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MINDFULNESS TRAINING AND ITS EFFECTS ON BEHAVIOR AND ACHIEVEMENT

A MASTER'S THESIS
SUBMITTED TO THE FACULTY
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AMBER WOELTGE

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MINDFULNESS-BASED TRAINING AND ITS EFFECTS ON ACHIEVEMENT AND BEHAVIOR IN
THE CLASSROOM

Amber Woeltge

August 2019

APPROVED

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Abstract

Mindfulness is a concept that has been around for hundreds of years, however just recently it has reached our youth. Mindfulness-Based Training involving young children and adolescents has been a relatively new topic of research over the past ten years. The context of this research paper was to examine published, empirical, peer-reviewed studies that analyze the impact Mindfulness-Based Training programs have in regard to behavior and academic achievement on youth. The focus on behavior is to determine if Mindfulness-Based Training can positively influence behavior concerns with regard to attention, anxiety, stress, and social skills specifically. Few studies in the research specifically examine academics and how they can be impacted by Mindfulness-Based Training. The research questions focused on how does mindfulness impact learners in education? How does mindfulness-based training impact behavior in young children and adolescents? What are the benefits of mindfulness on academic achievement? The research supports a hypothesis that Mindfulness-Based Training programs can positively impact learners behaviorally as well as academically.

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CHAPTER I: INTRODUCTION

Youth Today

The world is ever-changing and with that comes more responsibility and hardships on today's youth. Whether it be broken homes, getting into a good college, or substance abuse to name a few, today's youth are faced with an overwhelming amount of pressure and their abilities to deal with the stress are lacking. Recent studies indicate that almost half of adolescents in the USA report stress levels that exceed their coping capabilities (Milligan et al., 2017). Further, students' inability to handle the stress are carrying over into classroom. Today's child faces the daunting task of developing social and emotional wellbeing amidst rising levels of stressors and declining levels of protective factors in their social world (Bannirchelvam et al., 2017). Students are spending a lot of time trying to manage all that comes with life and are bringing those stressors into the classroom while they are still trying to get an education. While having some stress can be healthy, it is not healthy to regularly have stressors that are causing them to be in a fight or flight response as these can lead to chronic concerns. Being overwhelmed and not having the appropriate resources could affect their education.

There are many students who have also been identified with a disability that could add more concerns with their education and their ability to focus in class. Students with a label of ADHD can sometimes also have attention or anxiety concerns on-top of everything else they are dealing with and not having appropriate stress relieving skills could impact their education. Behavioral treatments and medication

have been shown to be effective in the treatment of ADHD, but have several limitations. For example, cognitive behavioral therapy has only limited long term effects, and medication works only short-term with adherence decreasing during adolescence (Van de Weiger-Bergsma et al., 2011).

The lack of skills that students bring from home, mental health challenges, and the stress of constantly needing to perform at their best within the classroom have stood out more in our students over recent years. Educators are faced daily with helping students balance all of these aspects while still allowing the students to be able to learn and understand content while managing their classrooms. Over the course of the past 10 years our society has been ever changing and the demands that are being placed on the youth continue to be greater. The ability to focus in the classroom with cell phones, parents, mental health challenges, peer-pressure, and even the possibility of a disability has led to many of my students checking out before even walking in the door as their life outside appears to be more concerning for them. In a study conducted by Ngar-Sze and Ming-Tak (2011) well over half of the students noted they had difficulty paying attention to all of their daily activities, which included school, extracurricular activities, as well as social interactions (Ngar-Sze & Ming-Tak, 2011). It is important that we address the pressures of social media, and day to day challenges that allow children to simply be students while in the classroom. Our students are in need of strategies to help them disengage from outside pressures in order to effectively focus on their role in the classroom to ultimately get the most out of their education.

Mindfulness-Based Therapy has been a hot topic in education in recent years as a strategy to get students focused on themselves and what's happening at the current moment, allowing them to be more engaged in what they are doing which can potentially impact their behavior and academic achievement amongst other things like mental health and relationships.

History of Mindfulness

The term mindfulness alludes to individuals seeing things "unclouded" and for what they truly are. It allows individuals the opportunity to direct their awareness on the present moment when they have potentially had their mind elsewhere (Singh & Singh, 2014). Mindfulness is a type of meditation in which a person focuses on different aspects of sensing and feeling the moment they are in. Mindfulness-Based activities can include things such as mindful breathing, mindful eating, body scan, etc. Meditation has been known to create changes within the brain, which in turn can help develop new pathways of thinking.

Mindfulness is not a new idea as it can be dated back as early as 3000BC. During this time, and for hundreds of years to follow, the inspiration behind mindfulness is believed to have stemmed primarily from religious beliefs. The first amendment to the U.S. Constitution directs that there must be a separation between church and state. This includes incorporating religious-based activities (which some say mindfulness was) in public sectors including schools and businesses. As time has gone on more people have noticed the benefits that mindfulness could generate for all people. Throughout

the course of the last 50 years mindfulness has been becoming more commonplace in the public sector.

Dr. Jon Kabat-Zinn first introduced mindfulness in a secular (non-religion based) manor in the 1970s as he looked into developing a Mindfulness-Based Stress Reduction (MBSC) program for his medical patients. He had the idea that mindfulness was a way of paying attention on purpose in a non-judgmental way. When Dr. Kabat-Zinn researched mindfulness he took a scientific approach in trying to understand it while removing the religious framework. In his research he considered the principles behind the idea of mindfulness as useful. Mindfulness was then presented in the secular view that we see today.

Mindfulness programs first appeared in schools in the early 2000s. In the early years research wasn't focused on how mindfulness impacted students within the classroom and their daily lives. While students are dealing with many external factors in their lives that may impact their health (anxiety, stress, etc) many school districts across the country are looking into mindfulness curriculums/programs and the impacts they have on their students as a way of developing strategies that can impact each student on an individual level. Mindfulness can potentially assist students with being in control of their own behaviors. Teaching all of our youth these strategies may assist with even those students who aren't currently struggling with behavior or academic challenges but may encounter them at some point in their life. Research in regard to Mindfulness-Based Training (MBT) and its impact on children academically and behaviorally has really only been at the forefront since 2010. In the past ten years several studies have been

conducted throughout the world of the effects Mindfulness-Based Training has had on our youth population.

As the research has been more forthcoming it has sparked more interest in educators learning how introducing Mindfulness-Based Training to our youth in our schools could potentially impact each student's learning and behavior. In order to better understand how to reach today's youth, research has explored the hypothesis that mindfulness allows us to recognize our own thoughts, feelings, and behaviors as they arise without getting stuck in our usual, automatic reactions and how to incorporate mindfulness exercises in our daily lives, the classroom included.

This literature review will explore the questions: How does mindfulness impact learners in education? How does mindfulness-based training impact behavior in young children and adolescents? What are the benefits of mindfulness on academic achievement?

Within the research conducted, several key terms/definitions are addressed. Mindfulness-Based Training (MBT or MBI) is a form of training that includes teaching students to have a purposeful awareness of their mind or body. This could include yoga, breathing, and body awareness as exercises as well as other body and mind based activities. Behavior is another term that will be identified within the paper. For this thesis, behavior is identified as any idea or action that may impede the student from learning or participating fully in class activities. Pro-social behavior is any behavior that is positive that is intended to promote social acceptance among the student and their peers. For this thesis, achievement is a term that is used when a student scores higher

on an academic exam that focuses on core subject areas than they did on a pre-examination in the same subject.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

To locate literature for this thesis, searches of Academic Search Premier, Education Journals, ERIC, EBSCO MegaFILE, and Expanded Academic ASAP were conducted for publications from 2010-2018. This list was narrowed by only reviewing published empirical studies from peer-reviewed journals that focused on Mindfulness-Based Training (MBT) and the effects it has on behavior and academics in children and adolescents that addressed the guiding questions. The key words that were used in these searches included “mindfulness in schools,” “achievement,” “behavior,” “ADHD,” “Anxiety,” “Stress,” and “effects on classroom.” The structure of this chapter is to review the literature on mindfulness and its effects on behavior and achievement on school aged children and adolescents in two sections in this order: Mindfulness-Based Training and its effects on behavior, and Mindfulness-Based Training and its effects on achievement within the classroom. The behavior section is broken down into four subsections in the following order; Mindfulness-Based Training and attention concerns, individuals with anxiety concerns and Mindfulness-Based Training effects, Mindfulness-Based Training and the effects it has on individuals with stress and non-coping skills, and Mindfulness-Based Training and its effects on other areas of behavior including pro-social behaviors.

Mindfulness-Based Training and the Effects it has on Behavior

Behavior can manifest itself in many ways because of concerns that are sometimes out of a person’s control. Many studies have examined the effects that

Mindfulness-Based Training (MBT) has on young people and their behaviors. The following subsections take a further glimpse into specific studies on Mindfulness-Based Training and the impacts that it has on behavior.

Mindfulness-Based Training and Attention Concerns

With ever changing environments within our society, young people are having more difficulty attending to tasks. According to a parent report by the Center for Disease Control (2018), nearly 10% of children ages 2-17 have been diagnosed with Attention Deficit Disorder. Students throughout the years have had difficulty paying attention in their daily lives as well as within the school setting. Young people diagnosed with ADHD may have difficulty attending and staying focused which in turn may lead to behavior problems. Several studies have been conducted over the years assessing Mindfulness-Based Training and the effects it has on young individuals who have been diagnosed with ADHD and other attention concerns they may have.

The main feature of Mindfulness-Based Therapy is to focus on bringing attention to the present moment when the mind wanders or gets distracted, and then calmly bring back the attention and awareness to the present moment (Singh & Singh, 2014). Adolescents with Attention Deficit Disorder have difficulty in sustaining the attention on the tasks that requires mental efforts or have difficulty in initiating the task and during the tasks lose track and get distracted (Singh & Singh, 2014). A study conducted by Soamya and Sandeep Singh looked into the effect Mindfulness-Based Training had on adolescents with symptoms of Attention Deficit Disorder. A total of 33 adolescents ages 13-16 who were regular students in private schools, were used in the study. The

selected group was manifesting symptoms of ADD, and given treatment (mindfulness training) over a 6-month period. The program was implemented five days a week, for 45 minutes a session and students were assessed every two months. Both group and individual sessions were conducted. The Mindfulness–Based Training consisted of ten types of sessions: “1) psycho-education, 2) attention and the five senses, 3) mindful breathing, mindful eating, 4) mindfulness of sound, breath, and body, 5) mindfulness of body sensation and movement, 6) mindfulness of thoughts, 7) mindfulness of feelings, 8) mindful listening and speaking, 9) mindful decisions and actions, 10) mindfulness in daily life and other activities such as sense of perception of time, etc.” (Singh & Singh, 2014, p. 1168). The results of the study found that Mindfulness-Based Training enhanced attention, concentration, and focus and reduced the distractibility of students. Compared to their baseline measurements, the adolescents with ADD who participated in Mindfulness-Based Training had noteworthy increases in their scores. According to the results this practice of Mindfulness –Based Training can assist with helping youth track and monitor their own attention.

The American Psychiatric Association characterizes ADHD on a behavioral level as age-inappropriate symptoms of attention, hyperactivity and impulsive behavior. Van de Weijer-Bergsma, Formsa, de Bruin, and Bogels (2011) performed a study in which they sought to determine if Mindfulness-Based Training had any effectiveness on impacting students who identified with having behavioral problems and ADHD. The study that was performed looked into the immediate, middle, and prolonged effects of Mindfulness-Based Training. Ten adolescents (five boys, five girls) with a DSM-IV

classification of ADHD and their biological parents from the Netherlands participated in the study. The students were ages 11-15. One of the students attended a primary school and the nine others attended high school. Teachers and tutors were asked for feedback from the study. The study took place over an eight week period; biological parents also completed parallel MBT during this time. Those participating in the study completed questionnaires and computerized tests before, during, and after the training. The adolescents were taught in their sessions about focusing their attention, their overall awareness, and self-control can impact their learning. They were also asked to continue to work on the skills they had learned and been practicing inside the classroom in their everyday lives outside of the classroom. The exercises they were taught were body scan, sitting meditation, and breathing space. These activities were alternated with exercises that specifically addressed issues young people have with ADHD (distractibility, impulsivity, and hyperactivity). Mindfulness was also taught to be applied in challenging, stressful, life situations they would possibly encounter. Questionnaires and assessments were taken and analyzed directly following the study, eight weeks post study, and 16-weeks post study. The results directly after the study were completed showed decreases in externalizing behaviors, internalizing behaviors, as well as problems with paying attention. Students also reported that executive functioning improved. At the eight week follow-up, problem behaviors still displayed a decrease and executive functioning stayed the same or slightly improved from immediately following the program. The computerized attention tests also showed improved performance. At the 16-week follow-up, the results did not show any more

improvements in behavior or executive functioning; they stayed the same as at the eight week follow-up. Also at the 16-week follow-up adolescents and parents did not change in their self-reported measures on mindfulness awareness, or the feelings of happiness or fatigue in the adolescents as compared to the eight week follow-up. Van de Weijer-Bergsma et al. (2011) indicated that Mindfulness-Based Training for adolescents with ADHD is a successful method in learning new techniques for focus and attention in regard to behavior, but teaching ways to keep it going need to be incorporated in order for it to continue to work.

According to a 2017 study conducted by Felver, Tipsord, Morris, Hiatt Racer, and Dishion, Mindfulness-Based Interventions “could prevent the development of psychosocial dysfunction and disrupt pathological pathways which in turn could help children monitor and control their own behaviors” (Felver et al., 2017, p. 878). The study analyzed how Mindfulness-Based Interventions could impact students and their ability to attend while in class. Attention and self-regulation are major areas in which students have difficulty within the classroom. The study collected data from 47 children with the median age of 11.1. The intervention consisted of eight, 90 minute sessions that involved formal training in mindful breathing and basic yoga poses. Informal training was provided in mindful eating, and mindful conversations. Those participating in the program were also asked to practice techniques at home every day for up to 20 minutes. In reviewing the results, it appeared that conflict monitoring by the students as well as their ability to focus on their own attention significantly improved. “There may be a direct benefit to youths by promoting the capacity to self-regulate awareness

away from distressing experience that could escalate into emotional or behavioral dysregulation and over time develop into dysfunctional patterns of behavior and psychotherapy” (Felver et al., 2017, p. 878).

Mindfulness-Based Training can have an impact on children who have ADHD. A study conducted by Van der Oord, Bogels, and Peijnenburg (2011) examined the effectiveness of Mindfulness-Based Training on children with ADHD who participated in a parallel training with their parents. The training took place over eight weeks and was geared towards children ages 8-12 with diagnosed ADHD. The study featured the parents participating in Mindful Parenting (MP) and the children participating in Mindful Child (MC). The goals for families were to learn to be in the present and don't judge their children. Van der Oord et al. (2011) wanted parents to not react to their child's problems, instead accept their difficulties and help guide them. The goal for the child was to learn to how to focus by participating in mindful exercises such as body scan, breathing, and yoga, and in doing so it would increase their attention, awareness, and self-control. The child was also expected to complete these tasks at home after learning them as homework. The children learned the mindfulness exercises from experienced mindfulness trainers. A total of 22 families participated in the study and after completion parents noted significantly reduced ADHD symptoms in their children. Breathing and mindfulness exercises were taught to the students in the study as well as to the parents. The exercises were implemented at home and had an impact on the families.

Teachers play an important part in assessing student behavior within the classroom. A study conducted by Black and Fernando (2014) assessed a five-week long Mindfulness-Based Training curriculum where teachers assessed student behavior. The study also considered if there would be a benefit to student outcomes if more sessions were to be provided. The study occurred in an elementary school in Richmond, California. The students in this school were from ethnic minorities and low socio-economic status that tested in “the national 44th percentile in English and 59th percentile in math” (Black & Fernando, 2014, p. 1243). Data was collected from 17 teachers in 17 different classrooms. A total of 409 students in kindergarten through sixth grade had their behavior reported. Each classroom was randomly picked to be enrolled in one of two programs: the regular Mindful Schools (MS) curriculum or the Mindful Schools curriculum with extra time added. The regular curriculum was administered to students for five weeks, running three times a week for 15 minutes a session. The extended curriculum included the MS curriculum as well as supplementary lessons that occurred for 15 minutes one time a week for a total of seven weeks. The overall results indicated an enhancement in both groups in regard to focusing on what was happening in class, a greater sense of self-control, more active participation in class, and showing respect for others. The group with the extra sessions led to even stronger increases in paying attention.

Attention in elementary school children was a main focus on Tarrasch’s study in 2018. The purpose of this study was done to explore what bearing mindfulness exercises could have on attention in elementary children and determine if training could

aid in increasing attention in an experimental group. An elementary school in Tel-Aviv was the primary focus of the study. A pool of 48 fourth graders was selected to participate in this study. The principal of the school decided that he did not want only part of his fourth graders taking part in the study so the control group consisted of third and fifth graders from the same school. The student's in the experimental group participated in weekly workshops. Each session lasted 45 minutes, in small groups of three to four students. Mindfulness Based Stress Reduction (MBST) and mindfulness ideology was the basis for this Mindfulness-Based Training. During each meeting the students practiced three explicit exercises geared at improving the children's understanding of their bodies, their emotions, and opinions. The mindfulness exercises were short, only lasting five to ten minutes followed by discussion. The results show in sustained attention: the mindfulness participant's scores were more elevated than the control group. In selective attention: the mindfulness group performed substantially higher than the control group. The results indicate that the mindfulness workshop was effective in improving attentional capacities which can help behavior in elementary aged children with attention concerns.

Incorporating mindfulness activities that are informal into the curriculum could assist students with behavioral needs. Malow and Austin (2016) led a study that examined a summer school program at a residential school for students with E/BD, located in New York State that incorporated informal mindfulness activities within the daily schedule and what impact this had on students. Fifteen adolescents, ages 15-17, who had been identified as having an emotional or behavioral disorder, took part in the

study. Within those that participated, a variety of diagnoses had been identified such as anxiety and mood disorders as well as ADHD. The students participated in a six week investigation using a curriculum called “Learning to Breathe: A Mindfulness Curriculum for Adolescents to Cultivate Emotion Regulation, Attention, and Performance” (Malow & Austin, 2016, p. 86). Activities were done within the classroom, and embedded within the day. Prior to starting the activities, the students were given a 64 item assessment to see where their resiliency rated. Three scales were completed prior to the training and after the training. The three scales were: 1) MAS- individuals’ response to interaction with the environment, 2) REL- individual’s connection to others in a social context, 3) REA- a pre-existing vulnerability or threshold tolerance (Malow & Austin, 2016, p. 87). Students would start their sessions with centering activities, and then at the end they would give feedback to how they felt they attended, and where they would rank their stress level and how focused they felt. Results of the study indicate that exercises helped students experience a greater sense of focus for the day and an overall better feeling of being centered. Optimism, self-efficacy, and adaptability (MAS) had significant increases for 12 of the 15 participants. Substantial increases for nine of the 15 participants were in how they related to others in a social context: their ability to trust people, what their understanding is to getting support, their comfort level in being around others, and their tolerance to differences (REL). The results showed there was a considerable drop for 11 of the 15 participants in their vulnerability to a threshold of tolerance, sensitivity, recovery, and impairment (REA) (Malow & Austin, 2016, p. 90). After the completion of the mindfulness activities students’ had a greater sense of

personal mastery. Results both qualitatively and quantitatively relate to how incorporating informal mindfulness into classrooms every day can be very beneficial to our youth.

A study carried out by Semple, Lee, Rosa, and Miller (2009) viewed children who had diagnosed attention, behavior, and anxiety symptoms who were then trained in Mindfulness-Based Cognitive Therapy (MBCT) in order to understand whether this therapy would assist with individuals who've displayed attention and behavior problems, as well those who've also exhibited anxiety symptoms. In the study, 25 inner-city children age 9-13 who were involved in a reading tutor program because of struggling academic problems were introduced to mindfulness training. The training was conducted over 12 sessions, where students had to attend at least eight of them. The mindfulness techniques incorporated were breathing and body meditation using simple sensory exercises. The results found that children who participated in the study demonstrated less attention concerns than at the beginning. Behaviors at a three month follow up were still considerably lower. At the start of the program three of the children had identified with having considerably elevated behavior problems and once finishing the program all three of these children reported no clinically significant behavior problems. When behavior attention problems started to decline, attention problems also started to decline. Overall, the study reported that Mindfulness-Based Cognitive Therapy in Children, "Is effective in reducing attention-related problems and shows promise in managing anxiety symptoms and behavior problems in children with clinically elevated levels of anxiety" (Semple et al., 2018, p. 226).

Individuals with Anxiety Concerns and Mindfulness-Based Training Effects

Anxiety is one cause of disruptive behavior within a classroom as well as in individual's lives. When kids who are anxious become more disruptive (to either themselves, or their peers) they tend to push away the adults who make them feel secure. Instead of managing anxiety, they then tend to spend parts of their day outside of the classroom. In several studies the effects Mindfulness-Based Training has on anxiety has been assessed.

Bannirchelvam, Bell, and Costello (2017) observed eight students aged 7-11, identified by their classroom teachers as potentially having greater stages of anxiety as well as minimal coping strategies and a hard time transitioning within their day. They wondered what bearing a Mindfulness-Based Intervention program could have on assisting these students. Students participated in a program that consisted of six, once a week sessions for an hour in length, followed by two extra sessions at a later time. All of the sessions took place throughout the second term of the school year and then the two follow up sessions happened during the third and fourth terms. The sessions involved visualization, scanning, sensory stimuli, breathing, observing thoughts, and noticing feelings. The students reported that after the training they used the methods to help control their emotions. The students varied in what emotions they used the technique for (anxiety, sadness, anger). All of the students reported "using mindfulness techniques as a means to control their emotions, to shift from an undesired affective state, or to cope with situations which provoked anger or anxiety" (Bannirchelvam et al., 2017, p. 309). The way in which students responded to a regular mindfulness strategy

corroborates the idea that stepping back and partaking in a mindfulness exercises can allow students to choose to react to situations rather than do so impulsively.

Many mindfulness programs have been around for years to work with adults, however the approach in working with adolescents was new when Jennings and Jennings performed a study in 2013 to determine the effects of Mindfulness-Based Training on young adults. The study was performed using five males and three females ages 17-18. Those that participated in the study did not have any previous familiarity with mindfulness and were high school seniors. The MBT was led by another 17-year old who had participated in many hours of training prior to leading this program. A total of four mindfulness lessons were conducted over a three week period, with each lesson consisting of two experiential activities. The students that participated were assessed in both pre- and post-training anxiety measures that were self-reported. In assessing the results, cognitive and group anxiety concerns were noted to have shown the largest improvements after the program was completed. According to the results of the study, “even brief mindfulness training can have positive short-term effects of reducing cognitive, physiological, and social anxiety in normal high school seniors,” (Jennings & Jennings, 2013, p. 24). The greatest short-term effects could be a result of teaching students skills that prevent them from talking poorly about their selves or worrying too much.

Sometimes young adults have trouble with social situations. Social Anxiety Disorder (SAD) is characterized by “a marked, or intense, fear or anxiety of social situations in which the individual may be scrutinized by others” (Hjeltmes et al., 2017, p.

80). The purpose of study by Hjeltmes et al. (2017) was to research the Mindfulness-Based Stress Reduction (MBSR) program and its potential impact on youth who have been diagnosed with SAD. The University of Bergan, Norway, was where the study was conducted and it involved young adults aged 19-25 who sought treatments for SAD. Students were either self-referred or referred through the mental health counseling center. Forty-five students completed the program (28 females, 17 males). Thirty-six of the students identified with the standard for generalized social anxiety disorder, and nine identified with the standard for specific social anxiety disorder. The program was eight weeks in length with classes meeting weekly for two and a half to three hours. An all day seminar was also incorporated, and the participants had to complete work at home each day implementing what they had learned. The formal Mindfulness-Based Training involved; body scan, sitting meditation with awareness, and mindful body movement. There were five assessment scales that were used to interpret the results. Upon completion of the program, the results indicated that SAD symptoms were significantly decreased as well as global psychological distress. Significant growth was displayed in overall mindfulness, and a greater sense of self-compassion and self-esteem were also present. Pre-treatment, 77.8% of participants were in the clinical range for social anxiety symptoms and 84.4% were in the clinical range for global psychological distress. Post-treatment, 69% who were in the clinical range reported either reliable and clinically significant change (37%) or reliable change (31%) on SAD symptoms. In regard to global psychological distress post-treatment, 63% reported either reliable and clinically significant change (37%) or reliable change (26%). Only one participant

reported deterioration. Mindfulness-Based Therapy assisted these individuals with SAD symptoms (Hjeltmes et al., 2017, p. 84-85).

Mindfulness-Based Training effects on individuals affected by stress and those with non-coping skills

In our society today, stress is causing many concerns with our elementary aged and young adolescent children. “Today’s child faces the daunting task of developing social and emotional wellbeing amidst rising levels of stressors and declining levels of protective factors in their social world” (Bannirchelvam et al., 2017, p. 304). The following studies viewed the effects different Mindfulness-Based Training had on young individuals and stress and coping.

In 2018, a study was conducted by Sheinman, Hadar, Gafni, and Milman that examined how mindfulness, in a whole-school approach, promotes a child’s capacity to respond and manage life’s everyday trials. A total of 646 students in grades three through six in Israel participated in the study. Three different Hebrew-speaking urban public schools were involved. One school (A) has been implementing a MBT program for 13 years. The second school (B) has completed one year in the program, and the other school (C) has only shown interest in the program but has not participated in it. The Mindfulness Training integrated mindful yoga-based movements and postures, and specific imagery-based processes. Students were taught to view their posture, breath, sensations, body boundaries, movements, sounds, emotions, images, and self-talk (Sheinman et al., 2018). Throughout the course of the study students completed questionnaires asking them how they dealt with five difficult daily-life circumstances.

Results showed that coping strategies at the school where mindfulness programs had been occurring for 13 years had the greatest results, followed by the school that has implemented the training for one year. In regard to those that showed the uppermost mentality to use Mindfulness-Based Coping Strategies ten year olds were the most inclined to use them. The nine-year-olds were the least inclined to use them. Also, girls tended to show more capability to use mindfulness coping exercises than boys. The longevity of the program appeared to produce the highest results.

A key contributor to the cause of internalizing and externalizing disorders in youth can be linked to environmental stress (Mendleson et al., 2010). Urban fourth and fifth graders in Baltimore participated in a study by Mendleson, Greenberg, Dariotis, Feagans, Whodes, and Leaf (2010) in which mindfulness interventions were assessed to determine if they would be good for youth who may be at risk for behavior problems later on in life. The participants were made up of 55 fourth graders and 42 fifth graders. Those in the mindfulness intervention attended the program for 12 weeks, with four sessions per week. Each practice session consisted of learning yoga-based activities, new breathing skills, and being led in mindfulness exercise that lasted approximately 45-minutes. Upon completion of the program three to seven students were placed into three different focus groups in order to evaluate their experiences. The results implied that students felt the programs were relatively positive and that they took away new skills. The intervention group's results noted that noteworthy improvements had occurred in comparison to the control group. In three of five subscales significant changes were found. The areas that did show changes were in focusing attention on

what is causing stress, how to control unwelcomed thoughts, and how to manage your emotions when they become aroused. The intervention was successful in lowering uncontrolled reactions to difficult social situations/stressors among youth. Mendleson et al., (2010) advocated that Mindfulness-Based Training practices are valuable in increasing self-regulation and decreasing unrelenting thoughts for our youth.

Recent statistics indicate that “almost half of adolescents in the USA report stress levels that exceed their coping abilities” (Milligan et al., 2017, p. 335). Students who are faced with stressors tend to go into a fight (aggression) or flight (avoidance) response which tends to lead to chronic stress. Much of the research that has been conducted about mindfulness training has focused on preventative measures that are universal in nature, targeting a broad population. For this reason, Milligan, Cosme, Wolfe Miscio, Mintz, Hamilton, Cox, Woon, Gage, and Phillips (2017) looked into at-risk students and the effects mixed martial arts training had on academic, social, and emotional outcomes. The study included 41 students ages 14-17 at a rural high school in the United States. Students were identified as either high or low risk and referred by a local mental health facility, the school, or themselves. The students were taught mixed martial arts for 20 weeks from a mental health professional as well as a teacher with a black belt in Karate, and personal experience with mindfulness. At the completion of the program 24 students and ten teachers participated in interviews recapping the program and its effects. The effects on the students all appeared to be positive as they helped with academics, social competence, emotional regulation, and self-confidence. Mixed martial arts training was determined to be beneficial to those

students who were at-risk as it helped develop skills they need to improve behaviorally and academically at school.

Social environments are rapidly changing, and young adolescents have to adapt to these ever changing conditions. When discussing essential factors needed for effective learning, attention and well-being are believed to be important. "However, 80% of youths found difficulty in paying attention to their daily activities such as schoolwork, sports, leisure activities and social events" (Ngar-Sze & Ming-Tak, 2011, p. 315). Research was completed by Ngar-Sze and Ming-Tak in which they looked at the impact Mindfulness-Based Training had on students' happiness, stress, and symptoms of depression. Two, government aided, public schools in Hong Kong participated in the study. They were chosen because of the teachers' enthusiasm and support of the contemplative practice. The 39 students (ages 14-16) who participated in the study were in schools which were categorized with lower learning abilities and performance. The program consisted of six weeks (12 hours total) of learning four key activities: 1) calm stretching exercises, 2) practice with daily movements such as; sitting, standing, walking, and lying down, 3) body scan, and 4) loving-kindness practice. Only students who had 80% or higher participation were included in the results of the study. Students were split into control and intervention groups and assessments were going to be given on the effects of mindfulness, the effects on well-being, and the effects on depressive symptoms and perceived stress (Ngar-Sze & Ming-Tak, 2011). A pre-test was given prior to starting the program and there was no differentiation between the intervention and control groups in all three categories. Upon completion of the program those that had

participated had improved in the mindful presence element of mindfulness. As for well-being, those that participated displayed a significant interaction in the dimension of personal growth. In regard to depressive symptoms and perceived stress, the control group had greater depressive levels. The intervention substantially lessened depressive symptoms among adolescents who participated in the program. The results defend the idea that Mindfulness-Based Training can assist with decreasing depressive symptoms in adults and increase personal growth and well-being.

Areas of adjustment, performance, and behavior can lead to stress in young people. Twenty students in grades seven and eight were randomly designated to either a treatment group (ten) or a control group (nine) for a study led by Martinez and Zhao (2018) that looked at the impact MBT had on middle grades, behavior and the amount of time students were asked to go to the principal because of a referral. Referrals typically occur when the behavior of a student can impact others in the class in a manner in which learning stops taking place. Students that participated in the group receiving the treatment participated in three minutes of guided mindfulness training with a Muse (a wearable device that senses the electrical rhythms of the brain) once per week during their homeroom class (Martinez & Zhao, 2018). Two students participated at a time, with each participant completing 20 Muse sessions. There was also a group that did not partake in any Mindfulness-Based Training. Each Muse session consisted of the students learning to concentrate by listening to an app. While listening to the app the students would hear nature sounds which would give them information on their brain activity. Bird sounds would emit from the app if the student were calm, if the

students' mind appeared to be active then sounds of the ocean or wind would emit from the app. Students participated throughout the course of the year and scores were separated into two groups; the first half of the year and second half of the year. The largest individual increase in Muse score was 317 to 424 points. The smallest increase was just 24 points. Scores increased for each student who took part in the mindfulness treatment group. The number of referrals being sent to the office for those participating in Muse group also decreased. The treatment group went from 6.33 referrals to 1.78 and the control group actually increased in the number of referrals over the same time period, 4.22 to 4.44 (Martinez & Zhao, 2018). Students that participated in the Muse group noted that they could employ mindfulness session techniques during the school day without the use of the Muse (Martinez & Zhao, 2018).

Mindfulness-Based Training effects on other behaviors; including pro-social behavior within young adolescents.

Many studies performed have given insight into how Mindfulness-Based Training affects behavior related components positively in youth. Pro-social behaviors include how students interact with one another in group settings as well as how they function in situations they are unfamiliar with.

Mindfulness –Based Training has been studied for many years in relation to how it impacts behavior. Cheek, Lipschitz, Vago, and Nakamura (2017) utilized letters that 112 elementary aged children had written upon completion of mindfulness training in their classrooms in the early 1990's. Students had daily activities integrated into their curriculum that involved mindfulness. The activities included meditation practice, body

scanning, and mindful yoga. The study was carried out over two years and involved students in the third through fifth grades. During the program, and upon completion, the students were asked to write letters to Kinn-Zabat, the founder of MBT. The letters were written so that Kinn-Zabat would get an idea of the student's perception of the curriculum and their thoughts on mindfulness and how it can impact them. One aspect of the letters was used to identify if and how their behavior had changed after the mindfulness training. Becoming aware of their own self behaviors allowed students to respond to situations rather than react to them. The students also identified a better sense of belonging after the training. In the study, five inter-related themes emerged in relation to the guiding question: (1) The importance of context and a sense of place to students undertaking the mindfulness training; (2) The development of a sense of community on the part of the students and its role in MT; (3) A deep engagement with the MT in which students were actively taking it on and committing to following through on it; (4) Becoming aware of the "self-in-relation" to others; (5) Getting in touch with the inner self; a process of becoming a more integrated, "whole me" (Cheek et al., 2017, p. 2578). Developing a sense of place was determined to be very important in the students' experiences and participation in Mindfulness-Based Training. Noticing how the students acted in relation to people, things, and situations was another area that the study found Mindfulness-Based Training helped. Students were able to develop an awareness of their "self-in-relation" to others around them. They not only learn new behaviors, they also unlearned behaviors, feelings, and thoughts that impeded some of their relationships with others.

A school in Auckland, New Zealand participated in a study in 2015 led by Ager, Albrecht, and Cohen, in which 160 children in kindergarten were divided into three learning conditions: (a) mindful movement-61 children, (b) movement for its own sake-54 children, (c) control group-45 children. The goal behind the study was to identify how students perceived the training and what it did to help their overall well-being. The children in group A had both indoor and outdoor learning environments which integrated mindful movement with academic learning. Those is group B, were introduced to two learning environments that allowed them to move for movements sake, with an emphasis on the quality of the movement. The children in group C learned in a conventional kindergarten classroom. During the course of the study, students wrote in journals in response to questions. Upon completion of the study, researchers looked at and coded the journals for the students who participated and noticed three themes that emerged, 1) the students' own outlook on their well-being, 2) their mindful engagement, and 3) how they dealt with conflict resolution. Upon completion of the ten weeks, students recognized that mindfulness increased their understanding of happiness, as well as their feelings of contentment, love, serenity, anxiety, and anger management. They also increased their willingness to learn, as well as their overall wellness. Those that participated in the study also enhanced their knowledge of self, others, mindful word choices, and the environment (Ager et al., 2015). In terms of conflict resolution, the students became more aware of implementing strategies to deal with conflicts. Students also learned great knowledge of the ideas behind wellness and this allowed them the ability to find ways

independently to positively impact their own well-being (Ager et al., 2015). Mindful experiences also allow them to work on trust with people. Students learned to connect with their whole self through mindful breathing, eating, and walking after completing Mindfulness-Based Training.

Preschool aged children were also engaged in a study as to how Mindfulness-Based Yoga is effective. A study conducted by Razza, Bergen-Cico, and Raymond in 2015 researched two pre-kindergarten classrooms in Syracuse, New York. The children in the classrooms were local residents who were able to attend this school for no cost. Thirty-four children, (18 intervention, 16 control) participated and 29 (16 intervention, 13 control) were counted in the final analysis. The participants in the intervention group took part in YogaKids daily. The teacher in the room kept a journal of what activities they participated in, the time of day, and number of minutes spent. The group received roughly 40 hours of yoga over a 25 week time period. Those who benefited the greatest were those who originally were most at-risk of struggling with self dysfunction. Children in the intervention group displayed higher executive functioning skills in both post-test measures. The study demonstrates that mindful yoga could be a strategy implemented to increase self-regulation in children who are preschool aged.

In 2016 a study was performed by Ardern to determine how Mindfulness-Based Training changes the story of young people deemed as struggling with challenges. Two students participating were ages 11-14 who had been identified by their schools as having behaviors. Twelve, hour-long sessions, were delivered in school twice-weekly. Sessions involved teaching mindfulness principles, mindfulness exercises, and poems

aimed at promoting reflection and reinforcement of mindfulness concepts (Ardern, 2016). Students were solicited to complete journals and perform skills at home following each session. In order to collect data from those that participated, a prompt sheet was used to generate answers to questions. The two participants identified that they felt they had more self-compassion and a better sense of self (Ardern, 2016). Upon completion of the study, the students' stories about themselves transformed. The subject matter, environment, organization, and language following the intervention led to a more positive approach about themselves.

Peer relationships are important to young children and behavior can impact these relationships as well as how youth feel about themselves. In a study conducted by Schonert-Reichl, Stewart Lawlor, Abbott, Thomson, Oberlander, and Diamond (2015) a social-emotional learning program was administered to see what effects it would have on cognitive control, stress, and pro-sociality for fourth and fifth graders. Twelve lessons were taught via the MindUP Program, which focuses on breathing and attentive listening. Students in the program focus on listening to one echoing sound. At the completion of the intervention students reported, "24% gains in peer social behavior, 20% in self-reported well-being and prosociality, and a 24% decrease in aggressive behaviors" (Schonert et al., 2015, p. 61). Overall, it was evident that MBT practices can potentially present an added value to SEL programs and impact youth behavior.

Harpin, Rossi, Kim, and Swanson (2016), conducted a study in which they looked at the effects of Mindfulness-Based Training on socio-economic and ethnically diverse students in two Denver fourth grade classrooms to determine if prosocial behaviors, and

regulating emotions would increase after completing the training. The program consisted of ten weeks of the MindUP and Mindful Schools curriculum. The sessions lasted approximately 25 minutes, twice a week. Within the curriculum the students learned three units in the ten weeks. The first unit had seven sessions and they all revolved around how the brain works. Unit two also had seven sessions; however these were based on sharpening the senses. The activities involved breathing, having an awareness of their thoughts, as well as an awareness of their body and sense of taste. The third unit consisted of five sessions and they worked on attitude; specifically perspective taking, heartfulness, optimism, gratitude, and empathy. Pre- and post intervention surveys were completed by teachers and students to assess the usefulness of the program. Upon completion of the study, teachers noted substantial gains in pro-social behavior and emotional control within the mindfulness instruction group. Of the students who participated in the survey, 100% said they enjoyed the mindfulness class, and would use the tools they were taught again in the future (Harpin et al., 2016, p. 153).

Viglas and Perlman (2018) led a study in which they viewed any changes to children following a mindfulness program geared for kindergarteners. The study looked at self-regulation skills and pro-social and maladaptive behaviors. Kindergartners in three public schools in Toronto who ranged in age from three to six participated in the study. Schools were chosen in which they tend to have students who have outward challenges that affect them in school. A total of 127 students (58% boys, 42% girls) participated. The mindfulness group contained 72 children, and the control group had

55. The program contained 18 twenty minute lessons over a three week period. Students were to draw or write in their journals upon the completion of each lesson. The lessons consisted of internal (breathing) and external practices (walking, eating, seeing, etc). The results indicated that those in the intervention group had substantially stronger self-regulation skills than those in the control group post-intervention (Viglas & Perlman, 2018). Engaging in programs that focus primarily on getting children to complete items that aid self-regulation tend to help them improve these skills over time. Teachers noted students in the mindfulness groups improved greater in their pro-social behavior in comparison to the control group. The mindfulness group improved on all five items that made up the assessment as well as all five items on the hyperactivity scale. Those that had lower self-regulation and pro-social skills prior to the intervention in turn had greatest increase in the end.

School systems are working towards implementing meditation and mindfulness training within their buildings. It is believed that meditation creates changes within the brain which help foster concepts that students can continue to utilize upon graduation; cognitive functioning and emotional regulation. Meditation has shown the ability to assist with concentration and learning. For this reason Waters, Barsky, Ridd, and Allen (2015) conducted a review of 15 studies that looked at different types of meditation in relation to well-being, social competence, and academic achievement in order to assist school systems with determining which programming would be beneficial. Within the 15 reviewed studies it was determined that 1797 students were included in the data of effectiveness. Each study was reviewed to determine the country of the study, the

sample size the ages of the students, what type of program, the frequency and duration of the program, and who delivered the program. All of the information was listed into tables. Each study was then looked at to determine if it had data that identified the effects it had on well-being, social competence, or academic achievement. Of the 15 studies, nine included information on well-being, six on social competence, and three on academic achievement. Transcendental Meditation was determined to be more prominent in significant results (84%) in comparison to mindfulness and other mixed meditation programs (30%). It was noted that the Transcendental Meditation programs tended to be longer in duration which could have resulted in more significant scores. Also, the programs that took 24 weeks or more also showed significantly impacted cognitive functioning. The age of the student also impacted the results as high school students appeared more impacted by meditation than elementary students. The overall findings in the article noted that well-being and social competence were impacted by meditation more time would need to be spent researching the effects on meditation and academic achievement. Results of the study indicate that there were immediate effects on behavior, and meditation can reduce stress. The studies that were viewed encourage positive states and well-being rather than reducing negative outcomes. Students believed that mindfulness techniques aided them in anger management, which help with positive social experiences with peers.

“Many urban youth in the U.S. experience inevitable and unremitting stresses, including poverty, failing educational systems, and exposure to community and interpersonal violence,” (Sibinga et al., 2011, p. 213). A study in which the effect of

Mindfulness-Based Training for underserved urban youth ages 13-21 was performed by Sibinga, Kerrigan, Stewart, Johns, Magyari, and Ellen in 2011. Those that participated in the study were HIV infected at-risk urban youth, whom did not have substantial cognitive, behavioral, or psychiatric disorder. In total, 26 youth were present for at least five sessions and were deemed finishers of the program. Data was only given for 19 of them. The program consisted of three components; 1) didactic material related to mindfulness, meditation, yoga, and the mind-body connection, 2) experiential practice of various mindfulness meditations, mindful yoga, and the "body scan, 3) group discussions focused on the application of mindfulness to everyday situations and problem-solving related to barriers of effective practice (Sibinga et al., 2011, p. 214). Three measures were used to collect data and then the data was divided into both quantitative and qualitative data and analyzed. Quantitative data found that the completion of the program correlated with those in the program displaying decreases in general and emotional discomfort as well as hostility. Improvements of borderline statistical significance were seen in the domains of somatization and paranoid ideation (Sibinga et al., 2011, p. 217). Participants within the program were consulted within four weeks of finishing the program and their responses led to qualitative data that could be analyzed. Upon completion of the program each student participating was able to say something positive about their experience with the Mindfulness-Based Training. They all found at least one method they enjoyed. Breathing appeared to help the most with interpersonal relationships. A decrease in stress, improvements in concentration and greater confidence appear to help with doing better in school.

Students noted they were more aware in class and less zoned out. The Mindfulness-Based Training helped with overall health, sleeping became easier, weight loss, and feeling more refreshed.

“Mindfulness is a protective factor for youth in any population because of its potential to alleviate emotional distress that all youth may face, including feelings of anger, anxiety, or depression” (Viafora et al., 2015, p. 1180). Viafora et al. (2015) led a study with a traditional charter school as well as a non-traditional charter school which works with youth who are currently homeless or have recently been homeless. The study was on evaluating whether an eight week mindfulness course would elicit students learning coping skills that were protective. In total 63 students from four middle school class rooms in San Diego, ages 11-13 participated. The Mindfulness-Based Training was eight weeks in length, with 45 minute weekly sessions. The sessions typically began with a mindful listening exercise, then short discussions occurred as to what they’d practice at home, and then new set of mindfulness practices were presented. Different ideas were taught to students to utilize mindfulness for different aspects of their lives. Some of the skills involved using mindfulness to help with test taking, to help manage difficult emotions and remember happy experiences, and to focus on paying attention to not only themselves, but the others around them as well. Three scales were used to evaluate the benefits. Overall results suggest students benefited from learning Mindfulness-Based Training. The students in the homelessness group noted they were more apt to use mindfulness ideas in their daily lives. They also saw the course as positive. Standardized measures displayed different results. When

viewing standardized tests the students that were in the homelessness group didn't exhibit any noteworthy changes from pre-to-post test, whereas those in the other group improved on the Child Acceptance and Mindfulness Measure. Even though the standardized results weren't significant for the homeless group, both groups expressed positive experiences. In the homelessness group, 79% reported that mindfulness has helped them at school, and also helped with managing anger. Being more patient was also a positive they noticed. In self-reports, both groups believed mindfulness practice helped them feel less stressed, more relaxed, more patient, more concentrated, and more alert (Viafora et al., 2014).

School-based mindfulness intervention has the ability to impact mental health and emotional control among adolescents. Fung, Kim, Jin, Chen, Bear, and Lau completed a randomized trial in 2018 assess the impact school-based mindfulness intervention had on ethnic minority youth (Fung et al., 2018). The study had three goals. The first goal was to determine if school-based mindfulness programs were effective in decreasing mental health symptoms. The second goal was to assess various emotion control strategies as a way of helping. The final goal was to look into baseline measurements of mental health, youth acculturation and ethnicity, and assess how this program could potentially impact those areas. The study was partnership between two universities and a local school district in the greater Los Angeles area (Alhambra Unified District). Ninth grade students took part in the intervention over the course of two school years, 2013-14, and 2014-15. A total of 145 students were split into two cohorts, and then each cohort was divided by each school. Two control groups and two

mindfulness groups were located at each high school. No more than ten students were allowed in each group. The students participated in the Learn to Breathe program, which consisted of 12 sessions, lasting 50 minutes each. There are six core themes in the Learn to Breathe program; 1) body awareness (body), 2) understanding and working with thoughts (reflection), 3) understanding and working with feelings (emotions), 4) integrating awareness of thoughts, feelings and bodily sensations (attention), 5) reducing harmful self-judgments (tenderness), 6) integrating mindful awareness into daily life (habit) (Fung et al., 2018). At the start of every new session the instructor started with mindful breathing. After the mindful breathing, a quick homework review was conducted followed by a short presentation of the current week's theme.

Students's then participated in a new group mindfulness meditation practice, and were given a homework assignment that involved that day's lesson. The students were assessed using; the Youth Self-Report, Perceived Stress Scale, Emotion Regulation Questionnaire for Children and Adolescents, Emotional Approach Coping Scale, the Avoidance and Fusion Questionnaire for Youth, the Children's Response Styles Questionnaire, the Heritage Language Culturation Scale, and the post-intervention satisfaction questionnaire (Fung et al., 2018). The results indicate school-based mindfulness interventions were successful in decreasing behavior problems and improving emotion. When analyzing the results, youth who were immediately treated presented with fewer internalizing problems and how they perceived their stress.

In regard to decreasing deep thoughts and increasing cognitive reappraisal, as well as altering the way students process and respond emotionally, MBT was effective.

Mindfulness-Based Training and Its Effect on Academic Achievement.

Throughout the course of history, academics have been viewed as an important aspect of one's upbringing. With the ever changing dynamics of life, and the rigor of school changing, a few studies researched how mindfulness based training affects academic achievement in children aged 13 and younger.

Fourth and fifth grade students were assessed on a variety of components in a study conducted by Schonert-Reichl, Stewart Lawlor, Abbott, Thomson Oberlander, and Diamond in 2015. Schonert-Reichl et al. (2015) chose to focus on fourth and fifth graders because it was suggested that "it is during this developmental period that children's personalities, behaviors, and competencies begin to consolidate into forms that persist into adolescence and childhood" (Schonert-Reichl et al., 2015, p. 53). One area specific to the study was to view the scores of 99 fourth and fifth graders in Canada on math achievement tests after participating in a mindfulness-based training program. The program MindUP was used over 12 weeks, with each lesson lasting approximately 50 minutes. The academic portion of this study looked at students' math grades at the end of the school year via teacher ratings. Upon completion of the program students who were involved in the MindUP program as compared to those in the control group, "showed a trend of higher year-end math grades and displayed a 15% gain in math achievement" (Schonert-Reichl et al., 2015, p. 61).

Kindergarten students were the focus of a study conducted by Shoval, Sharir, and Arnon in 2018. The study aimed to look at the idea that integrating movement into classrooms can help with academic achievement of kindergarten students. One

hundred sixty kindergartners in a rural school district in the center of the country participated in the study. Students were sorted amongst three groups, 1) mindful movement, 61 children; 2) movement for its own sake, 54 children, and 3) control group, 45 children (Shoval et al., 2018). The children were randomly selected for the groups. In all three groups the length of time spent doing physical activity was consistent. The mindful movement group had indoor and outdoor learning environments that also had academic learning implemented. The students' activities which incorporated movement lasted for 90 minutes each day. Some of the activities they participated in included, writing numbers on shelves of climbing equipment, balancing on wooden blocks in the shapes of letters, as well as other movement activities that incorporated purposeful movement. The movement for its own sake group also had indoor and outdoor learning environments. Some of the activities they had available were; having playground facilities, and different types of objects to manipulate. The students in the control group learned in a conventional kindergarten. The students were administered a Mathematics Achievement Test, a Comprehensive Reading Test, a non-verbal intelligence test examining logic skills, and a sequencing test. The results of the study found that "children who were exposed to mindful movement, where they learned and played in a learning environment in which they could experience mindful movements, attained a significantly higher level of achievement than the other children" (Shoval et al., 2018, p. 362).

"Mindfulness strongly, significantly, and positively correlates with executive function, which positively relates to academic performance" (Lu et al., 2017, p. 56). This

statement was made evident in a study conducted by Lu, Huang, and Rios in 2017. The purpose of the study was to assess the association between mindfulness and child academic performance as well as assess the role executive functioning plays. The study was unique in that it did not teach mindfulness to students; however it asked questions relating to mindfulness that students possibly already had. Two elementary schools in Beijing provided the subjects of the study. Fifth grade students in two migrant schools were asked to take part in the study and information ended up coming from five classes of anywhere from 32 to 50 students. Students completed a survey that had a variety of questions involving their executive functioning skills, their own perceived view on mindfulness, and well as demographic information. Teachers reported academic scores. The results were the children who displayed a high level of executive functioning also displayed a high level of mindfulness, and those who displayed the highest level of mindfulness in turn also had the highest Chinese, Math, and English grades. “Mindfulness helps children concentrate, organize, and persevere. Altogether, these aspects correlate with greater child executive function and learning ability,” (Lu et al., 2017, p. 56).

Adolescent aged students academics were also affected after mindfulness awareness and training. Milligan, Cosme, Wolfe Miscio, Mintz, Hamilton, Cox, Woon, Gage, and Phillips conducted a study in 2017 in which they looked at the effects a mixed martial arts training would have on at-risk high school students. The study had positive impacts on academics upon its completion. Students ages 11—14 took part in the study in a rural high school. Thirty-six students completed the program and twenty-four

participated in the follow-up interviews. Mental health agencies referred ten of the students, schools referred nine students, and five students referred themselves to the program. The program consisted of a mindfulness program where students were excused from the class right before lunch once a week for 20 weeks. A children's mental health therapist with expansive experience working in the field as well as a high school teacher with a black belt in karate were the instructors of the program. Both the students and teachers were interviewed during and at completion of the program in order to gauge the effects of the program. Academically following the program students took more risks. According to teachers more work was being completed, students persisted with tasks, listened and focused better in class, improved in group work, and had a decrease in test anxiety (Milligan et al., 2017, p. 340). The students approach to school work also improved and they were able to listen to teachers and work through difficult tasks.

CHAPTER III: DISCUSSION AND SUMMARY

Summary of Literature

In reviewing all of the literature on mindfulness-based programs it was evident that these types of programs had positive impacts on behavior and academic achievement. Even the easiest to administer program can cause results that are promising and noteworthy with regard to positive behavior and cognitive changes in children (Black & Fernando, 2014; Fung et al., 2018; Schonert-Reichl et al., 2015). Viafora also noted, “A consistently applied mindfulness program integrated into a school program may offer students opportunities to not only cultivate stronger emotional health in their lives, but also enhance their attention capacities and academic success” (Viafora, 2015, p. 1189).

In analyzing literature on behavior in terms of attention, anxiety, stress, coping, and prosocial behaviors, mindfulness-based programs have impacted students. A main focus of these programs led to students strengthening their ability to sustain attention and disengage from those situations that elicit distress and to focus on the current situation at hand (Felver et al., 2017; Singh et al., 2010, 2014).

In regard to attention, students who participated in the studies were more apt to focus for longer periods of time. Mindful movement is likely to give confidence to children to persist in paying attention and learning for long stretches of time. Students that participated in the studies noted that they were able to keep more awareness on their own attention and how their focus was (Shoval et al., 2018; Singh et al., 2014; Van der Oord et al., 2012).

Anxiety was another area in which the studies showed a positive impact due to Mindfulness-Based Training. Students who had significantly high levels of anxiety were found to be able to better manage their anxiety and behaviors upon completion of a mindfulness-based program (Semple et al., 2010). Students who performed pre and post-tests on anxiety were also able to show that an increase in mindfulness was associated with less anxiety on post-test scores (Anila & Dhanalakshmi, 2016; Semple et al., 2010).

Stress and lack of coping skills are areas in which many of our young people have difficulty with. A review of the studies indicated that these skills have a tendency to increase once a child has learned a mindfulness technique (Mendleson et al., 2010). When students learn to manage their emotions and stress it is a valuable tool to help them lessen involuntary responses to stressors and help them with staying in the moment, responding rather than reacting, and encouraging positive states (Cheek et al., 2017; Mendleson et al., 2010; Milligan et al., 2017; Waters et al., 2015). Emotional regulation and coping have been identified to have been increased upon completion of mindfulness-based programs (Bannirchelvam et al., 2017). Mindfulness approaches are viable in assisting students in coping with stressors and meeting social-emotional goals. The more students participate in in-class mindfulness activities the more apt they were to trying them at home or at a later time in school (Martinez & Zhao, 2018; Sheinman et al., 2018).

Prosocial behavior was also impacted positively as students who participated in mindfulness became more aware of social aspects and in learning these skills student's

felt as though it helped them with anger management. This allowed them to have positive social experiences because they focused on what they could control instead of what they couldn't (Jennings et al., 2017; Hjeltmes et al., 2017; Viglas et al., 2018). Within the school setting there are times students can struggle with participating in groups and initiating interactions which can appear as avoidance. Mindfulness-based training aided these students to approach these situations with a more open mind (Milligan et al., 2017). As a result of Mindfulness-Based Training students had a perceived improvement in interpersonal relationships, school achievement, and reduced stress (Sibinga et al., 2017).

Mindfulness-Based Training programs in the studies reviewed appeared to have an overall positive effect on students' self-esteem, self-awareness, self-compassion, and self-control. Many of the students who participated in the studies identified as being calmer overall, having better self-control, more self-efficacy, more adaptability, and overall more optimism. They also felt as though their vulnerability decreased with this training (Ardern, 2016; Ager et al., 2015; Black & Fernando, 2014; Malow & Austin, 2016; Milligan et al., 2017; Ngar-Sze & Ming-Tak, 2011; Viglas et al., 2018). Students also became less self-centered and in turn classrooms became calmer because students were more aware of their relationships with other students (Cheek et al., 2017). Children that have also faced traumatic experiences in their life can benefit from mindfulness as it helps to create resiliency within them (Harpin et al., 2016).

Problem solving skills also increased with mindfulness training. Students were able to identify real-life situations that they struggled with and how they could

cope/deal with them independently when they had mindful movement integrated into their learning as well as develop conflict monitoring skills (Ager et al., 2015; Cheek et al., 2017; Shoval et al., 2018).

Another strong attribute that was developed was an increase in executive functioning which helped with both behavior and academics (Razza et al., 2015; Schonert-Reichl et al., 2015; Van de Weijer-Bergsma et al., 2013). Within the research the number of studies that monitored the impact Mindfulness-Based Training had on academic achievement was very limited. However, the studies that did research the impact did show promising results. The skills learned could correlate to success in the classroom as children who participated were able to cope more successfully and showed higher scores on their achievement tests (Shoval et al., 2018; Viglas et al., 2018).

“Better attentional skills may mediate improvements in academic achievements, as self-regulation has been shown to improve academic competence” (Tarrasch, 2018, p. 2639). Increases were shown in post-test academic scores as well as academic engagement (Anila & Dhanalakshmi, 2016; Harpin et al., 2016; Milligan et al., 2017).

When MBT programs are being implemented in the school it can affect the whole child including academic achievement, “Mindfulness-Based Programs offer a variety of benefits for the healthy development of skills related to success in the classroom” (Viglas et al., 2018, p. 1156). While Mindfulness-Based Training studies are still relatively new in terms of length of time researched the initial reports indicate that Mindfulness-Based Training can positively impact our youth both behaviorally and academically.

Limitations of the Research

The research conducted for this review incorporated only published empirical studies from peer-reviewed journals from 2010-2018. The parameters of the search included articles that focused on Mindfulness-Based Training and the effects it had on youth in regard to behavior and academic achievement. The scope of the research was narrowed down to articles that incorporated school-aged children and adolescents. The original research was intended to focus on general education and special education classrooms. The research was not specifically narrowed down into those different types of classrooms so the search needed to be broadened in order to locate more articles that displayed information the research questions were looking for in regard to the effect MBT had on behavior and academic achievement. The key words that were used in these searches included “mindfulness in schools,” “achievement,” “behavior,” “ADHD,” “Anxiety,” “Stress,” and “effects on classroom.”

Research on this topic had a tendency to be relatively new in regard to dates, with most studies occurring between the years 2015-2018. There were some limitations in regard to answering the research question, most notably how mindfulness based training effects academic achievement. A few of the articles were primarily about mindfulness and academics within the classroom, while a few others had limited information on how academics were affected by the training. Many of these articles would mention academics in a small section of the research. Another limiting factor to the research was that the topic could be rather broad in finding research. It took some

time to identify the appropriate key words in order to narrow the research down to what the research question was asking. There are some Mindfulness-Based Training articles that occurred outside of a school setting but occurred with school-aged children that did not support the research question.

Implications for Future Research

As the research on this topic continues to develop there are other avenues that could be researched in order to expand what is already out there in a way to provide greater insight into how mindfulness-based training affects young people.

While many of the studies provided positive feedback the amount of participants in some of the studies was very limited. Providing a larger number of individuals will allow researchers to have a better understanding of how Mindfulness-Based Training can impact a larger more diverse group.

Another gap in the research was in assessing the long-term effects of mindfulness-based training. Within many of the studies that were reviewed it appeared that the time that was done to follow-up on the studies was very limited. While many studies provided positive feedback, there wasn't much follow-up as to how students performed with these tasks after six weeks post-intervention.

Many of the studies that were conducted involved students with differing backgrounds in regard to socio-economic status and disabilities involving attention, anxiety, and behavior. Continued research that focuses primarily on mindfulness-based training and how it affects young people with moderate to severe disabilities would be another area in which this topic and its' research could be expanded.

Overall, it appears that mindfulness-based training and the research conducted is starting to evolve with more people interested in the topic.

Implications for Professional Application

As an educator, the information provided in the studies was extremely valuable. In all 35 studies reviewed, there were positive results attributed to incorporating mindfulness-based programming into students' everyday lives, most notably in the school setting.

With the continued amount of stressors that are put on our youth every day, providing time within the school day for them to focus on being mindful, whether through breathing or other exercises, would allow for them to be more focused within the classroom and in turn have the tendency to improve executive functioning skills, behavior, and also assist with concentration on academic tasks that are deemed important (Bannirchelvam et al., 2017; Lu et al., 2017).

Integrating mindfulness-based programming can benefit school districts. As educators it could be valuable to introduce mindfulness-based programming at a young age and continue to work on this throughout the child's educational career so that it almost becomes effortless in their approach to using these skills to focus in both typical daily tasks, as well as rigorous, unexpected situations. Students who learned to use these techniques have been able to transfer skills into their everyday lives when they felt overwhelmed with real-life situations that did not involve school or academics, such as peer interactions, family emergencies, and other life altering events.

Within the research one of the most challenging pieces seemed to be having the student's "buy-in" to the techniques that they were being taught. Once those students got over the resistance to try they typically had good things to say about mindfulness and how it affected them individually. Many times, they even tried teaching the skills to their peers as they felt this training helped their overall self-esteem.

Continuing to model and show a variety of ways in which students can participate in different mindfulness techniques may benefit students overall health. Educators are always looking for ways to help their students and with mental health concerns continuing to rise for our youth providing them with a way to focus on the present and be in the moment can help with self-confidence, self-esteem, resiliency, and an overall positive self-image.

Over the years that students appear to be having more difficulty with peer interactions, classroom activities, and navigating all that being a student means, which also includes the stuff that occurs in school outside the classroom walls. Throughout the research it was evident that those individuals who participated in the studies that learned mindfulness-based exercises had more success in working in groups, feeling confident in what they were doing in the moment, and their overall self awareness.

Incorporating mindfulness into our schools can be very beneficial to our students and their overall sense of being.

Conclusion

In response to the research question: Does Mindfulness-Based Training affect behavior and academic achievement within the school, the research supports this idea. Behavior as defined for this paper as the ability to focus in regard to attention, anxiety, stress, coping, and other factors that impact our youth. The research provided multiple results in which students benefited independently as a result of practicing mindfulness within their daily setting. Academics weren't researched nearly as much, but the few articles that were reviewed did note improvements with those practicing mindfulness, this area will need to continue to be monitored. In regard to mindfulness and our youth, the approach and idea behind can be very beneficial to our youth.

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