# EXPLORING THE EFFECTS OF A DAILY AUDIO-GUIDED MINDFULNESS INTERVENTION FOR TEACHERS

by

Elizabeth Parsons

An applied dissertation submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Education
in Educational Leadership

Charlotte

2023

Approved by:

_____
Dr. Rebecca Shore

_____
Dr. Richard Lambert

_____
Dr. Amy Good

_____
Dr. Jamie Kudlats

©2023
Elizabeth Parsons
ALL RIGHTS RESERVED

# ABSTRACT

ELIZABETH PARSONS. Exploring the Effects of a Daily Audio-Guided Mindfulness Intervention for Teachers.
(Under the direction of DR. REBBECA SHORE)

Teachers are experiencing high levels of stress resulting in higher attrition rates that are impacting student achievement and placing considerable burdens on schools. The practice of mindfulness in the classroom may be a way to help teachers cope with perceived stress, be aware of mindfulness, and increase self-efficacy. The purpose of this quantitative study was to investigate the effects of teacher participation in a daily audio-guided mindfulness intervention to determine if the practice of mindfulness for nine weeks affects their perceived stress levels, awareness of mindfulness, and self-efficacy. The researcher used pre-survey and post-survey data from the *Mindfulness Awareness Attention Scales* (MAAS), the *Perceived Stress Scales* (PSS), and the *Teacher Sense of Efficacy Scales Survey* (TSES) *Short Form* and program efficacy data was collected during the intervention. The study consisted of 41 participants.

In this study, the researcher found that there was little to no significant change in teachers' perceived stress levels and awareness of mindfulness. There was a small increase in teachers' perceived self-efficacy. The research within this study describes mindfulness, the benefits to individuals who practice mindfulness, and the benefits that can be evident in the educational setting with teachers and students. It is evident that there is a place for mindfulness within the schoolhouse, but the path to mindfulness may require consistency over long periods of time, and time is not always a luxury schools can spare. For the program to succeed and see lasting impacts on teachers' perceived stress, awareness of mindfulness, and increase in self-efficacy, it may take consistency over time, and teachers' acceptance of mindfulness.

# ACKNOWLEDGMENTS

Words cannot express my deep gratitude and appreciation to the following people who have supported me through this educational journey. You have encouraged me and cheered me on through this process and I am forever grateful to you all.

- Dr. Rebecca Shore, my cheerleader, thank you for your words of wisdom and insight throughout the journey.
- Dr. Richard Lambert, my methodologist, thank you for your guidance while discussing descriptive statistics.
- Dr. Amy Good and Dr. Jamie Kudlats, thank you for serving as committee members and for your encouragement through the process.
- Dr. Laura Bakosh, thank you from the bottom of my heart for sharing the Inner Explorer organization with me and for assisting me in this journey.
- Dr. Walter Hart, Dr Cathy Howell, and Dr. Jim Watson, thank you for creating and managing an amazing Education Doctoral program for Educational Leaders, it has been challenging, rigorous and incredibly rewarding.
- Ari Sigal, my editor, thank you for assisting with the many drafts in this process. You are greatly appreciated.
- Cohort One, you are all amazing educators and people! I am excited to see what your futures may bring. Thank you for your friendship and support.
- To my husband, Wes Parsons, I love you, thank you for your unwavering support and encouragement during these four years. You have loved me well. You are truly the MVP!
- To my parents, Jack and Nancy Carpenter, thank you both for teaching me the meaning of hard work and that anything worth doing will be difficult. Mom, thank you for lighting

the fire in all of us that we should desire to be continuous learners, striving to know more every day.

- To my children, Rachel, Jake, and Jack, I love you dearly and I have completed this degree, always, with you all in mind. I hope you know that I believe in you and that you can do anything you put your mind to when you work hard.
- To my sisters, Carol and Jackie, thank you for your listening ear and for encouraging me along the way. I am glad that we giggle about the education world so often!
- To my friends and family, thank you for your support throughout this journey. You have been an encouragement to me and helped me reach the finish line.
- Cathy Phelan, thank you for your endless support and encouragement throughout these four years.
- Sharon School Staff, thank you for your support as I have grown as an educator in your presence and learned so much from you all.

Psalms 121: 1-2
I lift my eyes to the hills.
From where does my help come?
My help comes from the Lord,
Who made the heaven and earth.

Philippians 4:13
I can do all things through him [Christ] who strengthens me.

# DEDICATION

To the teachers of North Carolina who are under tremendous stress to close the achievement gaps for students after a global pandemic. You are my heroes and will forever be in my personal hall of fame. Thank you for helping our children.

# LIST OF TABLES

# LIST OF FIGURES

# TABLE OF CONTENTS

# CHAPTER 1: INTRODUCTION

The concept of mindfulness can be found in various religions such as Buddhism, Hinduism, Judaism, Islam, and Christianity (Trousselard, 2014). Mindfulness is most associated with ancient Buddhist thinking dating as far back as the sixth century B.C. and was described by Nyanaponika Thera, a German-Buddhist monk and scholar in a book entitled *The Heart of Buddhist Meditation* (1969). Initially, the intent of mindfulness in Buddhism was to alleviate suffering and cultivate compassion (Santorelli, 1999). Over the last 30 years, the popularity for mindfulness-based practice has grown in the Western world. Research has shown its effectiveness in mitigating and treating physical and psychological conditions and enhancing health and well-being (Tilahun & Vezzuto, 2014). Studies have also shown the practice of mindfulness can sometimes reduce stress.

Some researchers defined mindfulness practice as "the intentional process of observing, describing, and participating in reality nonjudgmentally, at the moment, and with effectiveness" (Dimidjian & Linehan, 2003, p. 229). Others described it as the "defused, accepting, open contact with the present moment and the private events it contains" (Fletcher & Hayes, 2005, p. 322). Bishop et al. (2004) considered mindfulness as "the self-regulation of attention so that it is maintained on immediate experience, followed by a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance" (p. 232). Arguably, the most recognizable definition of mindfulness came from medical doctor and professor, J. Kabat-Zinn (2003), who stated that "mindfulness practice is the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (p. 145). Kabat-Zinn has come to be known as the father of mindfulness-based stress reduction (MBSR).

Studies have found that youth can also benefit from learning the methods of mindfulness in terms of better cognitive outcomes, social-emotional skills, and well-being. In turn, mindfulness benefits may lead to a life with long-term benefits. For example, kindergarteners with positive social skills have been predicted to have improved education, future employment, less involvement in crime, substance abuse, and improved mental health outcomes in adulthood (Jones et al., 2015). Learning mindfulness techniques have benefited students in schools by decreasing aggressive and non-compliant behavior (Singh et al., 2013), aggressive behavior with conduct disorder (Singh et al., 2013), symptoms of anxiety (Semple et al., 2005), and symptoms of ADD (Zylowksa, 2008). Students who practice mindfulness-based strategies show improvements in social skills, an increase in attention and have shown a decrease in test anxiety (Napoli et al., 2005). Students have shown an improvement in self-regulatory behaviors, executive functioning among preschool and elementary school students (Flook et al., 2010), as well as an improvement in social relationships, self-control, and academic performance among middle school students (Rosaen & Benn, 2006).

When teachers learn mindfulness, it is possible they not only gain personal benefits such as a reduction in stress and burnout (Zarate et al., 2019), but students in their schools do as well. In randomized controlled trials, teachers who learned mindfulness techniques experienced a decrease in stress and burnout (Zarate et al., 2019); completed their jobs with greater efficacy (Jennings et al., 2011; Klingbeil & Renshaw, 2018); established more emotionally supportive classrooms (Jennings et al., 2019), and maintained better classroom organization (Flook et al., 2013).

**Statement of the Problem**

The teaching profession has been identified as a particularly stressful occupation (Cacha, 1981; Farber & Miller, 1981; Landsmann, 1978; Paine, 1981). Student disciplinary problems, student apathy, overcrowded classrooms, involuntary transfers, excessive paperwork, inadequate salaries, demanding or unsupportive parents, and lack of administrative support all contribute to negative aspects of the job (Altmaier & Van Velzen, 1987; Russell, 1987). As a result of these stressors, burnout among teachers occurs, and can be expressed in physical (e.g., headaches, peptic ulcers), psychological (e.g., depression, anger), and behavioral (e.g., deterioration in work performance, absenteeism) symptoms (Cunningham, 1982). Teacher burnout is thought to be one reason for the swelling numbers of qualified teachers exiting the classroom or leaving the education profession for alternative careers (Cunningham, 1982; Farber & Miller, 1981).

As early as the 1990's, the National Commission on Teaching and America's Future (1996) had noted the "need to hire more than two million teachers to handle huge enrollment increases, replace an aging teacher workforce ready to retire, and respond to the chronic attrition of new teachers that plagues American schools" (p.8). In spite of measures to reverse this growing need, a significant proportion of educators have left the teaching profession. More recently, the National Commission on Teaching and America's Future (2003) stated that, the attrition rate of teachers has grown faster than the supply. Specifically, the group of greatest concerns in the area of teacher turnover is beginning teachers. In the U.S., 30-50% of novice teachers leave the classroom within their first five years of entering the field (Ingersoll, 2003a; Quality Counts, 2000). The Alliance for Excellent Education (2004) reported alarming attrition rates: 14% of beginning teachers leave by the end of their first year, 33% leave within three years, and 50% leave within five years.

Having such an elevated turnover rate places substantial burdens on schools and students, impacts overall school effectiveness, disrupts program continuity and planning, and brings notable financial costs to local and state schools to recruit, replace, and retrain teachers (Hong, 2010). Exacerbating this already alarming situation, the last two years of disruption brought on by COVID-19 and the move toward virtual instruction has increased both stress and attrition throughout the profession.

**Theoretical Framework**

Maslow developed a hierarchy of needs to explain human motivation. In this theory, Maslow proposed that people have five basic needs that must be met before moving up the hierarchy to meet social, emotional, and self-actualizing needs (Maslow, 1943; Neher, 1991). Beginning at the bottom of the hierarchy and moving upwards, the needs are physiological, safety, love and belonging, esteem, and self-actualization. Maslow believed that it is only when lower-level needs are met that we can rise to our full potential of becoming self-actualized, which allows us to become more involved in higher pursuits of learning and giving us a broad understanding of and tolerance for emotion (Maslow, 1943; Neher, 1991).

Maslow (1987) noted that behavior can be multi-motivated and said that “any behavior tends to be determined by several or all of the basic needs simultaneously rather than by only one of them” (p.71). His hierarchy theory can be applied to the classroom, suggesting that a student’s basic physiological needs must be met before their cognitive needs can be fulfilled. As leaders within their classrooms, teachers set the tone for students and are the first responders to student stress and cognitive needs.

## Purpose of the Study

The purpose of this study was to investigate the effects of teacher participation in a daily audio-guided mindfulness intervention to determine if the practice of mindfulness for nine weeks affected their perceived stress levels, awareness of mindfulness, and self-efficacy. Mindfulness-Based Social and Emotional Learning (MBSEL) is an approach that enhances Social and Emotional Learning (SEL), which exposes students to a daily five-to-ten-minute mindfulness component. The MBSEL lessons used in this study are designed by the Inner Explorer organization and formatted on the MBSR protocols of Kabat-Zinn. The MBSEL was provided to all teachers in a school district using Inner Explorer's online platform. Implementing the lessons varied depending on the teacher's willingness to particpate. For this study, the researcher determined that when Inner Explorer's MBSEL curriculum was implemented at a rate of 75% or more, it was considered high implementation/usage and was defined as three or more school days per week of usage by the teacher and their students. When the MBSEL curriculum was implemented at a rate of 25%, it was considered medium implementation/usage and defined by two or less school days per week. When the curriculum was not implemented consistently during the five-day school week or nine-week study, it was considered low implementation/usage.

## Research Questions

This study sought to determine if Inner Explorer's MBSEL interventions were implemented at high and low levels, and included the following research questions:

RQ1. What effects, if any, do the MBSEL lessons have on teachers' perceived stress levels?

RQ2. What effects, if any, do the MBSEL lessons have on teachers' awareness of mindfulness?

RQ3. What effects, if any, do the MBSEL lessons have on teachers' perceived self-efficacy?

## Research Design and Methodology

This nine-week study was quantitative and measured teachers' mindfulness, stress, and self-efficacy levels with a pre-survey and post-survey to determine if there is evidence that mindfulness practice affected teachers' overall perceived stress levels, awareness of mindfulness, and self-efficacy. This study used a two-way mixed ANOVA, also known as a split-plot ANOVA, to test for differences between high and low implementation of the audio-mindfulness curriculum and teacher pre-survey and post-survey.

## Delimitations

The study was conducted during the spring semester of the 2021-2022 school year. Teachers in a small suburb outside of Chicago, Illinois participated in the study. The school district has roughly 700 teachers that serve in 13 elementary schools, five junior high schools, and two high schools.

## Assumptions

This study was based on two assumptions. The first was that teachers that implemented the daily lessons would find that their students were better able to self-regulate their emotions, thereby reducing poor behavior and reducing the teachers' perceived stress levels. The second assumption was that when teachers participated in the daily lessons, they would be able to self-regulate their emotions, reducing stress, increasing mindfulness awareness and their self-efficacy.

**Definition of Terms**

*Audio-guided Mindfulness-Based Social and Emotional Lessons*: Online mindfulness platform designed to support mental health and well-being through mindfulness-based social and emotional learning.

*Beginning teacher*: A teacher who has three years or less of classroom teaching experience.

*Burnout*: A state of emotional, physical, and mental exhaustion caused by excessive, prolonged stress.

*Experienced teacher* (Veteran teacher): A teacher with four or more years of classroom teaching experience.

*Efficacy:* A person's perceived ability to produce a desired or intended result.

*Inner Explorer*: A company that produces and distributes an evidence-based mindfulness program designed for use in school communities and created audio-guided Mindfulness-Based Social and Emotional Lessons for schools. The company is one of the few in education whose lessons are formatted on the mindfulness-based stress reduction (MBSR) protocol.

*Mindfulness Attention Awareness Scale* (MAAS): Developed by Brown & Ryan, 2003, the 15-item single-dimension measure of trait mindfulness.

*Mindfulness*: The quality or state of being conscious and aware of something.

*Mindfulness-Based Intervention* (MBI): Work to foster an open and accepting awareness of one's thoughts and feelings.

*Mindfulness-Based Social and Emotional Learning* (MBSEL): A daily curriculum that builds on the framework of social and emotional learning (SEL) and emphasizes daily mindfulness practice as its foundation.

*Mindfulness-based stress reduction* (MBSR): A healing approach that combines meditation and yoga that was created by medical doctor and professor, J. Kabat-Zinn

*Perceived Stress Scales* (PSS): A widely used instrument to measure individuals' appraisal of global stress in academic research and clinical practice. The instrument consists of 10 questions.

*Stress*: A feeling of emotional or physical tension.

*Social and emotional learning* (SEL): A part of education and human development in which young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions, achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions.

*Teacher Sense of Efficacy Scales* (TSES)-short form: A survey for teachers to self-report beliefs in their capability to make a difference in student learning, to be able to get through even to students who are difficult or unmotivated.

**Organization of the Study**

This study is organized into five chapters: Chapter 1 is an introduction, presents the research questions, and the purpose of the study; Chapter 2 reviews the relevant literature regarding the research questions; Chapter 3 gives the methodology for data collection and analysis; Chapter 4 analyzes the data and reports findings from the study; and Chapter 5 contains a summary, conclusions, and recommendations.

# CHAPTER 2: LITERATURE REVIEW

This chapter presents a literature review organized in themes based on topics pertaining to the study.

## Literature Table

Table 1 lists themes relevant to this research and associated studies reviewed.

**Table 1**

*Themes and Associated Studies*

| Theme | Sources |
|---|---|
| Teaching Profession & Retention | ACT, 2013; Aragon, 2016; Daniel, 2015; DiCarlo, 2015; Guin, 2004; Ingersoll, 2003(a,b); Kraft & Papay, 2014; Milliard, 2015; Quality Counts, 2000; Sawchuck, 2015, USDOE, 2013 |
| Teacher Stress & Burnout | Baer, 2003; Biegel et al., 2009; Bishop et al., 2004; Bishop, 2002; Davidson et al., 2012; deVibe et al, 2012; Dimidjian & Linehan, 2003; Fletcher & Hayes, 2005; Grossman et al., 2004; Huppert & Johnson, 2010; Kabat-Zinn, 1994, 2003, 2015; Kyriacour, 1987; Napoli et al., 2005; Santorelli, 1999, 2014, Skaalvik & Skaalvik, 2007; Tang et al., 2007; Thea, 2005; Tilahun &Vezzuto, 2014; Trousselard, 2014; Wadlinger & Isaacowitz, 2011; Wisner, 2010 |
| Mindfulness Practice Defined | Baer, 2003; Biegel et al., 2009; Bishop et al., 2004; Bishop, 2002; Davidson et al., 2012; deVibe et al., 2012; Dimidjian & Linehan, 2003; Fletcher & Hayes, 2005;Grossman et al., 2004; Huppert & Johnson, 2010; Kabat-Zinn, 1994, 2003, 2015; Napoli et al., 2005; Santorelli, 1999; Santorelli, 2014; Tang et al., 2007; Thea, 2005; Tilahun &Vezzuto, 2014; Trousselard, 2014; Wadlinger & Isaacowitz, 2011; Wisner et al., 2010 |
| Impact of Mindfulness Practice | Barnes et al., 2003; Davidson et al., 2012; Desbordes et al., 2012; Fischer, 2006; Hanson & Mendius, 2009; Holzel et al., 2011; Kaiser-Greenland, 2010; Khoury, 2013; McClelland et al., 2000; Meiklejohn et al., 2012; Payton et al., 2008; Pelco & Reed-Victor, 2007; Ponitz et al., 2009; Semple et al., 2005, 2010; Short et al., 2010; Urry et al., 2006 |

| | |
|---|---|
| Benefits of Mindfulness in Education | Bakosh, 2013; Burke, 2010; Cullen, 2011; Fitchett et al., 2018; Flook et al., 2010, 2013; Hobson et al., 2009; Hwang et al., 2017; Jennings, 2001; 2011; Jennings et al., 2011, 2019; Jones et al., 2015; Klingbiel & Renshaw, 2018; Meiklejohn et al., 2012; Napoli et al., 2005; Putman, 2012; Renshaw, 2018; Rosaen & Benn, 2006; Rose & Gallup, 2000; Roser et al., 2013; Semple et al., 2005; Siegel, 2009; Singh et al., 2006, 2007(a, b), 2013; Smith & Ingersoll, 2004; Tschannen-Moran & Johnson, 2011; Veldman et al., 2016; Wilson et al., 2008; Zarate et al., 2019; Zylowksa et al., 2008; |

**Teaching Profession and Teacher Retention**

The teaching profession makes up four percent of the United States workforce. When comparing the size of the teaching profession to others, there are twice as many K-12 teachers as registered nurses and five times more teachers as either professors or lawyers (Ingersoll, 2003a). In 2014, the American College Test (ACT) and the U. S. Department of Education (USDOE) reported fewer college students are pursuing a career in teaching. The number of college students enrolling in teacher preparation programs dropped from 719,081, in 2008 to 465,536 in 2013.

Educational leaders across the country are concerned about teacher shortages. In 2015, the president of the Nevada State Board of Education described the state's teacher shortage as "horrific" and warned that, absent improvement, "we're going to all sink" (Aragon, 2016; Milliard, 2015, p. 2). In the same month, the Texas Education Commissioner labeled the state's shortages as "the biggest threat to schools" (Aragon, 2016; Daniels 2015, p. 2).

Having a high teacher turnover rate impacts school effectiveness and educational outcomes for children (Guin, 2004; Kraft & Papay, 2014). This places a tremendous burden on school districts because it disrupts planning, program continuity, and has a cost that is significant to districts in the areas of financial planning and teaching recruitment. It has been estimated that replacing public school teachers could cost 2.6 billion dollars annually (Hong, 2010).

The National Commission on Teaching and America's Future (2003) reported that the need for teachers has climbed quicker than the supply. Among teachers, the group of greatest concern is beginning teachers. Novice teachers who leave the field within their first five years average between 30%-50% (Ingersoll, 2003a; Quality Counts, 2000). It was reported by the Alliance for Excellent Education (2004) that 14% of beginning teachers leave after their first year of teaching, 33%, within three years of teaching, and 50% within five years.

**Teacher Stress and Burnout**

The literature on the teaching profession frequently stated that the first year of a teacher's career is the most difficult to navigate and endure. Research suggested that initial, foundational experiences in the profession have lasting effects on teachers' satisfaction, retention, and commitment (Doney, 2013; Goddard & Foster, 2001; Hoy & Spero, 2005; Rust, 1994). Early-career teachers enter the school with workplace perspectives that are unique. These may or may not differ significantly from their experienced colleagues (Hargreaves, 2005; Katz, 1972; Rust, 1994). Roness (2011) found that beginning teachers are vulnerable to stress, burnout, and attrition at levels comparable to veteran teachers. Overall, researchers agreed that high levels of work-related stress were seen as a key variable related to teacher attrition (Johnson et al., 2005).

According to one early definition, stress can be defined as a negative emotional experience triggered by the teacher's perception that their work situation constitutes a threat to their self-esteem or well-being (Kyriacou, 1987,). However, there are numerous definitions of stress. Some investigators referred to stress as the level of demands or pressure put on teachers. Others argued that stress is a result of the demands put upon an individual and the ability of the individual to cope with those demands.

Teachers who feel emotionally exhausted or experience burnout often have fractured teacher-student relationships and demonstrate lower quality teaching (Maslach & Jackson, 1981). In addition, teachers with negative perceptions about their ability to teach, manage student behavior, or have low self-efficacy. Often these teachers display less effective teaching practices which can lead to a decrease in student achievement (Skaalvik & Skaalvik, 2007). Stress can weaken teacher performance and interfere with a teacher's personal well-being (Folkman et al., 1986). When teachers experience stress and are unable to cope well, the relationships they have with students are likely to suffer. When student teacher relationships suffer, this can lead to a decrease in educational and behavioral outcomes for students (Wentzel, 2010).

Prolonged stress can result in professional burnout. Burnout is a state of emotional, mental, and physical exhaustion caused by excessive and prolonged stress. Characteristics of burnout are feeling overwhelmed, emotionally drained, low levels of self-efficacy, and inability to meet constant demands (Maslach et al., 2001). Burnout among teachers has been linked to teacher turnover rates and job absenteeism (Belcastro & Gold, 1983), as well as low work performance and irritability (Huberman et al., 1993).

Consequently, teacher stress and burnout have been shown to negatively impact teacher and student well-being (Beer & Beer, 1992; Geving, 2007). Specifically, Geving (2007) found that the behaviors of teachers experiencing excessive stress from burnout can elicit negative student behaviors, such as criticizing others, harming school property, and disrespect towards the teacher. Teacher burnout was also associated with significantly higher levels of student anti-social and defiant or oppositional behaviors (Kokkinos, 2007).

Teacher stress and burnout can also negatively impact a teacher's self-efficacy (Brouwers & Tomic, 1999). One component of self-efficacy can be associated with classroom management

(Reinke et al., 2013). If a teacher feels more confident in their ability to manage classroom behaviors, then they are more likely to deliver effective instruction and see positive student outcomes. This becomes a cycle in which the teacher will receive positive feedback from student behavior making the teacher remain confident about classroom management and deliver effective lessons (Han & Weiss, 2005).

A teacher's self-efficacy has also been tied to their students' academic achievements. Muijs and Reynolds (2002) conducted a study with elementary school students to measure their academic gains in one school year. They found that academic achievement and annual gains were best predicted by teacher behavior. They also found that teacher self-efficacy and curriculum content knowledge affected teacher behavior, creating an indirect relationship to students' academic achievement. Further, when teachers are less stressed, research has shown that they have a more positive experience with their jobs and can support the development of children more effectively (Lambert et al., 2019). However, when teachers experience greater stress, the learning environment for students also becomes more stressful (Pakarinen et al., 2010).

Over the years, investigators targeted the problem of stress among teachers due to the increase of turnover rates (Cunningham, 1982). The stress process can be divided into two components: the source of stress and the response to it. The first aspect is defined by separate events or characteristics of the environment. Some sources of stress include occupational demands, life events, and other life adjustments the individual is required to make. The second component includes the individual's physical, behavior, and/or psychological reactions and interpretations (Jenkins, 1983).

The effects of stress can be felt physically, psychologically, emotionally, and behaviorally. Among the physical effects of stress are headaches, sleep disturbance, fatigue, hypertension, and tightening of muscles. Psychological/emotional effects include depression, anxiety, loss of confidence, and general uneasiness. Behavioral effects include impatience with others, low productivity, withdrawing from teaching, procrastination, and absenteeism (Dewe, 1986). Taken as a whole, these results can damage the teacher's ability to perform their job, create negative feelings, lose concern for their students, experience more frequent physical illness and have an increase in absenteeism (Cunningham, 1983; Maslach, 1976). However, when teachers are trained in mindfulness techniques and skills, they can enhance their positive coping strategies, improve student-teacher relationships, and enhance student behavioral and academic achievement (Singh et al., 2013).

**Mindfulness Practice Defined**

One technique that has been shown to reduce stress factors in both teachers and their students is practicing mindfulness strategies. Mindfulness first originated from Buddhist thinking and has been described by Thera (1969) in *The Heart of Buddhist Meditation*. Initially, its purpose was to help individuals respond well to habitual self-induced suffering. Over the past 30 years, mindfulness-based practice has grown in popularity, and research has shown its ability to relieve and treat physical and psychological conditions, in addition to improving health and well-being (Tilahun & Vezzuto, 2014).

Some researchers have defined mindfulness practice as "the intentional process of observing, describing, and participating in reality nonjudgmentally, in the moment, and with effectiveness" (Dimidjian & Linehan, 2003, p. 229). Others say it is the "defused, accepting, open contact with the present moment and the private events it contains" (Fletcher & Hayes,

2005, p. 322). Bishop et al. (2004) defines mindfulness as “the self-regulation of attention so that it is maintained on immediate experience” (p. 232), which is followed by “a particular orientation toward one’s experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance” (p. 232).

Possibly, the most recognizable definition of mindfulness comes from Kabat-Zinn (2003), who stated that mindfulness is, “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145). Later, Kabat-Zinn (2015) wrote:

> Of all the meditative wisdom practices that have developed in traditional cultures throughout the world and throughout history, mindfulness is perhaps the most basic, the most powerful, the most universal, among the easiest to grasp and engage in, and arguably, the most sorely needed now. For mindfulness is none other than the capacity we all already have to know what is actually happening as it is happening (p. 1481).

Within these traditions and the expansion of research and programs that has emerged in Western societies, mindfulness is now loosely based on the Mindfulness-based stress reduction (MBSR) program, developed by Kabat-Zinn and colleagues in the late 1970s at the University of Massachusetts School of Medicine and described in Kabat-Zinn (1994). Mindfulness based interventions (MBIs) have their origin in Buddhism as well as other spiritual traditions (Baer, 2003).

Intentional mindfulness is sometimes referred to as deliberate mindfulness. When mindfulness arises spontaneously, it is referred to as effortless mindfulness. Effortless mindfulness occurs more often (Kabat-Zinn, 2015). Deliberate mindfulness is often practiced

alone in a quiet place with eyes closed. Effortless mindfulness is experienced throughout the day, with eyes open. It allows one to redirect attention and awareness.

Mindfulness is often described as an innate quality of the mind, which must be (or has to be) refined through systematic practice (Kabat-Zinn, 2015). Kabat-Zinn suggested that mindfulness gives rise to awareness: “The greater and the more stable the mindfulness, the greater the awareness and penetrative insight that may stem from it.” (p.1482). Mindfulness and awareness are often used synonymously. Therefore, the essence of mindfulness is considered universal and is more about the nature of the human mind than about ideology, beliefs, or cultures. It focuses more on our capacity of knowing than following a particular religion, philosophy, or view. It is important when studying mindfulness to look closely at why paying attention is critically important to our well-being and how it fits into the big idea of healing and transforming both our lives and the world (Kabat-Zinn, 2015).

Since the work of Kabat-Zinn, the underlying ideology of mindfulness is that by focusing one’s attention on the actions of the mind, one can attain a deeper appreciation and interpretation of one’s thoughts and emotions, change unhealthy and come into direct contact with a sense of calmness and inner wisdom as a result (Santorelli, 1999). V. Frankl argued that the moment between stimulus and response represented the freedom to choose (Lewis, 2012). Mindfulness practice helps one fix attention on a single moment in time. Often, ideology of empathy, peacefulness, and compassion develop as a result of consistent practice (Kabat-Zinn, 1994).

**Mindfulness-Based Stress Reduction Program**

The MBSR program was first developed to treat medical patients for whom traditional therapies were not effective (Kabat-Zinn, 1994). As MBSR is not specific to any condition or application, it has begun being taught in many organizations, both for-profit and nonprofits,

leadership programs, and in medical and therapeutic settings (Tilahun & Vezzuto, 2014). MBSR has become one of the essential protocols for clinical and non-clinical subjects in medicine, psychology, law, business, athletics, military, arts, prisons, and lately in education (Grossman et al. 2004).

MBSR typically consists of eight weeks of group sessions. These sessions meet weekly for three hours, with one session being a full day silent retreat. The format is psycho-educational and largely skill-based (Bishop, 2002). Skill-based learning includes sitting meditation, during which one sits in an alert position that keeps the individual awake and focused.

Walking meditation incorporates meditation while walking to bring the mind to a relaxed focus. Gentle movements or movement meditation use rhythmic physical movements to focus and center the mind. The training also teaches ‘body scans’, which is the practice of gently scanning the body in a non-judging way. MBSR instruction helps program participants develop the habit of being mindful through consistent structured practices, which may include walking and sitting meditation, personal body scan meditation, which promotes an awareness of one’s body from head-to-toe, and ‘mindful yoga’, which is closely related to Hatha yoga. These consistent, daily practices are important in developing the routine of being mindful in daily life, from getting the mail, to driving a car, and preparing a meal.

MBSR’s primary focus is directed toward developing the participant’s firsthand understanding of the body, mind, and body-mind interactions. This can lead to incrementally developing greater somatic-psychic awareness that can be fluidly integrated into the life of participants as a means of: mitigating the negative consequences of patterned, habitual conditioning; becoming more capable of self-regulation; coping more effectively with the challenges and demands of everyday life, and discovering and becoming increasingly familiar

with one's hidden, yet innate, resources for learning, growing, healing, and thriving (Santorelli, 2014).

There is considerable discussion about and experience with mindfulness-training techniques. Participants are educated about the pathophysiology of stress and emotions and provided with ways to approach specific situations using mindfulness skills. Some of these skills include an awareness of breath, movement, body, emotions, thoughts, and a connection with others. Participants are provided with an audio-guided compact disk (CD) to continue their synchronous practice of mindfulness techniques. The CD includes body scan meditation, sitting meditation, and mindful yoga practice (Bishop, 2002). With practice, patients typically describe a capability to understand the actions of their mind. Patients also describe an increase in compassion and a sense of openness (Kabat-Zinn, 1994).

Participants also experienced several positive outcomes, including improved mental and physical health, improved sleep, and an increased sense of well-being with no adverse effects (Davidson et al., 2012; deVibe et al., 2012). The total time for discussion and practice for the training is approximately 30 hours of asynchronous work and 30 hours of synchronous work at home, if participants practice daily at home (Santorelli, 1999).

All daily activities can be done mindfully and the more consistently one practices the mindfulness techniques, the more likely the techniques will become a habit (Santorelli, 1999). One might believe that this daily practice of mindfulness would be simple, but consistent mindfulness can be difficult because the mind often wanders. Additionally, multitasking and connecting to digital devices have saturated our modern culture at the expense of quiet time for reflection and meditation. These factors make it difficult to commit to daily mindfulness practice. However, studies linked successful outcomes to consistent practice (Biegel et al., 2009;

Huppert & Johnson, 2010; Napoli et al., 2005; Tang et al., 2007; Wadlinger & Isaacowitz, 2011; Wisner et al., 2010).

**Effects of Mindfulness Practice**

Research over the last several decades has suggested that adults who participated in MBSR programs and utilized mindfulness-based interventions (MBI) have been successfully treated for clinical conditions. A comprehensive meta-analysis by Khoury et al. (2013) indicated that some MBIs had moderate therapeutic effects in pre- and post-treatment studies, waitlist-controlled studies, and treatment-controlled studies. The investigators also showed that MBIs produced greater therapeutic effects when targeting psychological disorders compared to medical conditions, and that follow-up outcomes generally maintained positive effects after treatment.

Mindfulness practices have also been shown to improve executive brain function, including self-regulation skills, attention, working memory, and cognitive flexibility. These areas have been linked to academic outcomes in specific clinical student populations (Semple et al, 2005, 2010). When these areas of executive function are improved, it appeared to foster readiness to learn and lowered stress levels (McClelland et al., 2000; Payton et al., 2008; Pelco & Reed-Victor, 2007).

However, if executive functions are low, they can be associated with a deficiency in cognition, social adjustment, and academic performance (Pontiz et al., 2009). After mindfulness techniques are taught to children in school, the results have been shown to be positive for the whole child. The positive measures range from improved social skills (e.g., listening, taking turns, and positive peer and teacher interactions) to enhanced cognitive skills (goal orientation, inhibitory control, and planning) (Barnes et al., 2003; Fischer, 2006; Kaiser-Greenland, 2010; Meikeljohn et al., 2012).

Some studies suggested that mindfulness practice facilitates neuroplasticity, which is the ability of the brain to form and reorganize itself because of experiences and thoughts, specifically in areas associated with positive mood, emotional regulation, and a sense of well-being (Davidson et al., 2012; Hanson & Mendius, 2009; Urry et al., 2006). Researchers have shown increased brain function and structure in areas associated with higher cognitive performance such as perspective taking and learning, and memory processing is due to mindfulness practice. Similarly, mindfulness practices can decrease negative emotions, including stress, anxiety, and depression (Desbordes et al., 2012; Holzel et al., 2011; Short et al., 2010).

**Benefits of Mindfulness in Education**

Studies have shown that youth benefit from learning mindfulness in terms of improved cognitive outcomes, social-emotional skills, and well-being. In turn, such benefits may lead to long-term improvements in life. For example, social skills in kindergarten predict improved education, more employment opportunities, less involvement in crime and substance abuse, and better mental health outcomes in adulthood (Jones et al., 2015). Learning mindfulness techniques has benefited students by decreasing aggressive and non-compliant behavior (Singh et al., 2006, 2007b), aggressive behavior with conduct disorder (Singh et al., 2007), symptoms of anxiety (Semple et al., 2005), and symptoms of attention deficit disorder (Zylowksa et al., 2008). Students who practice mindfulness-based strategies show improvements in attention, social skills, test anxiety (Napoli et al., 2005), self-regulatory behaviors, and executive functioning among preschool and elementary school students (Flook et al., 2010). There were also improvements in social relationships, self-control, and academic performance in middle school students (Rosaen & Benn, 2006).

When teachers learn mindfulness, they not only reap personal benefits, but their students perform better in school. In randomized controlled trials, teachers who learned mindfulness experienced reduced stress and burnout (Zarate et al., 2019), greater efficacy in doing their jobs (Jennings et al., 2011; Klingbeil & Renshaw, 2018), had more emotionally supportive classrooms (Jennings et al., 2019), and better classroom organization (Flook et al. 2013).

Researchers are beginning to examine how mindfulness can impact teachers' stress levels and overall job satisfaction. Klingbiel and Renshaw (2018) conducted a meta-analysis on various mindful practices for classroom teachers. Their review of 29 studies showed promise for promoting mindfulness and found that incorporating mindfulness interventions was effective in reducing psychological distress and increasing wellness in educators.

Mindfulness practices for teachers may provide a means to manage stress, improve their perceptions of working conditions, increase teacher retention, and help provide a more positive classroom environment (Hwang et al., 2017). Mindfulness can improve classroom management by promoting greater teacher attention in the classroom and assisting them respond to positively respond to negative events that occur in the classroom (Hwang et al., 2017).

In a recent study that analyzed the effects of mindfulness training on teacher perceptions of their mindfulness, stress, anxiety, burnout, and depression, researchers suggested that mindfulness had statistically significant positive outcomes related to increases in teacher mindfulness, and decreases in stress, anxiety, burnout, and depression (Zarate et al., 2019). Their control-trial studies from 2018 with in-service teachers using mindfulness as a primary intervention were analyzed. Zarate et al. replicated the findings of Klingbiel and Renshaw (2018). Although study methods varied slightly between the studies, all researchers found that

when mindfulness interventions were introduced, teachers increased their levels of mindfulness substantially (Zarate et al., 2019).

Flook et al. (2013) conducted a randomized, controlled pilot trial of a modified MBSR course specifically for teachers by two MBSR-trained instructors. The standard MBSR curriculum was adapted for teachers to focus on integrating skills into the classroom. The modified course was called the MBSR. During this course, teachers attended training programs specifically for them that extended the number of sessions and school-related activities and practices. The course took place during the fall of the 2011 school year to allow teachers to apply the skills they had learned. Teachers were encouraged to practice their new learning outside of class for 15-45 minutes per day for 6 days per week. They were provided with guided recordings to assist them in their practice. The course lasted eight weeks and had approximately 26 hours of instruction and group practice.

In their study, investigators found that the MBSR course was a positive intervention; teacher-participants showed significant declines in negative psychological symptoms and burnout There were improvements in observer-rated classroom organization, performance on a computer task of affective attentional bias, and self-compassion. Interestingly, the control group in this study showed a decline in cortisol over time, and marginally significant increases in burnout (Flook et al., 2013).

Jennings et al. (2013) conducted a mindfulness-based professional development program designed to reduce stress and improve teachers' performance and classroom learning environments. The program, Cultivating Awareness and Resilience in Education (CARE) combined mindful awareness practices, emotion skills instruction, and compassion-building activities to provide teachers with skills to decrease their emotional stress and increase the social

and emotional skills required to build supportive relationships with their students, manage challenging student behaviors, and provide modeling and direct instruction for effective social and emotional learning. The CARE program is specific, comprehensive, and grounded in theory and research. The course is an intensive 30-hour program presented traditionally in four day-long sessions over four-to-six weeks. Mindfulness techniques, however, do require practice to promote behavioral change (Cullen, 2011).

CARE professional development combines direct instruction with targeted skills and opportunities to practice new ones. Participants participate in reflective writing and discussion groups. There are also activities to complete at home. Teachers can also participate in coaching opportunities in which CARE facilitators answer questions or address difficult situations that may arise. Program materials include a CD containing at-home guided practice activities and a participant workbook containing homework activities, exercises, and further information (Jennings et al., 2013).

In their study, Jennings et al. (2013) conducted a randomized, controlled trial examining program efficacy and acceptance among a sample of 50 teachers randomly assigned to CARE or waitlist control conditions. Participants completed self-reported measures pre- and post-interventions to assess the impact of CARE on general well-being, efficacy, burnout, time pressure, and mindfulness. ANCOVAs were done that compared the CARE group and control group for each outcome; pre-test scores were a covariate.

Participants experienced significant improvements in well-being efficacy, burnout, time-related stress, and mindfulness compared with the control group. Their comments on evaluations showed that they viewed CARE as a feasible, acceptable, and effective method for reducing stress and improving performance. Results suggested that the program can support teachers

working in challenging settings, and consequently improve classroom environments (Jennings et al., 2013).

**Inner Explorer**

Though several training programs have been effective, they do require many hours of professional development and training for teachers and students to reap the benefits. Extra time is often a luxury teachers do not have. Also, these programs can also be costly and not affordable for school districts. The quality of training teachers will receive and their ability to faithfully implement the new learning are ongoing concerns.

In 2001, J. Houlihan and L. Bakosh founded Inner Explorer as a non-profit to bring mindfulness into the classroom. Inner Explorer was established to address current program limitations which restrict or require changes to adopted and implemented curriculums and needed dedicated trainers or extensive teacher training. The program design was expected to facilitate both scalability and sustainability. Schools or school systems could implement this intervention in each classroom and utilize the program daily throughout the school year by simply using the company's online platform (Bakosh, 2013).

Bakosh (2013) conducted a pilot study to test the feasibility and effectiveness of an audio-guided mindful awareness training program on quarterly grade performance in traditional U. S. public schools. Four third-grade teachers and 93 students participated in the quasi-experimental design. The day before the program launch, teachers were given a 60-minute training session consisting of a review of program content, structure, and classroom tools, as well as related research on mindful awareness, cognition, and SEL.

The study lasted approximately eight weeks and was done using a pre-recorded, 10-minutes per day audio-guided program based on the MBSR protocol developed by Kabat-Zinn et

al. The intervention utilized a series of guided mindful-based awareness and attention-focusing practices as a means of engaging students with SEL concepts. It can thus be called a "mindful-based social emotional learning" (MBSEL) program. The program is innovative because it requires neither expert trainers skilled in mindful awareness nor changes to existing curriculum. Therefore, it can be considered teacher-independent and curriculum-supportive.

Consistent with MBSR programs, SEL concepts were part of the 35 tracks, including self-awareness, self-control, kindness, emotional regulation, and gratitude. The program was created to allow students to consistently engage with what is happening internally, so users became aware of their inner experiences. The goal of the pilot study was to facilitate daily mindful awareness practice that improves student outcomes. Study results suggested that the brief, pre-recorded daily mindful awareness training predicted significant differences in elementary students' term grades in science and reading, as well as notable improvements in classroom behavior.

The study also showed promise in its approach and may promote the desired goal of a faster and more widespread rollout of mindful awareness programs in schools (Burke, 2010; Meiklejohn et al., 2012). This is because the fact that the design of the present MBSEL intervention was purposely kept uncomplicated. Experienced mindful awareness trainers were not required to conduct the intervention, and the school's existing curriculum did not need to be changed. Also, students did not need to be divided into smaller groups or moved to different locations to participate.

This approach supported increased interest in MBSEL classroom interventions. The study showed that the program may offer a simple method to facilitate a daily mindful awareness practice that supported classroom teachers and dedicated mindful awareness trainers. The study

also showed that the pre-recorded format of audio-guided instruction is especially aligned with insights from researchers who provided data that repeated and consistent practice is critical to becoming skilled in mindful approach (Napoli et al., 2005; Siegel, 2009).

Bakosh (2013) also extended the pilot study by examining the scientific understanding of the effects of mindfulness interventions. The quasi-randomized controlled trial (RCT) was set in traditional elementary school classrooms. The program was used each school day for 10 weeks and was designed to be implemented without teacher support and not interfere with class curriculum. The study focused on a more socio-economically and geographically diverse student population than the previous study. This study also focused on classroom operations and program feasibility as well as teacher outcomes, including changes in their stress levels and mindfulness.

The purpose of this study was primarily to determine if there is evidence to support mindfulness practices increasing student achievement. The second intervention was designed to establish universality in program delivery, because every classroom used this format with all students and teachers within current curriculum requirements, and with little equipment or changes to classroom layouts. The intervention was further designed to be an RCT to increase its scientific rigor and influence education policy (Bakosh, 2013).

During the study, student academic outcomes were tracked as a dependent variable and compared to implementing daily mindfulness practice. Program efficacy data were collected weekly from participating teachers. Teachers reported if they were able to implement the program daily, if they participated in the program, and if they were able to complete the planned curriculum. Teachers also completed two pre- and post-surveys: the *Mindfulness Awareness*

*Attention Scale* (MAAS) to measure trait mindfulness and the *Perceived Stress Scales* (PSS) to measure perceived stress (Bakosh, 2013).

Teachers participated in a 60-minute training session one week before the program start date. The Inner Explorer MBSEL program included 90 MP3 audio-guided tracks. Each track is approximately 10 minutes long and includes a journaling integration activity for the last two minutes of the recording. Teachers used normal transition times to implement the program. The study was designed to not interrupt the required curriculum or events of the school day. Teachers were encouraged to engage in lessons alongside their students by taking a moment to sit and listen to the daily recording (Bakosh, 2013).

Bakosh's (2013) study analyzed the effects of implementing the Inner Explorer MBSEL program in elementary classrooms and demonstrated beginning evidence that a digital MBSEL program may offer students and teachers a simplified method to continue daily mindfulness practice consistently throughout the school year. The study provided positive academic results for elementary students by showing an increase in their quarterly GPAs compared to students in the control group. Teachers who participated in the study were able to implement the program with consistency each day during natural transition times with minimal training, while maintaining the current required curriculum. Finally, the study showed that teachers who participated in the mindfulness program did increase in mindfulness as measured by the MAAS and reported less perceived stress as measured by the PSS.

Teacher effectiveness is critical in student academic performance and is consistently a priority in education policy debates (Jennings, 2011; Wilson et al., 2008). Beginning teachers' workloads and professional expectations are held to the same standards as that of veteran teachers. The expectations of teachers range from being knowledgeable in all academic subject

areas to creating a positive classroom environment conducive to learning. Today, teachers are forced to navigate societal factors that have an impact on student development and classroom performance (Bakosh, 2013). These factors can include students' emotional and behavioral regulation, character development, and community engagement (Jennings et al., 2011; Rose & Gallup, 2000).

The importance of supporting new teachers' self-efficacy to help retain them has been demonstrated (Putman, 2012; Tschannen-Moran & Johnson, 2011). Research has also confirmed the association between teachers' risk for stress and various workplace outputs such as burnout, classroom autonomy, and professional commitment (Veldman et al., 2016). Beginning teacher support programs that offer mentoring support from experienced teachers, support structures, and on-the-job training for beginning teachers, are common across the U. S. (Fitchett et al., 2018). Research has shown that these programs can significantly reduce beginning teacher attrition (Hobson et al., 2009).

Several studies highlighted in this literature review demonstrates that mindfulness professional development for teachers resulted in a decrease in stress and burnout, and improvements in classroom organization, attention, working memory, and self- compassion (Flook et al., 2013; Jennings, 2011; Roser et al., 2013). In addition, such professional development for teachers has been associated with improvements in student behaviors, including greater conformity with teacher directions and fewer challenging behaviors (Singh et al., 2013).

As there has been limited research on implementing mindfulness techniques and its effects on teachers' perceived stress levels, this study used the nine-week audio-guided mindfulness program from Inner Explorer to investigate its effects on teachers' perceived stress levels, awareness of mindfulness, and perceived self-efficacy. The MBSEL was provided to all

teachers in a suburban school district Chicago. Its implementation varied depending on the teacher's willingness to use the program. The purpose of this study was to determine whether using the MBSEL at a high-level affects teachers' perceived stress levels, teachers' awareness of mindfulness, and what effects, if any, the lessons had on their perceived self-efficacy?

# CHAPTER 3: RESEARCH METHODS

This quantitative study measured teachers' perceived mindfulness and stress levels with a pre-survey and post-survey to determine if there is evidence that mindfulness practices influence teachers' overall perceived stress levels, awareness of mindfulness, and self-efficacy. Following the nine-week intervention, the researcher used a two-way mixed ANOVA (a split-plot ANOVA) to test for differences between high and low implementation of the audio-mindfulness curriculum and teacher pre-survey and post-survey results.

## Purpose of the Study

The purpose of this study was to investigate the effects of having teachers participate in a daily, audio-guided mindfulness social and emotional lesson intervention to determine if the practice of mindfulness affects teachers' perceived stress levels, awareness of mindfulness, and self-efficacy. The lessons were designed to support mental health and well-being through MBSEL Following IRB approval, the MBSEL curriculum was provided to all teachers in the district using the Inner Explorer online platform. Inner Explorer is an evidence-based mindfulness program for school communities. The recorded daily lessons are five to 10 minutes.

Implementing the lessons varied according to the teacher's willingness to use the program. This research determined that if Inner Explorer's MBSEL curriculum was used at $\geq$75% or more during the study, it was considered high implementation (i.e., three or more school days per week). Lower usage was considered low implementation, that is <25% (two or less days per week). The researcher developed the following research questions when the Inner Explorer MBSEL was administered at high or low levels:

RQ1. What effects, if any, do the MBSEL lessons have on teachers' perceived stress levels;

RQ2. What effects, if any, do the MBSEL lessons have on teachers' awareness of mindfulness;

RQ3. What effects, if any, do the MBSEL lessons have on teacher self-efficacy?

**Participants and District Demographics**

Teachers in a small suburb outside Chicago were invited to participate in the study. The school district employs approximately 700 teachers serving in 13 elementary schools, five junior high schools, and two high schools. During the 2019-2020 school year, teachers in the district had been teaching an average of 10 years. The district had an 89% teacher retention rate. Seventy-three percent of teachers had a master's degree or higher, and all teachers were evaluated as being proficient. The district's average teacher salary was slightly higher than the state average at $70,100.

According to data from 2019-2020, the district had a student enrollment that was slightly more than 17,000 students. Of these students, 55% were white, 22% Hispanic, 9% Black, 8% Asian, and 5% Multi-Racial. The district also classified 21% of its students as being from low-income homes, 8% as English learners, 14% had an individualized education plan, and 1% were considered homeless. Students who took the SAT scored an average of 1,037 which was higher than the state average of 995.

**Measurement Techniques**

Program efficacy data was tracked through the online Inner Explorer platform. The platform enabled them to identify daily usage of the program per participating teacher and the amount of time spent on the daily mindfulness lesson. During the study, each participating teacher completed three surveys: the *Mindfulness Awareness Attention Scales* (MAAS), the *Perceived Stress Scales* (PSS), and the *Teacher Sense of Efficacy Scales Survey* (TSES) *Short*

*Form*. These surveys were given before administering the MBSEL as a pre-test and later as a post-test.

The MAAS is one of the most popular measures of mindfulness, showing favorable psychometric properties and theoretically consistent relationships to brain activity, MBI outcomes, and meditation on MBI effects. Brown and Ryan (2003) found the MAAS yielded scores with acceptable internal consistency reliability (alpha= 0.81). In their study, Brown and Ryan demonstrated that scores on the MAAS improved over time during an eight-week standardized MBSR program, which had previously been effective in reducing psychological distress in chronic pain, anxiety, and other long-term medical conditions. There is debate about the reliability of self-report surveys, including the MAAS, that claim to measure the complex traits associated with developing and embodying mindfulness (Grossman, 2011). Also, there is limited convergent validity, and most available self-reports appear to be measuring different aspects of the trait 'mindfulness' (Grossman, 2011.)

The PSS is a preferred tool for measuring psychological stress. It is a self-reported questionnaire designed to measure "the degree to which individuals appraise situations in their lives as stressful" (Cohen et al., 1983, p. 385). The PSS evaluates the degree to which individuals believe their life has been unpredictable, uncontrollable, and overloaded during the previous month. The assessed items are general rather than focusing on specific events or experiences (Lee, 2012). The PSS demonstrates acceptable reliability, having a coefficient alpha of 0.78 (Cohen & Williams, 1988).

The TSES consists of three factors: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. The survey that was used in this study is the short-form and has 12 items. The TSES included all three factors and has good

internal consistency and reliability (Nie et al., 2012). Teachers completed electronic versions of the MAAS, the PSS, and the TSES Short Form at the start and end of the study.

**Procedure**

The school district partnered with Inner Explorer organization, who provided the district's teachers with a 60-minute training session held within a week of the planned launch date. The training provided normal program operations, the research protocol, a review of general information related to mindfulness, the informed consent agreement, and Frequently Asked Questions. Participating teachers were given the three instruments as a pre-survey before beginning the Inner Explorer curriculum. Participating teachers then incorporated Inner Explorer into their daily school routine for nine weeks. At the end of this time, they were administered the same three instruments as a post-survey.

The classroom lessons are found on the Inner Explorer platform. Once the teacher accesses the online platform, the lesson is ready for the day. The teacher pushes the play button on a screen and the lesson begins. The lessons teach many elements of social and emotional learning such as deep breathing and relaxation, understanding emotions, gratitude, focus, empathy, and self-regulation. The narrator of the audio-guided lesson leads the participant through each technique. The narrator may encourage deep breathing as the participant listens to classical music in the background. It also may lead participants through an awareness exercise to reduce stress and tension in the body. The audio-guided lessons are sometimes followed by a journaling activity for students and teachers to complete. The lessons are roughly 10 minutes in length.

## Data Collection

Data was collected from participating teachers in three phases: Pre-data, continuous data, and post-data (see Figure. 1).

**Figure 1**

*Data Collection Process*

| Data Collection Phases | | |
|---|---|---|
| **Pre-Data Collection** | **Continuous Data Collection** | **Post-Data Collection** |
| Pre-Survey<br>MAAS, PSS, and TSES short-form surveys will be completed by participating teachers. | Program efficacy data will be collected through the Inner Explorer platform for the duration of the nine-week study. | Post-Survey<br>MAAS, PSS, and TSES short-form surveys will be completed by participating teachers. |

## Treatment of Data

Data was collected and initially screened to determine which teachers used the program at a rate of 50% or more during the nine-week study. The data collected was analyzed using SPSS software. The data from the MASS, PSS, and TSES Short Form was evaluated using a two-way mixed ANOVA (a split-plot ANOVA) to test for differences between high implementation and low implementation of the curriculum and teacher pre-survey and post-survey results (see Table 2). High and low implementation were considered between-subject factors and the pre-survey and post-survey were regarded as within-subject factors. The ANOVA examined the sample means to see if they were further apart than would be expected by chance.

**Table 2**

*Proposed Data Table*

| | Pre-Survey (February) | Post-Survey (May) |
|---|---|---|
| High Implementation | | |
| Low Implementation | | |

**Internal and External Validity**

This study contained three threats to internal validity, which is the degree to which a study accurately measures a cause-and-effect relationship between a treatment and outcome. First, the study began during the second semester of the school year. This is generally a more stressful time during the school year, with limited breaks and high-stakes testing in the spring. This could impact teachers' stress levels and dedication to implementing the program.

Second, the Inner Explorer curriculum was purchased by the school district with the expectation that every teacher would use the program daily. Therefore, there were not randomly assigned groups of teachers designated as control and treatment groups. Teachers' acceptance of and willingness to actively support and participate in the program was essential for successful use of Inner Explorer. Lastly, this study did have a control group. The treatment was offered to all teachers so there was no opportunity to randomly assign teachers to a treatment and control condition. This study provided information about the usefulness of using MBSEL lessons when done more frequently compared to less frequently.

This study increased external validity (the degree to which the outcome of a study can be applied to other settings) in three ways. First, it had an anticipated large sample size of close to

700 teachers that worked in the district. Second, participating teachers included teachers in elementary, middle, and high schools, which provided a variety of educators who worked with various age groups of students. Finally, participating teachers were given three research-based surveys (MASS, PSS, and TSES) as pre- and post-surveys.

Chapter Four gives the results of the nine-week quantitative study and analyzes the data. It also presents a statistical analysis of the data collected to measure teachers' mindfulness, stress levels, and self-efficacy using pre-survey and post-survey data.

# CHAPTER 4: RESULTS

This quantitative study measured teachers' perceived stress levels, awareness of mindfulness, and self-efficacy with a pre-survey and post-survey design to determine if there was evidence that the audio-guided mindfulness practices influenced teachers' overall perceived stress levels, awareness of mindfulness, and self-efficacy. After the nine-week intervention, the researcher used a two-way mixed ANOVA (a split-plot ANOVA) to test for differences between teachers' pre- and post-survey results following high, medium or low implementation/usage of the audio-guided mindfulness curriculum.

Program efficacy data was tracked through the online Inner Explorer platform. The Inner Explorer platform enabled the organization to identify daily usage of the program per participating teacher and the amount of time spent on the daily mindfulness lesson. During the study, each participating teacher completed three surveys: the *Mindfulness Awareness Attention Scales* (MAAS), the *Perceived Stress Scales* (PSS), and the *Teacher Sense of Efficacy Scales Survey* (TSES) Short Form. These surveys were administered before giving the *Mindfulness-Based Social and Emotional Lessons* (MBSEL) as a pre-survey and at the end of the nine-week study as a post-survey.

This chapter gives the results of the nine-week quantitative study and is organized according to the research questions. It presents the purpose of the study, participant and district demographics, and is organized by research question. A concluding paragraph summarizes key findings and explains the findings.

## Purpose of the Study

The purpose of this study was to investigate the effects of having teachers participate in a daily, audio-guided Mindfulness Based Social and Emotional Lesson intervention to determine if

the practice of mindfulness affects teachers' perceived stress levels, awareness of mindfulness, and self-efficacy. The lessons were designed to support mental health and well-being through MBSEL. After Institutional Review Board (IRB) approval, the MBSEL curriculum was provided to all teachers in the school district using the Inner Explorer online platform. Inner Explorer is an evidence-based mindfulness program for school communities. The recorded daily lessons are five to ten minutes in length.

Implementing the lessons varied according to each teacher's willingness to use the program. This researcher determined that when Inner Explorer's MBSEL curriculum was implemented at a rate of 75% or more during the study, it was considered high implementation/ usage and was defined as three or more school days per week of usage by the teacher and their students. When the MBSEL curriculum was implemented at a rate of 25%, it was considered medium implementation/usage and was defined by two or less school days per week. When the curriculum was not implemented with consistency during the five-day school week or nine-week study, it was considered low implementation/usage.

**Participants**

This study had 41 participants. Twenty-four teachers taught grades 1-5. Nine were classroom teachers who supported exceptional children and eight participants were support staff members who assisted students in a variety of ways. The 41 employees represented 11 different schools in the district. Nine had 20 or more years of teaching experience, 29 had 11 to 20 years of teaching experience, and three had six to 10 years of teaching experience.

**Research Question One: What effects, if any, do the MBSEL lessons have on teachers' perceived stress levels?**

The PSS is a well-known psychological instrument used to measure the perception of stress. It quantifies the level to which situations in one's life are deemed stressful. The survey questions were developed to determine how unpredictable, uncontrollable, and overloaded participants find their daily lives. The survey focuses its questions on feelings and thoughts participants have encountered in the last month. Some survey questions were: "in the last month, how often have you been upset because of something that happened unexpectedly"; "in the last month, how often have you felt that you were unable to control the important things in your life", and "in the last month, how often have you felt nervous and "stressed"? The PSS is interesting because your perception of what is occurring in your life is most important. It is worth noting that two people could have the same events happening in their lives but have different perceptions of them to determine the degree of stress they are perceiving (Cohen et al., 1994, p. 2).

The PSS is a 10-item questionnaire with responses rated on a 5-point Likert scale (0 = never, and 4= very often). PSS scores are determined by first reversing responses for questions 4, 5,7, and 8 (i.e., 0=4, 1=3, 2=2, 3=1 and 4=0). Lastly, the scores are added for each item to receive the total score (Cohen et al., 1994, p.2). Participant scores on the PSS range from 0 to 40, with lower scores indicating lower perceptions of stress and higher scores indicating higher levels of stress. Scores ranging from 0 to 13 indicate lower stress. Scores ranging from 14 to 26 indicate moderate stress, and results from 27 to 40 signify high perceived stress.

The researcher compared pre-survey scores to post-survey scores for the PSS, which showed that there was no significant change in a participant's perceived stress before beginning

the study and at its end. In this survey, one would want to see participants responding with responses of ‘sometimes’, ‘almost never’, and ‘never’ during the post-survey to indicate a decrease in perceived stress levels (see Table 3).

**Table 3**

*Perceived Stress Scales (PSS), Pre-Survey and Post Survey*

| Pre- and post-Survey Questions | Never | Almost Never | Sometimes | Fairly Often | Very Often |
|---|---|---|---|---|---|
| Pre Q16 | 2.60 | 23.1 | 35.9 | 30.8 | 7.70 |
| Post Q16 | 0.00 | 15.0 | 47.5 | 30.0 | 7.50 |
| Pre Q17 | 10.3 | 20.5 | 30.8 | 23.1 | 15.4 |
| Post Q17 | 0.00 | 25.0 | 45.0 | 17.5 | 12.5 |
| Pre Q18 | 0.00 | 10.3 | 15.4 | 23.1 | 51.3 |
| Post Q18 | 0.00 | 5.00 | 27.5 | 35.0 | 32.5 |
| Pre Q19 | 0.00 | 2.60 | 28.2 | 43.6 | 25.6 |
| Post Q19 | 5.00 | 7.50 | 15.0 | 50.0 | 22.5 |
| Pre Q20 | 2.60 | 15.4 | 46.2 | 28.2 | 7.70 |
| Post Q20 | 0.00 | 20.0 | 40.0 | 37.5 | 2.50 |
| Pre Q21 | 2.60 | 28.2 | 35.9 | 23.1 | 10.3 |
| Post Q21 | 10.0 | 32.5 | 25.0 | 20.0 | 12.5 |
| Pre Q22 | 0.00 | 17.9 | 41.0 | 33.3 | 7.70 |
| Post Q22 | 2.50 | 22.5 | 30.0 | 40.0 | 5.00 |
| Pre Q23 | 2.60 | 17.9 | 53.8 | 17.9 | 7.70 |
| Post Q23 | 2.50 | 17.5 | 37.5 | 35.0 | 7.50 |
| Pre Q24 | 5.10 | 20.5 | 30.8 | 28.2 | 15.4 |
| Post Q24 | 0.00 | 25.0 | 37.5 | 27.5 | 10.0 |
| Pre Q25 | 7.70 | 20.5 | 35.9 | 26.6 | 10.3 |
| Post Q25 | 15.0 | 27.5 | 35.0 | 7.50 | 15.0 |

*Note*: To score the PSS, the researcher computed a mean (average) of the 10 items.

The PSS can be subdivided into two categories. Questions one through six are classified as perceived helplessness factors and are negatively phased items. Questions seven through 10 are considered as perceived self-efficacy factors and are positively phrased items (Hewitt et al., 1992; Roberti et al., 2006). The questions within the perceived helplessness factor contain phrases such as, ‘been upset’, ‘unable to control’, ‘nervous and stressed’, ‘could not cope’, ‘been

angered', and 'could not overcome'. Table 4 establishes that the researcher examined the correlation between PSS pre-survey and post-survey data with the participants' use of the Inner Explorer audio-guided MBSEL over the nine-week study. The researcher examined three statistical tests to determine teachers' perceived stress. The test for time examined whether the participants changed over the nine-week intervention. The test for usage test examined whether the participants differed systematically by usage group or how much the intervention was used each week, and the time by usage interaction effect examined whether the usage groups were growing at different rates.

The researcher used a multivariate test, Wilks' Lambda, to determine if there was a significant change from pre-survey and post-survey outcomes. Each Wilk's Lambda has an equivalent F test, which is also reported. The test for time had a p-value of 0.437, ($F(1,29)=.621$). The test for time by usage level interaction was $p= 0.610$, ($F(2,29)=.503$). The between usage levels test gave a p value of .991, ($F(2,29)=.285$). All three tests demonstrated a p-value greater than 0.05. Therefore, there is no evidence that the groups were growing from pre-survey to post-survey (see Table 4).

**Table 4**

*Perceived Helplessness, Use of Audio-Guided Mindfulness Intervention: Mean and SD*

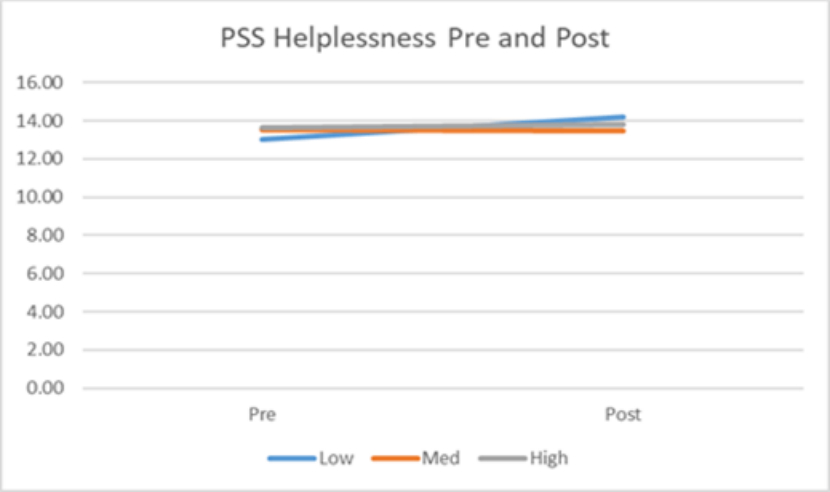
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| PSS-H Pre-Survey | 1 | 13.0000 | 5.436505 | 10 |
| | 2 | 13.5455 | 3.90803 | 11 |
| | 3 | 13.6364 | 3.38446 | 11 |
| | Total | 13.4063 | 4.15707 | 32 |
| PSS-H Post-Survey | 1 | 14.2000 | 4.68568 | 10 |
| | 2 | 13.4545 | 3.23616 | 11 |
| | 3 | 13.8182 | 4.23635 | 11 |
| | Total | 13.8125 | 3.95489 | 32 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 2 reveals a limited slope within the lines to indicate a positive or negative change in teachers' perceived stress, illustrating there was no significant change over time. The figure also demonstrated that there were no significant differences between the three usage levels because all three lines appear at the same level within the graph. Finally, the figure shows that all three lines within the graph are essentially alike, indicating no differential rates between the usage groups, and therefore no interaction effect.

**Figure 2**

*PSS—Helplessness Usage: Use of Audio-Guided Mindfulness Intervention (Line Graph)*




Questions seven through 10 assess levels of self-efficacy factor and contain positive phrases such as, ‘felt confident’, ‘going your way’, ‘control irritations’, and ‘on top of things’. Table 5 confirms that the researcher examined the correlation between PSS pre-survey and post-survey data with participants’ usage of the Inner Explorer audio-guided MBSEL during the study.

The researcher used Wilks’ Lambda, to determine if there was a significant change from pre- to post-survey outcomes. Each Wilkes’ Lambda value has an associated F value, which is given as well. The test for time gave a p-value of 0.858, (F(1,30)=.032). The test for time by usage level interaction had a p-value of 0.316, (F(2,30)=1.196). The between usage levels test demonstrated a p value of .968, (F(2,30)=.003). All three tests had a p-value greater than 0.05 and therefore there is no evidence that the groups were growing from pre- to post-survey (see Table 5).

**Table 5**

*Perceived Level of Self-Efficacy. Use of Audio-Guided Mindfulness Intervention, Mean and SD*

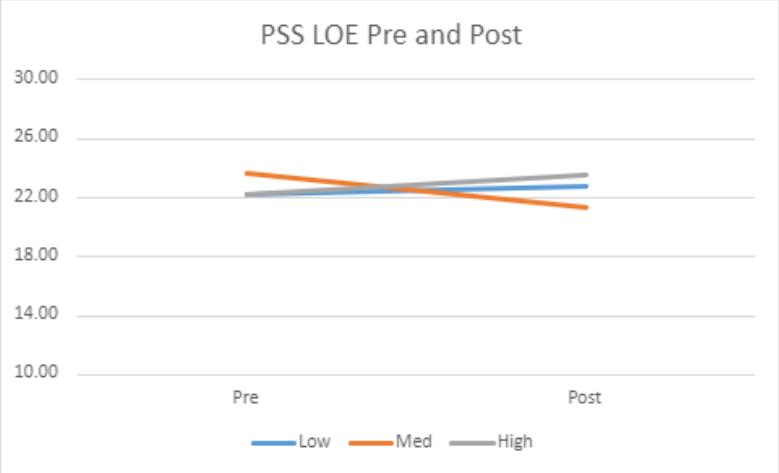
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| PSS-LOE Pre-Survey | 1 | 22.2000 | 5.5085 | 10 |
| | 2 | 23.5833 | 4.64089 | 12 |
| | 3 | 22.2727 | 4.14948 | 11 |
| | Total | 22.7273 | 4.51576 | 33 |
| PSS-LOE Post-Survey | 1 | 22.8000 | 5.09466 | 10 |
| | 2 | 21.2500 | 7.31282 | 12 |
| | 3 | 23.4545 | 4.54673 | 11 |
| | Total | 22.4545 | 5.75049 | 33 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 3 shows a slight slope among the lines to indicate there was a slight positive or negative change in teachers' perceived stress levels of self-efficacy, confirming there was no significant change over time. The figure also indicated, though, that there were slight differences between the three usage levels because the medium usage group decreased slightly over time. Finally, the figure demonstrates that all three lines within the line graph are relatively close together, showing slightly different rates between the usage groups, and therefore no interaction effect.

**Figure 3**

*Perceived Level of Self-Efficacy. Use of Audio-Guided Mindfulness Intervention (Line Graph)*




**Research Question Two: What effects, if any, do the MBSEL lessons have on teachers' awareness of mindfulness?**

Participants in the study were given the MAAS at the beginning of the study and at the conclusion of the nine-week study. The MAAS is a 15-item survey designed to measure the characteristics of the receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place (Brown & Ryan, 2003; Carlson & Brown (2005). Participants read a collection of statements about their everyday experiences. They used a one to six scale to indicate how frequently or infrequently they currently have each experience. Each statement was to be considered separately from the other items. To score the scale, the researcher computed a mean (average) of the 15 items. A higher score from pre-survey to post-survey would indicate higher levels of dispositional mindfulness. Scores that stayed the same from pre- to post-survey or saw a decrease between them may indicate no change or a decline in levels of dispositional mindfulness (see Table 6).

**Table 6**

*Mindfulness Awareness Attention Scale (MAAS) pre-survey and post-survey*

| Pre- and post-Survey Questions | Almost Always | Very Frequently | Somewhat Frequently | Somewhat Infrequently | Very Infrequently | Almost Never |
|---|---|---|---|---|---|---|
| Pre Q1 | 0.00 | 12.5 | 27.5 | 32.5 | 20.0 | 7.50 |
| Post Q1 | 0.00 | 10.3 | 33.3 | 23.1 | 20.5 | 12.8 |
| Pre Q2 | 0.00 | 5.10 | 23.1 | 10.3 | 30.8 | 30.8 |
| Post Q2 | 2.50 | 15.0 | 25.0 | 16.0 | 27.5 | 14.0 |
| Pre Q3 | 5.10 | 10.3 | 35.9 | 25.6 | 15.4 | 7.70 |
| Post Q3 | 2.50 | 15.0 | 15.0 | 35.0 | 27.5 | 5.00 |
| Pre Q4 | 10.3 | 28.2 | 25.6 | 10.3 | 17.9 | 7.70 |
| Post Q4 | 2.50 | 35.0 | 25.0 | 20.0 | 15.0 | 2.50 |
| Pre Q5 | 7.70 | 15.4 | 25.6 | 15.4 | 28.2 | 7.70 |
| Post Q5 | 7.50 | 15.0 | 20.0 | 30.0 | 17.5 | 10.0 |
| Pre Q6 | 15.4 | 23.1 | 30.8 | 12.8 | 17.9 | 0.00 |
| Post Q6 | 7.50 | 20.0 | 35.0 | 22.5 | 10.0 | 5.00 |
| Pre Q7 | 2.60 | 30.8 | 33.3 | 10.3 | 15.4 | 7.70 |
| Post Q7 | 2.50 | 20.0 | 40.0 | 22.5 | 12.5 | 2.50 |
| Pre Q8 | 2.60 | 20.5 | 33.3 | 10.3 | 30.8 | 2.60 |
| Post Q8 | 2.50 | 7.50 | 35.0 | 30.0 | 15.0 | 10.0 |
| Pre Q9 | 2.60 | 7.70 | 23.1 | 25.6 | 30.8 | 10.3 |
| Post Q9 | 0.00 | 20.0 | 32.5 | 15.0 | 20.0 | 12.5 |
| Pre Q10 | 2.60 | 25.6 | 30.8 | 10.3 | 23.1 | 7.70 |
| Post Q10 | 0.00 | 25.0 | 30.0 | 27.5 | 12.5 | 5.00 |
| Pre Q11 | 17.9 | 30.8 | 35.9 | 7.70 | 2.60 | 5.10 |
| Post Q11 | 10.0 | 42.5 | 27.5 | 15.0 | 5.00 | 0.00 |
| Pre Q12 | 7.70 | 2.60 | 25.6 | 12.8 | 25.6 | 25.6 |
| Post Q12 | 2.50 | 12.5 | 12.5 | 15.0 | 20.0 | 37.5 |
| Pre Q13 | 10.3 | 20.5 | 23.1 | 12.8 | 22.2 | 5.10 |
| Post Q13 | 5.00 | 35.0 | 20.0 | 25.0 | 5.00 | 10.0 |
| Pre Q14 | 0.00 | 20.5 | 23.1 | 28.2 | 25.6 | 2.60 |
| Post Q14 | 0.00 | 20.0 | 30.0 | 22.5 | 20.0 | 7.50 |
| Pre Q15 | 2.60 | 7.70 | 17.9 | 15.4 | 30.8 | 25.6 |
| Post Q15 | 0.00 | 5.00 | 20.0 | 27.5 | 17.5 | 30.0 |

*Note*: To score the MAAS, the researcher computed a mean (average) of the 15 items.

The researcher also examined the correlation between the MAAS pre-survey and post-survey data with participants' usage of the Inner Explorer auto-guided MBSEL over the nine-week study. The researcher examined three statistical tests to determine teachers' awareness of mindfulness. The test for time examined whether the participants changed over the nine-week intervention. The test for usage examined whether the participants differed systematically by usage group or how much the intervention was used each week, and the time by usage interaction effect examined whether the usage groups were growing at different rates.

The researcher used Wilks' Lambda to determine if there was a significant change from pre- to post-survey outcomes. Each Wilk's Lambda also had an equivalent F test, reported here. The test for time was p=0.485, (F(1,29)=.501). The test for time by usage level interaction was p=0.714, (F(2,29)=.341). The between usage levels test had a p value of .857, (F(2,29)=.156). All three tests demonstrated a p-value greater than 0.05. Therefore, evidence is lacking that the groups were growing over time (see Table 7).

**Table 7**

*MAAS: Use of the Audio-Guided Mindfulness Intervention (Mean and SD)*

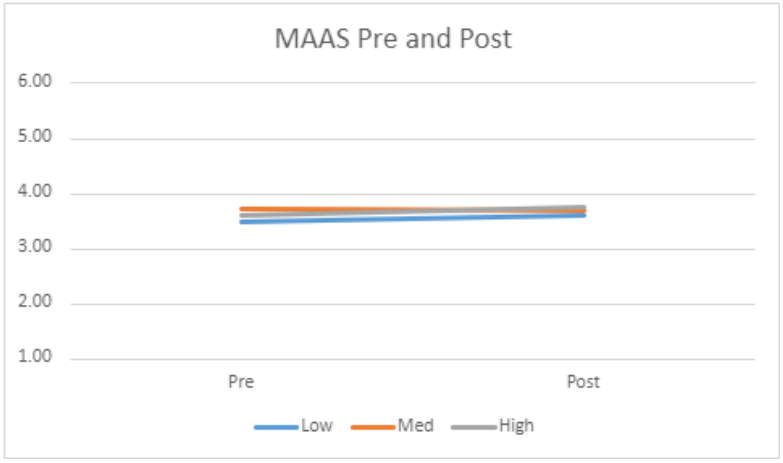
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| MAAS Pre-Survey | 1 | 3.4867 | 0.947 | 10 |
| | 2 | 3.7273 | 0.70058 | 11 |
| | 3 | 3.6061 | 0.5981 | 11 |
| | Total | 3.6104 | 0.7391 | 32 |
| MAAS Post-Survey | 1 | 3.6 | 0.8135 | 10 |
| | 2 | 3.6848 | 0.6884 | 11 |
| | 3 | 3.7394 | 0.7378 | 11 |
| | Total | 3.6771 | 0.7236 | 32 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 3 reveals no slope within the lines that would indicate a positive or negative change in teachers' awareness of mindfulness, illustrating there was no significant change over time. The figure also showed no significant differences between the three usage levels because all lines appear at the same level within the graph. Finally, the figure demonstrates that all lines within the line graph are parallel to each other, showing no differential rates between usage groups, and thus no interaction effect.

**Figure 4**

*MAAS: Use of Audio-Guided Mindfulness Intervention (Line Graph)*




**Research Question Three: What effects, if any, do the MBSEL lessons have on teachers' perceived self-efficacy?**

The *Teacher Sense of Efficacy Scale* (TSES) measures people's evaluations of their own likely success in teaching. The TSES Short Form consists of 12 items. Participants rate their own self-efficacy in the areas of teaching, student engagement, instructional strategies, and classroom

management. Respondents answer survey questions using a 9-point Likert scale (1=nothing and 9=a great deal).

The researcher compared pre-survey and post-survey scores for the TSES, indicating that there was some change from a participant's perceived self-efficacy before and after the study. In this survey, one would want to see participants answering with higher scores to show an increase in self-efficacy. The survey begins to trend in the positive direction from question 34 through question 43, indicating that after the MBSEL, participants did consider themselves to have more self-efficacy. This may suggest that the participants are more confident in their self-efficacy relating to instructional strategies (see Table 8).

**Table 8**

*Teacher Sense of Efficacy Scales Survey (TSES), Pre-Survey and Post-Survey*

| Pre- and post-Survey Questions | Nothing | 2 | Very Little | 4 | Some Influence | 6 | Quite a Bit | 8 | A Great Deal |
|---|---|---|---|---|---|---|---|---|---|
| Pre Q32 | 0.00 | 0.00 | 0.00 | 2.60 | 15.4 | 10.3 | 46.2 | 15.4 | 10.3 |
| Post Q32 | 0.00 | 2.50 | 5.00 | 0.00 | 7.5 | 12.5 | 42.5 | 20.0 | 10.0 |
| Pre Q33 | 0.00 | 2.60 | 0.00 | 2.60 | 20.5 | 23.1 | 23.1 | 15.4 | 12.8 |
| Post Q33 | 0.00 | 5.00 | 0.00 | 0.00 | 12.5 | 12.5 | 42.5 | 17.5 | 10.0 |
| Pre Q34 | 0.00 | 0.00 | 2.60 | 0.00 | 5.10 | 17.9 | 28.2 | 20.5 | 25.6 |
| Post Q34 | 0.00 | 0.00 | 0.00 | 0.00 | 2.50 | 2.50 | 37.5 | 27.5 | 30.0 |
| Pre Q35 | 0.00 | 0.00 | 2.60 | 2.60 | 10.3 | 20.5 | 23.1 | 25.6 | 15.4 |
| Post Q35 | 0.00 | 2.50 | 2.50 | 0.00 | 2.50 | 5.00 | 50.0 | 17.5 | 20.0 |
| Pre Q36 | 0.00 | 0.00 | 2.60 | 0.00 | 2.60 | 5.10 | 30.8 | 33.3 | 25.6 |
| Post Q36 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 30.0 | 35.0 | 30.0 |
| Pre Q37 | 0.00 | 0.00 | 2.60 | 2.60 | 12.8 | 17.9 | 25.6 | 28.2 | 10.3 |
| Post Q37 | 0.00 | 2.50 | 2.50 | 0.00 | 7.50 | 5.00 | 40.0 | 32.5 | 10.0 |
| Pre Q38 | 0.00 | 2.60 | 2.60 | 2.60 | 10.3 | 28.2 | 25.6 | 23.1 | 5.10 |
| Post Q38 | 0.00 | 2.50 | 5.00 | 0.00 | 5.00 | 22.5 | 45.0 | 7.50 | 12.5 |
| Pre Q39 | 0.00 | 0.00 | 0.00 | 2.60 | 2.60 | 12.8 | 17.9 | 38.5 | 25.6 |
| Post Q39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.5 | 30.0 | 22.5 | 35.0 |
| Pre Q40 | 0.00 | 0.00 | 2.60 | 0.00 | 2.60 | 23.1 | 20.5 | 33.3 | 17.9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Post Q40 | 0.00 | 2.50 | 0.00 | 0.00 | 5.00 | 10.0 | 32.5 | 17.5 | 32.5 |
| Pre Q41 | 0.00 | 0.00 | 0.00 | 2.60 | 2.60 | 5.10 | 28.2 | 41.0 | 20.5 |
| Post Q41 | 0.00 | 0.00 | 0.00 | 0.00 | 2.50 | 2.50 | 3.00 | 20.0 | 45.0 |
| Pre Q42 | 0.00 | 0.00 | 0.00 | 5.10 | 17.9 | 23.1 | 25.6 | 25.6 | 2.60 |
| Post Q42 | 0.00 | 0.00 | 0.00 | 2.50 | 22.5 | 25.0 | 22.5 | 7.50 | 20.0 |
| Pre Q43 | 0.00 | 0.00 | 2.60 | 0.00 | 10.3 | 10.3 | 38.5 | 20.5 | 17.9 |
| Post Q43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.5 | 35.0 | 25.0 | 27.5 |

*Note*: To score the TSES, the researcher computed a mean (average) of the 12 items.

The researcher was also able to delve deeper into the TSES and look closely at the three correlating factors: Efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management.

Questions pertaining to efficacy in student engagement are: Item 33 (“How much can you do to control disruptive behavior in the classroom?”); item 34 (“How much can you do to get students to believe that they can do well in schoolwork?”); item 35 (“How much can you do to help your students’ value learning?”), and item 42 (“How much can you assist families in helping their children do well in school?”)

Table 9 demonstrates that the researcher examined the correlation between the TSES—Efficacy in Student Engagement—pre- and post-survey data with participants’ usage of the Inner Explorer auto-guided MBSEL during the nine-week study. The researcher examined three statistical tests to determine teachers’ perceived stress. The test for time examined whether the participants changed over the nine-week intervention. The test for usage examined whether the participants differed systematically by usage group or how much the intervention was used each week, and the time by usage interaction effect examined whether the usage groups were growing at different rates.

The researcher used a Wilks’ Lambda test to determine if there was a significant change from pre-survey to post-survey. Each Wilk’s Lambda has an equivalent F test, which is reported

here. The test for time had a p-value of 0.319 (F(1,29)=1.030). The test for time by usage level interaction demonstrated a p-value of 0.244 (F(2,29)=1.482). The usage levels test revealed a p value of .766 (F(2,29)=.269). All three tests demonstrated a p-value greater than 0.05 and do not provide evidence that the groups were growing over time (see Table 9).

**Table 9**

*TSES-Efficacy in Student Engagement Use of Audio-Guided Mindfulness Intervention (Mean and SD)*

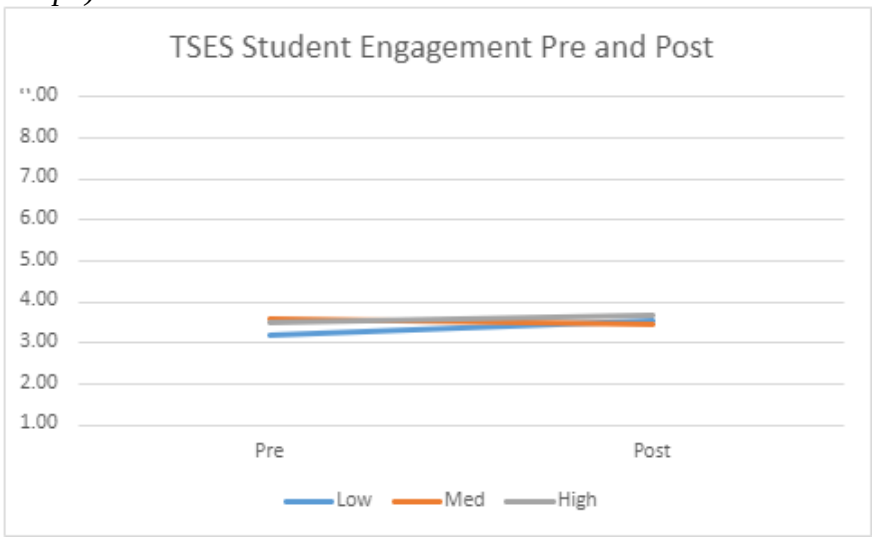
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| TSES-SE Pre-Survey | 1 | 3.2000 | .71492 | 10 |
| | 2 | 3.5909 | .88227 | 11 |
| | 3 | 3.5227 | .49313 | 11 |
| | Total | 3.4453 | .71203 | 32 |
| TSES-SE Post-Survey | 1 | 3.5500 | .92646 | 10 |
| | 2 | 3.4545 | .72300 | 11 |
| | 3 | 3.6591 | .75227 | 11 |
| | Total | 3.5547 | .77962 | 32 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 5 shows there is little to no slope within the lines to indicate a positive or negative change in teachers' self-efficacy as it relates to student engagement, meaning there was no significant change over time. The figure also demonstrated that there were no significant differences between the three usage levels because all lines appear at the same level on the graph. Finally, the figure demonstrates that all three lines are parallel to each other, showing no differential rates between usage groups. Therefore, there is no interaction effect.

**Figure 5**

*TSES: Efficacy in Student Engagement Use of Audio-Guided Mindfulness Intervention (Line Graph)*




Questions that pertain to efficacy in instructional strategies were item 36, “To what extent can you craft good questions for your students?”; item 40, “How well can you establish a classroom management system with each group of students?”; item 41, “To what extent can you provide an alternative explanation or example when students are confused?”; and item 43, “How well can you implement alternative strategies in your classroom?”

The table demonstrate that the researcher examined the correlation between the TSES—Efficacy in Instructional Strategies—pre- and post-survey data with the participants’ use of the Inner Explorer auto-guided MBSEL during the study. The researcher examined three statistical tests to determine teachers’ awareness of mindfulness. The test for time examined whether the participants changed over time. The test for usage examined whether participants differed systematically by usage group, and the time by usage interaction effect examined whether the usage groups were growing at different rates.

The researcher used the Wilks’ Lambda, to determine if there was a significant change from pre-survey and post-survey outcomes. The equivalent F tests are reported here. The test for

time demonstrated a p-value of 0.959 (F(1,29)=.003). The test for time by usage level interaction demonstrated a p-value of 0.997 (F(2,29)=.003). The between usage levels test demonstrated a p value of .940 (F(2,29)=.062). All three tests demonstrated a p-value greater than 0.05 therefore we do not have evidence that the groups were growing over time from pre-survey to post-survey (see Table 10).

**Table 10**

*TSES: Efficacy in Instructional Strategies Usage of Audio-Guided Mindfulness Intervention (Mean and SD)*

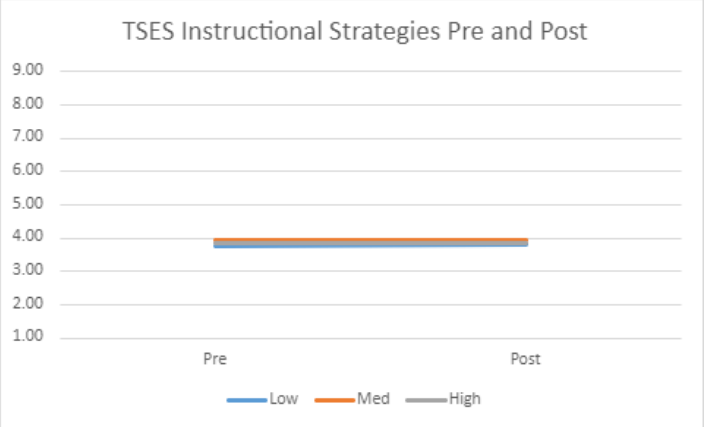
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| TSES-IS Pre-Survey | 1 | 3.7750 | 1.42619 | 10 |
| | 2 | 3.9318 | .76723 | 11 |
| | 3 | 3.8636 | .86142 | 11 |
| | Total | 3.8594 | 1.01190 | 32 |
| TSES-IS Post-Survey | 1 | 3.8000 | 1.13529 | 10 |
| | 2 | 3.9318 | 1.03737 | 11 |
| | 3 | 3.8636 | .94448 | 11 |
| | Total | 3.8672 | 1/00600 | 32 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 6 shows that there is no slope within the lines to indicate that there was a positive or negative change in teachers' self-efficacy as it relates to instructional strategies, illustrating there was no significant change over time. The figure also demonstrated that there were no significant differences between the three usage levels because all three lines appear at the same level within the graph. Finally, the figure demonstrates that all three lines within the line graph are parallel to each other, showing no differential rates between the usage groups, and therefore no interaction effect.

**Figure 6**

*TSES: Efficacy in Instructional Strategies Usage of Audio-Guided Mindfulness Intervention (Line Graph)*




Questions that pertain to efficacy in classroom management include item 32-How much can you do to control disruptive behavior in the classroom? Item 37- How much can you do to get children to follow classroom rules? Item 38-How much can you do to calm a student who is disruptive or noisy? And item 39- How well can you establish a classroom management system with each group of students?

These tables demonstrate that the researcher examined the correlation between the TSES-Efficacy in Classroom Management pre-survey and post-survey data with the participants' usage of the Inner Explorer auto-guided MBSEL over the nine-week study. The researcher examined three statistical tests to determine teachers' perceived self-efficacy. The test for time examined whether the participants changed over time. The test for usage examined whether the participants differed systematically by usage group, and the time by usage interaction effect examined whether the usage groups were growing at different rates.

The researcher used a multivariate test, the Wilks' Lambda, to determine if there was a significant change from pre-survey and post-survey outcomes. Each Wilk's Lambda has an equivalent F test, which is reported here. The test for time demonstrated a p-value of 0.325

(F(1,30)=1.003). The test for time by usage level interaction demonstrated a p-value of 0.807 (F(2,30)=.216). The between usage levels test were p=.947 (F(2,30)=.055). All three tests had a p-value greater than 0.05, thereby showing no evidence that the groups were growing over time (see Table 11).

**Table 11**

*TSES: Efficacy in Classroom Management Usage of Audio-Guided Mindfulness Intervention (Mean and SD)*

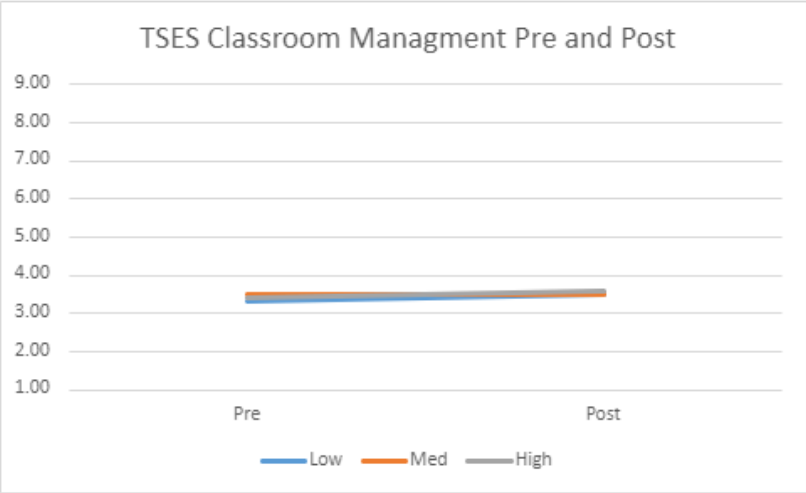
| | Usage | Mean | Std. Deviation | N |
|---|---|---|---|---|
| TSES-CM Pre-Survey | 1 | 3.3250 | .93579 | 10 |
| | 2 | 3.5069 | .91733 | 12 |
| | 3 | 3.3864 | .89696 | 11 |
| | Total | 3.4116 | .89047 | 33 |
| TSES-CM Post-Survey | 1 | 3.5000 | .69722 | 10 |
| | 2 | 3.5208 | .66962 | 12 |
| | 3 | 3.5909 | .80834 | 11 |
| | Total | 3.5370 | .70468 | 33 |

*Note:* Participant usage groups. Group 1 implemented at a rate of 75% per week, Group 2 implemented at a rate of 25% per week, Group 3 did not implement the program with enough consistency to measure.

Figure 7 shows little to no slope within the lines to indicate either a positive or negative change in teachers' self-efficacy related to classroom management and illustrates no significant change over time. The figure also demonstrated no significant differences between the three usage levels because all three lines appear at the same level within the graph. Finally, the fact that all three lines within the line graph are parallel to each other indicates that there is no differential rates between the usage groups, and therefore no interaction effect.

**Figure 7**

*TSES: Efficacy in Classroom Management Usage of Audio-Guided Mindfulness Intervention (Line Graph)*




## Summary

This study was conducted to consider several effects on participating teachers. The first is whether teachers engaging in a daily, audio-guided mindfulness social and emotional lesson intervention lasting nine-weeks affected their perceived stress levels. Using pre- and post-surveys of the PSS and implementing the intervention over time, the researcher found that there was no evidence that the teachers who used the intervention changed their perceived stress levels.

Also studied were the effects of having teachers participate in a daily, audio-guided mindfulness social and emotional lesson intervention over a nine-week period to determine if the practice of mindfulness affected teachers' awareness of mindfulness. Using the MAAS pre-survey/post-survey and implementing the intervention over time, the researcher determined that there was no evidence that the teachers who used the intervention changed their overall awareness of mindfulness. The researcher also examined the effects of having teachers participate in a daily, audio-guided mindfulness social and emotional lesson intervention for nine

weeks to determine if the practice of mindfulness affected their perceived self-efficacy. Using the TSES pre-survey and post-survey, and applying the intervention over time, the researcher concluded there was no evidence that those who used the intervention changed their overall perceived self-efficacy.

Chapter Five summarizes the study and gives conclusions drawn from the data presented in this chapter. The researcher discusses its implications for the education profession and how it relates to findings from literature. The researcher will also explore unexpected findings and recommendations for further research.

# CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

This chapter reviews the study and includes an overview of the problem, research questions, methodology, overview of data collection and analysis, and a synopsis of the study's findings. The researcher will compare the findings to previous related research and detail their relationship. The chapter also includes unexpected findings and concludes with implications for the profession and recommendations for further research.

## Summary of the Study

The profession of teaching has long been identified as a particularly stressful occupation (Cacha, 1981; Farber & Miller, 1981; Landsman, 1978; Paine, 1981). Job stressors within the field of education are pushing many teachers out of the schoolhouse. These job stressors may include student disciplinary problems, student apathy, overcrowded classrooms, involuntary transfers, excessive paperwork, inadequate salaries, demanding or unsupportive parents, and lack of administrative support (Russell, 1987: Altmaier & Van Velzen, 1987). As a result of these stresses, burnout among teachers is common, and can be expressed in physical (headaches, peptic ulcers), psychological (depression, anger), and behavioral (deterioration in work performance, absenteeism) symptoms (Cunningham, 1982). Teacher burnout is thought to be a major reason for the increasing numbers of competent teachers leaving the classroom for alternative careers (Cunningham, 1982; Farber & Miller, 1981).

Teacher turnover rates are at an all-time high, estimated to be nearly 8% of the annual workforce. The teaching profession continues to lose hundreds of thousands of teachers each year, many before the age of retirement (Sutcher et al., 2016).

Having such high turnover rates places a considerable burden on schools and students, impacts overall school effectiveness, disrupts program continuity and planning, and brings tremendous financial costs to school districts related to recruiting, replacing teachers, and

retraining. (Hong, 2010). Exacerbating this already alarming situation are the last two years of disruption brought on by COVID-19 and the move toward virtual instruction, which has further increased anxiety across the profession.

The purpose of this study was to investigate the effects of teacher participation in a daily audio-guided mindfulness intervention to determine if the practice of mindfulness for nine weeks affected their level of perceived stress, awareness of mindfulness, and self-efficacy. *Mindfulness-Based Social and Emotional Learning* (MBSEL) is an approach that enhances social and emotional learning (SEL) and exposes students to a daily five-to-ten-minute mindfulness component. The MBSEL lessons are designed by the Inner Explorer organization. These lessons were based on the *Mindfulness-Based Stress Reduction* (MBSR) protocols of Kabat-Zinn (1994).

The MBSEL was provided to all teachers in a school district using Inner Explorer's online platform. Implementing the lessons varied depending on the teacher's willingness to participate. Their role was to turn on the Mindfulness-based Social and Emotional Lessons for students and participate in the lessons each day. The researcher determined that when Inner Explorer's MBSEL curriculum was implemented at a rate of 75% or more during the study, it was considered high implementation/usage and was defined as three or more school days per week by the teacher and their students. When the MBSEL curriculum was used at a rate of 25%, it was considered medium implementation/usage and was defined as two or less school days per week. When the curriculum was not implemented with consistency during the five-day school week or nine-week study, it was considered low implementation/usage. The study was conducted to determine if the Inner Explorer Mindfulness-Based Social and Emotional Learning interventions were implemented at high and low levels, and had the following research questions:

RQ1. What effects, if any, do the MBSEL lessons have on teachers' perceived stress levels?

RQ2. What effects, if any, do the MBSEL lessons have on teachers' awareness of mindfulness?

RQ3. What effects, if any, do the MBSEL lessons have on teachers' perceived self-efficacy?

The nine-week study was quantitative and measured teachers' mindfulness, stress, and self-efficacy levels with a pre-/post-survey design to determine if there was evidence that mindfulness practice affected these characteristics. This study used a two-way mixed (split-plot) ANOVA to test for differences between high and low implementation of the audio-mindfulness curriculum and teacher pre-/post-survey results.

Program efficacy data was tracked through the online Inner Explorer platform, which enabled the provider to identify daily usage by each participating teacher and the amount of time spent on the daily mindfulness lesson. During the study, participating teachers completed the three surveys noted earlier: the MAAS, PSS, and TSES Short Form. These surveys were administered before giving the *Mindfulness-Based Social and Emotional Lessons* (MBSEL) as a pre-survey and at the end of the nine-week study as a post-survey.

Using the pre-survey and post-survey of the PSS and applying the intervention over time, the researcher found that there was no evidence that the teachers who used the intervention changed their overall perceived stress levels. Using the MAAS pre-survey and post-survey and the intervention, the researcher found no evidence that the teachers-participants experienced a change in their overall awareness of mindfulness. Using the TSES pre-survey and post-survey

and implementing the intervention, the researcher further concluded there was no evidence that the teachers experienced a change in their overall perceived self-efficacy.

**Limitations of the Study**

The audio-guided mindfulness lessons from the Inner Explorer organization was a program designed for students that has the potential to impact student and classroom outcomes in positive ways. This in turn may impact teachers' perception of stress, awareness of mindfulness, and perceived self-efficacy. Though it was highly recommended that teachers participate in the audio-guide mindfulness lessons alongside of their students, there was no evidence to support if teachers participated in the audio-guided mindfulness lessons alongside of their students.

The data was also received as secondary data from the Inner Explorer organization therefore the researcher did not create or change the design instrument. It would be beneficial for the instrument to have included a way to measure teacher participation in the audio-guided mindfulness program to determine if after actively participating in and completing lessons was there a more positive outcome in teachers' perceived stress levels, awareness of mindfulness, and perceived self-efficacy.

**Findings Related to Literature: Mindfulness Requires Time and Consistency**

Kabat-Zinn (2015) suggested that mindfulness is often described as an innate quality of the mind, which must be (or has to be) refined through systematic practice. He suggested that mindfulness gives rise to awareness: "The greater and more stable the mindfulness, the greater the awareness and penetrative insight that may stem from it" (p. 1582). It is important when studying mindfulness to look closely at why paying attention is essential to our well-being and how it fits into the big idea of healing and transforming both our lives and the world (Kabat-Zinn, 2015).

The idea of mindfulness is that by becoming attentive of the workings of the mind, one can expand their understanding of their current emotions and thoughts, change unhealthy habits, and come into direct contact with calmness and wisdom within (Santorelli, 1999). The act of mindfulness practice guides one to focus attention on a single moment. At its core, mindfulness values consist of compassion, empathy, and peace. These core values may develop as a result of consistent daily practice (Kabat-Zinn, 1994).

Mindfulness instructional courses such as the MBSR typically consist of eight weeks of group sessions. These group sessions meet weekly for three hours, with one session being a full day silent retreat. The format is psycho-educational and largely skill-based (Bishop, 2002). Skill-based learning includes sitting meditation, during which one sits in an alert position to remain awake and focused. The total time for discussion and practice of the MBSR program is roughly 30 hours of asynchronous classroom learning and 30 hours of synchronous at home learning, if a participant practices each day (Santorelli, 1999).

To obtain mindfulness, one must be committed to consistent practice over an extended time. Research has shown that the more one practices intentional and deliberate mindfulness, the more capable they are of self-regulating, coping more effectively with the challenges and demands of life, and discovering and becoming increasingly familiar with one's innate resources for learning growing, healing, and thriving (Santorelli, 2014).

This study took place over nine weeks. Teachers participated in a 60-minute training from the Inner Explorer organization before beginning the program. The MBSEL program included 90 audio-guided tracks. A track was played each day and lasted approximately 10 minutes. Journaling exercises took place in the last two minutes of the recordings. There were no

requirements for teachers to check student journals as this we consider more of a personal reflection journal for students and staff.

The researcher found little or no change in teachers' perceived stress levels and awareness of mindfulness. There was a small increase in their perceived self-efficacy. One factor explaining these results may be that the length of the study was relatively short. Other studies suggested that the more one practices techniques of mindfulness, the more likely the skills will become a habit and increase one's resiliency and response to perceived stress, awareness of mindfulness, and self-efficacy (Santorelli, 1999).

Other research cited above found that the longer mindfulness is practiced, the more its benefits can be experienced. Therefore, the researcher recommends that future studies be extended beyond nine weeks to determine the effects of a longer implementation which would provide teachers with more time to apply and internalize mindfulness practices. Perhaps participants may see greater gains in a teacher's ability to cope with stress, be aware of mindfulness, and increase in self-efficacy. Further, it may also benefit teachers to use more mindfulness training outside of the classroom lessons. This may expose them to more of the purpose and philosophy behind mindfulness training and instill an ownership for practicing it consistently.

**Findings Related to Literature: Mindfulness in Education**

Mindfulness practices for teachers may be a means to manage stress, improve perceptions of working conditions, increase teacher retention, and create a more positive classroom environment (Hwang et al., 2017). Research has shown that in some cases mindfulness can improve classroom management by promoting greater teacher attention in the classroom and help them respond positively to negative events that can occur there (Hwang et al., 2017).

In a recent study that analyzed the effects of mindfulness training on teacher perceptions of their mindfulness, stress, anxiety, burnout, and depression, researchers suggested that mindfulness had statistically significant benefits that enhanced teacher mindfulness, and decreased stress, anxiety, burnout, and depression (Zarate et al., 2019). The practice of mindfulness undoubtedly has benefits for educators. Research cited in Zarate's study has shown a beneficial impact for teachers and students when practiced consistently.

To the contrary, in this study, the researcher found that there was little or no change in teachers' perceived stress levels and awareness of mindfulness based on instruments used. There was a small increase in their perceived self-efficacy. One element that may have influenced these results was the small number of participants (n=41). This was less than 6% of the overall teacher population in the district. It is important for teachers to accept the MBSEL program and have a willingness to actively support and participate in it. This acceptance and 'buy-in' will come only when teachers understand the research behind mindfulness and the benefits that can come if implemented faithfully.

In addition, there is no data available on whether these 41 participants were already aware of and practicing mindfulness measures on their own or whether they knew little to nothing about mindfulness at the beginning of the study.

The researcher recommends that the school district continue to use the MBSEL program to determine if greater acceptance and participation in the program will occur and assess whether teachers are able to cope better with stress, be aware of mindfulness, and increase their self-efficacy. The path to mindfulness requires dedication and participation over time.

## Recommendations for Future Studies

Future researchers might consider conducting a mixed methods study to collect both quantitative and qualitative data. This would provide a good approach to fully examining the research questions and draw upon the strengths of both methodologies. It would also allow the researcher flexibility to combine different approaches.

It may be also beneficial to include different regions within the United States in future studies. Some regions in the United States may be more familiar with the techniques of mindfulness and be more open to its practices, while other areas may be less familiar with mindfulness and less willing to explore this spiritual practice.

Lastly, future studies could add the *Brief Resilience Scale* (BRS) as a pre-survey and a post-survey. The BRS survey was created to assess the perceived ability to recover from stress or bounce back easily. The scale was developed to assess a unitary construct of resilience. The survey includes both positively- and negatively worded items (Smith et al., 2008). The BRS has been proven to be a reliable means of assessing resilience and may provide unique and important information about people coping with health-related stressors (Smith et al., 2008).

## Conclusion

This study described mindfulness, the benefits to those who practice it, and its advantages in educational settings for teachers and students. There is clearly a need to find a place for mindfulness in schools, but the path to it requires consistency over extended periods of time, and education for administrators and professional development for teachers. However, additional time is not always a luxury schools can spare.

The question arises as to how to join the two concepts. Mindfulness can be compared to the tortoise in Aesop's fable, *The Tortoise and the Hare*, where the life lesson or moral is 'slow

and steady, wins the race.' Slow and steady, though, is not always possible in the school setting. The pace of the school day is often scheduled minute-to-minute and must adhere to local, state, and federal requirements for time spent on each subject. Standardized testing is at the finish line with high expectations that students and teachers will demonstrate growth and ideally for some, above grade-level achievements. This suggests rigor and constant pushing ahead toward increased achievement. Mindfulness and the schoolhouse appear to have two quite different thought processes leading to different outcomes; calm and relaxed versus high achievement and accomplishment.

The Inner Explorer organization developed the MBSEL that requires 10 minutes of instruction per day, was designed to not interrupt the curriculum or events of the school day and can be implemented during normal school transition times (Bakosh, 2013). This study represents a step in the right direction by bringing together the concepts of mindfulness and the demands of the classroom, making them mutually beneficial. However, for the program to succeed and have a lasting impact on teachers' perceived stress, awareness of mindfulness, and increase in self-efficacy, it will likely need consistency over time, and will require their acceptance and commitment to the concept of mindfulness.

# References


Alliance for Excellent Education (2004). *Tapping the potential*: *Retaining and developing high quality new teachers*. http://www.all4ed.org/publications/TappingThePotential/TappingThePotential.pdf

Altmaier, E., & Van Velzen, D. (1987). Job-related stress, social support, and burnout among classroom teachers. *Journal of applied psychology*, *72*(2), 269.

American College Testing (2015). *The condition of future educators*, 2014. https://www.act.org/content/dam/act/unsecured/documents/CCCR-2014-FutureEducators.pdf

Aragon, S. (2016). *Teacher shortages: What we know.* Education Commission of the States. https://www.ecs.org/wp-content/uploads/Teacher-Shortages-What-We-Know.pdf

Baer, R. A. (2003). Mindfulness training as clinical intervention: A conceptual and empirical review. *Clinical Psychology*: *Science and Practice*, *10*(2), 125–143. https://doi.org/10.1093/clipsy.bpg015

Bakosh, L. S. (2013). *Investigating the effects of a daily audio-guided mindfulness intervention for elementary school students and teachers* [Doctoral dissertation, Sofia University].

Barnes, V. A., Bauza, L. B., & Trieber, F. A. (2003). Impact of stress reduction on negative school behavior in adolescents. *Health Quality of Life Outcomes*, *1*(10), 24–26. https://doi.org/10.1186/1477-7525-1-10

Beer, J., & Beer, J. (1992). Burnout and stress, depression and self-esteem of teachers. *Psychological Reports*, *71*(3, Pt. 2), 1331–1336. https://doi.org/10.2466/PR0.71.8.1331-1336

Belcastro, P. A., & Gold, R. S. (1983). Teacher stress and burnout: Implications for school health personnel. *Journal of School Health, 53*(7), 404–407. https://doi.org/10.1111/ j.1746-1561.1983.tb03148.

Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, *77*(5), 855–866. https://doi.org/10.1037/a0016241

Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction?. *Psychosomatic Medicine*, *64*(1), 71–83. https://doi.org/10.1097/00006842-200201000-00010

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230–241. https://doi.org/10.1093/clipsy.bph077

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822–848. https://doi.org/10.1037/0022-3514.84.4.822

Brouwers, A., & Tomic, W. (1999). Teacher burnout, perceived self-efficacy in classroom management, and student disruptive behaviour in secondary education. *Curriculum and Teaching*, *14*(2), 7–26. https://doi.org/10.7459/ct/14.2.02

Burke, C. (2010). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child and Family Studies*, *19*, 133–144. https://doi.org/10.1007/s10826-009-9282-x

Cacha, F. B. (1981). Teacher burnout: Causes and solutions. *Kappa Delta Pi Record*, *18*(1), 26-27.

Carlson, L. E., & Brown, K. W. (2005). Validation of the Mindful Attention Awareness Scale in a cancer population. *Journal of Psychosomatic Research*, *58*(1), 29–33.https://doi.org/10.1016/j.jpsychores.2004.04.366

Cohen, S., Kamarch, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*(4), 385–396. https://doi.org/10.2307/2136404

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan, & S. Oskamp (Eds.), *The social psychology of health* (pp. 31–67). Sage.

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. *Measuring stress: A guide for health and social scientists*, *10*, 1–2.

Cullen, M. (2011). Mindfulness-based interventions: An emerging phenomenon. *Mindfulness*, *2*, 186–193. https://doi.org/10.1007/s12671-011-0058-1

Cunningham, W. G. (1982). Teacher burnout: Stylish fad or profound problem? *Planning and Changing*, *12*, 219–244.

Cunningham, W. G. (1983). Teacher burnout—solutions for the 1980's: A review of the literature. *The Urban Review*, *15*(1), 37–51. https://doi.org/10.1007/BF01112341

Daniels, A. (2015, October 17). Williams: Texas must expand teacher pool. *Texas Tribune*.

Davidson, R. J., Dunne, J., Eccles, J. S., Engle, A., Greenberg, M., Jennings, P., & Vago, D. (2012). Contemplative practices and mental training: prospects for American education. *Child Development Perspectives*, *6*(2), 146–153. https://doi.org/10.1111/j.1750-8606.2012.00240x

Desbordes, G., Negi, L.T., Pace, T. W. W., Wallace, B. A., Raison, C. L., & Schwartz, E. L. (2012). Effects of mindful-attention and compassion meditation training on amygdala response to emotional stimuli in an ordinary, non-meditative state. *Frontiers in Human Neuroscience*, *6*. 292. http://doi.org/10.3389/fnhum.2012.00292

deVibe, M., Bjørndal, A., Tipton, E., Hammerstrøm, K., & Kowalski, K. (2012). Mindfulness based stress reduction (MBSR) for improving health, quality of life, and social functioning in adults, *8*(1), 1–127. *Campbell Systematic Reviews*. https://doi.org/10.4073/csr.2012.3

Dewe, P. (1986). *Stress: Causes, consequences and coping strategies for teacher: Final report on research commissioned by the New Zealand Educational Institute, 1981-1982*. The Institute.

Di Carlo, M. (2015, January 22). *Update on teacher turnover in the U.S.* Albert Shanker Institute.

Dimidjian, S. D., & Linehan, M. M. (2003). Mindfulness practice. In W. O'Donohue, J. Fisher & S. Hayes (Eds.), *Cognitive behavior therapy: Applying empirically supported techniques in your practice* (pp. 229–237). Wiley.

Doney, P. A. (2013). Fostering resilience: A necessary skill for teacher retention. *Journal of Science Teacher Education*, *24*(4), 645–664. https://doi.org/10.1007/s10972-012-9324-x

Education Week (2000, January 31). *Quality counts 2000: Who should teach?* https://www.edweek.org/leadership/quality-counts-2000-who-should-teach

Farber, B. A., & Miller, J. (1981). Teacher burnout: A psycho-educational perspective. *Teachers College Record*, *83*(2), 235-243.

Fischer, R. (2006). Still thinking: The case for meditation with children. *Thinking Skills and Creativity*, *1*, 146–151. https://doi.org/10.1016/J.TSC.2006.06.004

Fitchett, P. G., McCarthy, C. J., Lambert, R. G., & Boyle, L. (2018). An examination of US first-year teachers' risk for occupational stress: Associations with professional preparation and occupational health. *Teachers and Teaching: Theory and Practice*, *24*(2), 99–118. https://doi.org/10.1080/13540602.2017.1386648

Fletcher, L., & Hayes, S. C. (2005). Relational frame theory, acceptance and commitment therapy, and a functional analytic definition of mindfulness. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *23*(4), 315–336. https://doi.org/10.1007/s10942-005-0017-7

Flook, L., Goldberg, S. B., Pinger, L., Bonus, K., & Davidson, R. J. (2013). Mindfulness for teachers: A pilot study to assess effects on stress, burnout, and teaching efficacy. *Mind, Brain, and Education*, *7*(3), 182–195. https://doi.org/10.1111/mbe.12026

Flook, L., Smalley, S., Kitil, M., Galla, B., Kaiser-Greenland, S., Locke, J., Ishijima, E., & Kasari, C. (2010). The effects of mindful awareness practices on executive function in elementary school children. *Journal of Applied School Psychology*, *26*(1), 70–95. https://doi.org/10.1080/15377900903379125

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, *50*(3), 571–579. https://doi.org/10.1037/0022-3514.50.3.571

Geving, A. M. (2007). Identifying the types of student and teacher behaviours associated with teacher stress. *Teaching and Teacher Education*, *23*(5), 624–640. https://doi.org/10.1016/j.tate.2007.02.006

Goddard, J. T., & Foster, R.Y. (2001). The experiences of neophyte teachers: A critical constructivist assessment. *Teaching and Teacher Education, 17*(3), 349–365. https://doi.org/10.1016/S0742-051X(00)00062-7

Grossman, P. (2011). Defining mindfulness by how poorly I think I pay attention during everyday awareness and other intractable problems for psychology's (re)invention of mindfulness: Comments on Brown et al. (2011). *Psychological Assessment*, *23*(4),1034–1040. https://doi.org/10.1037/a0022713

Grossman, P., Nieman, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, *57*, 35–43. https://doi.org/10.1016/S0022-3999(03)00573-7

Guglielmi, R. S. & Tatrow, K. (1998) Occupational stress, burnout and health in teachers: A methodological and theoretical analysis. *Review of Educational Research*, *68*(1), 61–99. https://doi.org/10.2307/1170690

Guin, K. (2004). Chronic teacher turnover in urban elementary schools. *Education Policy Analysis Archives*, *42*(12), 1–30. https://doi.org/10.14507/epaa.v12n42.2004

Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology*, *33*(6), 665–679. https://doi.org/10.1007/s10802-005-7646-2

Hanson, R., & Mendius, R. (2009). *Buddha's brain: The practical neuroscience of happiness, love, and wisdom*. New Harbinger.

Hargreaves, A. (2005). Educational change takes ages: Life, career and generational. factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, *21*(8), 967–983. https://doi.org/10.1016/j.tate.2005.06.007

Herman, K. C., Hickmon-Rosa, J. E., & Reinke, W. M. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, *20*(2), 90–100. https://doi.org/10.1177/1098300717732066

Hewitt, P. L., Flett, G. L., & Mosher, S. W. (1992). The Perceived Stress Scale: Factor structure and relation to depression symptoms in a psychiatric sample. *Journal of Psychopathology and Behavioral Assessment*, 14, 247–257. http://dx.doi.org/10.1007/BF00962631

Hobson, A. J., Ashby, P., Malderez, A., & Tomlinson, P. D. (2009). Mentoring beginning teachers: What we know and what we don't. *Teaching and Teacher Education*, *25*(1), 207–216. https://doi.org/10.1016/j.tate.2008.09.001

Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., & Lazar, S. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatric Research*, *191*(1), 36–43. https://doi.org/10.1016/j.pscychresns.2010.08.006

Hong, J. Y. (2010). Pre-service and beginning teachers' professional identity and its relation to dropping out of the profession. *Teaching and Teacher Education*, *26*(8), 1530–1543. https://doi.org/10.1016/j.tate.2010.06.003

Hoy, A.W., & Spero, R.B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, *21*(4), 343–356.

Huberman, A. M., Grounauer, M. M., & Marti, J. (1993). *The lives of teachers*. Cassel.

Huppert, F. A., & Johnson, D. M. (2010). A controlled trial of mindfulness training in schools: The importance of practice for an impact on well-being. *The Journal of Positive Psychology*, *5*(4), 264–274. https://doi.org/10.1080/17439761003794148

Hwang, Y.-S., Bartlett, B., Greben, M., & Hand, K. (2017). A systematic review of mindfulness interventions for in-service teachers: A tool to enhance teacher well-being and performance. *Teaching and Teacher Education*, *64*, 26–42. https://doi.org/10.1016/j.tate.2017.01.015

Ingersoll, R. M. (2003a). The teacher shortage: Myth or reality? *Educational Horizons*, *81*(3), 146–152.

Ingersoll, R. M. (2003b). Turnover and shortages among science and mathematics teachers in the United States. In J. Rhoton, & P. Bowers (Eds.), *Science teachers retention: Mentoring and renewal* (pp. 1–12). National Science Teachers Association.

Jenkins, S. (1983). *The consequences of role configuration on the stress process*. Unpublished manuscript. University of Georgia.

Jennings, P. A. (2011). Promoting teachers' social and emotional competencies to support performance and reduce burnout. In A. Cohan & A. Honigsfeld (Eds.), *Breaking the mold of preservice and inservice teacher education: Innovative and successful practices for the twenty-first century* (pp. 133–143). Rowman & Littlefield.

Jennings, P. A., Doyle, S., Oh, Y., Rasheed, D., Frank, J. L., & Brown, J. L. (2019). Long-term impacts of the CARE program on teachers' self-reported social and emotional competence and well-being. *Journal of School Psychology*, *76*, 186–202. https://doi.org/10.1016/j.jsp.2019.07.009

Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2013). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): Results of a randomized controlled trial. *School Psychology Quarterly*, *28*(4), 374–390. https://doi.org/10.1037/spq0000035

Jennings, P. A., Snowberg, K. E., Coccia. M. A., & Greenberg, M. T. (2011). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): Results of two pilot studies. *Journal of Classroom Interaction*, *46*(1), 37–48.

Johnson, S. M., Berg, J. H., & Donaldson, M. L. (2005). *Who stays in teaching and why: A review of the literature on teacher retention*. Harvard University Graduate School of Education. https://projectngt.gse.harvard.edu/ publications/ who-stays-teaching-and-why-review-literature-teacher-retention.

Jones, D. E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health*, *105*(11), 2283–2290. doi:10.2105/AJPH.2015.302630

Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. Hyperion.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice*, *10*(2), 144–156. https://doi.org/10.1093/clipsy.bpg016

Kabat-Zinn, J. (2015). Mindfulness. *Mindfulness*, *6*(6), 1481–1483. https://doi.org/10.1007/s12671-015-0456-x

Kaiser-Greenland, S. (2010). *Mindful child: How to help your kid manage stress and become happier, kinder, and more compassionate*. Free Press.

Katz, L. G. (1972). Developmental stages of preschool teachers. *The Elementary School Journal*, *73*(1), 50–54.

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Chapleau, M. A., Paquin, K., & Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review*, *33*(6), 763–771. https://doi.org/10.1016/j.cpr.2013.05.005

Klingbeil, D. A., & Renshaw, T. L. (2018). Mindfulness-based interventions for teachers: A meta-analysis of the emerging evidence base. *School Psychology Quarterly*, *33*(4), 501–511. https://doi.org/10.1037/spq0000291.

Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, *36*(4), 476–500. https://doi.org/10.3102/0162373713519496

Kokkinos, C. M. (2007). Job stressors, personality and burnout in primary school teachers. *British Journal of Educational Psychology*, *77*(Pt. 1), 229–243. https://doi.org/10.1348/000709905X90344

Kyriacou, C. (1987). Teacher stress and burnout: an international review. *Educational Research*, *29*, 146–152. https://doi.org/10.1080/0013188870290207

Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Review*, *53*(1), 27–35. https://doi.org/10.1080/00131910120033628

Lambert, R., Boyle, L., Fitchett, P., & McCarthy, C. (2019). Risk for occupational stress among U. S. kindergarten teachers. *Journal of Applied Developmental Psychology*, *61*, 13–20. https://doi.org/10.1016/J.APPDEV.2018.07.003z

Landsmann, L. (1978). Is Teaching Hazardous to Your Health?. *Today's Education*, *67*(2), 48-50.

Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research*, *6*(4), 121–127. https://doi.org/10.1016/j.anr.2012.08.004

Lewis, M. (Speaker) (2012). *Comparing logotherapy and positive psychology*. [MP3 recording]. http://www.shrinkrapradio.com

Maslach, C. (1976). Burned-out. *Human Behavior*, *5*(9), 16–22.

Maslach, C., & Jackson, S. E. (1981). *MBI: Maslach Burnout Inventory*. Consulting Psychologists Press.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*, 397–422.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370–396. https://doi.org/10.1037/h0054346

Maslow, A. H. (1987). *Motivation and personality (3rd ed.)*. Delhi, India: Pearson Education.

Maslow, A., & Lewis, K. J. (1987). Maslow's hierarchy of needs. *Salenger*, *14*(17), 987–990.

McClelland, M. M., Morrison, F. J., & Holmes, D. (2000). Children at risk for early academic problems: The role of learning related social skills. *Early Childhood Research Quarterly*, *15*(3), 307–329. https://doi.org/10.1016/S0885-2006(00)00069-7

Meiklejohn, J. M., Phillips, C. L., Freedman, M. L., Griffin, M., Biegel, G. M., Roach, A.T., Frank, J. L., Burke, C., Pinger, L., Soloway, G. B., Isberg, R., Sibinga, E. M., Grossman, L., & Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness*, *3*, 291–307. https://doi.org/ 10.1007/ s12671-012-0094-5

Milliard, T. (2015, October 9). Schools in 'Crisis': *Nevada short nearly 1,000 teachers*. Reno Gazette Journal. https://www.rgj.com/ story/news/education/2015/10/08/schools-crisis-nevada-short-nearly-1000-teachers/73618992/

Muijs, D., & Reynolds, D. (2002). Teachers' beliefs and behaviors: What really matters? *Journal of Classroom Interaction*, *37*(2), 3–15.

Napoli, M., Krech, P. R., & Holley, L. C. (2005). Mindfulness training for elementary school students: The attention academy. *Journal of Applied School Psychology*, *21*(1), 99–125. https://doi.org/10.1300/J370v21n01_05

National Center for Education Statistics (NCES) (2015a). *Career paths of beginning school teachers*, *5*,.4–5, 7. https://nces.ed.gov/pubs2015/2015196.pdf

NCES (2015b). *Teaching vacancies and difficult-to-staff teaching positions in public schools*, *1*. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015065

National Commission on Teaching & America's Future (NCTAF) (2003). No dream denied: A pledge to America's children. Fordham Institute. https://fordhaminstitute.org/national/commentary/no-dream-denied-pledge-americas-children

Neher, A. (1991). Maslow's theory of motivation: A critique. *Journal of humanistic psychology*, *31*(3), 89-112.

Nie, Y., Lau, S., & Liau, A. (2012). The teacher efficacy scale: A reliability and validity study.

Paine, W. S. (1981). The Burnout Phenomenon. *VocEd*, *56*(8), 30-33.

Pakarinen, E., Kiuru, N., Lerkkanen, M. K., Poikkeus, A. M., Siekkinen, M., & Nurmi, J. E. (2010). Classroom organization and teacher stress predict learning motivation in kindergarten children. *European Journal of Psychology of Education*, *25*(3), 281–300.

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2008). *The positive impact of social and emotional learning for kindergarten to eighth grade students*. Play Is the Way. http://www.playistheway.ca/uploads/9/0/2/5/9025834/casel_research.pdf.

Pelco, L. E., & Reed-Victor, E. (2007). Self-regulation and learning related social skills: Intervention ideas for elementary school students. *Preventing School Failure*, *51*(3), 36–43. https://doi.org/10.3200/PSFL.51.3.36-42

Ponitz, C. C., McClelland, M. M., Matthews, J. S., & Morrison, F. J. (2009). A structured observation of behavioral self-regulation and its contribution to kindergarten outcomes. *Developmental Psychology*, *45*(3), 605–619. http://doi.org/10.1037/a0015365

Putman, S. M. (2012). Investigating teacher efficacy: Comparing preservice and inservice teachers with different levels of experience. *Action in Teacher Education*, *34*(1), 26–40. https://doi.org/10.1080/01626620.2012.642285

Quality Counts. (2000). Who should teach. *Education Week*, *19*(18).

Quartz, K. H. (2003). "Too angry to leave": Supporting new teachers' commitment to transform urban schools. *Journal of Teacher Education*, *54*(2), 43–50. http://doi.org/10.1016/j.tate.2010.07.001

Reinke, W. M., Herman, K. C., & Stormont, M. (2013). Classroom level positive behavior supports in schools implementing SW-PBIS: Identifying areas for enhancement. *Journal of Positive Behavior Interventions*, *15*(1), 39–50. https://doi.org/10.1177/1098300712459079

Roberti, J. W., Harrington, L. N., & Storch, E. A. (2006). Further psychometric support for the 10-item version of the Perceived Stress Scale. *Journal of College Counseling*, 9, 135–147. http://dx.doi.org/10.1002/j .2161-1882.2006.tb00100.x

Roeser, R. (2013). Mindfulness and human development: A commentary on the special issue. *Research in Human Development*, *10*(3), 273–283.https://doi.org/10.1080/15427609.2013.818490

Roness, D. (2011). Still motivated? The motivation for teaching during the second year in the profession. *Teaching and Teacher Education*, *27*(3), 628–638. https://doi.org/0.1016/j.tate.2010.10.016

Rosaen, C., & Benn, R. (2006). The experience of transcendental meditation in middle school students: A qualitative report. *Explore*, *2*(5), 422–425. https://doi.org/10.1016/j.explore.2006.06.001

Rose, L. C., & Gallup, A. M. (2002, September). The 34th annual Phi Delta Kappa/Gallup poll of the public's attitudes toward the public schools. *Phi Delta Kappan*, *84*(1), 41–56. https://doi.org/10.1177/003172170208400110

Russell, D. W., Altmaier, E., & Van Velzen, D. (1987). Job-related stress, social support, and burnout among classroom teachers. *Journal of applied psychology*, *72*(2), 269.

Rust, F. O. (1994). The first year of teaching: It's not what they expected. *Teaching and Teacher Education*, *10*(2), 205–217. https://doi.org/10.1016/0742-051X(94)90013-2

Santorelli S. (1999). *Heal thy self*: *Lessons on mindfulness in medicine.* Harmony.

Santorelli, S. (Ed.) (2014). *Mindfulness-based stress reduction (MBSR): Standards of practice.* Dansk Center for Mindfulness, Aarhus University. https://mindfulness.au.dk/fileadmin/mindfulness.au.dk/Artikler/Santorelli_mbsr_standards_of_practice_2014.pdf

Sawchuk, S. (2013, January 22). *Colleges overproducing elementary teachers, data find*. Education Week. https://www.edweek.org/leadership/colleges-overproducing-elementary-teachers-data-find/2013/01

Semple, R. J., Lee, J., Rosa, D., & Miller, L. F. (2010). A randomized trial of mindfulness-based cognitive therapy for children: Promoting mindful attention to enhance social-emotional resilience in children. *Journal of Child and Family Studies*, 19, 218–229. https://doi.org/10.1007/s10826-009-9301-y

Semple, R. J., Reid, E. F., & Miller, L. F. (2005). Treating anxiety with mindfulness: An open trial of mindfulness training for anxious children. *Journal of Cognitive Psychotherapy*. *19*(4), 379–392. https://doi.org/10.1891/jcop.2005.19.4.379

Short, B., Kose, S., Mu, Q., Borckardt, J., Newberg, A., George, M. S., & Kozel. F. A. (2010). Regional brain activation during meditation shows time and practice effects: An exploratory FMRI study. *Evidence Based Complementary & Alternative Medicine*, *7*(1), 121–127. https://doi.org/10.1093/ecam/nem163

Siegel, D. (2009). Mindful awareness, mindsight, and neural integration. *The Humanistic Psychologist*, *37*(2), 137–158. https://doi.org/10.1080/08873260902892220

Singh, N. N., Lancioni, G. E., Winton, A. S., Fisher, B. C., Wahler, R. G., Mcaleavey, K., ... & Sabaawi, M. (2006). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional and Behavioral Disorders*, *14*(3), 169-177.

Singh, N. N., Lancioni, G. E., Singh Joy, S. D., Winton, A. S., Sabaawi, M., Wahler, R. G., & Singh, J. (2007). Adolescents with conduct disorder can be mindful of their aggressive behavior. *Journal of Emotional and Behavioral Disorders*, *15*(1), 56-63.

Singh, N., Lancioni, G., Winton, A., Karazsia, B., & Singh, J. (2013). Mindfulness training for teachers changes the behavior of their preschool students. *Research in Human Development*, *10*(3), 211–233. https://doi.org/10.1080/15427609.2013.818484

Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, *99*(3), 611–625. https://doi.org/10.1037/0022-0663.99.3.611

Smith, Bruce & Dalen, Jeanne & Wiggins, Kathryn & Tooley, Erin & Christopher, Paulette & Bernard, Jennifer. (2008). The Brief Resilience Scale: Assessing the Ability to Bounce Back. *International journal of behavioral medicine*. 15. 194-200. 10.1080/10705500802222972.

Sutcher, L., Darling-Hammond, L., and Carver-Thomas, D. (2016). A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S. Palo Alto, CA: Learning Policy Institute. https://doi.org/10.54300/247.242

Tang, Y. Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., Yu, Q., Sui, D., Rothbart, M. K., Fan, M., & Posner, M. I. (2007). Short-term meditation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences of the United States of America*, *104*(43), 17152–17156. https://doi.org/10.1073/pnas.0707678104.

Thera, N. (1969). *The heart of Buddhist meditation (satipaṭṭāna): A handbook of mental training based on the Buddha's Way of Mindfulness, with an anthology of relevant texts*. Citadel.

Tilahun, L., & Vezzuto, L. A. (2014). *Mindfulness practice in K-12 schools: Emerging research on stress, well being, and achievement*. MindfullyYUhttps://mindfullyu.net/wp-content/uploads/2016/ 11/mindfulness_reader__orange-county_january_2014.pdf

Trousselard, M., Steiler, D., Claverie, D., & Canini, F. (2014). L'histoire de la mindfulness à l'épreuve des données actuelles de la littérature: Questions en suspens [The history of mindfulness put to the test of current scientific data: unresolved questions]. *L'Encephale*, *40*(6), 474–480. https://doi.org/10.1016/j.encep.2014.08.006

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education*, *27*(4), 751–761. doi: 10.1016/j.tate.2010.12.005

U.S. Department of Education, Office of Elementary and Secondary Education. (2021). https://oese.ed.gov/resources/oese-technical-assistance-centers/state-supportnetwork/resources/school-improvement-needs-assessment/

Urry, H. L., van Reekum, C. M., Johnstone, T., Kalin, N. H., Thurow, M. E., Schaefer, H. S., Jackson, C. A., Frye, C. J., Greischar, L. L., Alexander, A. L., & Davidson, R. J. (2006). Amygdala and ventromedial prefrontal cortex are inversely coupled during regulation of negative affect and predict the diurnal pattern of cortisol secretion among older adults. *The Journal of Neuroscience*, *26*(16), 4415–4425. https://doi.org/10.1523/JNEUROSCI.3215-05.2006.

Vandenberghe, R. & Huberman, A. M. (Eds.) (1999). *Understanding and preventing teacher burnout: A sourcebook of international research and practice*. Cambridge University Press.

Veldman, I., Admiraal, W., van Tarwijk, J., Mainhard, T., & Wubbels, T. (2016). Veteran teachers' job satisfaction as a function of personal demands and resources in the relationship with their students. *Teachers and Teaching*, *22*(8), 913–926. https://doi.org/10.1080/13540602.2016.1200546

Wadlinger, H., & Isaacowitz, D. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and Social Psychology Review*, *15*(1), 75–102. https://doi.org/10.1177/1088868310365565

Wentzel, K. R. (2010). Students' relationships with teachers. In J. L. Meece & J. S. Eccles (Eds.), *Handbook of research on schools, schooling, and human development* (pp.75–91). Routledge.

Wilson, S., Ball, D. L., Bryk, A. S., Figlio, D., Grossman, P., Irvine, J. J., & Porter, A. (2008). *Teacher quality: Education white paper* (ED531145). ERIC. https://files.eric.ed.gov/fulltext/ED531145.pdf

Wisner, B. L., Jones, B., & Gwin, D. (2010). School-based meditation practices for adolescents: A resource for strengthening self-regulation, emotional coping, and self-esteem. *Children & Schools 32*(3), 150–159. https://doi.org/10.1093/cs/32.3.150

Zarate, K., Maggin, D. M., & Passmore, A. (2019). Meta-analysis of mindfulness training on teacher well-being. *Psychology in the Schools*, *56*(10), 1700–1715. https://doi.org/10.1002/pits.22308

Zylowska, L., Ackerman, D. L., Yang, M. H., Futrell, J. L., Horton, N. I., Hale, S., Smalley, S. L. (2008). Mindfulness meditation training in adults and adolescents with ADHD: A feasibility study. *Journal of Attention Disorders*, *11*(6), 737–746. https://doi.org/10.1177/1087054707308502