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# The Impact of a Mindfulness-Based Intervention on Elementary School Students Anxiety Level

Sarah Perri

*The College at Brockport*, [sperr2@u.brockport.edu](mailto:sperr2@u.brockport.edu)

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The Impact of a Mindfulness-Based Intervention on Elementary School Students Anxiety  
Level

Sarah Perri

The College at Brockport, State University of New York

## MINDFULNESS-BASED INTERVENTIONS FOR CHILDREN AND ADOLESCENCE

### **Abstract**

Anxiety is a pervasive problem among children and adolescence and if left untreated, it is often associated with elevated rates of comorbidity with other psychiatric disorders. There is growing evidence for effective early interventions for children and adolescents dealing with anxiety, particularly in the school setting. There is growing research that mindfulness-based interventions to be beneficial for children and adolescents to enhance self-regulation and coping, aspects of executive functioning central to managing symptoms related to stress. This current study focused on the impact of a mindfulness-based intervention on fifth grade students' anxiety levels. Nine participants participated in a six-week mindfulness-based intervention that provided education on anxiety and mindfulness, and mindfulness exercises. Participants were given a pre and post-test to measure the effects of the mindfulness intervention. Results suggested that there was statistically significant change in anxiety levels.

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## Introduction

Many children and adolescents are at risk for experiencing ongoing stressors. Stressors children are facing today include: family disturbances, peer conflicts, developmental changes, and social-cultural challenges (Creswell, Murray & Cooper, 2014). Research links high levels of sustained stress to predictors of childhood and adolescent anxiety (Volanen et al., 2016). Anxiety disorders are the most common type of psychiatric disorders in children and adolescents and have negative effects on social emotional health (Bittner et al., 2007; Kingston, Heaman, Brownwell, & Ekuma, 2015; Mazzone et al., 2007; Van Ameringen, Mancini Farvolden, 2003;).

In the United States, the prevalence of anxiety disorders in children and adolescents impacts between 17 and 21% of the population. Childhood anxiety increases the risk for the onset of anxiety later in life (Kingston et al., 2015; Van Amerigen et al., 2003). Research on anxiety disorders in children and adolescents predicts negative trajectories in psychosocial development including: general well-being, development of social skills, and social relationships (Mazzone et al., 2007; Van Amerigen et al., 2003). Additionally, anxiety symptoms impair memory and cognitive function, contributing to poor academic performance. Longitudinal community-based studies indicate that childhood and adolescent anxiety predicts elevated rates of comorbidity with other psychiatric disorders if left untreated (Bittner et al., 2007; Van Amerigen et al., 2003).

Despite the high prevalence of anxiety disorders in children, they are least likely to get mental health treatment for anxiety (Donovan & Spence, 2000; Kingston et al., 2007). There is growing evidence for effective early interventions for children and adolescents dealing with anxiety, particularly in the school setting. Empirical evidence

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has revealed schools to be the primary setting to promote preventative interventions to foster social/emotional competence by teaching coping strategies that combat anxiety symptoms (Ferreira-Vorkapic et al., 2015; Lawlor, 2014). Mindfulness-based approaches have been emerging into the school systems to promote resilience, self-regulation, psychological health and well-being. Although much research has produced positive outcomes in adults, there is a gap in research when considering children and adolescents (Burke, 2010; Semple, Reid, & Miller, 2005; Zelazo & Lyons, 2012).

Mindfulness is the moment-to-moment practice of paying attention to thoughts, feelings, and perceptions non-judgmentally (Burke, 2009; Perry-Parish, Copeland-Linder, Webb, & Sibinga, 2016; Zelazo & Lyons, 2012). Mindfulness activities aimed at children and adolescence typically include: body scans, breathing exercises, and meditation. The aim is to disrupt the automatic emotional response, resulting in greater calmness and emotional stability (Zelazo & Lyons, 2012). Research indicates mindfulness activities can increase self-awareness, self-regulation, and empathy (Schonert-Reichl et al., 2015).

This study aims to contribute to the gap in research in the field of school counseling regarding the effectiveness of a school-based mindfulness-based intervention. This paper will examine the existing literature on childhood anxiety and mindfulness. Next, it will address the methods used to understand the procedure and design of this research project. Followed by a discussion investigating the results, limitations, and meaning of future implications.

### **Literature Review**

Current research identifies anxiety disorders to be a pervasive problem in childhood and adolescence and is associated with elevated rates of comorbidity with

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other psychiatric disorders if left untreated (Bittner et al., 2007; Kingston et al., 2015; Mazzone et al., 2007; Van Ameringen, 2003). For example, children and adolescents with anxiety disorders are at risk for impaired psychosocial development and poor academic achievement compared to their nonanxious peers (Donovan & Spence, 2000; Kingston et al., 2015). Mindfulness-based interventions have shown to be beneficial for children and adolescents to enhance self-regulation and coping, aspects of executive functioning central to managing symptoms related to stress (Perry-Parrish et al, 2016,). This review of the literature first defines and explores anxiety disorders, followed by an examination of anxiety in children and adolescents, and the impacts of stress and anxiety on children. Next, an overview of a mindfulness-based intervention, including a neuroscience perspective will be presented for children and adolescents. Lastly, implications for school counselors and an introduction of a mindfulness-based intervention research study will be introduced.

### **Childhood Development**

Childhood is defined between the years of 6 and 11 years old. Fear, anxiety and worry are particularly widespread during childhood. According to Muris (2006), normal fear and anxiety have a predictable developmental course. Westernberg, Siebelink, & Treffers (2001) used psychosocial developmental theories to explain the trajectory of anxiety disorders. Developmental theories postulate that with increasing age children have more experiences to inform their thinking styles (Creswell, Murray, & Cooper, 2014). Erikson (1980) proposed that during childhood, children experience a conflict of industry versus inferiority. Erikson believed that when children are faced with parental expectation, their drive towards mastery conflicts arise. During this time, children are

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developing their cognitive skills and interpersonal relationships. Children are identifying themselves regarding psychological traits, comparing themselves to peers, and making assumptions about the causes of their strengths and weaknesses (Berke, 2013).

During early childhood, fears of the dark and thunder and lightning persist. However, other anxieties begin to take priority to include new fears of peer rejection, poor academic performance, and the idea of been harmed, as well as threats to their parent's health (Erikson, 1980). Additionally, during this time, children will be going through puberty. There is a marked increase in intensity and nature of motivational drives, which increases the likelihood of risk-taking behaviors. The sequence and timing of symptoms during this developmental time align with epidemiological data of the age of onset of separation anxiety, generalized anxiety, and fears concerning danger and death (Weems, 2008).

As children develop, their personality begins to strengthen as they start to identify with their values, beliefs, and goals from childhood and integrate them with developing traits. They continue to make evaluations of themselves and have an increased ability to be more self-aware (Creswell et al., 2014; Erikson, 1980). With development, children can reflect on their experiences, which facilitates cognitive flexibility, working memory, inhibitory control, emotional reappraisal, and empathic concern for others (Zelazo & Lyons, 2012). Erikson postulated that if young people did not master past developmental conflicts they might be unprepared to manage the challenges of adolescence (Erikson, 1980; Schonert-Reichl et al., 2015). Further, Creswell et al. (2014) suggested that a child's underestimation of their ability to cope with stressful situations might be an essential factor in the maintenance of anxiety. Through adolescence, ages 13-19, children

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report fear about social affairs, death, and illness (Berke, 2013). This correlates with epidemiological data for the age of onset of social anxiety symptoms and social performance related fears in adolescence (Weems, 2008).

All children experience normative anxiety and fear as they develop and gain experiences. However, fears and anxiety change throughout development and correlate with cognitive development (Muris, 2006). As children grow, they have more experiences that inform their thought processes, and they begin to recognize and interpret situations more appropriately (Creswell et al., 2014; Essau & Ollendick, 2012). A three wave longitudinal study investigated developmental differences in the expression of anxiety symptoms (Weems, 2008). This particular study revealed anxiety to have a distinct developmental trajectory. Symptoms of separation anxiety slightly decrease during childhood while symptoms of generalized anxiety become more prevalent during adolescence (Weems, 2008). As a result, these specific developmental anxiety phenomena's seem to disappear and last a short period of time. However, this has led to psychologists concluding that childhood anxiety not be taken as seriously. As a result, childhood anxiety has received little research (Muris, 2006). Conceptualizing childhood and adolescent anxiety from a developmental perspective will aid in understanding how anxiety disorders develop and persist (Muris, 2006). In order to better understand the development of anxiety in children, it is crucial that risk factors are considered.

### **Risk Factors**

The impact of anxiety on children and adolescents emphasizes the need to gain a better understanding of identifying early risk factors for anxiety symptoms. Risk factors are variables that predict the onset, severity, and duration of psychopathology (Pahl,

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Barrett, & Gullo, 2012). Significant or reoccurring stress impedes on a young person's ability to manage or cope with the stress. According to the lifespan perspective, influences of development are biological, historical, social, and cultural forces (Mian, Wainwright, Briggs-Gowen, & Carter, 2011). Research aligns with this and asserts that anxiety disorders involve many factors including genes and the environment (Pine, 2007). These factors contribute to the onset, severity, and duration of anxiety in children. Implicated risk factors include: parental anxiety history, parent relationship, child's temperament, and traumatic or stressful life events (Donovan & Spence, 2000).

**Parental Anxiety.** Research has linked parental anxiety as being a risk factor for childhood anxiety with genetic estimates of about 40-50% found for anxiety symptoms in children (Donovan & Spence, 2000; Mian et al., 2011). Compared to their non-anxious peer's, children with anxiety were more likely to have a parent experiencing anxiety (Donovan & Spence, 2000). Research has connected parental anxiety disorder to children's behavioral inhibition (Pahl et al., 2012). Parent-child interactions that model fearful and overprotective responses offers an explanation for behavior inhibition in children.

**Parent relationship.** Psychodynamic and relational theories focus on childhood experiences and the quality of the parent-child relationship as shaping children's sense of security. These theories identified the quality of the parent-child relationship as an important factor in the development of childhood anxiety disorders. However, it is still in its infancy (Donovan & Spence, 2000). Parents with anxiety disorders tend to have an authoritarian parenting style, which is more controlling and less empathic (Mian et al., 2011). This parenting style may impact children by prompting perceptions of little

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control, negative expectations, self-blame, and hopelessness (Pahl et al., 2012). A study that assessed 172 children at 12 months and then again at 17.5 years revealed that a pattern of anxious/resistant attachment at 12 months predicted a developmental course of anxiety at 17.5 years (Donovan & Spence, 2000).

**Childs temperament.** The temperament style that has contributed to the early development of internalizing disorders is behavioral inhibition (Donovan & Spence, 2000; Pahl et al., 2012). Characteristics of behavioral inhibition are consistent timidity, shyness, restraint or fearfulness with unfamiliar people, situations, or events (Donovan & Spence, 2000; Mian et al., 2011; Pahl et al., 2012). Behavior inhibition correlates with elevated physiological arousal. Approximately 15 percent of children display this temperament style. However, not all children that exhibit behavior inhibition develop an anxiety disorder.

**Traumatic or stressful life event.** Traumatic, negative, or stressful life events are another identified risk factor for childhood anxiety (Pahl et al., 2012). When children experience trauma, it is likely that they will display higher levels of fear related to the traumatic event. Today, children are commonly faced with negative life events including, divorce, parent separation, the death of a family member, family conflict, repeated moves, or school based violence (Donovan & Spence, 2000). Anxious children typically have experienced a greater amount of stressful events compared to their non-anxious counterparts. Repeated exposure to stressful events increases the risk for internalizing behaviors (Donovan & Spence, 2000; Pahl et al., 2012).

Addressing risk factors is essential to understand the development of anxiety in children better and improve early interventions. Risk factors may present inconsistently

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and during different developmental stages (Donovan & Spence, 2000). Bronfenbrenner (1994) offers an ecological system with bi-directional relationships including, environment, parental practices, and child temperament that shape and influence development. These forces contribute to the maintenance of anxiety and might lead to psychopathologic risk (Mazzone et al., 2007). Stressors in childhood and adolescents are associated with adverse mental health outcomes and health risks (Perry-Parish et al., 2016).

### **Anxiety disorders**

The Fifth Edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defined anxiety disorders as having features of excessive fear and anxiety and related behavioral disturbances (American Psychiatric Association, 2013). Fear is defined as the emotional response to a real or perceived threat, while anxiety is the anticipation of future threat (American Psychiatric Association, 2013). Anxiety is a normal response to stress or fear that is a normal part of human development. Anxiety becomes clinically significant when symptoms are severe, persisting beyond appropriate developmental periods, lasting six months or more, occur in the absence of stress, and impair social, physical, or occupational functioning (Brandish & Baldwin, 2012). Craske, et al. (2009) classified the symptoms of anxiety into a system of three responses: verbal-subjective, overt motor acts, and somato-visceral activity. Verbal-subjective includes feelings of worry and fear. Overt motor acts are avoidance and escape behaviors. Somato-visceral refers to the physiological symptoms experienced; these include; muscle tension, sweating, racing heart, and nausea (Craske et al., 2009). Anxiety disorders can share similar features, however, differences exist between anxiety disorders.

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The DSM-5 (American Psychiatric Association, 2013) identified different types of anxiety disorders: separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, panic attack specific, agoraphobia, generalized anxiety disorder, substance/medication-induced anxiety disorder, anxiety disorder due to another medical condition, other specified anxiety disorder, and anxiety disorder not otherwise specified. The anxiety disorders are listed developmentally, according to the typical age of onset (American Psychiatric Association, 2013). All the above-listed anxiety disorders share common psychological and physical symptoms but vary in characteristic features in the diagnostic criteria that support the diagnosis (Brandish & Baldwin, 2012). Over 60 million people are affected by anxiety disorders each year (Craske et al., 2009). In the United States, anxiety disorders are the most prevalent disorder in the diagnostic group, with a prevalence rate of 18% (Remes, Brayne, Linde, & Lafortune, 2016). Anxiety disorders reportedly have an age of onset in childhood or adolescents (American Psychiatric Association, 2013; Van Ameringen et al., 2001). When left untreated anxiety disorders can persist and lead to more severe negative implications for social, physical, and mental wellbeing (Remes et al., 2016).

### **Anxiety in children and Adolescents**

Anxiety disorders are the most common type of psychiatric disorder in childhood and adolescents (Bittner, et al., 2007; Mazzone et al., 2007; Volanen et al., 2016).

Children and adolescence will most likely experience minimal levels of anxiety in their lifetime that is developmentally appropriate and short-lived. Experiencing moderate levels of anxiety is normative and aids in developmental transitions (Weems, 2008). Experiencing minimal levels of anxiety aids in cognitive development for recognizing

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and interpreting situations as dangerous (Degnan, Almas, & Fox, 2010). However, because anxiety is normative during developmental periods, it makes it difficult to distinguish between “normal” and “abnormal” anxiety (Essau, Olay, & Ollendick, 2012). The DSM-5 differentiates between "normal" and "abnormal" anxiety based on the number, persistence, and severity of symptoms. Abnormal anxiety, as defined by the DSM-5 is behavior that violates societies norms, causing impairment on everyday life, is maladaptive, is rare given the culture and environment (American Psychiatric Association, 2013).

Approximately three to six percent of children ages one to six years old suffer from an anxiety disorder. About 14% of children ages eight to nine years old suffer from an anxiety disorder with the percentage rising to 15-25% with the onset of puberty (Kingston et al., 2015; Volanen et al., 2016). Bittner et al. (2007) concluded that anxiety in childhood is chronic running a course into adulthood with lifetime prevalence rates of 15-20%. Children and adolescents with anxiety disorders experience significant impairments in their general well-being, social relationships, and academic performance (Kingston et al., 2015; Mazzone et al., 2007).

**The impact of Anxiety on Educational Functioning.** In the United States, 300,000-500,000 students drop out of school every year (Van Ameringen et al., 2001). Kessler et al. (1995) reported that children and adolescents with psychiatric disorders account for 14.2 % of school dropouts, noting that anxiety disorders were the most important psychiatric determinate for females (Van Ameringen et al., 2001). Data has shown a link between anxiety in children and adolescents and impaired school performance. Anxiety symptoms are correlated with the impairment of memory and

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cognitive functioning (Mazzone et al., 2007). Grover et al. (2006) found that children with anxiety were most likely to score lower on measures of academic achievement. Compared to their normative peers, children experiencing anxiety have been found to underachieve and drop out of school (Donovan & Spence, 2000; Kingston et al., 2015; Van Ameringen et al., 2001). Van Ameringen et al. (2001) noted that 34.8 % of students' reported fears and feelings of anxiety impacted their ability to go to school, causing them to stay home for a prolonged period. In adolescents that experience anxiety the risk for underachievement and school refusal increases (Van Ameringen et al., 2001).

**The impact of Anxiety on Social Functioning.** Anxiety symptoms can interfere with general well-being, social life, and the development of social skills, resulting in a significant impairment in social functioning (Mazzone et al., 2007; Van Ameringen et al., 2001). A particular feature of anxiety that is maladaptive is the deregulation of the normative response to anxiety (Mazzone et al., 2007). Deregulation may involve intense and disabling worry that does not assist in anticipation of a threat. A second feature is a distress and impairment from the deregulation and a negative emotional state (Mazzone, et al., 2007). This can be expressed behaviorally (avoidant) or socially (interpersonal difficulties) (Weems, 2008). Children with anxiety report loneliness, few friends, and restricted social relationships (Creswell et al., 2013). Additionally, they reported their friends to be less helpful, provide less guidance, and to have less disclosure in their friendships (Degnan et al., 2010). One approach to supporting children's well-being is based on a neuroscience perspective.

### **Neuroscience Perspective**

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Developmental Neuroscience is a growing field of science that is evidenced based and provides an understanding of how the brain is impacted by mindfulness. Research in animals has identified that anxiety has a substantial impact on brain structure and function because of greater neuroplasticity and pruning during childhood (Qin et al., 2014). During early childhood when the brain is rapidly changing, it is vulnerable to the effects of stress and anxiety. Stressful and anxiety provoking experiences can have long-lasting effects on brain structure and function (Qin et al., 2014). The area of the brain that is most affected is the amygdala. The amygdala is the region of the brain that controls emotions (Pine, 2007). It plays a significant role in organizing threat responses (Pine, 2007). Early life stressors have been linked to an enlarged amygdala resulting in an over activity of stress sensitive hormones, leading to increased anxiety symptoms (Qin et al., 2013). Stress threats conditions the brain to engage distinct neural circuits (Pine, 2007).

A growing body of research indicates that self-regulation is malleable during early childhood when behavioral and neural plasticity is distinct (Zelazo & Lyons, 2012). Mindfulness training disrupts the automatic response and results in emotional stability making it easier to consider various responses. This repeated exposure activates and strengthens a new neural pathway fostering emotional regulation. Activities that enhance reflection strengthen self-regulation by promoting "top-down" control. Examples of top down control include maintained attention and cognitive flexibility. "Bottom up" interferences (quick judgments and emotional reactivity) will begin to fade and lessen anxiety symptoms (Zelazo & Lyons, 2012). Mindfulness-based interventions are an ideal model for promoting "top down" control to improve overall well-being and healthy development of self regulation.

## **Mindfulness-Based Interventions**

Investigating the factors that maintain or exacerbate anxiety and the impact anxiety has on wellbeing is essential to enhance the development of a mindfulness-based intervention aimed at children and adolescents (Pahl et al., 2012). In the past decade, there has been increasing interest in the use of mindfulness-based interventions to promote psychological health and wellbeing. Mindfulness is defined as the state of awareness and readiness to pay attention in a particular way to experiences in the present moment nonjudgmentally (Semple, Reid, & Miller, 2005; Volanen et al., 2016). Simply stated, mindfulness is the moment-to-moment practice of being consciously aware of thoughts and feelings and distinguishing them from external events (Semple et al., 2005). Mindfulness is derived from Eastern contemplative practices and was later developed as part of therapeutic interventions in psychology and medicine (Volanen et al., 2016; Zelazo & Lyons, 2012). Zelazo and Lyons (2012) identified five facets of mindfulness including, observing subjective experiences, describing them, acting with awareness, evaluating experience nonjudgmentally, and lastly remain nonreactive to the experience (Zelazo & Lyons, 2012). Mindfulness interventions goals are aimed at fostering attention, resiliency, and well-being (Perry-Parish et al., 2016).

Much of mindfulness research has been directed at adult populations with emerging research showing promising results in children and adolescents (Volanen et al., 2016). Mindfulness interventions have been effective elements of adult treatments for anxiety disorders (Semple et al., 2005). In adults, mindfulness interventions have resulted in increased awareness, promoted reflection, self-regulation, and empathy. Furthermore, mindfulness practices have been found to improve regulation of stress in adults and

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symptoms of anxiety and depression (Schonert-Reichl et al., 2015; Volanen et al., 2016).

The emphasis on approaching and accepting internal experiences are believed to lead to reduced distress and pain in response to stress because less effort is spent on avoiding uncomfortable or undesirable experiences. Moreover, increased self-reflection allows individuals to create psychological distance and identify other appropriate responses.

These mindfulness-based interventions with adults have produced behavioral changes in as little as two weeks (Zelazo & Lyons, 2012).

Mindfulness Based Stressed Reduction (MBSR) is widely implemented in clinical settings to reduce stress among adults with chronic health conditions. The MBSR program is eight to ten weeks of group lessons. The content focuses on mindfulness meditation practice, body scans, gentle yoga, breathing exercises, and a discussion about personal experiences with mindfulness techniques (Perry-Parish et al., 2016; Zelazo & Lyons, 2012). MBSR exercises are designed to train attention and reflective processes, which in turn, increases positive coping and cognitive changes and decreases the trigger of an automatic emotional reaction or evaluation. The focus of the exercises is on changing the content in which these internal experiences occur. (Perry-Parrish et al., 2016). Since the introduction of MBSR, other therapies have emerged that have a mindfulness-based emphasis.

Mindfulness-Based Cognitive Therapy (MBCT) is an experiential learning intervention where the clinician helps the individual change the context in which the internal experiences happen (Perry-Parish et al., 2016). Group sessions are weekly and include formal and informal practices. Formal practices include body scans, sitting meditation, and walking meditation. Informal activities are when the participant brings in

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mindfulness-awareness to daily activities. Thoughts and feelings are considered as experiences or events rather than facts (Perry-Parish et al., 2016). MBCT includes psychoeducation and exercises specific to depression but content can be adapted for other mental health concerns. A focus of treatment is on balance for change and mindful acceptance. Given the success of adult trials and the emerging research on children, it appears that with developmentally appropriate interventions mindfulness interventions focused on children with anxiety would be beneficial and efficient (Perry-Parish et al., 2016).

**Mindfulness with children and adolescents.** Mindfulness exercises for adults have been adapted for the use with children and adolescents to create a developmentally appropriate way to train the core facets of mindfulness (Zelazo & Lyons, 2012). Children and adolescents have a shorter attention span and limited self-regulation. Typically, mindfulness activities for children and adolescents occur in small groups and are shorter in length when they are introduced and increase in duration as children progress through the intervention. Additionally, activities are active and sensory involved (Perry-Parish et al., 2016). The language used during the intervention for instruction is concrete and specific (Perry-Parrish et al., 2016). Instructors may use props or metaphors to help children understand the goals of the mindfulness exercises (Zelazo & Lyons, 2012). Mindfulness activities include body scans, breathing exercises, and meditation and are most effective with children and adolescents when they find the activities creative and relatable (Semple et al., 2005).

For example, to help children understand the notion of a body scan and breathing exercises a prop may be used to engage the students. For a body scan, the instructor could

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use a hula-hoop and demonstrate how to scan their bodies. Children will be instructed to use an imaginary hula-hoop. As the hula-hoop passes over their body, the children are told to focus on how that part of the body feels (Perry-Parish et al., 2016). To help children focus on their breathing children will be instructed to find a comfortable place on the carpet and put a stuffed animal on their bellies. They will be told to rock their stuffed animal to sleep with slow, gentle breaths. As children focus their attention on sensations, this may lay the foundation for more sophisticated mindfulness awareness of their emotions or thoughts (Zelazo & Lyon, 2012).

The emerging research has demonstrated that mindfulness activities are beneficial and well accepted by youth. A teacher implemented six-week mindfulness-based program in an urban school setting showed improvements in psychological symptoms, coping behaviors, somatization, self-hostility, and reduced post-traumatic stress symptoms (Perry-Parish et al., 2016). Another mindfulness study done in a school setting with teacher referred anxious children indicated improvements in at least one area of academic functioning, internalizing problems, or externalizing problems. The children that participated in the group experience expressed that they enjoyed the activities and were able to incorporate mindfulness applications in their everyday life (Schonert-Reichl et al., 2015; Semple et al., 2005). Students described the benefits of mindfulness as feeling more calm and focused and believed they had better control during stressful situations (Wang & Hagins, 2015).

Mindfulness activities are designed to nurture focused attention, emotion regulation, and empathy. Practicing of mindfulness activities with children can improve their cognitive and executive functioning leading to positive trajectories on social,

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emotional competency and overall wellbeing (Schonert et al., 2015). Associated outcomes are improved social relationships and reduced stress and anxiety symptoms (Perry-Parish et al., 2016). Furthermore, mindfulness interventions have shown positive results on academic outcomes. Interventions with children have shown that they are better able to handle classroom demands, maintain attention, and have increased motivation (Zelazo & Lyons, 2012).

**Mindfulness in a School Setting.** The American School Counseling Association (ASCA) National Model (American School Counseling Association, 2005) offers a framework for school counselors constructed on qualities of leadership, advocacy, and collaboration leading to systemic change. The school counselor's role in this model is to promote the academic, career, and social/emotional development of students. The United Nations identified schools as an environment that can support children and adolescents development (Ferreria-Vorkapic et al., 2015). Empirical evidence has identified schools to be a primary setting to implement preventative interventions that promote resiliency, well-being, self-regulation, and attention (Lawlor, 2014). Mindfulness-based interventions in a school setting align with the goals of social-emotional learning (SEL). Common aspects are self-awareness, self-management, social awareness, relationship management, and responsible decision-making (Lawlor, 2014). It has been recognized that there is a positive correlation between practices that strengthen student's social-emotional competencies and academic success (Schonert-Reichl et al., 2015).

As stated earlier in this paper, anxiety disorders are the most prevalent disorder among children and adolescents with significant anxiety symptoms emerging as early as the preschool years (Bittner et al., 2007; Mazzone et al., 2007; Van Ameringen et al.,

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2003). Anxiety disorders can have long-term consequences disrupting academic, and social/emotional facets of functioning. Children and adolescents spend much of their time at school. School counselors are in a pivotal position to promote change. Mindfulness intervention delivery can take on various forms to meet the needs of the students. As a tier one intervention, the focus would be prevention. Incorporating a mindfulness-based intervention could be a standalone intervention accommodating all students by encouraging mindfulness awareness school wide through assemblies and classroom interventions. As a tier two approach, mindfulness groups could be developed to meet the needs of a targeted population. Lastly, as a tier three approach, a direct intervention could be tailored to meet the student's particular high level need (Felver et al., 2013). The purpose of this study is to investigate the impact of a mindfulness-based intervention on elementary school student's anxiety level. Specifically, what is the impact of mindfulness-based interventions on fifth-grade student's anxiety level?

### **Method**

This study used a t-test design that examined the impact of a mindfulness-based intervention on anxiety levels in fifth grade students. The results of this study were based on a six-week mindfulness-based group using a pre and post-test inventory. Data was gathered using the Screen for Child Anxiety Related Disorders (SCARED). Data was analyzed using a t-test to compare the mean scores of the SCARED inventory.

### **Setting and Participants**

The setting for this research was a large suburban elementary school in Western New York. The school was one of three elementary schools in that district, with an

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enrollment of about 1,200 students. The school housed kindergarten through sixth grade. Each grade level had six classrooms with approximately 25 students in each class.

Ten students were recommended for this group and varied in gender, age, and race. Participants in this study were four fifth grade males and five fifth grade female students between the ages of 10-12 years old. All participants identified as Caucasian. Recommendations were based on students currently receiving counseling services for anxiety symptoms or students identified by teachers as exhibiting anxiety symptoms. The administrative assistant was notified of the ten recommendations and recruitment letters and mailed out parent consent forms (See Appendices A and B) to participants' home address. All 10 parent consent forms were signed and returned indicating their agreement for their son/daughter to participate in the research. Upon receiving parent consent, the primary investigator invited participants to the counseling office individually and privately to be informed that they and other classmates were selected to participate in a mindfulness-based group. The student was informed that the group focus would be about anxiety and learning about some mindfulness techniques to reduce their anxiety. Participants were then given the minor assent to complete.

All participants agreed to be in the group (N=10). Participants could choose to withdraw from the group, not complete the inventory, or not participate in the mindfulness-based activity without consequence. The participants were not given any incentives and were informed that participation in this group would not have any impact on their grades.

### **Instruments**

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The primary variable for this research was anxiety. The instrument used was the Screen for Anxiety Related Disorders (SCARED). The SCARED instrument is a survey consisting of 41 self-rated questions relating to thoughts and feelings about anxiety. It takes approximately 10 minutes to complete. Each question measured the intensity and frequency of symptoms or behaviors. Self-ratings include 0-Not True or Hardly Ever True, 1-Somewhat True or Sometimes Very True, 2-Very True or Often True. Each of the questions on the survey relates to one of the five anxiety implications: Anxiety disorder, Panic Disorder, Generalized Anxiety, Separation Anxiety Disorder, Social Anxiety Disorder, and School Avoidance. This inventory has good validity and reliability in research.

### **Procedures**

The participants were given the SCARED inventory individually and in the privacy of the counseling office one week before the intervention. A week after obtaining minor assents and completed SCARED inventories, participants were placed in a small mindfulness-based intervention group. The group met once a week for duration of six weeks. Each session was a half hour long in the privacy of the counselor's office during student's lunch period. Students brought their lunches and ate during group.

The six-week intervention was created based on mindfulness-based research with elementary school students. During the first group session group rules were developed collaboratively and the limits of confidentiality were outlined. The focus was on education about anxiety and how it impacts the body. The following two sessions were devoted to mindfulness-based education and exploring ways to use their senses to develop mindfulness. The final two sessions focused on breathing exercises and yoga.

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Each session consisted of a check in, a mindfulness-based activity, and a check out (See Appendix D for lesson plans). Check-in and checkout was a time when participants can discuss their thoughts and feelings about how they are doing as well as their thoughts and feelings about the group process.

One week after the group intervention the participants were invited down individually to have a private meeting with the primary investigator in the counseling office to complete the SCARED inventory. Pre and posttest data was collected and compared. Data was inputted into SPSS software and a t-test was used to compare the total mean scores from the testing instrument.

### **Results**

This study examined the impact of a six-week mindfulness-based group on fifth grade students' anxiety levels. It was hypothesized that participation in the group would decrease students' anxiety levels.

The data analysis of this study focused on the change of overall anxiety level, more specifically assessing five other anxiety implications including; panic disorder (PN), or significant somatic symptoms, generalized anxiety disorder (GD), separation anxiety disorder (SP), social anxiety disorder (SC), and significant school avoidance (SH). The comparison of data was taken from the change in participants' pre and post-test scores from the SCARED inventory using a paired t-test. Due to incomplete data, assessments from one participant could not be reported. Therefore, the sample size was reduced to eight participants (N =8). Results of each of the pre and post-tests comparing the mean scores are shown in Figure 1.

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**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 prefinal – postfinal	9.12500	7.54865	2.66885	2.81417	15.43583	3.419	7	.011
Pair 2 PN1 - PN2	.37500	4.47014	1.58043	-3.36213	4.11213	.237	7	.819
Pair 3 GD1 - GD2	1.25000	3.28416	1.16113	-1.49563	3.99563	1.077	7	.317
Pair 4 SP1 - SP2	2.62500	2.13391	.75445	.84101	4.40899	3.479	7	.010
Pair 5 SC1 - SC2	.75000	2.86606	1.01330	-1.64608	3.14608	.740	7	.483
Pair 6 SH1 - SH2	.50000	1.60357	.56695	-.84062	1.84062	.882	7	.407

The data reflected a change did occur between pre and post-tests for over all anxiety. In a paired sample t-test, the difference was statistically significant  $t(7) = 3.419$ ,  $p = 0.11$ . Change was detected between pre and post-test for panic disorder or significant

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somatic symptoms, however, the change was insignificant  $t(7) = .237, p = .819$ .

Comparable to panic disorder, the data for generalized anxiety did not produce significant change  $t(7) = 1.007, p = .317$ . However, the most significant change was distinguished for separation anxiety disorder  $t(7) = 3.479, p = .010$ . Data noted a change in social anxiety disorder  $t(7) = .740, p = .483$ , however, the change was not statistically significant. Lastly, like social anxiety disorder, there was an insignificant change  $t(7) = .882, p = .407$ .

### **Discussion**

In this study, the primary investigator hoped to contribute to the growing body of research that provides evidence that a school-based mindfulness intervention yields positive results on students' anxiety levels (Lawlor, 2014). After comparing pre and post-test data, the results from the intervention support the hypothesis that a mindfulness-based intervention will decrease participants' anxiety levels. The results from the SCARED inventory show an improvement in overall anxiety levels including the five related anxiety implications.

Overall, separation anxiety disorder had the largest statistically significant change. In the SCARED inventory there were eight questions relating to this anxiety implication. Students were asked to use a 2-point Likert-scale where 0 is 'not very true', 1 is 'sometimes true', and 2 is 'very true' to describe how they feel. The following eight questions were related to separation anxiety. Question four ("I get scared when I sleep away from home."), eight ("I follow my mother or father wherever they go."), question 13 ("I worry about sleeping alone."), question 16 ("I have nightmares about something bad happening to my parents."), question 20 ("I have nightmares about something bad

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happening to me.”), question 25 (“I am afraid to be alone in the house.”), question 29 (“I don’t like to be away from my family.”), and question 31 (“I worry that something bad might happen to my parents.”).

Separation anxiety is characterized by extreme anxiety around separating from attachment figures. Although it is developmentally appropriate in the younger years, it has been noted for its later presentation (Parsons, 2007). Separation anxiety has been identified as the most common cause of school refusal in adolescents (Parsons, 2007; Van Ameringen et al., 2003). Responses to anxiety have been connected to the “fight, flight, or freeze” phenomenon, which helps to respond to stresses or threats (Parsons, 2007; Van Ameringen et al., 2003). Three quarters of adolescence who experience separation anxiety will exhibit a “flight” response and display school aversion or refusal (Parsons, 2007). The “flight” response in separation situations provides short-term relief from the anxiety. However, the problem becomes an avoidance response pattern and adolescence become unable to assess the danger appropriately or develop new coping strategies to respond to the stress in a more appropriate way (Parsons, 2007; Van Ameringen et al., 2003). Specific to this research population, five of the nine participants had been identified as having attendance concerns. This is a serendipitous finding, as upon completion of the intervention, there was a noted improvement in attendance.

Additionally, upon completion of the group participants reported that the mindfulness techniques taught during the group were helpful, as it gave them a variety of skills to cope with their anxiety or worry. Participants reported that they looked forward to the mindfulness group because it “gave them time to relax.” Many of the group

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members expressed disappointment with the termination of the group and requested that the group be extended.

### **Limitations**

There were several limitations to be considered with this research study. First, the method of identifying participants for the mindfulness-based intervention was flawed. The sample size was made up of only nine participants, however, only the scores from eight participants could only be reported because of an incomplete post-test. The sample population lacked diversity in age, race, and culture. Consequently, there is no chance of generalizability to the larger population.

Another limitation to this research was the limited amount of time to complete the research. The mindfulness-based group was shortened a week because of NYS testing and unexpected snow days. The group was designed to meet for six weeks, to maintain the number of group sessions, the primary investigator held two mindfulness-based groups in one week for the last two weeks.

A further limitation is the location of the mindfulness group. With nine participants in the research study, the counseling office became crowded. The primary investigatory moved the group to the conference room; however, the traffic in the hallway during that time was distracting to the participants when practicing the mindfulness techniques.

An unforeseen limitation was the timeliness and attendance of the group participants. There were a few times when participants arrived five or more minutes late to the group or did not attend at all. The primary investigator assumed that group participants would attend most of the mindfulness-based sessions. There were also

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situations when participants had to make up class work or receiving extra academic support with a teacher, resulting in missing the mindfulness-based group session.

Lastly, the SCARED inventory is a self-report scale used to evaluate anxiety levels before and after the intervention. Participants gave their perception of their thoughts and feelings about their anxiety, which could have been influenced by their mood or feelings at the time they completed the inventory. Participants were informed before the research study that they did not have to answer all or any questions on the inventory. There were three pre and post-tests that had one to three missed responses on the inventory. The data from those inventories were used in this research study. Furthermore, because the participants completed the inventory with the primary investigator in the counseling office, participants could have responded in a way to please the primary investigator.

### **Implications for School Counselors**

Future research should consider alternative ways to achieve a larger sample size. Anxiety disorders can often go unnoticed or misrepresented as a learning concern (Burke, 2009). It is recommended that at risk students be identified using brief screening tests. Suggestions to do this include: pushing into classrooms, holding school wide assemblies, or running several different groups throughout the school year. Also, in the future, more time should be allocated to for the group to meet and practice mindfulness techniques. Mindfulness is retraining the brain to be in a state of awareness of thoughts and feelings in a non-judgmental way this requires time and repetition. Furthermore, a follow up with participants would strengthen research to measure if mindfulness techniques have an impact on anxiety levels or attendance or other positive impacts over a period of time.

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An additional implication includes more collaboration with teachers to ensure that the mindfulness group is scheduled during an appropriate time that does not interfere with academic instruction. It is also important that teachers support the participants during the duration of the group. It may be helpful to educate the teachers on the benefits of mindfulness and techniques that can be used in the classroom. Further, as a way to reduce response bias, this author suggests having the participants take the inventory with their homeroom teachers.

Finally, this research study was a quantitative approach. To strength and add to the existing research, this author proposes two suggestions for future research. A relational research study design method to measure the relationship of a mindfulness-based intervention with participants' attendance. A mixed method or qualitative approach provides verbal feedback from the participants, teachers, and counselors and can add personal meaning to the research. The feedback would benefit the primary investigator by providing insight into the problem and give deeper meaning of the intervention effectiveness.

School counselors play a central role to create change and promote social, emotional, and academic achievement. Through a RTI approach, school counselors can address the growing number of children and adolescents experiencing anxiety and stress. Mindfulness-based interventions can be incorporated into individual, group, classroom lessons, and school wide assemblies. For example, after delivering a classroom lesson a school counselor can identify students with moderate to severe anxiety that could benefit from a small mindfulness-based intervention and or individual counseling. Techniques such as, breathing exercises, yoga, and mindfulness observation/awareness guided by the

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five senses can be modeled to administrators, teachers, and parents to promote and reinforce continual mindfulness practices within the school. This school-wide approach may produce better success by normalizing anxiety symptoms and aids in creating a positive supportive school climate.

### **Conclusion**

Many children and adolescence are at risk for experience ongoing stress. Research links high levels of sustained stress to predictors of childhood and adolescent anxiety (Volanen et al., 2016). Anxiety disorders can have negative effects on social emotional health and academic achievement (Bittner et al., 2007; Kingston et al., 2015; Mazzone et al., 2007; Van Ameringen et al., 2003). Existing research supports mindfulness interventions in schools to have positive impacts on students' cognitive and executive functioning leading to positive trajectories on social, emotional competency and overall wellbeing (Schonert et al., 2015).

The quantitative analysis of this research added to the existing research that a mindfulness-based intervention would decrease fifth grade students' anxiety levels. Participants in the study showed an overall decrease in anxiety levels in all anxiety implications, panic disorder, generalized anxiety, separation anxiety, social anxiety disorder, and significant school avoidance. Additionally, participants in the study reported enjoying the mindfulness activities and had successfully implemented them outside of the group. Many participants were disappointed that the group ended so soon, and would have liked to have met throughout the entire school year.

With the high prevalence of anxiety disorders in children and adolescence and the negative trajectories it has on overall health and wellness, the potential benefits of a

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mindfulness-based program in a school setting seems to be developmentally appropriate and promising. However, more research, using relational or mixed methods approach, is needed to further understand the impact of a mindfulness-based group on anxiety levels with a more diverse population, over a longer period of time. As research on mindfulness with children and adolescence continues to grow, this researcher is hopeful that mindfulness-based interventions will become utilized to enhance the responsive services provided to students with anxiety in a school setting.

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