descriptions without impeding on the spontaneity of the subjects' responses (Jasper, 1994). The one true source of the reality of a participant is themselves (Baker et al., 1992). Therefore, verbatim transcripts of the interviews were used (Priest, 2002). The transcription of the audio-recorded interviews were re-read five or six times prior to the data analysis. The reading of the transcripts was paired with listening to the audio twice per participant, which allowed the researcher to hear the participants' intonation and thus obtain a deeper understanding of how the teachers perceived student behavior in their school context.

Epoche or bracketing, in which the researcher purposely sets aside their own perspectives and beliefs of the phenomena being investigated, was used (Eddles-Hirsch, 2015). This process included, as best as possible, putting aside the personal experiences and learning obtained from literature and other sources (Priest, 2002). The researcher added notes in the margins of the transcriptions to highlight the voice and perspective of the participant and thus ensure that the understanding of the phenomena came from the participant. This reflection process was repeated each time a transcription was read.

An important next step was horizontalization or placing equal value on each participants' contribution (Eddles-Hirsch, 2015; Priest, 2002). The participants' responses were recorded verbatim in a word document under each question under the respective category headings. The answers were not prioritized or highlighted.

Next, the data were reduce and lengthy data turned into meaning units. As Moustakas (1994) recommended, the researcher reflected on the data and chose those that contained the experiences necessary for the understanding of the phenomena being studied. The meaning units were then collected to create themes. After reading three interview transcripts, similarities started to emerge, such as consistencies in the stress levels when dealing with the students who acted out, comfort levels in working with students with anxiety, and the "go to" interventions.

At that point, consistencies were color-coded on each participant's transcription. For example, for each scenario where the teacher used the word anxiety as a cause of the behavior, the word was highlighted in red. Consequently, the frequency of teachers' identification of anxiety per scenario became visually apparent across participants.

To assist the interpretive process, the data were organized visually, using tables and charts (Creswell & Poth, 2018). To illuminate trends in the interventions suggested by the teachers in

each scenario, the similarities in their answers noted via color-coding was transferred to a table. Each color-coded response was translated into initials to reduce text and make the observation of patterns easier. For example, many teachers suggested that they would talk to the student when asked how they would intervene with the student in each scenario. The specific words they used were initially color-coded on their unabbreviated transcriptions; then, the initial "T" was used under the teachers' name for each scenario in the table. Thus, themes of analogous interventions were made visible and easy to decipher. Integrity checks were also utilized throughout the coding process with the doctoral chair, Dr. Crain de Galarce and a colleague Dr. Davis, to obtain feedback on the emerging codes and any possible researcher biases in the discovery of themes.

While this coding method was helpful to uncover the themes in the teacher responses, it was not adequate to capture their unique experiences. According to Moustakas (1994), participants' own words should be used to convey their perception of a phenomenon. Therefore, direct quotes from teachers were used throughout the data analysis and reporting to allow the participants to describe their perspective without the researcher's interpretation.

Trustworthiness

Trustworthiness is an essential component in the research process and was addressed ahead of the study (Amankwaa, 2016). Trustworthiness involves establishing credibility (the truth will be uncovered), transferability (findings will be applicable to other contexts), dependability (findings are consistent), and confirmability (neutrality of the findings based on the participants' perspective and not influenced by the researcher) (Amankwaa, 2016). Accordingly, techniques such as journaling were used to achieve credibility or attain what was outlined in the research plan. As this researcher worked alone and without a peer reviewer,

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thoughts that surfaced throughout the research process were journaled, dated, and reviewed during the data analysis.

Thick description, the ability to create a rich, contextualized description of an entity, is a strategy where the researcher allows themselves to be guided by the participant while critically questioning their contextualized responses (Geertz, 1973). Such description promotes transferability and, therefore, some of the questions used allowed for detailed answers.

Next, an inquiry audit was used to promote dependability. The doctoral committee chair gave feedback throughout the study regarding the process and product. In addition, a colleague read a passage of journaling on a specific data set and gave feedback on where a preexisting perspective might have imposed on the emerging themes. Furthermore, to establish confirmability, inquiry audit and journaling were utilized (Amankwaa, 2016). Table 6 outlines the trustworthiness protocol utilized in this study.

Table 6

Trustworthiness Criteria

Criterion	Technique
Credibility	Journaling
Transferability	Thick description, planning open ended questions that allow for detailed answers, and journaling
Dependability	Inquiry audit
Confirmability	Inquiry audit and journaling

Note: Adapted from Amankwaa (2016).

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Reflexivity

The researcher reflected on their role and interaction with the research process to ensure that the conclusions reflected participant experiences and not any preconceived assumptions of the researcher (Shaw, 2010). This process was especially important as the researcher was familiar with the school district where the participants were employed in many cases. Ongoing reflexive peer discussions were used to ensure the voices of the teachers were promoted rather than the researcher's biases.

Chapter Four: Analysis of Data

The purpose of this study was to explore elementary teachers' knowledge of anxiety and how it manifests in students as well as inquire about their feelings of preparedness in teaching such students. In this chapter, the data are presented in emergent themes from the interviews. The data gathered from each research question are grouped or categorized into relevant themes regarding the teachers' knowledge of anxiety and preparedness. The themes identified in the analysis are the identification of anxiety in scenarios; recognizing what underlies the behavior of students in the scenarios; interventions recommended across scenarios; stress level and comfort level in the scenarios; perception on teacher training effectiveness; and symptoms of anxiety that appear in the classroom, academically, socially, and behaviorally.

Identification of Anxiety in Scenarios

As discussed earlier, the scenarios were designed to describe the various ways anxiety can present in students. To avoid misleading the teachers, they were asked three same questions for each scenario, as shown in Table 5. The researcher did not ask any follow-up questions ("Anything else?" or "Would you try any other interventions?") to giving them suggestions or prompt them.

Scenario 1

For the first scenario on the boy who avoided or did not complete work, some teachers did not use the word anxiety but used related terms. For example, A. Oyst stated that the student was intimidated by work. Six teachers suggested that "something going on at home" was the underlying cause of his behavior. A. Oyst further commented that there was "something going on home" and specified that it might be abuse. Other explanations for the student's avoidance of

work included bullying, work refusal, dyslexia, frustration with the work, no self-advocacy, being unhappy, inability to focus, trying to skip math, being unmotivated, ADHD, autism, learning disability, lack of sleep, or too many activities outside of school. P. Karma simply stated that they did not know what the reason was for the student's behavior. However, M. Connor said,

> I would say motivation at first from the first part of the scenario just as far as not completing work and things like that. When it then becomes a behavior thing, sometimes attention, but I see a lot of those characteristics in my autism spectrum kids. As far as not completing work, constantly wanting to leave the room then turning angry and frustrated because they don't know what to do. And so they don't ask questions, so they just don't do it and then they start to get angry and frustrated.

Scenario 2

In the second scenario, 4 out of the 13 teachers identified anxiety as the underlying cause of the girl's competitive tendencies. Six used the word perfectionistic to describe the student's behavior. T. Katman said,

> I feel like I might be a little bit like (student). I feel like she might be a little bit of a perfectionist, and really strives to be a people pleaser a little bit, always doing the right thing. I would say that she might not be used to failure, per se, and doesn't know how to deal with that or move forward with that.

A. Oyst and J. Miser described the student as stressed. Other explanations of the student's behavior included pressure from home, pressure on herself, OCD, and being validated by doing well. T. Mackerel suggested that "the student was putting all of her self-worth into schoolwork

and by missing piece of work was upsetting because it was a piece of where she gets her self-worth from."

Scenario 3

Only one teacher, P. Karma, identified anxiety as the issue in this scenario where the student who lacked focus. Six teachers suggested the student had ADHD. Interestingly, they did not offer additional suggestions. M. Connor stated,

> That's the hard part with education world is you can't say, I think your child has ADD or ADHD because then you're responsible for all of that. And so, wording that to parents in a way, obviously it seems like the parent then thinks you're overreacting. And so, I think honestly, giving the student or treating the student with modification and remediation like she was an ADD, ADHD student without actually being diagnosed… do things you would do with kids who maybe are ADD, ADHD diagnosed, but aren't medicated because I have several of those that are diagnosed but don't believe in medicine. And so you just got to deal with them.

T. Mackerel had a different perspective and suggested that "writing is a trigger" and that "something is bothering her." W. Shivel said, "she puts high expectations on herself and pressure on herself. They added that "home probably reacts negatively when doesn't do well." Other participants offered alternative explanations that the student was putting high expectations on herself or wanted attention or avoidance or was facing boredom:

> It could be something that is physical difficult for her to hold a pencil, and she needs help with that. Maybe whatever it is that the assignment, she's probably reading something or listening to something and then needing to write whatever it is the assignment is, maybe

there's a disconnect between the reading it and then writing it. That could be a problem as well. Maybe it's the time of the day. Maybe if writing is later in the afternoon, it's after lunch, and she's tired, that could be part of it, especially if she gets out of her seat a lot. Well, I don't know. I tend to...Back when I was in IA (instructional assistant), I had a student who really couldn't sit, so I put his assignments on a clip board, and he just walked around the hall and did his assignments. (K. Wrey)

That sounds like some kind of avoidance. There's something she's not feeling. She's meeting some goal that she's not achieving. It sounds like her expectations at school are higher than what they are at home. And she's probably feeling a little bit of a failure there. (B. Short)

Other suggestions included, putting high expectations on herself, wanting attention, avoidance, and that she is bored.

Scenario 4

In the fourth scenario of the student whose parents requested virtual schooling, eight teachers identified that anxiety was the underlying reason for the boy's behavior. P. Karma said,

It sounds like anxiety to me. I actually have had kiddos like that before who think they're poor in a subject and think that they're going to fail every time and they end up doing beautifully and being one of the highest kiddos in the class. So that lack of confidence, that anxiety piece that just kind of crushes their confidence and self-esteem.

S. Smittt offered that it might be "test anxiety or that he is worried about what other kids think of him." L. Coop wondered if it was "anxiety because of the pressure his parents put on him." T. Mackerel provided a social explanation:

I think there's some sort of social thing with the friends going on that is making it so he doesn't want to come to school. With him being older, maybe there's bullying going on. Maybe there's something. On the outside it seems like he's fine, but clearly there's something going on on the inside that's bothering him and he's upset about. I would bet it's probably coming from friends; I would think.

B. Short said it might be "test anxiety in addition to stuff going on at home." J. Miser suggested the reason, "parental anxiety giving the kid anxiety." Teachers who did not label anxiety as a reason offered that it might be due to the student's teacher being intimidating and using harsh language with him, bullying/peer issue, perfectionism, and fear of failure. K. Wrey simply said, "I don't know."

Scenario 5

In the fifth scenario of the student who was behind in math and argued with teachers, none identified anxiety as the underlying cause. T. Mackerel suggested, "he struggles with academics and that there is probably something going on at home." S. Smitt also said that "something happened at home or the school bus and his acting out makes it look like academics." W. Shivel thought that it might be a "language based something or dyslexia or challenges with conceptual and procedural thinking in math." E. Morton stated that it was "because he is behind in math." L. Coop suggested that the student has a high "frustration level and a lack of coping and cool down strategies," adding that he "doesn't have the right tools in his toolbox to communicate or self-regulate." K. Wrey simply said, "I don't know." P. Karma said,

I would probably lean more towards ADHD in this instance. It sounds like kiddo needs frequent movement breaks. It sounds like kiddo needs to be able to take walks and move

around the room. His needs aren't getting that, clearly, he's very frustrated and he's trying to demonstrate that visually in any way he can.

Scenario 6

In the sixth scenario describing the boy who was aggressive with his peers at recess and frustrated and acting out during writing, only one teacher (P. Karma) identified anxiety as the underlying factor. They said, "he falls apart if there is a lack of structure and that he might have ADHD or anxiety." L. Coop stated that the student was "competitive, not able to cope and calm, and that he doesn't do well losing" They also said that he has "no communication skills and is lacking self-regulation." T. Mackerel thought he was "frustrated when kids aren't as good as him in soccer." A. Oyst suggested he was "insecure and that bullies bully themselves too." S. Smitt stated that he had trouble "not getting his way, losing, and being told no. Not getting way sets him off." W. Shivel thought he was acting out due to "something going on at home or a friend issue." K. Wrey offered the following explanation:

> I think definitely there's some type of...when I say learning disability, I don't just mean educational. It could be social, emotional too, so there is something going on in either one of those areas. I don't know what the underlying thing could be. It could be a regular learning disability where maybe they're dyslexic, maybe there's reading comp issues. I don't know. They would need to be tested to figure all that out, but on the other side... I always look at the other side. What is going on emotionally with them, socially, either in school or at home? Are the parents going through a divorce? What does the whole picture look like?

Other responses included impulse control, having a bad day, missing social cues, dealing with failure, being frustrated with writing, a lack of attention at home, ODD, and seeking attention.

***Trends in the Identification of Anxiety in Scenarios***

Trends appeared in the analysis of teachers' responses to the scenarios of students demonstrating various behaviors associated with anxiety. A higher number of teachers were able to identify anxiety *by name* as a possible underlying factor in the behavior of students described in scenarios 1 (work disengagement, argues), 2 (competitive girl, intolerant of mistakes), and 4 (parent requests virtual schooling), but only one teacher, P. Karma, identified anxiety in scenarios 3 (inattentive student) and 6 (student aggressive at recess). None of the teachers identified anxiety as a possible cause in scenario 5 (behind in math, argues and leaves room). Specifically, a higher number of them identified anxiety in the scenarios where the student was not engaging or completing work, was competitive and showed intolerance of mistakes, and whose parents requested virtual schooling. None of the teachers identified anxiety as the reason for the student being behind in math and argumentative.

Figure 1 below illustrates the trends in teachers' responses to the scenarios of students engaging in different behaviors.

Figure 1

Participants' Identification of Student Anxiety by Scenario
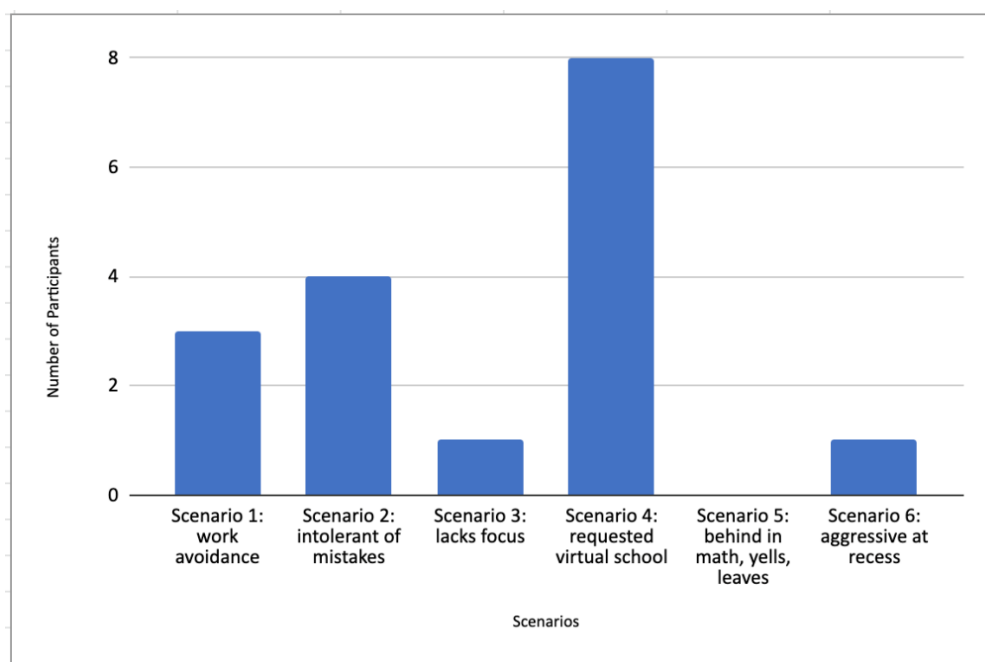
Suggested Interventions in Scenarios

After the teachers spoke about what they thought was underlying the behavior, they were asked "How would you intervene with [name of student]?" Trends emerged in the "go to" interventions recommended across scenarios (e.g., talking to the student, calling the parent, giving breaks). Other interventions were scenario-specific (e.g., consequences for aggressive behavior, academic support for the student who was below grade level in math).

Scenario 1

With respect to the first scenario, all 13 teachers suggested talking to the student. T. Mackerel described how she would talk with the student: "Do you want to tell me what's going on? Because I'm noticing X, Y and Z, and this is different, or this is not normally like you. Do you want to talk to me?" Similarly, A. Oyst stated,

So, I would probably talk to him one-on-one in a private setting, whether that'd be the hallway or off to the side and ask him... I would first acknowledge that I see he's kind of using the bathroom and the nurse, see if there's any patterns and then acknowledge that to him and try and determine why he's leaving. If there's something that's making him feel maybe sick to his stomach whether it's school-related, social, emotional, I'm just going to talk to him.

Eight teachers said they would call the parent. Six reported that they would reach out to a school psychologist (school psy) or guidance counselor (GC). T. Mackerel mentioned she would seek out the school psychologist and say, "Hey, I'm seeing this. This isn't normal for this kid." As seen in Figure 2 below, other suggested interventions included preferred seating, breaking down academic tasks, check ins, a clip chart of emotions, breaks, calling the administration, and taking away recess. Most participants mentioned they would talk to the student directly or call the parent.

Figure 2

Suggested Interventions for Scenario 1
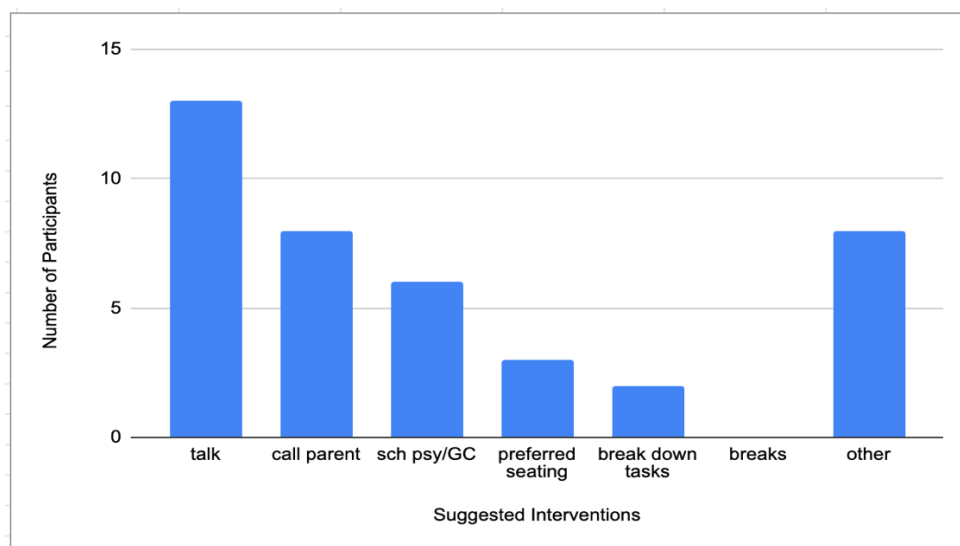
Scenario 2

For the second scenario, there were less varied intervention suggestions (Figure 2). All but one teacher stated they would talk to her:

I think I would definitely be talking to her one-on-one about different strategies that we can use when we feel upset with ourself. Just different steps that she can take when she starts to feel frustrated or feel like she didn't do something up to her standards or up to whoever standards she's living by. (W. Shivel)

I would probably just sit down and have a chat with them (kids in the group, including the girl) and just say mistakes happen and maybe even as a group just talk about let's just move forward and then maybe pull her to the side, probably prior to that group meeting, pull her individually and talk about how mistakes happen, and maybe even bring up the fact that even she made a mistake so let's forgive our friends who made a mistake and forgot to complete part of the lab report, and then work with her on some skills of dealing with failure and mistakes. (T. Katman)

Again, I would pull her aside in a private setting and I would just have a conversation with her, very low stress, and just talk about my noticing's, and just reassure her and tell her that it's okay. You don't need to be 100% perfect all the time, you know? Then I would talk about different scenarios in the settings and just be like, "I've noticed this. Maybe you could try doing this," or if maybe something's bothering you, you could speak to your classmates in a different way and give her resources instead of just telling her what I'm seeing, but actually help her to try and figure out how to solve her problem. (A. Oyst)

Figure 3 demonstrates the interventions suggested by the participants. Other suggestions included encouraging her, calling her parent, talking to the school psychologist, and providing incentives.

Figure 3

Suggested Interventions for Scenario 2
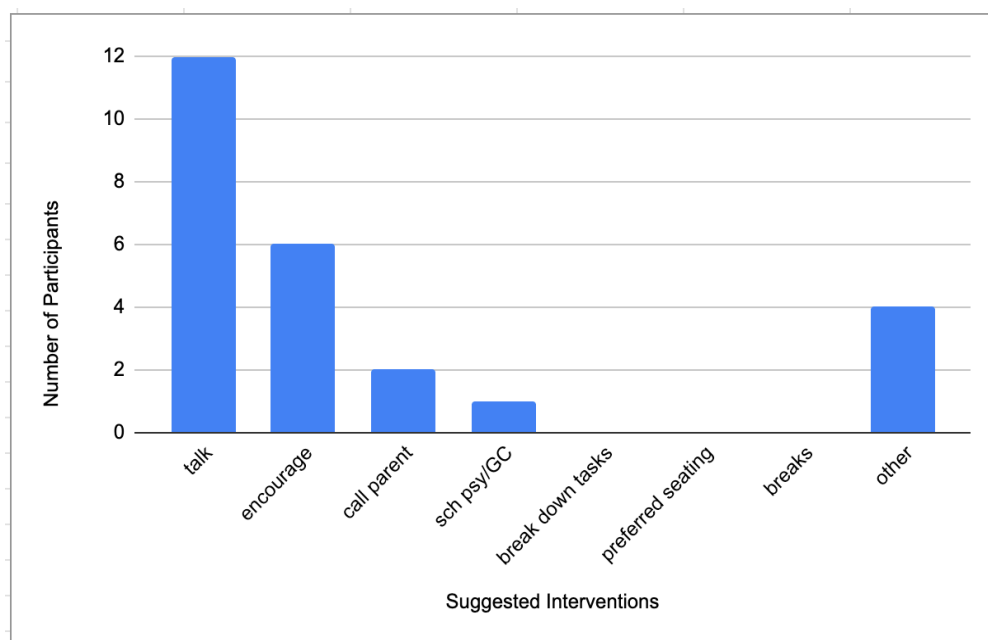
Scenario 3

For the third scenario, the most frequently suggested intervention was again to talk to the student. Movement breaks and fidgets were also recurring suggestions.

I think that fidgets are helpful in certain situations, flexible seating, stuff like that, a lot of movement breaks and setting timers, also giving them a lot of visuals and checklists so they know exactly what they need to do and when they need to do it. When they finish one task, what are they working on next? Then just you have to do a lot of redirection in

third grade anyway, so having that, and then hopefully having support staff in the room as well. (A. Oyst)

I might look for some kind of interventions for ADHD, some kind of bouncy thing for their foot. I put that under my students' desks or a fidget. Sometimes that'll help them stay more on task and more focused, kind of trial and error with situations like that, seeing what works best for them. (B. Short)

I would definitely foster her need to move. Whether it's those frequent movement breaks. In math, I get them up a lot. So, if they think their answer is even, I'll have it stand like an X or if I think their answer is odd, they'll squat down. So, I try to incorporate a lot of movement into my class because I can just see how sitting is hard for them. Well, this kid is second grade, so they can't sit for longer than a solid 10 minutes, I would say without needing to get up and to move, so embedding that into my practice as a whole. Then I mean she could be the electrician and turn the lights off every time I need to play a video or something giving her tasks in the classroom that help her get up, move around. "Oh, I forgot my pencil. Will you go grab it?" Little things that, which look really minute, but if I'm specifically targeting her, I can give her those types of breaks. (L. Coop)

As seen in Figure 4 below, additional suggestions included calling the parent, various sensory strategies, breaking down tasks, and asking a school psychologist for advice. Talking to the student and offering breaks were the most commonly suggested interventions.

Figure 4

Suggested Interventions for Scenario 3
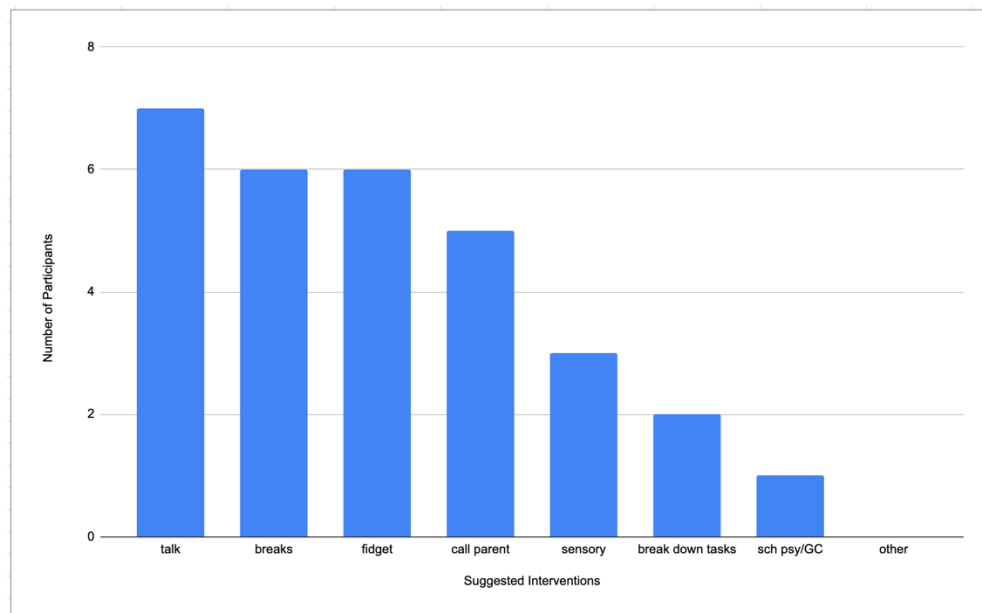
Scenario 4

More teachers labeled anxiety as an underlying cause in the fourth scenario. Again, the most popular interventions were talking to the student and calling the parent:

I would get in touch with his guardian probably and encourage them not to go virtually. Kind of share all the positive things that I've been seeing at school and encourage that he does show up. And then, if he didn't or if he did show up then have a conversation with him and ask him kind of what was making him feel like that. If it was something in the classroom, in the building, at home, and kind of go from there. If he had repetitive absences, get in touch with the guidance counselor and make a plan. (S. Smith)

I would talk to him. I would ask him questions. Like, if I knew his friends, being like, "How's things with Joey? How's things with so-and-so?" Just nonchalantly asking, I'm trying to think how a fifth grader would do with that, of how things are going and seeing

if he relays any information to me. I might go out on recess and do some behind the scenes observing to see. That's what I would do. (T. Mackerel)

Other suggestions included calling the administration, talking to the previous teacher, contacting the school psychologist, providing preferred seating (pref seating), observing the student, working on building their self-confidence, testing him in math, and conduct small group math sessions. As seen in Figure 5 below, the participants interventions are displayed in a word cloud. The largest words represent the most common answers.

Figure 5

Suggested Interventions for Scenario 4

Note: The largest word depicts the most common answer

Scenario 5

The teachers offered many interventions to support the student in scenario five, as shown in Figure 6. Similar to the previous scenarios, the most routinely suggested intervention was talking to the student. The second most common intervention was to call the parent, and the third was movement breaks:

Finding ways for him to be able to move around while learning and while still making it beneficial and not disruptive. I have plenty of kids that I let stand in the back of the room because they cannot sit and learn. They can flip board and they will pay attention like no other, but they can't sit and learn. Even in fifth grade we'll do things like go noodles between every subject to get them up and move in because they can't sit there for that long. I think finding ways to get them to be active or making the learning related to things that he enjoys whether that's a sport or things like that. (M. Connor)

Five teachers said they would refer the student for academic testing or support. E. Morton stated,

If he's six months behind in math, I would try to get some sort of intervention in place for him, making sure that he would have...In the classroom, I would be pulling him into small groups, giving those mini lessons, frequent check-ins. If I had an IA (instructional assistant), then I'd have my IA checking on him and working with him, and based on that, trying to get that... If there's a math specialist, seeing the math specialist to help, and also getting into the loop, talking about how to regular your emotions. I feel like that would also be big, and how to... If you're feeling angry or if you're feeling anxious, how can you not throw things? Ways that we can release those feelings, but in a healthy way.

Four teachers said they would reach out to the school psychologist or counselor:

I feel like I definitely would have to ask for support from our school psychologist, our school adjustment counselor, I think I would definitely go to one of them first just to come into the class and help me get him under control and back to a calm state. And then maybe they can also talk to him about something that's going on, if there's an underlying

thing within math or an underlying thing within me teaching math. Because sometimes I

feel like if students start to insult the teacher or get angry with the teacher, I'm not the

best person for him to talk to in that scenario where he's so angry and heated almost. So

just having somebody else come in, I think would be the best option for this kid. (W.

Shivel)

I would definitely pull together the team again with the principal, and the therapist, and

whoever else would be on the team to have a meeting about what steps do we take as far

as communicating with the parents and possibly testing the student. (K. Wrey)

As seen in figure 6 below the most commonly suggested interventions were talking to the

student, calling the parent, and movement breaks.

Figure 6

Suggested Interventions for Scenario 5
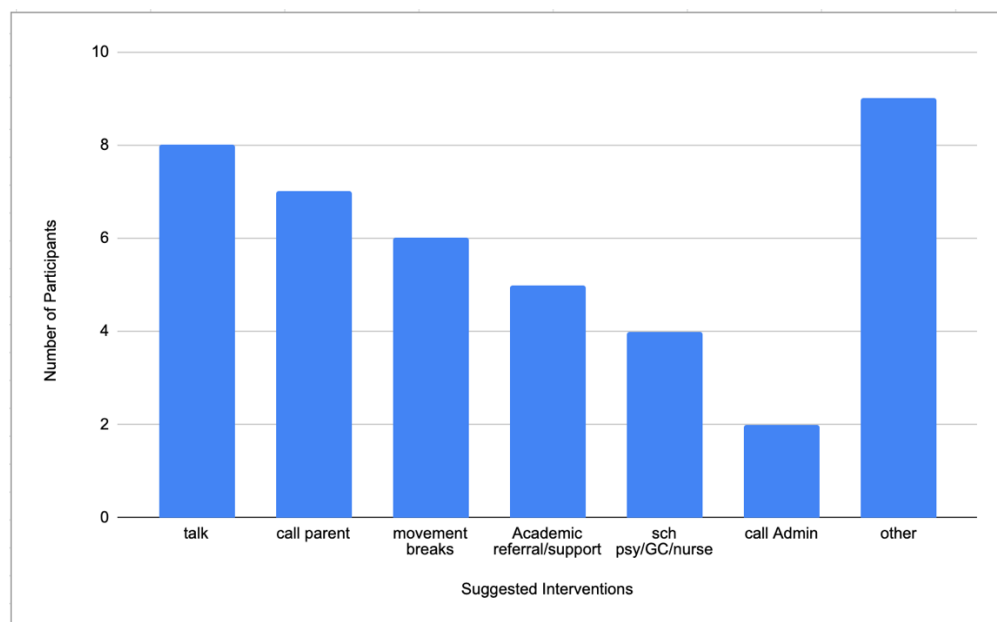
Scenario 6

For the sixth scenario as well, talking to the student was the most commonly offered intervention. Calling the parent; reaching out to the school psychologist, counselor, or the nurse; and giving the student consequences were also common responses. K. Folton talked about reaching out to the school counselor:

> I think in this situation, I would ask a counselor for help of just helping him learn how to be a good friend and going about that process because it sounds like he can, he'll be able to do it, I think he just needs some extra help there about learning specifically what he needs to do in order to make friends and not just get upset with them outside.

Several teachers talked about the consequences:

I can't tolerate when kids get physical and they're hurting other people. That's just not okay, and you need to make sure he knows that. We usually have consequences for that type of thing, because that's just not okay. It really depends. You have to write pink slips is what it is and let the office know. Usually, the office will deal with that type of situation, because we have a no tolerance for when it comes to bullying and pushing and shoving and that kind of stuff. (A. Oyst)

Usually when I have a student that is putting their hands on other people, their consequence is to be alone. So, they're not allowed to be around other peers until they're calm enough to be around their peers…When I mean alone, I mean separated from the group, usually standing with me or standing on the wall by the building. So, he's not around other students and that fits in the classroom. I'll move their desks next to mine so that they're right next to me. Usually that proximity helps a lot with the throwing things or violent behaviors, aggressive behaviors. (B. Short)

As shown in Figure 7, other intervention suggestions included academic support, movement breaks, calling an administrator, providing an incentive, finding sports that he will like, getting drinks of water, counting, breathing, and teaching him to reach out to an adult. Talking to an adult and calling the parent were the most common responses here as well.

Figure 7

Suggested Interventions for Scenario 6
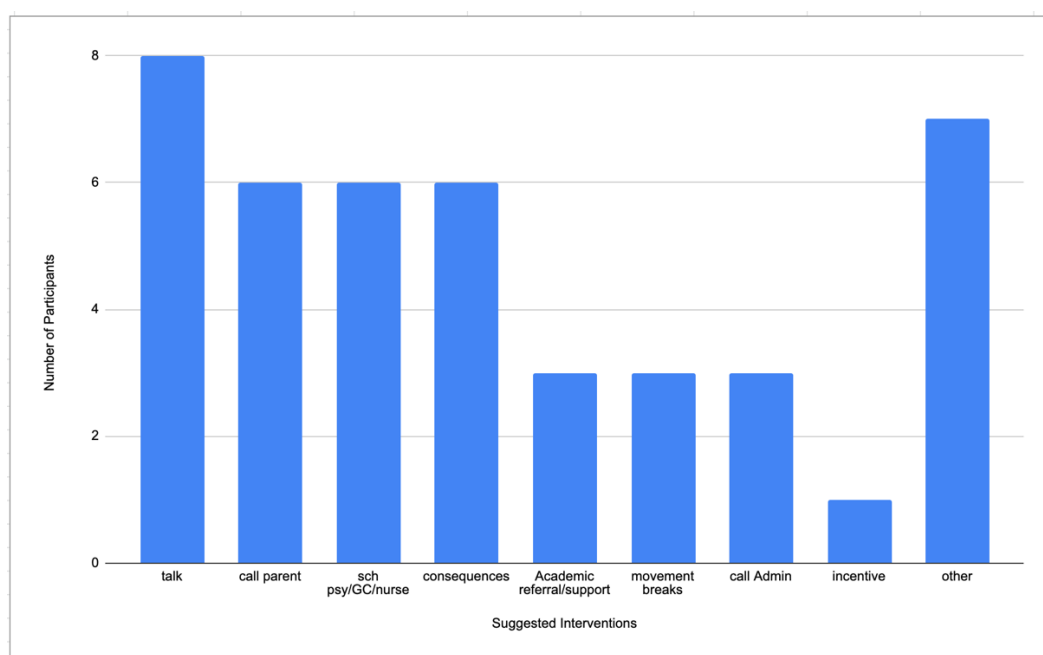
Trends in the Interventions for Students in Each Scenario

The most reoccurring intervention reported across all the scenarios was that the teacher talk to the student. The second most reiterated intervention offered was to call the student's parents. The intervention of calling the administrator was relayed in the scenarios where the student was acting out or the parents were involved. At least one teacher recommended reaching out to a school counselor or psychologist in all the scenarios, but four or more teachers stated this in scenarios 1, 5, and 6, where the student was acting out.

Teachers' Reported Stress Level for Each Scenario

After they provided the intervention suggestions, the teachers were asked to rate their stress level in each scenario on a scale of 1 (not stressed) to 5 (very stressed).

Scenario 1

As scenario 1 describes two different behaviors (work disengagement and arguing and melting down), the teachers differentiated their stress levels for each. After, they were asked which aspect of the scenario they were basing their score on. Regarding the student's work disengagement, none of the teachers rated their stress level above 3. Three teachers reported their stress level to be between 1 and 2, four at 2, two between 2 and 3, and two at 3.

> I feel like that's a pretty... My first year, it would've probably been a five, but that's a issue that I deal with really, really frequently at my building. So, it's something I've been able to practice over the past few years and see what works for students and what doesn't. So, I kind of have a little bit of a tool belt there whenever they're refusing to work. And with my experience now in the older grades, realize there's not a lot I can do to force them to work, so if they're not going to do it, I can just call their adult and if they're not going to help out, then they're on their own until they can get back into the right head space. And if I can't get them there usually, I call the counselor and have them do some counseling sessions. (B. Short)

Conversely, when asked about their stress level when the student was arguing and exhibiting meltdown behaviors, none reported a stress level below 4. Three teachers reported a stress level of 4, one between 4 and 5, and one at 5. M. Connor explains, "Probably like a four by this point if it's becoming disruptive behavior."

I feel like when my stress level is to the five or four is when it's some sort of emotional meltdown because I'm like, okay, my brain trying to in the moment figure out what's going on in his head right away because they're at a 10, and I need to bring them down. Yeah, in situations where I have to act quick and very methodically quickly. Those are the ones where my stress level is at a 10, because there's so many... If I say the wrong thing right now, this could get a whole lot worse. Something like this, it doesn't sound like this child is going to turn to a 10 in a second. It's just, "Try this strategy. Let's try another." (E. Morton)

Scenario 2

In this scenario, nine teachers rated this stress level as 2 or less. T. Katman explained, "I think she's just upset that she's not doing perfect. She's not being aggressive, she's not throwing things, she's not causing harm to other students. I feel like it's probably an easy obstacle to overcome." Two teachers rated a stress level between 2 and 3 and none rated above 3.

Scenario 3

Similar to scenario 1, scenario 3 describes two likely stressors: 1) the student's inattention and 2) parents disagreeing with the teacher about the student's behavior. Therefore, the teachers were asked which aspect of the scenario they based their rating on. One teacher rated their stress level as 1, eight between 2 and 3, and four 3 and 4.5. None of them rated 5. The teachers who labeled their stress level above 3 gave the parents disagreeing with the teacher as the reason. L. Coop explains,

I feel like the stress comes from the lack of seeing eye to eye between me and the parents. It's not so much with the student and her behaviors because I think that happens a lot. So, she's not out of the norm, but it would be very stressful and frustrating if there's no

common ground between what I am seeing if the parents are denying it or just choosing

not to hear me out. So, I would say, three to four.

Scenario 4

Scenario 4 elicited the most polarizing answers. Five teachers reported that their stress

level at 2 or less and five above 4. Additionally, three teachers rated their stress level as 3.

Unsurprisingly, teachers' reasons for their reported stress levels also differed greatly.

I would say probably a four, if parents were really pushing for virtual learning. And I

really just think that him be... Since he's so social being in person, sounds it's so

beneficial for him, and even being in person, his friends can do poorly on tests and maybe

that would help him too and be like, 'Hey, it's okay, you're still his friends, small

problem.' And so that would help him if he's just at home taking his tests and if he didn't

do well, and he is by himself he's just going to get more sad about it, more stressed out

about the next time he takes one. I just think I would be stressed out trying to convince

the parents to leave him in person learning. (K. Folton)

K. Wrey rated her stress level at 3:

I think because it seems like based on the student's profile and based on what they want

to do with this student's education, they don't line up. I don't know if the school... Would

they be able to produce a good enough argument to keep the student in school?

W. Shivel explained why she rated her stress level between 1 and 2:

I think it would be definitely lower just because it's not like there's any intrusive

behaviors or anything like that. I feel like this is something that can very easily be worked

on behind closed doors almost, just between me and the student or just between me and the family, where it wouldn't impact the class at all.

Scenario 5

Most teachers reported that supporting the student portrayed in Scenario 5 would be stressful, with ten teachers reporting their stress level at 4 or 5. Only one teacher reported their stress level as 2 and two rated between 3 and 4.

Again, it would go back to this child is really, really struggling and acting out like this. That just stinks that you have to witness that. If you don't know what's going on, how are you going to help them, right? On the flip side of it is I have a classroom of all these other students who I need to be engaging and teaching while this is happening. That's very stressful to be in that environment and try to juggle all that. (K. Wrey)

T. Katman agreed that it would be a stressful situation for her. "I would say it would be probably more four or five, depending on how much he was running out of the room. That can be really stressful." J. Miser explained that her stress level would be a 2 because the reason for his behavior was clear: "A two because he is doing a good job saying he's upset. Yeah. It's very clear. There's nothing hidden about it and we are out the room."

Scenario 6

Teachers also found the situation described in Scenario 6 (student who is aggressive at recess) stressful, with nine teachers rating their stress level at 4 or 5. Two teachers rated 3 and two rated 1 or 2.

Trends in Teacher Stress Levels Across Scenarios

Figure 8 shows the trends that appeared in the analysis of teachers' reported stress levels across scenarios. Largely, the teachers reported scenarios where students acted out (argue, throw

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objects, yell, act aggressively, leave the classroom) as more stressful than the others. Specifically,

they reported that scenarios 1, 4, 5, and 6 were the most stressful level (level 5). In scenario 5

(student who was behind in math, argued, and left the room), only three teachers reported a stress

level of less than 4. There were similar results for scenario 6 (boy who was aggressive at recess),

and only four teachers reported a stress level below 4. Conversely, the participants found the

scenarios in which the student was not acting out as less stressful: none of them reported a stress

level of 5 in scenarios 1, 2, or 3. Another notable trend is that the teachers who rated scenarios 3

(inattentive student – parents don't agree) and 4 (parents requesting virtual schooling) as 3

explained that the student's behavior was not stressful but the parents having a different opinion

than the teacher resulted in the stress.

Figure 8

Teacher Stress Level Across Scenarios
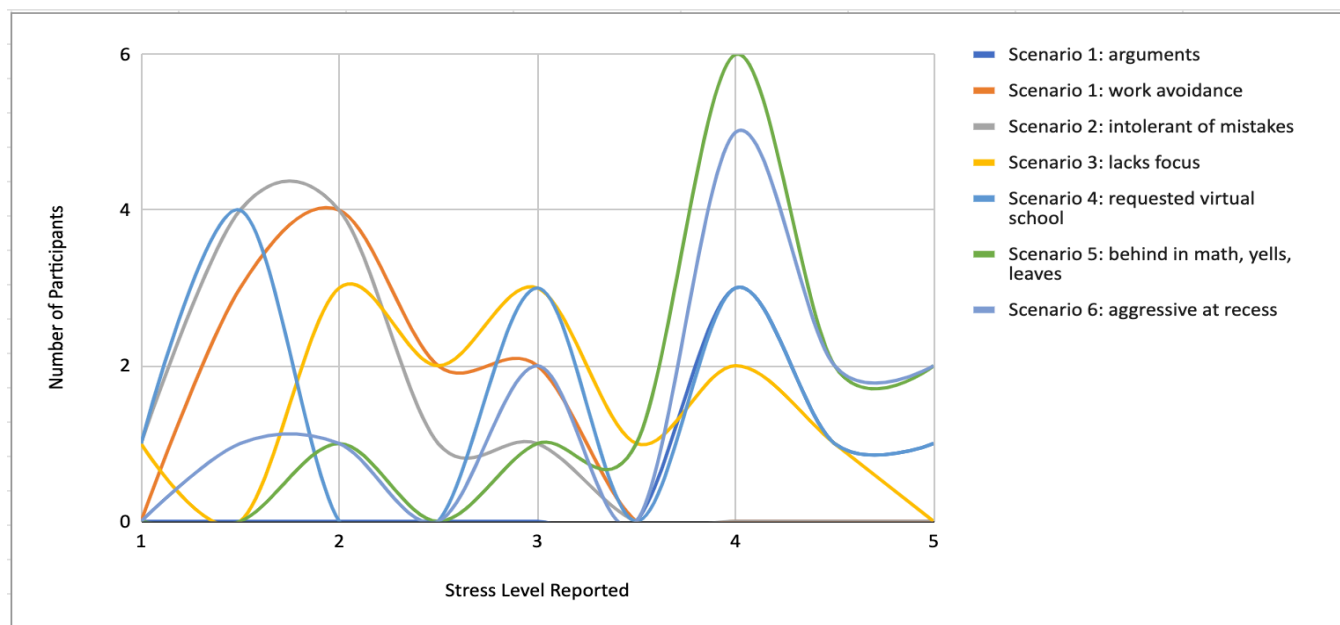
Note: Level 5 is the most stressful

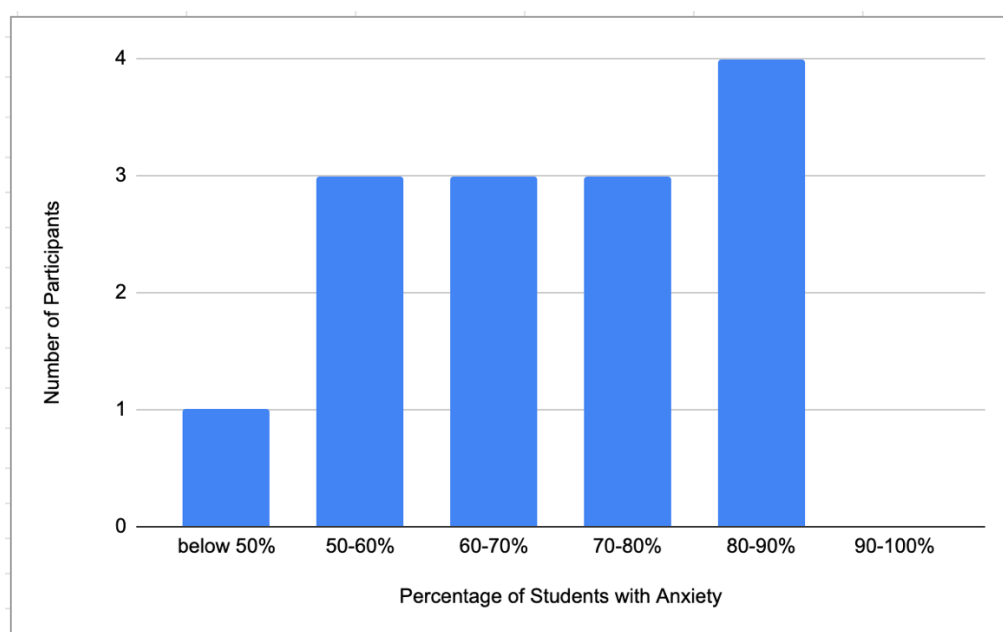TEACHERS' KNOWLEDGE & PREPAREDNESS FOR STUDENTS WITH ANXIETY

Teachers' Knowledge of Anxiety

Teachers' Hypothesis of the Percentage of Students with Anxiety

Teachers had varying opinions on the current rates of anxiety in children in the general population, as illustrated in Figure 9 below. All but one teacher reported that 50% or more of the students have anxiety. Four teachers stated that 80-90% of the students are anxious.

Figure 9

Teachers' Estimates of the Percentage of Students with Anxiety

Teachers' Knowledge of Symptoms of Anxiety Across Settings

As this study is interested in teachers' knowledge of anxiety in students, trends in teachers' responses when asked about the symptoms of anxiety in the classroom and academic, social, and behavioral ones will be discussed.

Symptoms of Anxiety in the Classroom. The teachers found the most common symptom of anxiety to be inattentiveness or trouble engaging in schoolwork. This was followed

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by work avoidance, shutting down, and crying, which were reported by eight teachers. Six teachers reported that isolating could be a symptom of anxiety as well. In addition to the above-mentioned responses, as illustrated in Figure 10 below, the less prevalent answers were fidgeting, frequent requests to see the nurse, going to the bathroom, acting out, bolting, avoidance, taking to peers, academic struggles, and throwing objects.

Figure 10

Teacher-Reported Symptoms of Anxiety in the Classroom
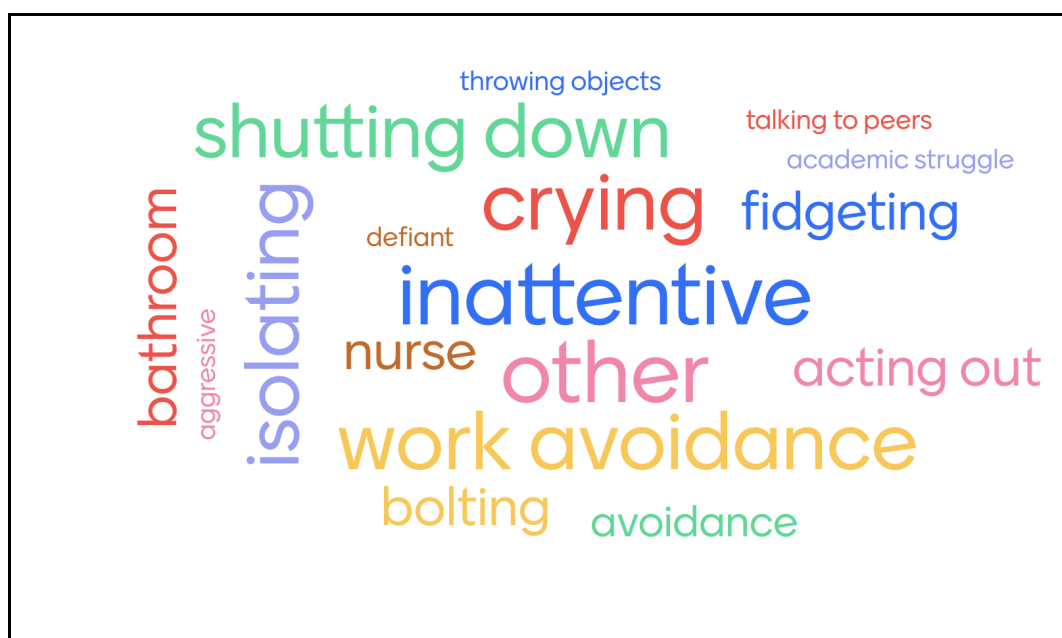
Note: The largest word depicts the most common answer

Social and Behavioral Symptoms of Anxiety. The teachers specified several social and behavioral symptoms of anxiety, as illustrated in Figure 11. The most common symptom was isolation, following by aggressive behavior, as noted by six teachers. Five teachers described inattention, peer conflicts, and unkind behavior as symptoms of anxiety. The less prevalent responses were work avoidance, crying, property destruction, bolting, avoidance, negative self-talk, yelling, perfectionism, and fidgeting.

Figure 11

Teacher-Reported Social and Behavioral Symptoms of Anxiety

Note: The largest word depicts the most common answer

Academic Symptoms of Anxiety. Teachers were asked to offer academic symptoms of anxiety that a student might demonstrate. They had previously been asked about classroom symptoms of anxiety but interestingly this question rendered answers that varied from the symptoms listed to be associated with the classroom.

Figure 12 below illustrates the academic symptoms pointed out by the teachers. Eleven teachers noted that work avoidance or work disengagement could be an academic symptom of anxiety, nine reported inattentiveness as a possible academic symptom of anxiety, and seven described perfectionism as an academic symptom of anxiety. The less prevalent responses were reassurance seeking, crying, and negative self-talk.

Figure 12

Teacher-Reported Academic Symptoms of Anxiety

Teachers' Reported Preparedness to Teach Students with Anxiety and Others

In terms of their experience and preparedness to teach students with anxiety, the teachers were asked about any relevant coaching they received in their teacher preparation coursework, if any mental health courses were required, if they received training to work with students with behavioral issues, and if they received PD on identifying students with anxiety and the symptoms in children and adolescents. They were also asked how applicable their training was to their everyday experience in the classroom.

Coursework

Unilaterally, all the teachers reported that they were not taught to support students with anxiety in their undergraduate or graduate (if applicable) teacher preparation coursework. They also did not receive any general mental health courses. Overall, 2 teachers had taken a behavior

management course, but 11 reported having no training to support students with behavioral issues.

All 13 teachers stated that their training was not applicable to their everyday experiences in the classroom. S. Smith explained, "I would say not very applicable. Kind of had to figure it out on my own." B. Short agreed:

> It [education degree] was not good at all. I didn't learn anything that was applicable until I
> started interning my master's year, my fifth year. I didn't learn anything that I felt was
> relevant. I don't think I've pulled very much information from my undergrad into
> teaching.

Nine teachers clarified that they were somewhat prepared to teach academics, but overall, the coursework and training were not applicable.

> I think I felt more prepared for the academics because there was a huge focus on lesson
> planning and standards and all that stuff, which of course is important. They did not teach
> you, at least with my program, I didn't get any real classroom management strategies. I
> didn't know what an IEP was until my first IEP meeting. They didn't tell me about 504s.
> They don't tell you a lot of that stuff. They focus a lot on the curriculum, which, again,
> yes, that's important, but every school is a different program. I don't know. Yeah, I don't
> know, it's sad. I feel like they didn't prepare me enough for the most important things. (A.
> Oyst)

Professional Development

On PD training (post-graduation) to identify students with anxiety and the symptoms of anxiety disorders in children and adolescents, two teachers said anxiety was mentioned or was

part of a PD opportunity. However, 22 reported not receiving any PD on this topic. Some teachers elaborated about their main sources of information on anxiety, such as their own research, having experienced anxiety, learning from a school counselor or psychologist, and having a child or pet with anxiety. Toward the end of the interview, when asked about what PD would be helpful, all the participants stated that PD on mental health or socioemotional needs in students would be helpful:

> Oh my God, anything (in terms of PD). I think, especially given what's happened in the past couple school years, children's mental health is a big focus. It should be our primary focus right now because what is it if you need to have Maslow before you can have, what is it, the hierarchy of needs, right? (L. Coop)

S. Smith agreed that PD with a focus on social-emotional supports would be helpful:

> I would say definitely something with social-emotional health for students. Like I said, I have to try and solve some of the puzzles on my own and I could definitely use some more strategies for identifying underlying causes.

K. Wrey suggested that it would be helpful if PD focused on underlying causes for student behavior:

> What PD? Everything that you spoke about, being able to recognize all of those hidden signs and signals that a student is struggling in a way that you might not know, almost if there was a menu, "If they have five out of these 10 things, it could be this," kind of thing. That would super helpful because it gets very murky, and floaty, and you're not quite sure what it could be. Does that make sense?

Six teachers specified that learning about anxiety in students would be a helpful PD.

I think how to help, not only, I feel we often see how to help students with big behaviors and big emotions, but helping those students that are the other end of the spectrum that they're quiet, and they're so anxious they won't even look at you, talk to you, how to help those kids in a classroom with 18 other kids. How to help them feel okay to talk in front of people and come up and talk to you and just really learn strategies to help those kids that I feel sometimes just fly under the radar. (K. Folton)

Furthermore, two teachers specified that the topic of trauma would be helpful in a PD along with socioemotional learning and student mental health.

Comfort Level

Overall, all the teachers reported being comfortable or very comfortable teaching students with anxiety, as shown in Figure 13. Four teachers reported that they were moderately comfortable and nine were comfortable teaching students with anxiety. A. Oyst stated she is very comfortable because, "I had the same issues growing up, and so I know what that feels like and I know what it's like to not feel heard. I feel like I really try to make that a big thing in my classroom, if that makes sense." K. Wrey explained that she is very comfortable as she has several children with anxiety and an anxious cat: "I'm not freaked out by it at all." Two teachers expressed being comfortable but also wanting more knowledge.

I feel like I just go off of what my gut says, which it can be good. It can be not so good. If I were to put scale of one to five, one being, I have no idea and five being I've got this all day, probably a four. So, I'm on the upper side. I mean, I'm sure some of the strategies that I use definitely help, but I'm sure there's hundreds that I'm missing that could help more. (L. Coop)

K. Folton felt comfortable but preferred having more strategies:

I feel pretty comfortable. I know that I have a lot of support at my school, if I ever needed to call those counselors, psychologists, even behavior specialists, I know I have their support that they would always come down and help out. And I feel very comfortable talking to all my students and pulling them aside and talking to them, and I would just like to have more strategies, more resources to work with them, and I love teaching wellness blocks, whole class, I love reading books with them and we just talk about what we learned. I feel pretty comfortable working with them.

J. Miser stated that she feels comfortable because she could understand why the students were anxious:

Because they don't, I think students with anxiety, I'm trying to think of how to word why it works for me. Because they don't mean it's not something that it's in their control. I fully understand that it's going to be unpredictable. I fully understand that these emotions should be validated and should be real. And because of that, I'm okay with that being in the classroom because it's so real. And, why wouldn't kids have anxiety in this present time? They're just overloaded. A year of being online, now we're wearing masks. Kids had anxiety before the pandemic. I think kids are just dealing with a lot, so I fully get it.

Teachers were not given a multiple-choice question so their answers were coded and sorted into three categories: comfortable, moderately comfortable, or not comfortable. Many teachers responded they would be very comfortable or really comfortable and that was coded into the category of comfortable. As seen in figure 13 below, all the teachers reported being comfortable or moderately comfortable teaching students with anxiety.

Figure 13

Teachers' Comfort Level Teaching Students with Anxiety
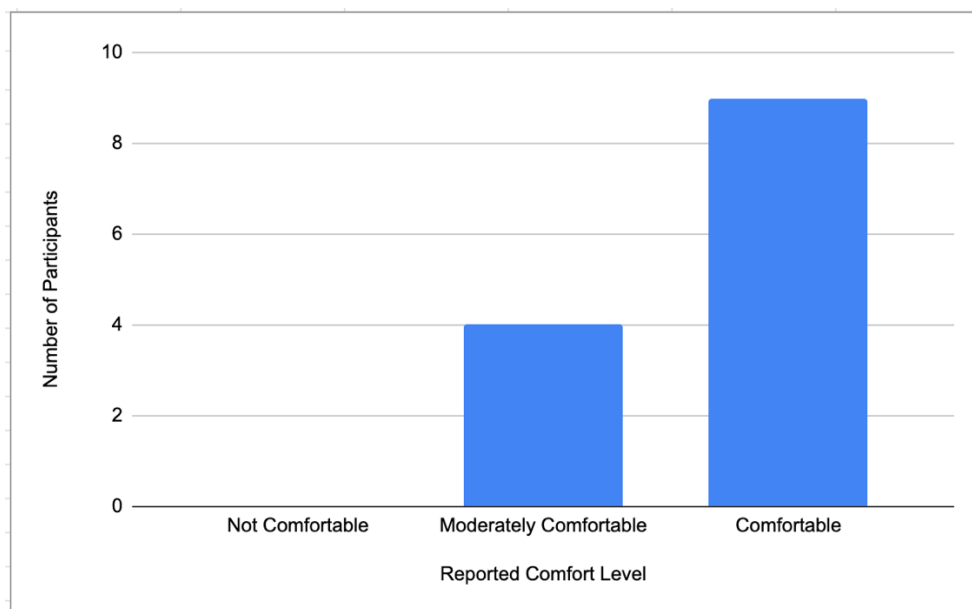
However, the teachers reported being less comfortable working with students with behavior challenges, as portrayed in Figure 14. Six of them reported not being very comfortable working with students with behavior challenges, including W. Shivel:

> Not very comfortable, if I'm being honest. I think as a new teacher, I don't exactly know the best ways to go about something like that happening. I have one student in here who exhibits more aggressive behavior sometimes. And I'm learning from him. I feel like at this point, how to go about handling this and like what works and what does not work. So I don't think I would say I'm comfortable yet, but I'm getting there.

T. Mackerel also did not feel comfortable but observed that the students with behavior challenges might do better in her class than her colleagues' classes:

I'm not super comfortable because it's happened a lot in extreme cases of having to evacuate the class, kind of behaviors. Then at the same time, I want those kids because I know that I'm willing to look and look and look to find the, what's that called? To find the reason why. I know where a lot of teachers would just send them to the office or just pass them on to the next grade, which I don't want to do. I want those kids, but then I also don't want those kids. But then I know if somebody else has them they're not going to put in the effort, and then the kid is just going to continue on struggling.

Three teachers said they were moderately comfortable, including S. Smith, who explained, "I'm still learning, but a little bit trial by fire because I navigated quite a few behaviors. But I would still say in the middle." E. Morton's comfort level changed over time:

I started off not very comfortable, but then once I get to know what to look for, then that I become more comfortable with it. I would say I started off with a very high stress level, and I probably will still say it's stress level, but when I start to learn strategies of how to help with those behavior problems, then I feel like I have more tools in the toolkit kind of thing. If I don't, just going into it I'm like, "I don't know what I'm doing, but we're going to see how it goes.

Only four teachers stated that they would be comfortable teaching students with behavior challenges. M. Connor said, "I would say now year three, probably pretty comfortable. Year one, not very." J. Miser expressed about being comfortable due to their experience: "Get them every year. So whatever rating it is, I'm the top of it."

As displayed in figure 14 below, almost half of the teachers interviewed reported being uncomfortable teaching students with behavior challenges, with only four reporting they would be comfortable.

Figure 14

Teachers' Comfort Level Teaching Students with Behavior Challenges
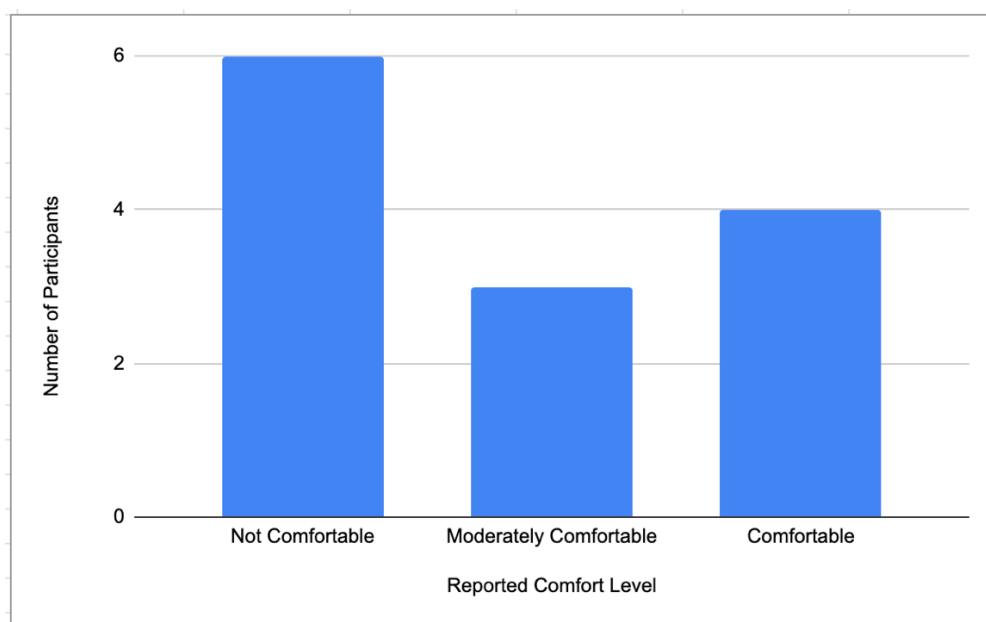
Trends in Teachers' Comfort Level Teaching Students with Anxiety

Overall, the participants reported feeling more comfortable working with students with anxiety than those with behavior challenges. All of them were comfortable or moderately comfortable working with the former. However, almost half of them reported being uncomfortable teaching the latter, with only four being comfortable.

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Chapter Five: Findings

In this chapter, the findings on each individual research question will be examined. The data collected from the literature review and interviews literature review lead to two critical findings:

1. There is a gap between the teachers' knowledge and practice when identifying the symptoms, prevalence, and referral practices of students with anxiety.

2. Although the teachers reported obtaining little to no training, they felt comfortable working with students with anxiety and did not refer to specialists except in the case of a student demonstrating behavior issues.

Research Question #1

The first research question was, "What is general elementary education teachers' knowledge about the prevalence, symptoms, and characteristics of anxiety in children?" Several themes emerged from the data analysis conducted to gauge teachers' knowledge of anxiety and the associated symptoms and characteristics, including the lack of identification of anxiety and a theory-to-practice gap.

Theory-to-Practice Gap: Identifying Anxiety

As discussed earlier, educators have little to no knowledge of anxiety disorders (Ginsburg, Pella, Ogle, et al., 2021; Miller et al., 2013; Miner, 2021). Consistent with the literature, the participants in this study did not demonstrate the skill of identifying anxiety symptoms and characteristics when the information was presented in a scenario format. However, they were able to list some symptoms and characteristics accurately when asked direct questions about the symptoms in children.

Lack of Identification of Anxiety in Scenarios. Behaviors exhibited by students with anxiety and depression are difficult to identify and often misinterpreted (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021). Accordingly, the participants infrequently identified anxiety in the scenario questions (see Figure 1). More of them identified the issue in scenarios 1 (work disengagement, argumentative), 2 (competitive, intolerant of mistakes), and 4 (parent requests virtual schooling), but only one teacher identified anxiety in scenarios 3 (inattentive student) and 6 (student aggressive at recess). None of the teachers identified anxiety as a possible underlying cause in scenario 5 (behind in math, argues and leaves room). Teachers face great difficulty identifying students with internalizing disabilities who act out or are disruptive (Cunningham & Suldo, 2014; Ginsburg, Pella, Ogle, et al., 2021; Miller et al., 2013; Miner, 2021). This may be the reason why 12 out of the 13 participants failed to identify anxiety in scenario 3 (inattentive student).

Without any knowledge of anxiety, teachers can over or under pathologize students and develop inaccurate perceptions about them (Nelson, 2019; Shah & Kumar, 2012). In this study as well, many teachers were quick to label the student in scenario 3 (inattentive student) as having ADHD. Interestingly, when they did not identify anxiety in the students, they readily offered other reasons for the behavior and suggested interventions based on their quick assessment. For example, the teachers who labeled the student in scenario 3 as having ADHD did not offer any other explanation and but provided strategies based on this assumption. In scenario 5 (student behind in math, arguing), most teachers believed he had a learning disability and gave intervention suggestions based on that diagnosis.

Finally, all the participants reported being comfortable or moderately comfortable working with students with anxiety. However, almost half of the teachers stated that they were not comfortable teaching students with behavior challenges and only four reported feeling comfortable (see figure 13 and 14). This suggests that teachers do not associate behavior challenges with anxiety. Thus, as shown in literature, teachers struggle to identify and understand the internalized and externalized behaviors of students with anxiety (Ginsburg, Pella, DeVito, et al., 2021; McIntosh et al., 2014; Miner, 2021).

Theory-to-Practice Gap: Symptoms of Anxiety

In contrast to the participants' infrequent identification of anxiety in the students in the scenarios, when asked to enumerate academic, social, and behavioral symptoms of anxiety in students, the teachers listed the same symptoms that they did not correlate with anxiety in the scenarios.

Inattention. Trauma and chronic stress impair students' ability to learn, specifically affecting their attention, concentration, and memory (Kluger, 2020). Additionally, anxiety affects the brain's ability to focus, as the energy and focus are used to manage anxiety instead of learning (Ng & Lee, 2015). Only one teacher identified anxiety as an underlying cause in scenario 3 where the student is described as inattentive. However, six teachers listed inattention as a symptom of anxiety.

Acting Out. The internalizing and externalizing behaviors exhibited by students with a mental illness, particularly anxiety and depression, are difficult to identify and often misconstrued and misunderstood (Ginsburg, Pella, Ogle, et al., 2021; McIntosh et al., 2014; Miner, 2021). Furthermore, teachers who lack knowledge of anxiety are less effective in

reducing such behaviors in students, leading to disruptions in other students' learning and instruction (Ginsburg et al., 2019). In this regard, only one teacher identified anxiety as a possible cause in scenario 5, wherein the student is behind in math and acts out (argues, throws objects on the ground, yells and leaves the class without permission). Similarly, only one teacher identified anxiety as a possible underlying cause of the student's behavior in scenario 6 who was being aggressive at recess and yelling negative comments in class. However, 10 out of the 13 teachers listed acting out as a prevailing symptom of anxiety.

Work Disengagement and Avoidance. Students with anxiety are at a lifelong risk of task avoidance and diminished learning (Ginsburg, Pella, DeVito, et al., 2021). Two scenarios, 1 and 3, emphasized work disengagement. Overall, only 3 teachers identified anxiety as a possible cause in scenario 1 and only one recognized in scenario 3. Nevertheless, 6 teachers listed inattention and 11 listed work disengagement as a symptom of anxiety.

Learning Difficulties. Worry and physiological anxiety are directly related to academic achievement and cognitive functioning, with higher levels of the former resulting in lower scores across subjects (Castagna, et al., 2021). As discussed earlier, in addition to its impact on learning in general, anxiety also interferes with the WM ability for math tasks (Klados et al., 2019; Namkung et al., 2019; Skagerlund et al., 2019). Math anxiety is prevalent in students and is characterized by intrusive thoughts, which interfere with necessary cognitive skills required for solving math problems (Lau, et al., 2022). In fact, students with math challenges benefit from early intervention to support the related anxiety in addition to math skill support (Pellizzoni et al., 2022). In scenario 5, which dealt with the student facing difficulties in math, none of the

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teachers identified anxiety as a possible cause for the student's challenges and only one listed academic struggle (not math specifically) as a symptom of anxiety.

Table 7 illustrates the gap between teachers' theoretical and practical knowledge, demonstrated by their discrepant responses to questions regarding the symptoms of anxiety. The teachers who listed inattention, work avoidance, lack of work completion, and acting out behaviors are indicated in the left-hand columns with an x. The teachers who identified anxiety by name in the scenario questions are indicated by a Y in the right-hand columns.

Table 7

Theory-to-Practice Gap: Anxiety Symptoms Listed vs. Recognition of the Symptoms in Four Scenarios

	Symptoms Listed When Describing Anxiety			Recognition of the Same Anxiety Symptoms in the Scenarios			
	Inattentive	Work Avoidance	Aggressive, Acting out	Scenario 1	Scenario 3	Scenario 5	Scenario 6
T. Mackerel		X	X	X			
A. Oyst	X	X	X				
S. Smittt		X	X				
W. Shivel	X	X	X	X			
E. Morton	X	X	X				
L. Coop		X	X				
K. Folton		X	X				

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	Symptoms Listed When Describing Anxiety (continued)			Recognition of the Same Anxiety Symptoms in the Scenarios (continued)			
	Inattentive	Work Avoidance	Aggressive, Acting out	Scenario 1	Scenario 3	Scenario 5	Scenario 6
P. Karma		X	X		X		X
T. Katman	X						
K. Wrey	X	X	X				
B. Short		X		X			
M. Connor		X					
J. Miser	X		X				
Total	6	11	10	3	1	0	1

The teachers enumerated inattention, work avoidance, and acting out behaviors as the symptoms of anxiety in students but were largely unable to identify them in the scenarios. This illustrates the gap between theoretical and practical knowledge.

Theory-to-Practice Gap: Prevalence of Anxiety

Anxiety is the most prevalent mental health disability in the United States, with 8–31.9% of students affected (Bitsko et al., 2022; Merikangas et al., 2010; Okwori, 2022). Since the pandemic, anxiety and depression rates have risen in young people and may have doubled (Racine et al., 2021). It has the earliest onset age (of 6 years) compared to other mental health disability (Petresco et al., 2014). When requested to approximate, the participating teachers reported that the rates of anxiety in children is over 50% with a majority of them reporting even higher prevalence. However, their lack of identification of anxiety as an underlying cause in the

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scenarios did not correlate with their hypotheses of high rates of anxiety (see Table 8). For example, A. Oyst estimated that 80-90% of students have anxiety but did not identify the problem in any scenarios. Conversely, P. Karma estimated that the rates of anxiety in students was 50-60% and identified anxiety in half the scenarios (3 out of 6). Table 8 below illustrates teachers' identification of anxiety in scenarios and their hypothesized rates of anxiety of children in the general population.

Table 8

Teachers' Identification of Anxiety in Scenarios vs. the Hypothesized Rates of Anxiety

Participant	Total Number of Scenarios Where Anxiety was Identified	Estimated Percentage of Anxiety in the Population
A. Oyst	0	80-90%
K. Wrey	0	80-90%
M. Connor	0	60-70%
T. Katman	0	under 50%
W. Shivel	1	80-90%
J. Miser	1	70-80%
S. Smittt	2	80-90%
T. Mackerel	2	70-80%
E. Morton	2	70-80%
K. Folton	2	60-70%
B. Short	2	60-70%
L. Coop	2	50-60%
P. Karma	3	50-60%

Theory-to-Practice Gap: Referral Practices

Regarding referral practices, there was discrepancy in the teachers' answers to the scenarios and direct theoretical questions. In general, teachers struggle to effectively refer students with emotional and behavioral health concerns to specialists (Eklund & Dowdy, 2014), with notable difficulty identifying students who experience internalizing problems such as anxiety and depression (McIntosh et al., 2014).

One of the interview questions was, "If a student in your class was showing symptoms of anxiety, to whom would you refer them?" All the teachers stated that they would refer the student to the school psychologist or counselor. However, far fewer of them mentioned reaching out to a school psychologist or counselor when listing interventions for the students described in the scenarios.

In the scenarios where the students did not act out, the teachers were less likely to mention seeking the advice of a school psychologist or counselor. Only one teacher reported seeking a school psychologists and counselor as an intervention in scenarios 2 (intolerance of mistakes) and 3 (inattentive). In contrast, they mentioned reaching out to these specialists more frequently for the scenarios where students demonstrated acting out behaviors. Six teachers suggested consulting a school psychologist or counselor in scenarios 1 (work avoidance, arguing, throwing) and 6 (aggressive with peers, yelling) and four teachers suggested this in scenario 5 (behind in math, arguing). Here, the theory-to-practice gap could be due to the leading question (must answer to whom you would refer a student) or the teachers' inability to identify anxiety in students. When asked specifically, the stated they would refer students with anxiety to a school psychologist or a counselor, so it is possible that they did not mention referral in the scenarios due to a lack of awareness or identification of student anxiety.

Research Question #2

The second research question was, "How prepared do general education elementary teachers feel to effectively support students with anxiety in the classroom?" Several themes emerged from the data analysis concerning teachers' feelings of preparedness, including a reported lack of preparedness, high comfort levels despite an admitted lack of training, a relationship between teachers' comfort level and requests for help or referrals to the school counselor or psychologist, the discrepancy between reported stress levels and comfort levels, and an omission of successful practices in the interventions suggested by them.

Lack of Preparedness

In this study, the teachers reported not being taught how to identify or support students with anxiety or receiving any mental health courses in their undergraduate or graduate (if applicable) teacher preparation coursework. Two teachers mentioned having taken a behavior management course but the remaining 11 teachers had not. This is consistent with the literature that discusses that teachers lack the training in evidence-based interventions for students with anxiety (Mazzer & Rickwood, 2015; Nygaard et al., 2022; Ohrt et al., 2020; Osagiede et al., 2018; Reinke et al., 2011). Specifically, they receive little to no training in the best practices for students with mental health issues in university preparation coursework or preservice teacher training (Council for Accreditation of Educator Preparation, 2015; Koller et al., 2004; Ohrt et al., 2020).

Teachers' preparation coursework typically focuses on academics and can omit specific training in student mental health (Andrews et al., 2014; Figueroa, 2013). Consistent with the literature, stating teachers' training available on mental health is provided through in-service PD as opposed to mandatory teacher preparation courses (Ohrt et al., 2020), only 2 of the 13 teachers

said information about student anxiety was incorporated into a PD opportunity. Eleven said they did not have any PD opportunities regarding anxiety in students. Additionally, all of them reported that their training was not applicable to the real-life school setting.

Comfort Level vs. Training

All the teachers interviewed in this study reported that they felt comfortable or very comfortable teaching students with anxiety. Interestingly, however, all of them reported not having any or having minimal training in working with such students. Some teachers reported that they feel comfortable because they have anxiety or have family members or pets with anxiety. Some teachers felt comfortable as they could empathize with the anxious students. Nevertheless, all the teachers' comfort levels were discrepant with their lack of training.

Comfort Level vs. Referrals and Requests for Help

This study found a trend between comfort levels and referring or requesting help from school psychologists and counselors (Table 9). As mentioned previously, teachers reported being comfortable or moderately comfortable teaching students with anxiety. However, they were less comfortable teaching students with behavior challenges, with six teachers recounting they are not comfortable and only four teachers stating they are comfortable. Teachers suggested reaching out to a school psychologist or counselor more in the scenarios where students acted out (scenario 1, scenario 5, and scenario 6) than in the scenarios where students did not act out. Teachers interviewed for this study were less likely to seek the advice of a school psychologist or counselor in the scenarios where the students did not act out (scenario 2, 3, 4), with only one teacher mentioning a referral in each situation. Conversely, six teachers suggested consulting a school psychologist or counselor in both scenario 1 (work avoidance, arguing, throwing) and

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scenario 6 (aggressive with peers, yelling). Four teachers suggested reaching out to a school

psychologist or counselor in scenario 5 (behind in math, arguing). This was consistent with the

literature which emphasized that teachers struggle to effectively refer students who have

emotional and behavioral health concerns to specialists (Eklund & Dowdy, 2014), with notable

difficulty identifying students with internalizing problems (McIntosh et al., 2014). Typically,

they have the skills to accurately identify students with externalizing behaviors (e.g., Kalberg et

al., 2011) but not internalizing behaviors and mental health struggles (Cunningham & Suldo,

2014).

There is a trend between teachers comfort level with the student and their willingness to

reach out to a school counselor or psychologist as seen in table 9. However, notably, even with

low comfort levels with students who had behavior challenges, only less than half of the teachers

said they would seek help for such students, despite an established lack of training. Furthermore,

they did not seek help even with struggling students who did not act out.

Table 9

Teacher-Reported Comfort Level and Referral Practices

	Scenarios Depicting Acting Out Behavior	Scenarios Not Depicting Acting Out Behavior
Number of Participants Suggesting Referral	4-6	1
Average Comfort Level Labeled as Not Comfortable	6	0

Comfort Level vs. Stress Level

Trends emerged in teachers' reporting of comfort and stress levels across the theoretical

questions and practical scenarios. The teachers reported high stress levels in scenarios where the

students acted out or when parents were involved. Furthermore, their stress level correlated with

more than half of them reporting not being comfortable or being moderately comfortable with students who exhibited challenging behavior. Conversely, the teachers reported high comfort levels when teaching students who did not act out and also reported low levels of stress in such scenarios. Moreover, they reported high stress levels when the parents disagreed with the school, despite the student's behavioral presentation.

Recommended Interventions vs. Successful Practices

There is a robust amount of research supporting CBT as a successful clinical practice for reducing anxiety in students (Carpenter et al., 2017; Kreuze et al., 2018). Some mindfulness and trauma-informed practices have also been found to benefit students with anxiety (Fjorback et al., 2011; Hofmann et al., 2010; Silverman et al., 2008). However, the participants of this study did not enumerate CBT strategies when asked about the interventions they would implement for the students described in the scenarios or when asked directly about the strategies they would use for a student with anxiety. That is, they did not recommend evidence-based successful practices for the students in either the practical scenario questions or the theoretical direct question. The most prevalent interventions they recommended across scenarios and when asked directly was to talk to the student or call the student's parent. Less frequent recommendations included academic supports, referring to a school psychologist or counselor, preferred seating, breaks, and encouraging the student.

Chapter Six: Conclusion

This chapter concludes the study by summarizing the principal literature review results, purpose of the study, theoretical framework used, methods and procedures used, and key research findings in relation to the research questions. It also discusses the value and contribution of the study, provide the study limitations, and offer opportunities for future research.

Considering that anxiety is a prevalent issue among students, without successful interventions, they are at risk of poor outcomes such as diminished learning, increased behavior challenges, anxiety, and depression as well as long-term impediments such as school dropouts, impaired social functioning, criminal involvement, suicidality, substance abuse, and employment and health problems (Comer et al., 2011; Ginsburg, Pella, Ogle, et al., 2021).

Teachers spend a considerable amount time with students and are uniquely positioned to identify and support those with mental health concerns (Johnson et al., 2011). Unfortunately, the teachers receive little to no training on children's mental health in their professional coursework (Andrews et al., 2014). They lack the pedagogical knowledge and practical strategies to support such students (Miller et al., 2012; Nygaard et al., 2022; Osagiede et al., 2018). Simultaneously, they struggle to refer students who have emotional and behavioral health concerns, particularly those with internalizing problems such as anxiety and depression, to specialists (Eklund & Dowdy, 2014; McIntosh et al., 2014). With the necessary knowledge and skills on anxiety in students, teachers can ensure positive socioemotional, behavioral, and educational outcomes for students and improve their relationships with students (Ginsburg et al., 2019; Zee & Koomen, 2016).

Theoretical Framework

This research used the cognitive behavior theory, which states that an individual's cognitive processes such as meanings, judgements, assessments, and assumptions can be known and can play a paramount role in their responses to certain events (Dobson & Dobson, 2018; Dobson & Dozois, 2010; González-Prendes & Resko, 2012). This study aimed to understand general elementary education teachers' knowledge of anxiety and their feelings of preparedness to work with anxious students. Such insights can contribute to an understanding of whether students with anxiety are being identified and supported adequately in the classroom.

Research Questions and Methodology

The research questions guiding this study were as follows: (1) What is general elementary education teachers' knowledge about the prevalence, symptoms, and characteristics of anxiety in children? (2) How prepared do teachers feel to effectively support students with anxiety in the classroom?

A phenomenological methodology, which attempts to understand a phenomenon by exploring it from the perspective of those who have experienced it, was used in this qualitative study. Thirteen general education elementary teachers were interviewed to examine their knowledge of anxiety and feelings of preparedness to teach students with anxiety. The interview questions included scenarios of students and direct questions regarding their knowledge of anxiety and preparedness. These were designed to be open ended to allow the teachers to share their knowledge and perspective from various angles and not exclusively based on their formal training.

Key Findings

The interviews show that most teachers were unable to correctly identify anxiety symptoms in children when a scenario with a student's problematic behavior was posed. They did, however, list accurate symptoms of anxiety in students when asked about it. In terms of relevant training, none of them had any mental health coursework and only two had obtained training in behavior management in their teacher preparation programs. Largely, the teachers did not receive relevant information about anxiety in students through school-based PD opportunities.

Research Question #1

The two main themes that emerged on the first research question were teachers' lack of identification of anxiety and a theory-to-practice gap. This gap was discovered across various topics such as symptoms of anxiety, prevalence of anxiety, and referral practices.

The interviews involved scenario questions depicting symptoms of anxiety in students, followed by direct questions about anxiety in students. Interestingly, most of the teachers did not identify the symptoms and characteristics of anxiety in the scenarios (see Figure 1) but listed some symptoms and characteristics accurately when asked specifically. Furthermore, the few teachers who did identify anxiety as an underlying factor in the scenarios identified anxiety in scenarios 1 (work disengagement, arguments), 2 (competitive girl, intolerant of mistakes), and 4 (parent requests virtual schooling). Only one teacher identified anxiety in scenarios 3 (inattentive student) and 6 (student aggressive at recess) and none in scenario 5 (behind in math, argues and leaves room).

When asked about the symptoms of anxiety in students, a higher number of teachers listed them accurately. In terms of inattentiveness, while only one teacher identified it as a

symptom of anxiety in scenario 3 (inattentive student), six teachers listed it as a symptom when asked directly. Similarly, regarding acting out behavior, 10 teachers stated that it was a symptom of anxiety but only one teacher (the same teacher who identified anxiety in scenario 3) identified it in scenario 6 and none of them identified it in scenario 5 (behind in math, arguing, leaving the room, throwing objects).

Six teachers mentioned work avoidance and disengagement as a symptom of anxiety but only one recognized the latter as a symptom of anxiety in scenario 3 (inattentive and off-task) and only three recognized the former in scenario 1 (work disengagement, bathroom trips, argues). One teacher listed academic struggles as a symptom of anxiety but none of them identified it in scenario 5 (behind in math, argues).

Another theory-to-practice gap was found in teachers' perceptions of the prevalence of anxiety in students. All but one teacher hypothesized that the prevalence of anxiety in students was over 50%, and the majority reported even higher percentages. In contrast, a low number of teachers identified anxiety in the students depicted in the scenarios.

Finally, a gap was also present in the data regarding referral practices. All 13 teachers interviewed reported that they would refer students with anxiety to a school psychologist or a counselor. Contrarily, only a few teachers mentioned such referrals as an intervention strategy when posed with the scenarios, especially when the students demonstrated mild behaviors. For example, only one teacher reported that they would seek a school psychologists or counselor in scenarios 2 (intolerance of mistakes) and 3 (inattentive), six teachers suggested this for scenarios 1 (work avoidance, arguing, throwing) and scenario 6 (aggressive with peers, yelling), and four teachers suggested this for scenario 5 (behind in math, arguing).

Research Question #2

This study's participants stated that they were not taught how to identify or support students with anxiety or provided with any mental health courses in their undergraduate or graduate (if applicable) programs or teacher preparation coursework. Two teachers mentioned that they had taken a behavior management course, but the remaining 11 teachers had not. The latter said they did not receive PD regarding anxiety in students and two said that anxiety was mentioned during a PD opportunity. Nevertheless, all teachers reported that their teacher training was not applicable to the actual school setting. However, the admitted lack of training did not have a negative impact on their comfort levels: all the teachers reported feeling comfortable or very comfortable teaching students with anxiety.

Furthermore, teachers' comfort level seemed to have a direct relationship with referral practices and stress levels. The participants reported being less comfortable with students with behavior challenges (six were not comfortable and only four were very comfortable). A higher number of teachers reported that they would refer a student acting out to the school counselor or psychologist (six teachers stated this for scenarios 1 and 6 and four teachers for scenario 5). Conversely, when the student displayed mild behavior, as in scenarios 2 (intolerant of mistakes) and 3 (inattentive), only one teacher considered referrals to the psychologist or counselor. Moreover, the comfort and stress levels had a similar pattern: teachers had higher stress levels and lower comfort levels with students who acted out. A notable exception is that teachers also stated high stress levels when parents disagreed with the school despite the student's behavioral issues.

Finally, the successful practices for students with anxiety, as outlined in the literature review, were not included in the interventions suggested by teachers. The most commonly

mentioned strategies were talking to the student and calling their parent. Less frequently offered suggestions were academic supports, referring to a school psychologist or counselor, preferred seating, encouraging the student, and providing breaks. Although CBT, mindfulness, and trauma-informed strategies have shown promise in supporting students with anxiety in the classroom, they were not suggested as helpful interventions by the teachers in this study.

Main Contribution

This study aimed to understand general elementary education teachers' knowledge of anxiety and their feelings of preparedness to work with anxious students. Overall, this study highlighted that, with little to no training, the teachers are unprepared to support students with anxiety. Without identification by teachers, students with anxiety can be overlooked, not referred to specialists, and ineffectually supported in the classroom. If the students are identified, referred, and supported, their life trajectory could be improved. This will also reduce the likelihood of continued mental illnesses and improve the social, behavioral, and academic outcomes (Ijadi-Maghsoodi et al., 2018; Zee & Koomen, 2016). In addition, this study highlights a significant research-to-practice gap in mental health interventions in schools, as the teachers' main source of information regarding anxiety was their own personal experiences or insights.

Overall, the findings of this study contribute to the field as teachers' knowledge and skills directly impact the wellbeing of students struggling with anxiety. Understanding the teachers' perspective can be useful for researchers and school psychologists advocating for increased implementation of successful interventions by teachers in school settings.

Limitations

This study had a few limitations. First, there is a lack of previous research in this area of study, and scant literature to review on teachers' knowledge of anxiety in students. This researcher learned from other thesis as other models were not available.

The second limitation is the timing of this study. The study was conducted in the fall of 2021, during the COVID-19 pandemic. The precautions in schools due to the situation did not allow in-person observations, limiting the study to online interviews only. This lack of observation is a limitation as the teachers answered what they think they would do in certain situations, which might have differed from what they would do in the moment. Classroom observations would have added provided an additional verification of the teachers' responses reflecting actual classroom practices. In addition, the pandemic increased the awareness of anxiety in the population, which may have inflated the teachers' knowledge of anxiety in students and therefore influenced their answers to questions, such as on the prevalence of anxiety in students. The results reflect a heightened awareness, which may or may not persist in the future. Therefore, the findings depict an awareness of student anxiety that may not be static or accurate for future researchers to reference.

The third limitation was the researcher's personal connections with the school districts and the participants' awareness of the researcher's work. While some teachers included in this study reached out in response to social media posts, others responded to emails sent by their school administrators. The school districts were chosen based on the researcher's personal connections with the administrators. When the administrators emailed the teachers, they may have included their knowledge of the researcher's personal work and philosophy on mental health and behavior. This, in turn, may have influenced the teachers' answers. In one instance,

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the teacher from Oklahoma had read my book as part of a book study led by the principal. Her answers reflected content from the book, and she referred to the book more than once during the interview. Thus, the participants may have provided answers based on what they thought I would agree with.

The final limitation was the sample size of 13, which makes it difficult to generalize the results. The participants' responses do not necessarily represent the opinions of all the teachers from their states. The interviews with three teachers from rural Arkansas, one each from Tulsa and Oklahoma, and nine from the suburban and urban areas of Massachusetts might have also highlighted the regional differences, creating complications in deriving patterns from the data. For example, the high level of poverty in the student population in rural Arkansas might have led to a higher comfort level with students who acted out or teachers in a resource-rich Massachusetts suburb might have had exposure to more successful interventions.

Future Research

The information obtained through this study on teachers' knowledge of anxiety and feelings of preparedness may benefit future researchers to foster theory development regarding the relationship between factors that contribute to teachers' knowledge and feelings of preparedness. The participants had difficulty identifying symptoms of anxiety when presented with real-life scenarios. Future research could inquire if there is a direct relationship between teacher training on anxiety in students and their development of skills to identify anxiety in scenarios or real-life situations. In addition, this study found that teachers reported high stress levels when working with students with behavior challenges and had little to no training on how to best support such students. Subsequent studies could explore whether more training on working with students who have behavior challenges can yield lower teacher anxiety. Given that

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the teachers largely struggled to identify anxiety in students in the scenarios, researcher may also examine whether case studies and real-life situations captured by video and incorporated into PD could improve the teachers' skills in identifying anxiety.

Furthermore, several teachers said that they felt comfortable working with students with anxiety as they had a family member with anxiety or had anxiety themselves. In the future, studies can explore whether teachers' personal experience with anxiety improves their ability to identify and intervene with students with anxiety. Finally, since teachers reported higher stress levels when parents disagreed with the school, studies may uncover how parent concerns and disagreements contribute to teacher stress.

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Appendix A

Consent Form

Teachers' Knowledge of Anxiety and Their Feelings of Preparedness to Help Students with

Anxiety

A Qualitative Study

I _____ voluntarily agree to participate in this research.

I understand that if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences.

I understand that I can withdraw permission to use the data from my interview within two weeks after the interview, following which the material will be deleted.

The purpose and nature of the study were explained to me in writing, and I have had the opportunity to ask questions about the study.

I understand that participation involves speaking to Jessica Minahan, a doctoral student, for at least 60 minutes and may involve a follow-up conversation as well.

I understand that I will not benefit directly from participating in this research.

I agree to my interview being audio-recorded and recorded via Zoom and that Jessica Minahan will store notes on the interview on her personal computer for five years.

I understand that all the information I provide for this study will be treated confidentially.

I understand that in any report on the results of this research, my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview that may reveal my identity or the identity of the people I speak about.

I understand that disguised extracts from my interview may be quoted in a dissertation and subsequent published papers.

I understand that if I inform the researcher that I or someone else is at risk of harm, they may have to report this to the relevant authorities. They will discuss this with me first but may be required to report with or without my permission.

I understand that signed consent forms and original audio/Zoom recordings will be retained on the researcher's computer until the exam board confirms the results of the dissertation.

I understand that a transcript of my interview in which all identifying information has been removed will be retained for two years after the exam board confirms the results of the dissertation.

I understand that under the freedom of information legalization, I am entitled to access the information I have provided at any time while it is in storage as specified above.

I understand that I am free to contact Jessica Minahan to seek further clarification and information.

Researcher:

Jessica Minahan, M.Ed, BCBA

Doctoral Student at Lesley University

jessica@jessicaminahan.com

Signature of the research participant   Date Interviewed

_____   _____

I believe the participant is giving informed   Date
consent to participate in this study
                                                         _____
Signature of researcher

_____

Appendix B

Interview Questions on Teachers' Knowledge of Anxiety and Feelings of Preparedness

Scenario Questions
"I am going to read you a few classroom scenarios. I would like you to tell me what is underlying each student's behavior. There are no wrong answers."
"Also, could you please list six random children's names to be used in the scenarios? Please avoid choosing the names of former students"
"At the end of the interview, I will address any questions you may have about the scenarios or any other item."

Scenario 1 (Boy)	
Name #1 is a bright and quiet third-grade student, and lately, he has been refusing to complete his assignments in class. In addition, he frequently does not complete his assigned work or forgets it at home. He is at risk of failing and has begun to make frequent excuses to the bathroom and the nurse's office because of stomachaches or headaches. The parents took him to visit the doctor, and the physician said that Name #1 is healthy and fine. Gradually, Name #1 has become increasingly argumentative with his teachers, in addition to not completing assignments and exhibiting meltdown behavior.	*What might be underlying Name #1's behavior?* *How would you intervene with Name #1?* *What would your stress level be in this moment, on a scale of 1-5?*

Scenario 2 (Girl)	
Name #2 is a very hard-working fifth-grade student with good academic performance. The teachers and parents are very proud of her. She is very active, popular, organized, competitive, and holds high expectations of herself. However, some students complain that she is too bossy and has little patience for some of them. Last week, she got into an argument with her group members because they had forgotten to complete part of the lab work, which had lowered her grade. A few days later, *Name #2* forgot to complete a small portion of the math test, and she was very upset and sobbed in the bathroom. She was concerned that her parents and friends would think less of her, because of her lower grade.	*What might be underlying Name #2's behavior?* *How would you intervene with Name #2?* *What would your stress level be in this moment 1-5?*

Scenario 3 (Girl)

Name #3 is a very active second-grade student with good communication skills. However, at times, she needs reminders to stay on task and stay in her seat. Parents think this is a typical behavior of a young child and that the teacher is overly concerned about *Name #3's* outgoing behavior. Lately, the child's focus has gotten worse, she gets off-task easily, and she becomes frustrated and angry when the teacher redirects her. At times, she will refuse to engage in writing assignments, even though she has had to miss recess as a result. She is beginning to make frequent excuses to visit the bathroom or nurse's office. Parents insist that the school is overreacting to the situation.	*What might be underlying Name #3's behavior?* *How would you intervene with Name #3?* *What would your stress level be in this moment, on a scale of 1-5?*

Scenario 4 (Boy)

Name #4 is a fifth-grade student and has many friends. His mother called the guidance counselor one day and shared that *Name #4* does not want to come to school. Consequently, the parent is considering virtual schooling for the boy. However, teachers report that *Name #4* is very cooperative and takes part in class whenever he is present. The guidance counselor met with *Name #4*, who shared that he Is afraid of failing math tests, even though he has been passing all the tests.	*What might be underlying Name #4's behavior?* *How would you intervene with Name #4?* *What would your stress level be in this moment, on a scale of 1-5?*

Scenario 5 (Boy)

Name #5 is an active second-grade student. He is about six months behind in math and on grade level in reading. *Name #5* can become easily frustrated with academic tasks and often acts out by, for example, throwing his materials onto the floor, yelling, leaving the class without permission, and arguing and insulting the teacher. He does not show these behaviors in the PE or art classes.	*What might be underlying Name #5's behavior?* *How would you intervene with Name #5?* *What would your stress level be in this moment, on a scale of 1-5?*

Scenario 6 (Boy)

Name #6 is a fourth-grade boy who is talented at sports, particularly soccer. He is often sent to the office during recess and lunch for hitting peers, throwing objects at peers, and yelling insulting remarks at them, particularly during recess games. He does not seem to calm down after an incident for the rest of the day. In the classroom, he can be easily frustrated with writing tasks and grasps his head,	*What might be underlying Name #6's behavior?* *How would you intervene with Name #6?*

| bangs his fists on the desk, and makes statements like, "This is stupid!" | *What would your stress level be in this moment, on a scale of 1-5?* |

Questions Regarding Knowledge of Anxiety
"Now I'm going to ask you some questions about students with anxiety."

Questions	Probing Questions
9. What percentage of children and adolescents in the U.S. would you guess have anxiety disorders in their lifetime?	If they cannot give a percentage off the top of their heads, they are asked to choose one of the below options: a) 1–10% f) 10–20% g) 20–30% h) 30–60% i) 60–80%
10. What does anxiety look like in kids? What are some symptoms of anxiety that parents might see outside of school?	What does that look like? Could you tell me more about it?
11. What are some of the symptoms of anxiety that a student might display in the classroom?	What does that look like? Could you tell me more about it?
12. What are some of the social, emotional, or behavioral symptoms of anxiety?	What does that look like? Could you tell me more about it?
13. What are some of the academic symptoms of anxiety?	What does that look like? Could you tell me more about it?
14. What behaviors of a student may unlikely be due to anxiety?	
15. What are some possible outcomes for students who have untreated anxiety?	
16. How are anxiety and depression different?	

Questions Regarding Preparedness
Now I'm going to ask you some questions about your training and your work in the classroom. There are no right or wrong answers. I just want to hear about your experiences.

16. Have you taught students with anxiety?   How did you know the student had anxiety?

17. Were you trained on how to support the students with anxiety in your classroom?   If so, can you explain further?

18. In your teacher education program, were any mental health courses required?   If yes, how many? Were any after your graduation?

19. Did you receive any professional development training (post-graduation) on how to identify students with anxiety and the symptoms of anxiety disorders in children and adolescents?   If yes, where?

20. What PD would be helpful to you now?

21. How comfortable are you working with students struggling with anxiety?

22. If a student in your class shows symptoms of anxiety, to whom would you refer them?

23. Is teaching students about anxiety part of your job as a classroom teacher?   Do you feel comfortable teaching students about anxiety?

24. What classroom strategies do you typically use for students with anxiety?

25. Do you think teaching students about relaxation and coping strategies is part of your job as a classroom teacher?   Do you feel comfortable teaching these skills?

26. How comfortable are you with students who exhibit behavior challenges?   Where did you learn about this?

27. Did you receive training on working with students with behavioral issues?   Was the PD voluntary?

28. How applicable is your training to your everyday experience in the classroom?

29. Do you think teaching behavior and emotion regulation strategies is part of your job as a classroom teacher?

    Do you feel comfortable teaching these skills?

30. What classroom strategies do you typically use for students with behavior challenges?