MINDFULNESS AS A TEACHING AND LEARNING TOOL

INVESTIGATING THE IMPACT OF MINDFULNESS ON ACADEMIC EXPERIENCES IN THIRD GRADERS

A THESIS

Presented to

The Faculty of the Department of Education

Colorado College

Under the supervision of Professor Tina Valtierra

In Partial Fulfillment of the Requirements for the Degree

Masters of Arts in Teaching

By

Stefani Messick

May 2019

Abstract

School is the place in which children spend a majority of their time growing up. From kindergarten through high school, children spend at least 15,000 hours in classrooms, and their experiences have implications not only for their academic success, but also their personal well-being (Eccles & Roeser, 2011). Students encounter cyclical and recurrent stressors just by attending school every day, and some students lack appropriate coping mechanisms to negotiate these stressors (Sotardi, 2016). In the academic environment, practicing mindfulness has the potential to reduce stress and anxiety (Bamber & Schneider, 2016). Mindfulness is a process that leads to a mental state of nonjudgmental awareness of the present moment, including one's sensations, thoughts, bodily states, consciousness, and the environment, while encouraging openness, curiosity, and acceptance (Bishop, Shapiro, Carlson, Anderson, Carmody Segal, Devins, 2004; Siegel, 2010). The two major themes of mindfulness practice involve self-regulation of attention and an orientation toward the present moment (Hofmann, Sawyer, Witt, & Oh, 2010).

This study sought to understand the connection between the academic and personal experiences of third graders before, during, and after a five-week mindfulness intervention. The study found that after the intervention, students had an increased fluency and vocabulary when speaking about emotional states and coping skills. Students showed growth in the ability to name emotions and identify emotions they wanted to practice moving toward, and similarly, those they wished to let go of. All of the interviewed students noted that they would participate in mindfulness in the future if given the choice.

(Keywords: mindfulness; elementary students; coping skills)

Introduction

A variety of factors can interfere with students' abilities to participate and engage in the classroom. Influences including social factors, emotional states, and trauma are just the beginning. Formal education should consider students' mental health to be as important as students' intellectual capacity. A growing body of research demonstrates that "academic achievement, social and emotional competence, and physical and mental health are fundamentally and multiply interrelated. The best and most efficient way to foster any of those is to foster all of them" (Diamond, 2010, p. 789). With so many factors that can interfere with efficient learning and processing, and since students spend so much time at school, the school environment is an appropriate place to embed mindfulness interventions.

Literature Review

In the academic environment, practicing mindfulness has the potential to reduce stress and anxiety (Bamber & Schneider, 2016), which could lead students to increased academic performance. Mindfulness is a process that leads to a mental state of nonjudgmental awareness of the present moment, including one's sensations, thoughts, bodily states, consciousness, and the environment, while encouraging openness, curiosity, and acceptance (Bishop, Shapiro, Carlson, Anderson, Carmody Segal, Devins, 2004; Siegel, 2010). The two major themes of mindfulness practice involve self-regulation of attention and an orientation toward the present moment (Hofmann, Sawyer, Witt, & Oh, 2010).

There are many documented benefits of mindfulness interventions in schools. In a meta-analysis of mindfulness-based interventions in schools, Zenner, Hermleben-Kurz, and Walach (2014) found that while the interventions produced positive outcomes

mostly in the cognitive domain, the interventions also led to positive effects in psychological measures of stress, coping, and resilience. Cognitive benefits of school-based meditation programs for adolescents include enhanced ability to pay attention, improved concentration, and decreased anxiety (Beauchemin, Hutchins, & Patterson, 2008). In addition, the benefits of mindful meditation interventions for adolescents not only include improved cognitive functioning but also increased self-esteem; improvements in emotional self-regulation, self-control, and emotional intelligence; increased feelings of well-being; decreases in blood pressure and heart rate; improvements in sleep behavior; increased internal locus of control; and improved school climate (Wisner, Jones, & Gwin, 2010).

Vickery and Dorjee (2016) found that an 8-week mindfulness program, when combined with the standard curriculum, resulted in significant decreases in student negative affect and teachers also reported significant increases in perceived levels of metacognition and executive function in their students. Research has linked the control of thoughts related to metacognitive skills to the lessening of negative emotions (Davis, Levine, Lench, & Quas, 2010). Therefore, it is possible the mindfulness training from this study improved the metacognitive skills of the students and led to improved self-regulation, and subsequently, lessened levels of negative affect. Overall, the students who received the mindfulness treatment showed a pattern of improvement in areas of emotional well-being.

Another school-based mindfulness program was delivered to elementary students twice per week for 8 weeks. The results indicated a positive correlation between the mindfulness treatment and executive function (EF), but showed a stronger effect for students who struggled with EF more prior to the study (Flook, Smalley, Kitil, Kaiser-

Greenland, Ishijima, & Kasari, 2010). The main areas that indicated student improvements include behavioral regulation, metacognition, and overall EF. Research that explores the relationship between mindfulness practices and executive function is important because of the role EF plays in learning. Several core executive functions that relate to self-regulation include working memory, mental transitioning, and response inhibition (Blair & Diamond, 2008).

A similar study that featured interventions over a period of 5 days found an 18 percent increase of student attention during the implementation of the mindfulness exercises (Wilson & Dixon, 2010) and suggests that the exercises altered the students' attending behaviors. Well-implemented mindfulness-based interventions hold promise for improving student classroom experiences and academic outcomes. Zenner, Herrnleben-Kurz, and Walach (2014) write, "Children need to learn to stop their mind wandering and regulate attention and emotions, to deal with feelings of frustration, and to self-motivate. Mindfulness practice enhances the very qualities and goals of education in the 21st century" (p. 2). In reference to cognitive function, emotional affect, executive function, and attending behaviors, mindfulness can be viewed as something that precedes the factors necessary for effective learning.

Another important factor in successful classroom function aside from student behavior is teacher burnout. Teachers are tasked with balancing various needs of students as well as managing challenging behaviors that crop up in the classroom. Disorderly behaviors in classrooms can increase the emotional distress of teachers, which is a core reason for job dissatisfaction and poor teacher retention (Darling-Hammond, 2001). Equally, when encountering low rates of classroom disruption, teachers are more likely to implement proactive strategies that lead to better classroom

management and student learning outcomes (Pas et al. 2010). A mindfulness-based study in a low socioeconomic school revealed that after extended mindfulness training (over the course of five weeks for three days each week), the training was associated with improvements in various indices of student behavior (Black & Fernando, 2014).

Researchers have also found that mindfulness interventions are related to a decrease in absenteeism, rule infractions, and suspension rates among African American students (Barnes, Bauza, & Treiber, 2003). Researchers in this study exposed participants to the Transcendental Meditation program, a silent form of mantra meditation developed by Maharishi Mahesh Yogi. Participants engaged in 15-minute sessions at school and home twice daily for four months while the control group received 15-minutes sessions of lifestyle education. Other studies using the same meditation program have also shown reductions in adolescent aggression (Shapiro, 1976) and anxiety (Dillbeck, 1977).

While so many factors may interfere with students' abilities to fully engage in academic tasks, mindfulness training in schools has documented benefits in cognitive, social, and personal domains that may combat the interfering factors in students' lives today.

Purpose of Study

Developmentally, students in elementary school lend themselves to be in an ideal position for openness to mindfulness practices and concepts. Pre-adolescence is a key developmental period in which the brain networks underlying self-regulation undergo substantial maturational development. Early and middle childhood has been highlighted as a key developmental period in which skills in self-regulation are fostered (Fair et al., 2007, Farrant & Uddin, 2015). Fostering adaptive self-regulation skills

during this stage of development has strong implications for physical health, emotional, and socio-economic outcomes during adulthood (Kaunhoven and Dorjee, 2017).

In terms of Piaget's stages of cognitive development, the concrete operational stage, marked by children ages 7-11, welcomes the abilities to form concepts, see relationships, and solve problems. Albeit, these concepts are solidified best when they involve objects and situations that are familiar. This transition is an enabling function that allows children greater verbal fluency in their interactions with others primarily because of the expansion in his or her use of language, memory, and mental imagery (Cowan, 1978).

Children in the elementary grades are also moving from egocentric thought to decentered or objective thought. Decentered thought allows children to see that others can have different perceptions than they do. This shift in thought primes children at the middle elementary age to be open to new ideas, like mindfulness and present moment awareness.

Methods

Design

This research study is a qualitative case study of students at a Colorado Title I elementary school. The study seeks to find answers to the question, "How does a daily mindfulness practice impact student self-efficacy and engagement in a classroom setting?" The researcher was a pre-service teacher who entered the student teaching environment mid-year and several months before the beginning of the study. The actions of the student teacher were held under scrutiny by the host teacher, and everything was done within constraint of the host teacher's allowances.

Site of Study

The school is a Capturing Kid's Hearts National Showcase School, meaning there is a school-wide curriculum that focuses on connection, commonality, and consistency. Each classroom creates and signs a social contract for behavior. Educators learn the process of connecting with students by consistently treating each one as valuable. The program's research states that "if a child has an appropriate relationship with a mature, responsible adult at home or school, it is protective against virtually every adolescent risk factor including school absenteeism, intentional personal injury, violence, and academic performance" (Centers for Disease Control and Prevention, 2009).

Participants

Participants (N=23) were recruited via convenience sampling from one third grade class in a public Title I elementary school in Colorado. The free and reduced lunch population includes 87 percent of students. The racial demographics of the school are as follows: American Indian, 0.7 percent; Asian, 1.6 percent; African American, 7.7 percent; Hispanic, 31.7 percent; White, 50.4 percent; Hawaiian/Pacific Islander, 0.5 percent; two or more races, 7.3 percent. Five academically diverse students from the experimental group (n=23) were selected to be part of an interview case-study based on their observed ability to benefit from the mindfulness intervention.

Lisa. Lisa is a low-proficient student. She gets distracted by peer behavior but can self-correct.

Ellie. Ellie displays a lot of avoidant behaviors, especially in writing. She brings high energy to the classroom. She is capable of performing academically but her off-task behavior impedes her learning.

Isabel. Isabel is identified gifted and talented. She is rarely off task and goes above and beyond in her learning. She is a proficient academic performer.

Amy. Amy receives speech and Special Education services. Her IEP determination recently changed from developmental delay to learning disability in math. She is easily distracted in class and struggles to perform academically.

Vance. Vance is a low-proficient student. He is frequently a behavior problem in the classroom, as his energy and spunk ignite distractions and obstacles to learning.

Pedagogical Intervention

The five-week mindfulness intervention was based on the Mindful Schools curriculum (Mindfulness Fundamentals, 2019). In all, the intervention took place over 25 school days for 5 to 10 minutes each day. Students were exposed to short guided meditations via researcher and video dictation. Expanded discussions focused on building student vocabulary as pertaining to emotions as well as the ways practicing mindfulness can increase confidence, coping skills, and feelings of empowerment. Mindfulness practice always occurred in the afternoons following lunch and recess before students transitioned into the second half of the academic day.

There were observable barriers to the efficacy of the mindfulness intervention. Throughout the duration of the mindfulness intervention, the host teacher spoke ill of the intervention, claiming that students were "not getting anything out of it." The host teacher is keenly aware of the state and district standardized testing schedule and placed an emphasis on content coverage, even when it detracted from the amount of time to be spent on mindfulness. The entire intervention was three full weeks shorter than was intended due to these constraints and ended up as follows:.

Week one. Mindfulness of breath. Learn to experiment with using the breath to calm down and re-center yourself during interactions in which you might find yourself getting upset.

Week two. Mindfulness of the body. Notice where in your body you feel certain tension. Bring attention to a part of the body that feels tense. Name and observe the specific sensations.

Week three. Mindfulness of emotions. Notice where in your body you eel tension arise with a strong emotion. Notice if you are judging the emotion as good or bad. Notice any thoughts that go along with the emotion. Education consisted of vocabulary lessons to increase student fluency with general and specific emotions.

Week four. Development of the heart. Practice focusing on the positive with respect to the classroom. Practice self-compassion during difficult moments that come up.

Week five. Interpersonal mindfulness. Practice mindful, empathetic listening in the classroom.

Data Collection

Observational notes were kept in a field journal and the researcher analyzed the content by looking for trends and patterns. Student interviews were recorded on the researcher's cell phone and were destroyed at the conclusion of this study. Student interviews and writing samples were coded for words in common and frequency of those words.

Results

Classroom Observations

Throughout implementation, students were able to draw connections between everyday events and the mindfulness intervention they were participating in. For example, in the third week of implementation, students were introduced to a self-confidence meditation. In the fourth week of implementation, a student was

complimented for his haircut and another student voiced that the haircut might be giving him "confidence." In the fifth week of implementation a student noted that an indoor recess activity that focused on breathing was "sort of like mindfulness."

Sometime during the second half of the intervention, Ellie was visibly upset before she was asked to read for a fluency check. She noted aloud, "I just need to take a few breaths." It was obvious she was on the verge of tears. The researcher attempted to give her those moments to breathe and calm down, but the host teacher intervened and had the researcher prod the student to begin reading. Ellie, who is capable of reading well over 100 words per minute, read 70 words that day.

Writing Samples

Writing samples were collected in the third week of implementation. Students were asked to fill in this statement: "Mindfulness is…" There were a range of responses, including but not limited to*, "Mindfulness is boring; Mindfulness is getting you calm; Mindfulness is great; Mindfulness is happy; Mindfulness is sad."* Between the 20 students who completed this written prompt, the average word count was 11.65 words.

Writing samples were also collected on the final day of implementation. Responses included, *"Mindfulness is a fun, calming activity for us to calm down; Mindfulness is to focus and keep calm; Mindfulness is how you are feeling; Mindfulness is helpful; Mindfulness is what empowers us. It gives us a choice to let go of one emotion and bring in another."* The responses that were collected at the end of the intervention were much more detailed, descriptive, and positive than the responses collected in the middle of the intervention.

Between the 18 students who completed this written prompt, the average word count was 20.4 words. There was an increase of 9 words per student from the first

prompt to the second, and this increase indicates enhanced literacy in the area of mindfulness. Students had an increased vocabulary and fluency with which they discussed the utility of mindfulness. Table 1 shows a visual comparison of the descriptive words used when asked the question, "What is mindfulness?"

Interviews

Overall, the interviewed students seemed to finish the intervention with more strategies for a personal mindfulness practice, or at least a more nuanced understanding of mindfulness in general. To some extent, students noted that if given the chance, they would choose to do mindfulness in the future. Questions from the interviews can be found in Appendix A. Questions that remained the same between interviews are written in italics.

Lisa. In her pre-intervention interview, Lisa noted that she not only enjoys school, but has significant home support for her learning. When she was first asked what happens when she experiences intense emotions at school, she said, *"I either cry or just sit there and like, pout."* Upon completion of the intervention, her answer to that same question was, *"I try to calm down, but it's hard."* Following the intervention, Lisa noted that mindfulness was helpful, because *"it helps calm [her] down and soothes [her], and refreshes [her] mind after recess and things."* She was able to tell the researcher that *"[mindfulness] can eject your feelings, like if you are feeling sad you can move to happy, or if you are feeling excited you can move to calm."* When asked if she would like to do mindfulness every day, she wasn't sure, but knew that the best time to engage in mindfulness would be after specials or lunch, because it's during those times *"we can get a little crazy."*

Ellie. Ellie noted that she is excited about school, except when she's *"so confused."* In this quote, Ellie was alluding to the times that she observably shuts down academically, refusing to do any work at all. Most notably, writing seemed to be her main obstacle to concentration and focus. She also admitted that she *"plays around too much."* Ellie seemed to experience the most significant transformation when it comes to reacting to intense emotions. In the pre-intervention interview, she noted that when she experiences intense emotions, she *"freaks."* After the intervention, she said that when she experiences intense emotions, she *"tries to breathe and calm down, except for maybe when [she] starts crying."* Her answer reflected that she does not yet have a strategy for calming herself down when she has started crying unless she has a stuffed animal. Of the five students interviewed, she was the only student who fervently reported that she would want to do mindfulness every day. When asked what she thinks about mindfulness, Ellie replied, "*It's so relaxing. It really helped me relax when you did the swirly thing* [with the mindfulness jar – a jar with glitter in it to represent swirling emotions that eventually settle when given space and time].

Isabel. Isabel is a student who seems to have a natural ability to exceed in school. She noted that she has a significant amount of family support at home in terms of learning, and of all the students interviewed, she had the most background knowledge about mindfulness. For example, in the first interview she was asked what happens when she experiences intense emotions at school. She responded, *"I usually just lock them in a vault in my mind."* There were perceived benefits from experiencing the mindfulness intervention, however, as Isabel was able to hone her interests and preferences regarding mindfulness. Isabel noted that she found guided meditation most helpful, and she would like to engage with guided meditation more in the future.

Amy. Although Amy struggles in school, she really seemed to excel at engaging with mindfulness. In the first interview, when asked what she thought about mindfulness, she simply replied, *"It's good. It calms us down when we're upset."* After the intervention, she was able to verbalize, *"[Mindfulness] took our minds off hard things. It helped us when we were stressed, and it helped me when I was tired."* When asked about intense emotions after the intervention, Amy replied, *"I think about mindfulness [when I have intense emotions]."*

Vance. Although Vance did not participate in a pre-intervention interview, he showed growth throughout the course of the study. Especially in the beginning of implementation, Vance would remark that he was bored when asked what his current emotion was. He was continually not engaged in either the guided meditations or the meditation videos. When asked what he thought about mindfulness, he noted that *"It's really helpful"* and as a follow-up, he was asked if he liked it, and he replied with, *"Sometimes."* Despite the fact that he described mindfulness as *"fun and boring,"* Vance noted that mindfulness was helpful for him *"when [he's] kind of energetic."* Vance alluded to a fidget being helpful for him when engaging in mindfulness, because it was in the times that he had to stay completely still that he was the most bored, or disengaged.

Discussion

Like Zenner et al's (2014) meta-analysis of mindfulness interventions in schools, this mindfulness intervention led to positive effects in psychological measures of stress, coping, and resilience. Students who participated in the intervention acquired a greater understanding of the purpose and principles of mindfulness. Students were able to give nuanced descriptions of the purposes of practicing mindfulness, especially in the

classroom context, and they acquired an increased fluency with which they were able to discuss mindfulness and associated emotional states. Most notably, students showed growth in the ability to name emotions and identify emotions they wanted to practice moving toward, and similarly, those they wished to let go of.

In effect, this study reveals that a regular mindfulness practice can result in an increased self-awareness in students as evidenced by an increased vocabulary of emotions and willingness to participate in mindfulness.

Limitations

A quantitative measure would strengthen the results of this study, perhaps with regard to pre- and post-intervention student stress levels, available coping mechanisms, knowledge of mindfulness principles and purpose, as well as executive function.

The experiences of the researcher in the host teacher's classroom reiterate what we already know: that testing pressures affect teachers' instruction (Hoffman, Assaf, & Paris, 2001), their responsiveness to students' learning needs (Flores & Clark, 2003; Pennington, 2004), can compromise a teacher's professional integrity (Wills & Sandholtz, 2009, McCracken & McCracken, 2001), and can influence teachers' responsibility and ethical sense of what they should do for their students and who they need to be as teachers (Rex & Nelson, 2004). The consequences of test-based accountability on teacher practice are often conceptualized as a tension between teacher professionalism and standardization (Wills & Sandholtz, 2009). The tension between professionalism as related to this study and standardization as related to the testing content review schedule was evident in the context of this study. Future studies require full buy-in of all adults involved with students to enhance intervention fidelity.

Implications

While on average, students showed growth in the ability to talk about mindfulness and name emotions, as well as expressed interest in continuing mindfulness practice in the future, future studies could reveal student reliance on learned mindfulness coping mechanisms, lowered stress levels when participating in mindfulness, and a greater willingness to practice mindfulness outside of guided contexts.

Students were likely unaware that participating in the mindfulness intervention helped them acquire new coping skills that can be applied in times of stress. The exact verbiage of "coping skills" was never used in implementation. Students may gain an increased sense of personal power or self-efficacy in practicing mindfulness if given *direct instruction* as to what a coping skill is and when one can be applied. Students may not even be aware of when they are under stress, what stressful situations look like and elicit for themselves, and what can be done in times of stress. Therefore, a future intervention like this one should be less abstract and more concrete in terms of what is being taught, including a breakdown of every mindfulness skill, their purposes, and their potential for use.

Future studies may need to be longer in duration or done with greater fidelity to the Mindful Schools curriculum in order to produce more tangible results in terms of student perception and experience. A Mindfulness Essentials for Educators course is available through the Mindful Schools curriculum. The researcher in this study participated in the Mindfulness Essentials course, but not the course specifically geared toward educators. Participation in this given course will increase the fidelity with which the intervention can be applied.

Based on the results of this study, the researcher concludes that implementing regular mindfulness practice, at least 3 times per week, could be helpful to students in the ways of acquiring coping mechanisms, emotional vocabulary, and self-compassion.

References

Bamber, M. D., & Kraenzle Schneider, J. (2016). Mindfulness-based meditation to decrease stress and anxiety in college students: A narative synthesis of the research. *Educational Research Review, 18*, 1–32.

Barnes, V. A., Bauza, L. B., & Treiber, F. A. (2003). Impact of stress reduction on negative school behavior in adolescents. *Health and Quality of Life Outcomes, 1*(10).

Beauchemin, J., Hutchins, T. L., & Patterson, F. (2008). Mindfulness meditation may lessen anxiety, promote social skills, and improve academic performance among adolescents with learning disabilities. *Complementary Health Practice Review, 13*(1), 34-45.

Berger, A., Kofman, O., Livneh, U., Henik, A., 2007. Multidisciplinary perspectives on attention and the development of self-regulation. *Progress in Neurobiology*. 82, 256–286.

Bishop, M., Lau, S., Shapiro, L., Carlson, N. D., Anderson, J., Carmody Segal, Z. V., . . . Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11,* 230– 241.

Black, D. S., & Fernando, R. (2014). Mindfulness training and classroom behavior among lower-income and ethnic minority elementary school children. *Journal of Child and Family Studies, 23,* 1242-46.

Blair, C., & Diamond, A. (2008). Biological processes in prevention and intervention: Promotion of self-regulation and the prevention of early school failure. *Development and Psychopathology*, *20*, 899–911.

Centers for Disease Control and Prevention. (2009). *School Connectedness: Strategies for Increasing Protective Factors Among Youth*. Atlanta, GA: U.S. Department of Health and Human Services.

Child, F. (2018). The Mind Jar - Mindfulness for Kids/Mindfulness Exercise. Retrieved from https://www.youtube.com/watch?v=-qKkFWiwIr4

Cowan, P.A. (1978). *Piaget with feeling: Cognitive, social and emotional dimensions*. Berkeley: Holt, Rinehart & Winston.

Darling-Hammond, L. (2001). The challenge of staffing our schools. *Educational Leadership, 58*(8), 12-17.

Davis, E. L., Levine, L. J., Lench, H. C., and Quas, J. A. (2010). Metacognitive emotion regulation: children's awareness that changing thoughts and goals can alleviate negative emotions. *Emotion (Washington, DC.), 10*(4), 498–510.

Diamond, A. (2010). The evidence base for improving school outcomes by addressing the whole child and by addressing skills and attitudes, not just content. *Early Educational Development, 21* 780-93.

Dillbeck, M. C. (1977). The effect of transcendental meditation on anxiety level. *Journal of Clinical Psychology, 33*, 1076-78.

Dormoy, M. (2019). Guided Meditation Script: Happiness Factory. Retrieved from https://www.greenchildmagazine.com/guided-meditation-happiness-factory/

Eccles, J. S., and Roeser, R. W. (2011). Schools as developmental contexts in adolescence. *Journal of Research on Adolescence, 21*(1), 225-41.

Fair, D. A., Dosenbach, N. U. F., Church, J. A., Cohen, A. L. Brahmbhatt, S., Miezin, F. M., Barch, D. M., Raichle, M. E., Petersen, S. E., & Schlaggar, B. L. (2007).

Development of distinct control networks through segregation and integration. *PNAS, 104*(33), 13507-13512.

Farrant, K., and Uddin, L. Q. (2015). Asymmetric development of dorsal and ventral attention networks in the human brain. *Developmental Cognitive Neuroscience 12*(2015), 165-174.

Flook, L., Smalley, S. L., Kitil, J. M., Kaiser-Greenland, S. Locke, J., Ishijima, E., and Kasari, C. (2010). *Journal of Applied School Psychology, 26*, 70-95.

Flores, B.B., & Clark, E.R. (2003). Texas voices speak out about high-stakes testing: Preservice teachers, teachers, and students. *Current Issues in Education*, 6(3).

Hoffman, J., Assaf, L.C., & Paris, S. (2001). High stakes testing in reading: Today in Texas, tomorrow? *The Reading Teacher*, 54, 482–499.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*(2), 169-83.

Kaunhoven, R. J., and Dorjee, D. (2017). How does mindfulness modulate self-regulation in pre-adolescent children? An integrative neurocognitive review. *Neuroscience & Biobehavioral Reviews, 74*, 163-84.

Mary, S., & Green Child Magazine. (2019). Free Guided Meditation and Relaxation Scripts for Kids. Retrieved from https://www.greenchildmagazine.com/free-meditation-guided-relaxation-scripts-kids/

McCracken, N.M., & McCracken, H.T. (2001). Teaching in the time of testing: What have you lost? *English Journal*, 91(1), 30–35.

Mindfulness Fundamentals. (2019) Retrieved from https://www.mindfulschools.org/training/mindfulness-fundamentals/

Nakamura, J. and Csikszentmihalyi, M. (2009). The concept of flow. In Snyder, C. R., & Lopez, S. J. (Eds.) *Oxford Handbook of Positive Psychology*. Oxford UP: USA. 89-105.

Pas, E. T., Bradshaw, C. P., Hershfeldt, P. A., & Leaf, P. J. (2010). A multilevel exploration of the influence of teacher efficacy and burnout on response to student problem behavior and school-based service use. *School Psychology Quarterly, 25*(1), 13-27.

Pennington, J.L. (2004). Teaching interrupted: The effect of high-stakes testing on literacy instruction in a Texas elementary school. In F.B. Boyd & C.H. Brock (Eds.), *Multicultural and multilingual literacy and language* (pp. 241–261). New York: Guilford Press.

Rex, L.A., & Nelson, M.C. (2004). How teachers' professional identities position high-stakes test preparation in their classrooms. *Teachers College Record*, 106(6), 1288–1331.

Schools, M. (2015). "Just Breathe" by Julie Bayer Salzman & Josh Salzman (Wavecrest Films). Retrieved from https://www.youtube.com/watch?t=13&v=RVA2N6tX2cg

Shapiro, J. (1976). The relationship of the transcendental meditation program to self-actualization and negative personality characteristics. In: *Scientific research on the Transcendental Meditation program: Collected papers,* Vol. 1 (edited by: Orme-Johnson D. W., Farow, J. T.) Rheinweiler, W. Germany: Maharishi Euproean Research University Press, 462-67.

Siegel, D. (2010). The Mindful Therapist: A Clinician's Guide to Mindsight and Neural Integration. New York: W. W. Norton & Company.

Sotardi, V. A. (2016). Understanding student stress and coping in elementary school: A mixed method, longitudinal study. *Psychology in the Schools 53*(7), 705-21.

Stop, Breathe, Think. (2016). 3-minute Mindful Breathing Meditation (Relieve Stress). Retrieved from https://www.youtube.com/watch?v=SEfs5TJZ6Nk

Vickery, C. E. and Dorjee, D. (2016). Mindfulness training in primary schools decreases negative affect and increases meta-cognition in children. *Frontiers in Psychology, 6*, 1-13.

Wills, J. S. and Sandholtz, J. H. (2009). Constrained professionalism: Dilemmas of teaching in the face of test-based accountability. *Teachers College Record, 111*(4), 1065-1114.

Wisner, B. L., Jones, B., & Gwin, D. (2010). School-based meditation practices for adolescents: A resource for strengthening self-regulation, emotional coping, and self-esteem. *Children & Schools, 32*(3), 150-59.

Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools – a systematic review and meta-analysis. *Frontiers in Psychology, 5*, 1-20.

Table 1

Frequency of Responses to Question: "What is Mindfulness?"			
Pre-Mindfulness Remarks	Frequency	Post-Mindfulness Remarks	Frequency
change attitude	1	breathing	2
concentrating	1	emotions	7
energetic	1	empowering	1
focusing	1	focusing	2
fun	2	fun	1
great	1	great	1
keep calm	4	helpful	3
		keep calm	7
		relaxing	2

Appendix A

First Interview Questions

1. What is your family like?
2. Does your family support your learning? How?
3. How do you feel about school? What do you like about school? What do you wish you could change about school?
4. Are you able to concentrate in school? If not, what gets in the way?
5. *What happens when you have intense emotions in school? What do you do?*
6. Are you able to speak up about what you believe in? If not, what stops you?
7. Tell me about your friendships. Do you make friends easily?
8. How often do you get in trouble at school?
9. When you finish something, do you go back and check your work?
10. Do you go above and beyond in your learning?
11. *What do you think about mindfulness?* Is it helpful for you?

Second interview Questions

1. What do you remember about when we were doing mindfulness?
2. What was most helpful for you?
3. If you had the opportunity to do mindfulness every day, would you choose to do it?
4. *What do you do when you get intense emotions at school?*
5. *What do you think about mindfulness?*