2021

The Impact of Mindfulness Practice on Adolescents With Special Needs and Mental Health Diagnosis

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THE IMPACT OF MINDFULNESS PRACTICE ON ADOLESCENTS WITH SPECIAL NEEDS AND MENTAL HEALTH DIAGNOSIS

A MASTER'S THESIS

SUBMITTED TO THE FACULTY

OF BETHEL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF ARTS

MARCH 2021

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MARCH 2021

Abstract

Students with mental health diagnosis, trauma or special education labels such as emotional behavioral disorder or learning disabilities often show signs of distress, and/or dysregulation in the classroom. They are referred to providers and evaluated based on the behaviors or symptoms that are presented. Many times, these behaviors impact their ability to learn, regulate emotions and function when compared to their typically developing peers. These students have developed maladaptive behaviors to cope with strong feelings. Within the last ten years, clinics, schools and districts have increased their attention and efforts to develop social emotional learning programs to teach students essential life, personal and coping skills. Often the first concepts or strategies when addressing negative behavior is improving the student's self-awareness. Before a student is able to self-regulate, choose a skill or use a calming strategy, they must first be able to identify a change in their body, mind or feelings. Emerging research is beginning to show that mindfulness and meditation could be useful interventions when teaching self-awareness. Through mindfulness and meditation, students practice being conscious of their feelings. They may also learn skills that enable them to focus on thoughts and increase awareness to the present moment. The research summarized in this literature review seeks to determine the effectiveness of mindfulness-based interventions on adolescents or school/aged children. A variety of studies reviewed will determine if mindfulness improves student engagement, academic performance and negative behavior in the classroom.

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CHAPTER I: INTRODUCTION

Research Justification

Mindfulness and meditation have been practiced all over the world for thousands of years. Historically, mindfulness has been used as a method to increase happiness and gain insight into the nature of one's existence (Olendzki, 2010). It has been reported that these practices produce benefits in a number of ways. Studies have documented improvements in neurological functioning, clinical disorders, physical health and immune functioning. Mindfulness based interventions have also shown to have positive effects on psychological well-being.

Emerging research has demonstrated that mindfulness practices have positive impacts on adolescents across clinical, school and community settings. Schools and districts are implementing social emotional learning guidelines and standards. These practices are outlined to help students learn, practice and model essential life skills. Most commonly, mindfulness-based interventions and skills are taught in classroom settings where students experience strong emotions that impact their ability to participate academically and socially.

Educators for students with emotional behavioral disorders, students with mental illness, and other disabilities seek to improve emotional regulation in our schools. Teachers are encouraged though not required by the Minnesota Department of Education (MDE) to teach these youth social emotional learning (SEL). In 2015, MDE developed an SEL implementation and assessment guide with a framework for competencies that is important for students to possess. In each of the framework categories is a set of standards or benchmarks much like you would see for academic subjects. The learning goals for SEL are more difficult to find and take some maneuvering on the MDE website as they are not listed with the required state standards.

The thesis writer decided to research the topic of mindfulness and mediation because of

the firm belief in the skills that may be taught through these practices for our students who have emotional and behavioral deficits. Personally, the researcher has seen the benefits of teaching SEL through mindfulness with her students. Students who have participated in mindfulness activities are better able to identify strong emotions, and then implement specific strategies to help themselves effectively process through them.

Furthermore, with mindfulness-based interventions and practices, students have been able to use coping skills and strategies that are school appropriate and socially accepted. The researcher has also seen an increase in attention regulation or time on task during direct instruction and individual work time in the classroom. There have been many articles and studies surfacing about the improvement of student behavior through these methods as well. Although there is emerging research on the topic of mindfulness and meditation in the classroom, there is a need to implement these effective strategies, especially for students with varying degrees of mental health diagnosis, emotional and behavioral disorders and learning disabilities.

Incident Data

According to the National Center for Education Statistics in the 2018-2019 school year, 7.1 million students ages 3-21 received special education services under the Individuals with Disabilities Education Act (IDEA). This accounted for 14 percent of all public school students. Among those, 33 percent had specific learning disabilities, 15 percent had other health impairment and 5 percent had emotional disturbance.

The Center for Disease Control (CDC) and Prevention using multiple different datasets, reports that ADHD, anxiety and depression are the most commonly diagnosed mental disorders among children. In addition, 9.4% of children ages 2-17 years (approximately 6.1 million) have received an ADHD diagnosis, 7.4% of children ages 3-17 years (approximately 4.5 million) have a diagnosed behavior problem, 7.1% of children ages 3-17 years (approximately 4.4 million)

have diagnosed anxiety and 3.2% of children ages 3-17 years (approximately 1.9 million) have diagnosed depression.

It is common for adolescents with mental health disorders to be diagnosed with multiple conditions. The CDC reports that about 3 in 4 children ages 3-17 years with depression also have anxiety (73.8%) and almost 1 in 2 have behavior problems (47.2%). Of children ages 3-17 years with anxiety, more than 1 in 3 also have behavior problems (37.9%) and about 1 in 3 also have depression (32.3%). Lastly, of children ages 3-17 years with behavior problems, more than 1 in 3 also have anxiety (36.6%) and about 1 in 5 also have depression (20.3%).

Mental health diagnosis and students in receiving special education services continues to increase year to year. For example, between 2011–12 and 2018–19 school year, the number of students served in special education increased from 6.4 million to 7.1 million and the percentage served increased from 13 percent of total public school enrollment to 14 percent of total public school enrollment (NCES, 2020). Depression and anxiety among children ages 6-17 years increased from 5.4% in 2003 to 8.4% in 2011-2012. (CDC, 2021).

With the increasing number of mental health conditions and special education services, schools are looking for research-based programs to help these students not only be successful in school but with everyday life skills. Social emotional learning has become increasingly important in facilitating growth for students who may be impacted by these conditions. Addressing mindfulness and self-awareness is crucial to providing these students with the resources they need to recognize and manage their emotions, participate in academics and interact positively in social settings.

Current Societal Issues and Trends

Although there is promising evidence to show the effectiveness of mindfulness, not all (SEL) curriculum includes this intervention as a component. Having spent time in various special education school settings, the author has observed that the social skills curriculum often lacks the foundation of self-awareness. Teachers teach skills necessary to respond to strong emotions, difficult social situations or stresses, but fail to explicitly teach students how to identify when there are changes in their emotions, bodies, thoughts and perceptions.

In settings where calming exercises, increasing attention to emotion practice, and self-awareness exercises are taught, researchers have found benefits in academic performance, behavior regulation and student engagement. If evidence supports a correlation between mindfulness and student's ability to function then there is a strong case that mindfulness-based interventions need to be explicitly taught in our schools. At the very least, it should be common practice among educators to use as a method for students who have difficulty with mental health and/or disabilities. The author will explore the evidence of mindfulness intervention studies among adolescents. Furthermore, this review will seek to support a conclusion that this component of social emotional learning should be explicitly taught in our institutions to improve the well-being and success of students.

Thesis Questions

Throughout this review, the author will seek to gather information in support of using these practices to further students' social emotional learning. The research has raised questions about the inclusion of mindfulness practices in schools and among students with disabilities. The thesis questions will assist in bringing clarifying information and answers to the questions that follow:

1. Does mindfulness improve on task performance, student engagement and behavior in the classroom?
2. How does mindfulness impact adolescents with mental health needs?
3. Are there ways schools can improve upon implementing mindfulness in the classroom?

The following research in Chapter II provides information and data on the effect of mindfulness and meditation on the brain functions. It will assess articles that support the success of implementation of mindfulness in the classroom with students who have emotional and behavioral needs. In addition, the review will determine if there is evidence to support that mindfulness is best practice among teachers who serve students with mental health disorders. The thesis will focus on the research to help answer the questions posed.

CHAPTER II: LITERATURE REVIEW

Research Search Explanation

The research was derived from the Bethel University library search engines such as ERIC, EBSCO, ProQuest, and Google Scholar. Common publications referenced in this piece include the *Diagnostic and Statistical Manual of Mental Disorders (DSM–5), The American College of Obstetricians and Gynecologists, The American Psychological Association and* the *World Health Organization.* Information from the Minnesota Department of Education is referenced. In addition, the articles were discovered using search terms such as "mindfulness in special education", "mindfulness and mental health in adolescents" as well as "mindfulness curriculum in schools."

Overview of Mindfulness

Mindfulness is typically defined as nonjudgmental attention to experiences in the present moment (Kabat-Zinn, 1990). Bishop et al. 2004, proposed a two-component model of mindfulness, the first component is the regulation of attention in order to maintain it on the immediate experience, and the second component includes approaching one's experiences with an orientation of curiosity, openness, and acceptance, regardless of their valence and desirability. Mindfulness is typically acquired by formal meditation practices. These practices may include sitting meditation, walking meditation, or mindful movements (Kabat-Zinn, 1990). The practice of mindfulness meditation encompasses focusing one's attention on thoughts, emotions and body sensations. It is the self-awareness of how they may arise and pass (Hölzel et al., 2011).

Current research on mindfulness recognizes several components of mindfulness and meditation. Hölzel et al., 2011, combined these theoretical frameworks into four categories; attention regulation, body awareness, emotional regulation and change in perspective on the self.

When working together, the categories enhance self-regulation. Each of the components is defined and described in the following sections.

Attention Regulation

Many mediation traditions emphasize the importance of cultivating attention to one single object. When the mind shifts from that object or focus or notices that the mind wanders off, he or she practices returning to the original thought or focus (Lutz et al., 2008). Typical instruction for meditation may include the directive to focus your attention on your breath or breathing. If you start to become distracted or your mind wanders, instruction will be to calmly return your focus to your breath and start again (Hölzelet al., 2011).

Barinaga (2003) has illustrated the effects of repetitive focused attention, meditative practices. The study stated that this practice increases focused attention for extended periods of time. Distractions and disturbances decrease focus less often during formal mediation practices. Neuroimaging research has proven that the anterior cingulate cortex (ACC) enables executive attention (Van Veen & Carter, 2002). The study published in the Journal of Cognitive, Neuroscience found that when distractions arise, the ACC contributes to maintaining attention by alerting the systems of the brain to switch and regulate focus. The ACC works together with the fronto-insular cortex to facilitate cognitive control (Sridharan et. al, 2008). A study conducted by Aftanas & Golocheikine (2001), found that the function of the ACC is strengthened by meditative practices and concentration.

The strengthening of these brain systems has an impact on the treatment of mental health disorders such as attention-deficit, hyperactivity disorder ADHD and bipolar disorder (Hölzel, et al., 2011). There is limited research on the impact of meditation and ADHD however, early findings show improvements on attention and executive function. Bipolar patients showed

improvements to symptoms after engaging in meditation practices (Miklowitz, et al., 2009). Further research is needed to evaluate the effectiveness of mindfulness and attention regulation for these patients.

Attention to conflict monitoring or distractions appears to be an important component to early mindfulness practice. A significant degree of concentration is needed to maintain focus as opposed to day dreaming or drifting off (Hölzel et al., 2011). Body awareness, emotional regulation and change in perspective of the self, may also improve as attention regulation increases. The connection across these categories should be studied in future research.

Body Awareness

Body awareness can be hard to define but often is understood as attentional focus on and awareness of internal body sensations (Mehling et al., 2009). During mindfulness practice, the subject focuses on one internal component. This may include breathing, muscle sensations, or bodily emotional responses. According to neuroscientific findings, research and literature suggests there is a connection between body awareness and brain function and structure. Insula, an area of the brain that correlates with interoceptive accuracy and visceral awareness, has been found to activate during body awareness tasks (Craig, 2003). Individuals who participated in a mindfulness-based stress reduction course, showed an increase in the activation of the insula. (i.e., employed an experiential focus; Farb et al., 2007).

An increased awareness of one's bodily response to emotions or stimuli may have an impact on the ability to regulate emotions. This may in turn suggest that this mindfulness strategy is a viable treatment option for psychological disorders (Hölzel et al., 2011). In addition, the neurological response of the brain following mediation training, might improve empathetic and compassion. (Shapiro et al., 1998). Ongoing research is needed in the area to increase

objective behavioral data to further shed light on the connection between body awareness and physiological deficits including emotional regulation.

Emotion Regulation

Evolving research is beginning to suggest that mindfulness practices result in improvements in emotional regulation (Hölzel et al., 2011). Studies have been conducted using experimental, self-report, peripheral physiological and neuroimaging data. Across categories; the literature suggests that meditation training leads to decreased emotional reactivity and has positive effects on the physiological response to emotions.

There are two common emotion regulation strategies that are used in mindfulness practices; reappraisal and extinction. (Garland et al., 2011) described mindful emotion regulation as "positive reappraisal," or the adaptive process through which stressful events are reconstructed as beneficial, meaningful, or benign (e.g., thinking that one will learn something from a difficult situation). In a recent self-report study, data supported that mindfulness practice led to increased positive reappraisal which correlated to decreased stress levels (Garland et al. 2011).

Reappraisal has neurological effects on the brain. In one study conducted using the Kentucky Inventory of Mindfulness Skills, participants were shown negative pictures and asked to attend or reappraise the images. The research showed that when participants were able to use mindfulness it coordinated with brain activation in the left and right prefrontal cortex. This demonstrated that there seems to be a positive association between increased brain activation that supports emotional regulation and reappraisal (Modinos et al., 2010).

Extinction is often used in studies where the participants are exposed to feared stimuli in order to condition a desired or positive response opposed to a fear response. Recent functional

magnetic resonance imaging (fMRI) research has identified that mindfulness is crucial when it comes to strengthening the brain regions that facilitate extinction (Hölzel et al., 2011).

Extinction-based mindfulness practice has been found to play a crucial role in reducing stress (Carmody & Baer, 2008; Chang et al., 2004). With extinction, it is suggested to be a positive strategy and treatment when unpleasant emotions or memories arise. It is considered a practice that leads to the unlearning of previous connections or associations and liberating an individual from strong negative emotional reactions.

Change in Self-Perspective

As stated in Buddhist psychology, the self is ever changing and the perception of self is an ongoing process. The self is determined by the person or being who inhibits the body, thinking the thoughts and experiences actions and emotion (Olendzki, 2010). Through meta-awareness, the meditator is able to observe their perspectives and use monitoring to detach from assuming identity to the emotions. Buddhist belief is that this attachment causes identification with the static sense of self and can cause psychological distress. Whereas disidentification, or the awareness that these experiences are fleeting and ever-changing promote happiness (Olendzki, 2010).

Although there are self-reported and neuro imaging studies that have been conducted, more research would be beneficial in this area to illuminate the benefits of changes in the perspective of self. Studies that are currently underway, will help provide more information as to how mindfulness practices impact the change of perspective. Also, how the change of perspective of self, impacts the neuro functions of the brain and it's mechanisms.

Conclusion of Mindfulness

Mindfulness and meditation practice consist of four components; attention regulation, body awareness, emotion regulation and change in perspective of the self. The research done has investigated the result of these practices on brain function as well as individual self-reporting. In most cases, the brain regions associated with emotions were seen to activate as well as subjects reported benefits to more positive emotions and better regulation. Some studies suggested that these strategies can be integrated and related to one another while others say they may be implemented individually. The different mechanisms of mindfulness may differentiate results of how mindfulness impacts one's emotional regulation. More research in these specific categories is necessary in order to identify how these areas play a role in psychological functioning.

Overview of Common Adolescent Mental Health Diagnosis

The World Health Organization defines mental health as a "state of well-being whereby individuals recognize their abilities, are able to cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their communities." Subsequently, the The American College of Obstetricians and Gynecologists states that "at least one in five youth aged 9–17 years currently has a diagnosable mental health disorder that causes some degree of impairment; one in 10 has a disorder that causes significant impairment." Of these, anxiety, mood, attention, and behavior disorders are among the most common. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) categorizes and defines these disorders as the following:

Anxiety Disorders

Generalized Anxiety Disorder (GAD): Excessive anxiety and worry (apprehensive expectation) about a number of events or activities. The intensity, duration, or frequency of the anxiety and worry is out of proportion to the actual likelihood or effect of the anticipated event.

The individual finds it difficult to control the worry and to keep worrisome thoughts from interfering with attention to tasks at hand. Somatic symptoms frequently are associated.

Social Anxiety Disorder: Marked and persistent fear of one or more social or performance situations, provoking symptoms of anxiety and causing extreme distress or avoidance of the situation.

Panic Disorder: Recurrent unexpected panic attacks.

Panic Attack: An abrupt surge of intense fear or intense discomfort that reaches a peak within minutes and during which time four or more of 13 physical and cognitive symptoms occur (palpitations, pounding heart, or accelerated heart rate; sweating; trembling or shaking; sensations of shortness of breath or smothering; feelings of choking; chest pain or discomfort; nausea or abdominal distress; feeling dizzy, unsteady, light-headed, or faint; chills or heat sensations; paresthesias [numbness or tingling sensations]; derealization [feelings of unreality] or depersonalization [being detached from oneself]; fear of losing control or "going crazy"; fear of dying).

Obsessive–Compulsive Disorder (OCD): Although the specific content of obsessions and compulsions varies among individuals, certain symptom dimensions are common in OCD, including those of cleaning (contamination obsessions and cleaning compulsions); symmetry (symmetry obsessions and repeating, ordering, and counting compulsions); forbidden or taboo thoughts (eg, aggressive, sexual, and religious obsessions and related compulsions); and harm (eg, fears of harm to oneself or others and related checking compulsions).

Posttraumatic Stress Disorder (PTSD): The development of characteristic symptoms (including fear-based re-experiencing, emotional and behavioral symptoms, anhedonic or dysphoric mood states, negative cognitions, arousal and reactive-externalizing symptoms,

dissociative symptoms, or combinations of these symptom patterns) after exposure to actual or threatened death, serious injury, or sexual violence.

Mood Disorders

Adjustment Disorder with Depressed Mood: The development of emotional or behavioral symptoms in response to an identifiable stressor(s) that occur within 3 months of the onset of the stressor(s) in which low mood, tearfulness, or feelings of hopelessness are predominant.

Major Depressive Disorder (MDD): A period of at least 2 weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities. In children and adolescents, the mood may be irritable rather than sad.

Bipolar Disorder: A distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased activity or energy, lasting at least 4 consecutive days and present most of the day, nearly every day, or that requires hospitalization.

Premenstrual Dysphoric Disorder: The cyclic recurrence of severe, sometimes disabling, changes in affect—such as mood lability, irritability, dysphoria, and anxiety—that occur in the luteal phase of a woman's menstrual cycle and subside around, or shortly after, the onset of menses. These symptoms may be accompanied by the common physical and behavioral symptoms of premenstrual syndrome.

Attention Deficit Hyperactivity Disorder

Symptoms of inattention and hyperactivity or impulsivity present for at least 6 months to a degree that is maladaptive and inconsistent with developmental level.

Disruptive Behavior Disorders

Conduct Disorder: Repetitive and persistent pattern of behavior that violates the basic rights of others or the age-appropriate societal norms, including aggression to people and animals,

destruction of property, deceitfulness or theft, or serious violation of rules (such as running away, truancy, curfew violations.)

Oppositional–Defiant Disorder: Pattern of negativistic, hostile, and defiant behavior that includes four or more of the following—often losing temper, often arguing with adults, often refusing to follow rules, often annoying others, often blaming others, often angry or resentful, often spiteful or vindictive.

Mindfulness in Special Education

Mindfulness for Adolescents with Mental Health Needs

According to a research study conducted by (Kessler et al. 2005), about half of Americans will meet criteria for a DSM-IV disorder sometime in their lifetime. Most of the symptomology begins to occur in childhood or adolescence. A meta-analysis conducted by Zoogman et al. (2014), overviewed that mindfulness-based interventions (MBI's) have been shown to effectively improve psychological symptoms of anxiety and depression.

One reason MBI's may be more beneficial than other methods such as cognitive behavior therapy, is that MBI's tend to target psychological responses that are common in this population. They do so by teaching intentional, non-judgmental and present-focused awareness to improve impulsive or automatic negative responses (Semple et al., 2010). In addition, Mindfulness-based treatments do not require a high level of cognitive functioning so it can be used with a broader range of people (Zlatina, 2019).

In the systematic review of research literature conducted by (Kostova et al., 2019), researchers looked at four categories in which MBI's have been studied: *Neurodevelopmental and Behavioral Disorders, Heterogeneous Disorders, Substance Abuse Disorders and Mood and Anxiety Disorders.* They concluded that across all categories, general results and outcomes were

that adolescents that participated in MBI's felt less worried and more relaxed, were better able to manage stressful situations or strong emotions and were more self-aware.

Although there is strong preliminary evidence that MBI's are useful treatments for adolescents with mental health conditions, more studies and research needs to be conducted. There are limitations to some of these experiments including, sample size, variation in participant engagement and variation in rigor or standardization of testing (Kostova et al., 2019). Additional testing may determine better conclusions as to how effective MBI's are on specific mental health conditions.

Mindfulness and Academic Performance and Engagement in the Classroom

Student achievement in the classroom requires that distractions are limited in order for students to be able to concentrate on tasks. Teachers need to be able to balance instruction and varying needs of individual students while simultaneously managing behavior challenges and disruptions. Through mindfulness training and implementing these practices in school, studies have shown an increase in self-regulation, attentional control, and reduced psychological stress in youth (Barnert et al., 2013; Bögels et al., 2008; Coholic et al., 2012; Flook et al., 2010; Semple et al., 2010; Schonert-Reichl & Lawlor, 2010). The improvements on these components are shown to be positively associated with school readiness, prosocial behavior, and academic achievement (Brock et al., 2009; Ponitz et al., 2009). While most of the studies conducted have shown an improvement in attention and self-regulation, they include relatively small sample sizes of participants.

Black & Fernando Study

In a 2014 study conducted by (Black & Fernando), researchers evaluated teacher reports of students' classroom behaviors before and after a 12-week mindfulness-based program, using the K-5 curriculum from *Mindful Schools* (MS), delivered at a public elementary school in

California. Seventeen teachers reported on students from 17 different classrooms. These teachers collectively reported on the behaviors of 409 students grades kindergarten through sixth using a classroom behavior rubric.

All classrooms received the MS curriculum 3 times a week for 15 minutes. Students learned content through 5 different lessons on various mindfulness categories (see Table 1).

Table 1. Mindful schools k-5 grade curriculum outline

Week	Lesson titles	Lesson Content
1	Mindful bodies and listening Mindfulness of breathing Heartfulness: sending kind thoughts	Practice still and relaxed sitting posture; concentrate attention on sound of a bell from sound start to finish; careful listening to ambient sounds in the classroom; following the breath; sending kind thoughts and wishes to other people we care about
2	Body awareness Mindfulness of breathing Heartfulness: generosity	Whole body scan while noting feelings and sensations; teach ‘‘anchor word’’ to help stay connected with breath; discuss and visualize ways to be generous
3	Thoughts Mindful seeing Heartfulness: kind and caring on the playground	Discussion about thoughts and the way thoughts dictate feelings and actions; practice mindful breathing and noticing when there are thoughts; looking around to find things with our eyes that we haven’t noticed before; carefully observe one object; discussion and visualization of various instances and feelings on the playground
4	Emotions: creating space Slow motion Gratitude: looking for the good	Discussion about emotions; identifying where in the body various emotions are felt; awareness of slow moving arms and standing up slowly; discussion and visualization of being grateful and how gratitude relates to feelings
5	Mindful walking Mindful eating Mindful test-taking	Slow mindful walking and noticing sensations; mindful eating of raisin exercise; discussion and visualization of feelings that come up before, during and after tests: how to apply mindfulness to these feelings during tests

After completion of the 5-week initial MS curriculum, students then participated in a review of the content for 7 weeks thereafter. This was delivered to students once-weekly during class. Students were asked to practice what they had learned in the lessons in their daily life. The same curriculum was used across grade levels.

To measure progress, Black and Fernando used *The Student Behavior Rubric by Kinder Associates, LLC (2007).* Teachers rated student behavior in the classroom using four categories. These included: (1) paying attention (pays attention all of the time), (2) self-control (i.e., demonstrates calmness and self-control), (3) participation in activities (physical engages and participates in all activities), and (4) caring and respect for others (shows care and respect for teachers and fellow students). Each item was ranked using a scale ranging from 0 to 4, the higher the number the better the student behavior.

The findings of the study indicated that the mindfulness intervention was associated with improvements in various indices of student behavior via teacher reports. The data determined that student behavior improved across all four categories. The teachers reported that over time, students' attention improved, they were calmer and demonstrated self-control, participation in activities increased, and showed an increase in caring/respect for others. These improvements lasted up to 7 weeks after the intervention period.

There were limitations to the study that included a lack of control group, expectancy effects of the curriculum from teachers, and one outcome measure. These variables may have affected the data and created a ceiling effect, biased reporting and lack of alternative information or explanation of results. A repeated study of its kind would benefit using larger sample sizes, multiple measurement methods and a comparable control group.

Costello & Lawler Study

In the Exploratory Study of the Effects of Mindfulness on Perceived Levels of Stress Among School-Children from Lower Socioeconomic Backgrounds conducted by Elizabeth Costello and Margaret Lawler, research showed that participants were able to concentrate better when practicing a mindfulness technique. The children reported that when they took their focus off of the distractions in the classroom and focused it back to their breath, they were able to bring their concentration back to the task. Improved concentration was a benefit that many of the children who participated in the study reported.

In addition, Costello & Lawler (2014) reported that after mindfulness has been implemented, student stress decreased. Students reported that they felt less angry during academic times and felt as though the students in the classroom as a whole were getting in trouble less. Teacher participants in the study stated that students were better prepared to learn and focus after having an opportunity to let go of the stressors they may be bringing into the classroom from home.

Impact on Classroom Behavior

Several studies and research reviews have reported on the impact of mindfulness instruction or intervention on student behavior. Early research indicates a positive correlation between mindfulness/meditation practices and improved classroom behavior.

Semple Study

Semple et al. (2010), conducted a clinical study that implemented mindfulness based cognitive therapy for children (MBCT-C) to a small group of children who had clinically elevated attention and behavioral problems. The students were ages 9 to 13 and were enrolled in a reading tutoring program offered by a university. Twenty-five children (10 boys and 15 girls)

completed the study and the researchers identified the group as “inner-city children struggling with academic problems” (Semple et al., 2010 p.3)

The children were split into four groups; A-D. Groups A and C were ages 9 and 10. Groups B and D were ages 11-13. Each group consisted of 6 to 7 children. Groups A and B were the two groups who participated in the intervention during winter semester while C and D participated in the spring.

The participants engaged in a 12-session group therapy that aimed to enhance self-management of attention, improve affective regulation by promoting decentering from thoughts and emotions, and increase social emotional resiliency. The students met one time per week for 90 minutes and practiced with brief exercises at home.

There were three measures used in this study to collect data; *Child Behavior Checklist: Parent Report Form* (CBCL*)* uses forms for parents, teachers or direct observers to rate 113 problem-behavior areas. Each question can be categorized into the following sub-scales; Specific Problem Scales, Internalizing Problems Scale, Externalizing Problems Scale, Total Problems Scale and The Attention Problems scale.

Multidimensional Anxiety Scale for Children (MASC) is a self-report assessment for children ages 8-19. The scale has 39 items that ask about anxiety related thoughts, feelings and actions. Students use a 4-point scale to rate themselves in four separate categories; Physical Symptoms, Social Anxiety, Harm, Avoidance and Separation Anxiety. This measure is useful in differentiating children with anxiety disorders from those without.

Lastly, (Semple et al; 2010) used the *State-Trait Anxiety Inventory for Children* (STAIC). This questionnaire includes 40 items and is a self-report measure for children grades 4-6. The items are rated using a 4-point scale. Specifically, twenty items each measure state

anxiety (SA) and trait anxiety (TA). The SA scale rates intensity (e.g., very upset, upset, and not upset). The TA scale rates frequency (hardly-ever, sometimes, and often).

Data supported that the MBCT-C was an effective intervention in reducing attention related and other behavior problems. The study found that participants displayed fewer attention problems after 12 weeks though only five children were categorized with elevated problems in this area. A larger sample size of children with ADHD is needed to determine the effectiveness of this practice. Overall, students across groups reported reduced anxiety symptoms at the end of the program. Behavior problems across all participants improved by showing a significant reduction over the course of the study. Three participants who were identified as having clinically significant behavior problems at the start of the study were no longer rated that way by the end. Researchers associated the improved attention regulation to a decrease in problem behaviors.

Though the findings proved significant improvement over the course of the study, a larger sample size is needed for future research. While the group represented children who may experience stress, most did not meet DSM-V criteria for anxiety or attention deficit disorders. A study that includes more children participants who have clinical diagnosis would be beneficial for collecting more substantial evidence to support the effectiveness of mindfulness treatment over time.

Singh Studies

In several multiple-baseline studies, Singh et al. (2007, 2011a 2011b) concluded that mindfulness meditation reduced aggression among adolescents with ASD and CD. The intervention used a technique that redirects the mind from an emotionally difficult situation to the natural sensations in the feet to promote calmness. Researchers found that adolescents were able to control intense emotions before they demonstrated aggression. In the 2011 study with

children with ASD, mothers of the adolescents delivered the intervention over five days. They tracked aggressive behaviors and demonstrated a significant reduction. After the study was done over 4-6 months, the most significant decrease in aggression was noted. Authors concluded that mindfulness is most effective if the participants are engaged, the delivery is consistent and it is administered over a substantial period of time.

In addition, Singh et al. (2007) found that adolescents with conduct disorders who practiced mindfulness were able to decrease aggressive behavior. The participants consisted of three seventh grade students who were referred to therapy from their school. Each had a conduct disorder diagnosis and had been referred to therapy due to the frequency of aggressive behavior at school. The aggressive behavior the students displayed was defined as hitting, pinching, shoving and bullying. Among other behaviors were fire starting, cruelty to animals, non-compliance and bullying. These students were nearing risk of expulsion if aggression continued.

Each student met with a therapist trained in mindfulness. The therapist used the *Meditation on the Soles of the Feet* mindfulness technique. In this practice the participants are taught to take their mind from their strong negative emotions and focus on a part of the body that evokes calmness. (Singh et al., 2003, p.163). Over 10 sessions, the therapist practiced these techniques with the students having them model the procedures. Self-reported data was collected after each session.

After 25 total weeks of practice, all three students decreased aggressive behavior and bullying. It was reported that although the aggression had decreased minimally, the students were able to graduate middle school without further risk of expulsion. The study suggested that self-regulation improved among the three individuals for at least a year after completing the mindfulness training. Further research is needed due to the small sample size of this study. In addition, the threat of expulsion may have impacted the students' self-control. Though small,

the data from this study is promising that students with conduct disorder may be able to improve self-regulation as they shift the focus from blaming others to taking control of their emotions and practice calming techniques.

Beauchemin Study

Beauchemin et al., (2008) investigated the efficacy of mindfulness in adolescents with Learning Disorders. The authors used an intervention with 34 high school students from four different classes. All students had a primary Learning Disability special education label. They ranged from 13 to 18 years old. Seventy-one percent of the students were male and 29% were female.

The Social Skills Rating System (SSRS) (Greshham & Elliot, 1990) was used to measure the frequency and behavior that influences how the students function. It compares student and teacher ratings using percentages and national norms. Three subscales are used to assess social skills, problem behaviors and academic performance. Students report and rate themselves solely on social skills. In addition, students assessed their anxiety using *The State-Trait Anxiety Inventory (STAI)* (Spielberger et al., 1970).

Lastly, students completed an informal post intervention questionnaire that asked three scale questions from 1 = strongly agree to 5 = strongly disagree, to rate their focus in class, the enjoyment of the intervention and the likelihood to continue using mindful meditation on their own.

The teachers who implemented the intervention were first trained by a mindfulness meditation expert. The mindfulness medication (MM) method uses a technique where the subject sits and learns relaxations and awareness of thoughts, emotions and sensations that may arise. The participant is taught to focus on breathing and recognize these experiences, attend to them then release them (Germer et al., 2004). Teachers then led the students in two 45-minute

introductory sessions where students learned these methods and procedures. Then, for 5 consecutive weeks, students participated in meditation sessions for 5 to 10 minutes at the beginning of each class period, 5 days per week.

The students self-reported that the interventions improved their anxiety and social skills. The teachers reported that students' problem behaviors decreased significantly after intervention. In addition, the teacher ratings of the students' academic achievement also significantly increased. This outcome is promising to the notion that MM could contribute to better outcomes for students with disabilities. This study may have been limited due to the length of the intervention being 5 weeks and small participant size (34 students). A longer, more mature and populated study is needed to collect more information and data as to the validity of the findings.

Malboeuf-Hurtubise Study

Malboeuf-Hurtubise conducted a pilot study on a Mindfulness-Based Intervention (MBI) to evaluate the impact on elementary students with severe learning disabilities (LD). Often students labeled with a learning disability experience deficits in academic success but also may have difficulty with classroom behavior that may look like defiance, hostility or excessive emotional reactions (Mayo Clinic, 2012). While the Beauchemin et al. (2008) yielded promising results that MBI's could be useful in promoting better social skills and decreasing anxiety in high school students, Malboeuf-Hurtubise sought to gather information on the effectiveness of MBI's with a younger population.

Researchers used a pre- and post-test design. Fourteen students ages 9-12 from one class. All of the participants met criteria for persistent difficulties in reading, writing and math and were 2 years or more behind grade level peers in all of these areas. IQ scores of the students

fell within the borderline range of intellectual functioning. Students were asked to complete pre- and post-test questionnaires after an eight-week mindfulness meditation program.

The lead researcher, Malboeuf-Hurtubise, a trained therapist in MBI, led the intervention with the school's social worker. The students met once a week for 60 minutes. Each lesson was designed to meet the needs of the younger students' shorter attention span. The lessons were modified to the experiences of the participants to "foster connection and connection in the group" (Malboeuf-Hurtubise et al., 2018, p.36). Table 2. includes the weekly lessons. In addition, students were assigned homework every week and required practice. The students participated in guided meditation that were pre-recorded for the students to use in class.

Table 2. Mindfulness-based intervention session content.

Session	Content
1	Overview of class rules and participant presentations. Expectations and intentions in regards to the intervention. Introduction to mindful eating
2	Body scan meditation. Introduction to components of emotions (thoughts, physical sensations, behaviour) and stress
3	Breathing meditation. Introduction to sitting meditation. Mindful movements through yoga-like poses
4	Breathing meditation. Introduction to concepts of acceptance of emotions
5	Mindful check-in exercises. Mindfulness through the senses
6	Breathing meditation with a special focus on thoughts and judgements. Group discussion on thoughts and judgements
7	Walking meditation. Group discussion on self-care and acceptance
8	Short sitting meditation. Group discussion on intentions set at first session. Feedback regarding intervention. Distribution of a pebble stone as a reminder of the experience

Students completed a pre- and post-intervention questionnaire in class. The survey had 29 items that were scaled. The children were asked to rate their agreement using a 7-point scale from 1=strongly disagree to 7=strongly agree. Examples of questions included; 'In my everyday life … I feel free to be myself' (autonomy); … I am able to reach my goals (competence) and

'In my relationship with others, I feel appreciated' (relatedness). (Malboeuf-Hurtubise et al., 2018, p.36)

The results from this study showed that based on the students' reports, the MBI impacted the children's basic psychological need fulfillment by lowering their satisfaction. This is contrary to what the researchers hypothesized and the results of like studies. One explanation (Malboeuf-Hurtubise et al., 2018) suggested is that as the participants became more mindful, they increased their awareness of their academic challenges and social skill limitations. The interpretation of results concluded that as the students became more aware of their internal process and controlling forces that may be influencing them, they became more mindful and were able to more accurately describe their need satisfaction.

Limitations of this study included; no use of a control group and the use of only one-group pre- and post-test design. A small sample size was used and there was no follow-up measure. Researchers suggest that an assessment to evaluate need satisfaction specifically, may have revealed more information about the children's new awareness after the MBI. They speculate that over time, students would demonstrate an elevated satisfaction level of autonomy, competence and relatedness.

Harpin Study

A pilot study conducted by (Harpin, et al., 2016) studied the behavior impact of mindfulness intervention for elementary students. The researchers tested a 10-week mindfulness program with a 4th grade classroom. They compared their findings with a similar 4th grade classroom who did not participate in the interventions. Teachers provided a pre and post intervention evaluation that measured the students' prosocial behavior, emotional regulation and academic achievement. In addition, the students provided feedback using The *Child Assent Mindfulness Measurement Survey* (CAMM) which was developed and tested by Greco et al.

2011. The survey assesses their ability to observe internal experiences, act with awareness, and accept internal experiences without judgement.

After the 10-week intervention, the teacher ratings showed a statistically significant increase in each of the categories. Teachers reported over 100% increase in prosocial behaviors, a 60% increase in emotional regulation and a 45% increase in academic competency. In addition, the study reported that teachers across settings (ie. lunch, recess etc) reported an improvement in student behavior outside of the classroom. There were no significant differences in the child reported measure or CAMM outcomes. While the students reported that they enjoyed the intervention and would use it in the future, the CAMM measure did not reflect improvement in the children's self-awareness. The researchers speculate that this could be due to the student's lack of understanding about the questions and specific terms used.

While the results of this study are promising due to the significant increase in positive behavior, there were some limitations. First, this research was conducted at one elementary school with one classroom, therefore the sample size was relatively small. Second, the CAMM has not been tested with children. This may impact how students responded on the survey due to the lack of understanding of the questions. Lastly, the data is subjective due to the collection being based on the teacher's perspective. Academic achievement was not assessed using exam scores.

Mindfulness and Naturalistic Development

In a new study published by the American Psychological Association (2020), Brian M. Galla led a team of researchers at the University of Pittsburgh to examine one specific component to mindfulness. The team researched nonreactivity to difficult inner experience. This can be described as one's ability to "take a step back" from distressing thoughts, (Galla et al.,

2020, p. 1). This was the first study of its kind that tracked naturalistic development of mindfulness.

The participants were students transitioning from 8th to 9th grade. Many changes happen during this time for students. They are typically moving from a middle to high school setting. During this time, the rigor or coursework changes, social groups may be different and the demand of independence increases. These factors may contribute to higher stress levels which is hypothesized to contribute to greater non-reactivity. The study aimed to measure how their naturalistic development or maturity during this transition, increased mindfulness and emotional well-being.

A total of 1,667 students from Texas, California, Idaho and Pennsylvania were sampled. The demographic information collected from the school records indicated that 47.6% of students sampled were Black, 23.4% were White, 14.4% were Latino, 10.4% were Asian, and 1.9% were of mixed or other races and ethnicities; 48.0% were female. Over half (63.7%) were eligible for free or reduced-price lunch. 2.0-3.7% of the participant's demographic information was missing. They completed self-report measures that included scales to measure their awareness of difficult thoughts and feelings. Three measures were used:

Nonreactivity

The Nonreactivity to Inner Experiences subscale was used to measure the tendency to be aware of thoughts and feelings without letting them take over. Questions used included; ("When I have upsetting thoughts or images, I 'step back' and am aware of the thought or image without getting taken over by it;" "I can be aware of my feelings and emotions without having to react to them;" and "I watch my feelings without getting lost in them"). Students answered using a 6-point scale, from 1= *strongly disagree* to 6=*strongly agree*. The three questions were then averaged to calculate a scale score (Galla et al., 2014, p. 353-354).

Perceived Stress

This measure assessed the degree to which student's had recently felt worried or stressed. A four-question, 5- point scale from 1 = *never* to 5 = *always,* was used to closely monitor the student's perceived level of stress. The scale included four questions; two included how often student's felt worried or stressed and specifically; "How often have you felt that you were unable to control the important things in your life?" and "How often have you felt nervous and stressed?". An additional question; (How often have you been upset because of something that happened unexpectedly?") was added after the first test and included in the data (Galla et al., 2014, p. 354).

Positive and Negative Affect

Using the Scale of Positive and Negative Experience scale, students rated positive and negative emotions using a 5-point scale from 1 = *never* to 5 = *always.* The four for positive affect included (good, happy, joyful and satisfied). The four for negative affect included (bad, sad, afraid and angry). These items were then averaged and calculated into the two subset categories (Galla et al., 2014, p. 354).

These tests were administered to the students four times over the course of 6 months. The data indicated that from 8th to 9th grade, students were able to improve their ability to remain non-reactive to difficult experiences. The study used no intervention but supports that as adolescents age, their cognitive control, executive functioning and emotional regulation may improve. Furthermore, researchers speculated that people who approach difficult situations rather than practice avoidance see an increase in well-being (Galla et al., 2020).

Minnesota Social and Emotional Learning Implementation Guidance

Through the work of the School Safety Technical Assistance Center and Council, the Minnesota Department of Education (MDE) developed a state-wide social emotional learning

(SEL) framework in 2015. This effort was designed to improve learning resources and create competencies for Minnesota students in the area of social emotional learning. The group, made up of educators, researchers, parents, students, and representatives from nonprofit organizations carried out a 15-month research review of best practices and SEL standards used in other states and districts.

The group used The Collaborative for Academic, Social, and Emotional Learning (CASEL) framework to draft important competencies. They included; self-awareness, self-management, social awareness, relationship skills and responsible decision-making. The work group outlined goals and expectations that followed the Minnesota academic standards format. The guide includes learning goals and grade band benchmarks as well as sample activities.

Before implementation, the draft was submitted to the Great Lakes Equity Center for a cultural review. The team utilized experts from CASEL, American Institutes for Research, and the National School Climate Center to review the SEL framework draft. MDE and the work group staff also reviewed the guidance. They determined that SEL assessments, implementation guides and uses in special education were needed in addition to the competencies and learning goals. These resources were added to the standards to provide a more comprehensive approach to integrating SEL in schools.

Self-Awareness Competency

MDE's Self-Awareness Competency links directly to concepts of mindfulness. MDE defines self-awareness as "The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations, and possessing a well-grounded sense of confidence and optimism." Educators are encouraged to practice these strategies and targets across all subject areas to help student's growth and development.

Three learning goals are listed with the intent that students reach mastery of each benchmark at the completion of their grade range they are listed as follows;

1. Demonstrates an awareness and understanding of own emotions.
2. Demonstrates awareness of personal strengths, challenges, aspirations and cultural, linguistic, and community assets.
3. Demonstrates awareness of personal rights and responsibilities.

Under the current implementation guide, MDE states that explicit instruction should be used to teach these skills. Freedom is given to classroom teachers to develop curriculum materials or use evidence-based instructional materials to deliver instruction. According to a study conducted by Durlak et al. (2011), evidence-based SEL programs improve student academic performance and student behaviors and attitudes, decrease negative classroom behavior and reduce emotional distress.

Explicit and evidence-based interventions, curriculum and program integration is used consistently in research studies of mindfulness in schools and among adolescents. Findings from several studies indicate that with the use of explicit, evidence-based practices, students are able to improve their ability to identify their emotions, demonstrate better self-control and increase on-task or academic engagement in the classroom. Through the MDE guidelines, teachers are able to use a curriculum that teaches mindfulness strategies to increase self-awareness and achieve mastery of the learning targets.

MDE stresses the importance of creating goals and metrics, assessing learners and evaluating the effectiveness of SEL programs within the districts and schools. Information obtained is used to continuously improve upon goals and practices. Through this evaluation process, schools increase their opportunities for learning, improvement and innovation.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

Mindfulness interventions positively impact students, both children and adolescents, who have special education and/or mental health needs. Schools, clinical and community organizations working with these students need to consider the results from current research and increase implementation for the benefit of the social-emotional learning of these students. Several studies highlight the importance of mindfulness as a method to improve academic performance, behavior management and social functioning among students.

Kostova et. al., (2019), researched and looked at four mental health categories and the impact of MBI's on it's participants. The findings concluded that adolescents that participated in the interventions were more relaxed, better able to manage stressful situations and had increased self-awareness. In addition, researchers have proven that MBI's have been shown to effectively improve psychological symptoms of anxiety and depression (Zoogman et al., 2014).

Several studies collected data that demonstrated mindfulness implementation in schools positively affected academic achievement and school performance. (Brock et al., 2009; Ponitz et al., 2009). There were positive correlations between increased attentional focusing and inhibitory control. The results identified an increase in achievement within content areas such as mathematics after interventions were implemented. In addition, findings from a larger study including 409 students from grades k-6 found that mindfulness interventions improved students' attention and participation in the classroom.

Children with significant mental health and/or emotional/behavioral needs are often impacted by the challenges and deficits they face to recognize and cope with strong emotions. Mindfulness intervention has shown to be an effective method in reducing behavior problems. One study found that meditation and mindfulness as treatment for adolescents with conduct

disorder was promising in decreasing aggression (Singh et al., 2007). The participants, all diagnosed with conduct disorder, had less instances of physical aggression and bullying after participating in a mediation curriculum with a therapist.

Schools and districts have been increasing their efforts in implementing mindfulness programs through social emotional learning guidelines. According to a study conducted by Durlak et al., (2011), evidence-based SEL programs improve student academic performance and student behaviors and attitudes, decrease negative classroom behavior and reduce emotional distress. These organizations are beginning to value the importance of self-awareness among adolescents and seek to incorporate standards of mindfulness within their learning environments.

Professional Applications

The reviewed research has demonstrated that mindfulness interventions are effective methods to addressing the mental health, behavioral and academic needs of students. Studies have proven the efficacy of mindfulness in improving academic performance, behavior problems and mental health concerns. Having the information to support the importance of self-awareness allows me to move forward in advocating for explicit teaching in this area. I am able to provide substantial evidence that self-awareness and mindfulness are practices that need to be at the forefront of our teaching practices. It is imperative that these methods are used to ensure success among our students who may have difficulty functioning in the classroom compared to typically developing peers.

Due to the increase in special education services and mental health diagnosis among our school-aged children, mindfulness needs to be considered an important component when teaching social-emotional learning. Researchers and authors should be incorporating this as the foundation to curriculum. Teachers would benefit from explicit instruction on how to guide these practices in their classrooms with their students. States, local agencies and districts can use the

research to drive professional development for educators. Improvement in our teaching practice and increasing awareness of the benefits of mindfulness is needed to ensure our students are able to benefit their learning experiences in schools.

In my classroom, I am able to tailor curriculum to to include mindfulness. I can then share the evidence from the research obtained with colleagues and advocate for mindfulness to be common practice among our classrooms. Currently, the social-emotional learning curriculum provided by the school does not include a self-awareness component. I am fortunate to work in a school that will allow me to implement mindfulness through explicit instruction within the curriculum and throughout the day. As behavior and academic data is collected, I can evaluate my methods and seek to find additional research-based ways of using mindfulness successfully among my students who have difficulty with self-regulation, managing emotions, social skills and academics. The research obtained provided a strong argument for consistent use of teaching mindfulness to the students I serve.

Limitations of the Research

The research and studies on the benefits of mindfulness does not come without limitations. One common theme among the reviewed literature is that many of the studies were limited to small sample sizes. Interventions were often implemented on small groups of participants. Almost all of the research reviewed listed this as a challenge to their findings.

Another common limitation was the length of the intervention. Multiple studies conducted mindfulness interventions over the course of 6-12 weeks then collected post-intervention data. It could be hypothesized that results may have varied with interventions spanning the course of the school year or over several months. Long term interventions could demonstrate a greater impact of mindfulness among participants.

Lastly, the majority of the studies utilized pre- and post-intervention surveys from one staff assessing progress. The participants were scaled using a Likert scale for multiple areas of self-awareness and mindfulness. The limitation this poses is that the results are often limited and subjective to a one-person rating system. Meaning, one teacher was reporting their opinion or viewpoint of the results of the intervention. This is a reason there could be discrepancies in the data collected.

Despite the limitations of these studies there is still strong evidence for implementation. Teachers may find challenges in how to successfully deliver mindfulness curriculum to students. There are many demands of educators in special education; due process, student behaviors and meeting the individual needs academically and behaviorally of diverse populations of students. This may pose a limitation to how effectively they are able to teach mindfulness within their classrooms. Funding, timing and increasing expectations of our educators in this field may limit their ability to include this as a consistent practice among students with mental health and special education needs.

Implications for Future Research

Further research including larger sample size populations needs to be conducted to strengthen the case for mindfulness to be taught in schools. There are special education schools that serve students with moderate to severe disabilities and/or mental health diagnosis. While these schools have a lower population than mainstream public schools, school-wide assessments and studies could be used among a diverse population of learners.

Furthermore, the students in center-based special education schools demonstrate a high need of intervention. Research in this setting would increase the understanding of the impact of mindfulness among adolescents with disabilities and mental health challenges that severely impact their ability to function in school. Center-based schools could be preferred environments

for future research as the schools are heavily structured around social-emotional learning and practices.

Future research should include a longer timeline of intervention. As mentioned, in many of the studies, mindfulness interventions were delivered and assessed over weeks. For more comprehensive and robust data, researchers need to implement these practices with students for longer periods of time. Data collected over the course of several months to years is more substantial when supporting claims of the benefits to mindfulness practice. This data could substantiate a better case when advocating for the use of these interventions within schools and districts.

Conclusion

Children in the United States who are diagnosed with mental health disorders and referred to special education for services, continue to increase throughout the years. There are many associated factors that impact how students learn and function in school. Academics and performance in content areas may suffer or students may experience deficits. Peer interactions may be affected negatively. In addition, maladaptive behaviors may develop as a result of symptoms from these disorders. At times, these students have difficulty meeting expectations in the classroom such as engagement or participation, work completion, emotional regulation, positive social interactions and safety.

There is a direct correlation between mindfulness practices and improved well-being, academic performance, emotional regulation and behavior among adolescents. The research obtained from this review outlines that mindfulness is a key component for intervention with students who need to improve coping skills when facing mental health, learning or social challenges. By increasing awareness, adolescents are first able to recognize a change within themselves. This promotes increased self-control and management of emotions. Through

mindfulness and meditation, students are also able to learn strategies and techniques to control impulses or negative reactions to strong emotions.

In recent years, schools have started implementing social-emotional learning to address the needs of students who face challenges in these areas. They are increasing resources which includes curriculum, training and guidelines to help educators provide life skills to adolescents. As these programs are developed, it is important that organizations are referring to and utilizing research-based methods to implement and support the success of students. Mindfulness and self-awareness components are imperative to the inclusion of intervention programs. Educators will see increased success among students who face challenges in the classroom if mindfulness instruction is taught explicitly and delivered consistently.

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