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## Mindfulness in Education: A Literary Analysis and Program Proposal

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EASTERN KENTUCKY UNIVERSITY  
Mindfulness in Education: A Literary Analysis and Program Proposal  
Honors Thesis  
Submitted in partial fulfillment of the requirements of HON 420  
Fall 2016  
By Halle Graham  
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Department of Psychology

**Abstract:**

The purpose of this work is to understand the potential impact of introducing mindfulness meditation and other contemplative practices to the United States Public Education System.

Broken into two main components, the first section of this work is a literary analysis. Relevant studies on mental health in children and adolescents are analyzed in order to understand the state of mental wellbeing among the sample group. Research studies on integrating mindfulness into institutions (public and private schools, children's summer camps) are also evaluated in order to understand the applications of mindfulness practices in terms of children and adolescents.

Overall, the research reveals significant benefits of integrating mindfulness into public institutions. Regular mindfulness practice can decrease the prevalence of depression and anxiety, lessen the effects of symptoms of ADHD, improve levels of self-esteem, and more for children and adolescents. The overwhelmingly positive results of mindfulness, as discovered through the literary analysis, inspire the second component of this work- a program proposal. The proposal, titled *Stress Less: A Mindful Solution*, provides a basic, feasible outline for integrating mindfulness into educational settings. It includes a program set-up, curriculum topics, evaluation methods, and more. Ultimately, this thesis argues that mindfulness meditation has the power to transform the culture and climate of American public education.

### Mindfulness in Education: A Literary Analysis and Program Proposal

Children and adolescents in the United States face an assortment of issues every day that affect their mental health. The challenges range from violence in the home to malnutrition, body-image struggles, anxiety about succeeding in school, and everything in between. If preventative and intervention measures and services are not available for youth that struggle with related mental illnesses early on, then the long-term consequences can be grave. It is was the uncovering of this bleak reality that inspired the focus of this thesis. Upon initiating this work, questions proposed included: What is the overarching state of mental health in American children and adolescents? Are there interventions for preventing and improving mental health issues in these populations? Is there a connection between mindfulness and mental illness? How is mindfulness defined? What research backs the practice of mindfulness meditation? Does mindfulness meditation work with children and adolescents?

Beginning with a literary analysis, this thesis first aims to provide an overview of the state of mental health among American children and adolescents, with an emphasis on depression, anxiety, and ADHD like behaviors. It then transitions to a review of literature on mindfulness, providing a comprehensive definition of the practice as established by pioneers in the field and analyzing established research on the integration of mindfulness practice to children in the United States Education system. Lastly, this thesis introduces a program proposal for elementary schools in the United States.

The proposal is as follows: Integrating mindfulness practice into the United States Public Education System will reduce levels of depression and, anxiety, and the prevalence of ADHD like behaviors in youth. Therefore, this practice will help students to better perform and succeed in school.

## Literary Analysis

### Mental Health of Children and Adolescents

What is the overarching state of mental health in American children and adolescents? What is the effect of a mental illness or recurrent negative thought patterns on a child's academic achievement and life satisfaction? Do students today receive sufficient education and practice with/in stress management and coping techniques? In order to propose a solution to this situation, it is necessary to first achieve an in-depth understanding of the problem at hand. The following articles address the previous questions on the state of mental health in American children and adolescents. They express the problems prevalent in the mental health of children and adolescents and reveal what areas are in need of intervention.

In her article for the National Institute of Mental Health titled, "Mental Illness Exacts Heavy Toll, Beginning in Youth," Asher (2005) provides an analysis of four studies completed to predict the prevalence and comorbidity of mental illness in subjects 18 years and older. One study, titled the National Comorbidity Survey Replication (NCS-R) (Kessler & Merikangas, 2004), discussed the household survey of 9,282 English-speaking respondents, age 18 and older on the prevalence and onset of mental health in Americans. It is an expanded replication of the 1990 National Comorbidity Survey, which was the first to estimate the prevalence of mental disorders in the United States (as noted in Asher, 2005).

Although the sample in Kessler and Merikangas' (2004) NCR study consisted of people 18 years and older, the survey results revealed that mental illness often initiates in childhood or early adolescence. Asher (2005) stated that half of all lifetime cases of mental illness begin before age fourteen, with three quarters having begun before age twenty-four. Anxiety disorders generally begin the earliest (starting in late childhood), mood disorders in later adolescence, and

substance beginning in the early twenties. In addition, 26% of the general population in the United States has or has had symptoms within the past year that align with the criteria needed to make a diagnosis of a mental disorder (as cited in Asher, 2005).

As stated in the survey Kessler and Merikangas (2004), analysis, it is likely that the prevalence rate of mental illness in the United States population was underestimated in this work because the surveyors drew results only from homeowners. Institutions such as homeless shelters, nursing homes, drug and alcohol rehabilitation programs were not included in this sample. Additionally, the survey limited the respondents to those who were English-speaking. Therefore, this is not a representative sample. Yet, despite the limitations, the National Comorbidity Survey Replication is pertinent to this research because it validates the necessity of mental health prevention and intervention at an early age. Rather than waiting to address the illnesses when they have fully manifested in late adolescence or adulthood, preventative measures can be implemented can be in early childhood, perhaps through the United States Public Education System (as noted in Asher, 2005).

Another analysis of the prevalence of mental health disorders, specifically depression and anxiety, is provided in the Farrell and Barrett (2007) article, "Prevention of Childhood Emotional Disorders: Reducing the Burden of Suffering Associated with Anxiety and Depression." The researchers noted that Australian adolescents reported symptoms of anxiety and depression at rates of 13.2% and 14.2% respectively. 25.7% of 8-year-olds and 15.7% of 12-year-olds in Australia meet the diagnostic criteria for an anxiety disorder. Similarly, the rates for depressive disorders in children and adolescents are very high. An estimated 25% of youth are likely to have experienced a significant depressive episode by the time they turn 18 years old (Farrell and Barrett, 2007).

What is the impact of these disorders? How do anxiety and depression affect their subjects? According to Farrell and Barrett (2007), these internalizing disorders often go hand in hand with other impairments such as immaturity, attention difficulties, academic struggles, poor peer relations, low self-esteem, and low social competence. It follows that intervention for these disorders is necessary for children and adolescents affected. Yet, the cost associated with intervention is high. The estimated treatment for childhood anxiety is as much as \$2,181.00 US dollars per client, a cost that is simply not feasible for many families (Kanuri, N 1995). Therefore, there is plenty of need to introduce alternative methods such as mindfulness meditation.

A third review of the prevalence of mental health disorders in children and adolescents, specifically in the United States and Great Britain, come from a study, “Epidemiology of mental disorder in children and adolescents” (Merikangas, Nakamura & Kessler, 2009). The purpose of the study was to present an overview of the prevalence of mental disorders in children and adolescents. In order to achieve their goal, the researchers reviewed recent surveys on mental health from the United States and Great Britain. Eleven surveys were selected for analysis (two from Great Britain and nine from the United States). All surveys analyzed were limited to studies that applied to the DSM-IV criteria and employed an in person interview and reports regarding child symptoms and functioning.

In the Merikangas, Nakamura and Kessler (2009) study, the results for children and adolescents with Major Depressive Disorder (MDD) varied according to geographical location, gender, and age. Prevalence rates in children and adolescents were 0.6% in Great Britain and 3.0% in Puerto Rico. The magnitude of people with MDD only continued to increase with age. For example, surveys showed that lifetime rates of MDD were between 23.2 and 33.5% in New

Zealand and 43.3% in Oregon, U.S.A. In terms of a correlation between gender and MDD, female adolescents were found to be more likely to develop the disorder than male adolescents. The average age of onset for MDD is 11-14 years old.

Merikangas, Nakamura and Kessler (2009) noted, as for the prevalence of anxiety among children and adolescents, the median average in the United States and Great Britain is 8%, with an extremely wide range (2-24%). Generalized Anxiety Disorder (GAD) and Social Anxiety Disorder (SAD) were shown to be the most common disorders amongst youth. The age of onset for anxiety disorders varies significantly. In general, Separation Anxiety and Specific Phobias appear in middle childhood, overanxious disorder (OAD) in later childhood, social phobia in middle adolescence, panic disorder in later adolescence, and GAD in young adulthood. Merikangas, Nakamura and Kessler (2009) also reviewed research on ADHD in children and adolescents. They reported the average prevalence of ADHD in 5 to 15 year-olds was 2.23%, with the 12-month prevalence ranging between 2-8.7% for ages 4 to 17 years. Overall the median prevalence of ADHD was 3%.

Merikangas, Nakamura and Kessler's (2009) epidemiologic review is relevant to the current research because it further illustrates the mental health picture of children and adolescents in various countries today. Depression, Anxiety, and ADHD are all mental disorders that children and adolescents face in varying degrees. The implications of these disorders can be severe, and early intervention is imperative for healing.

When addressing the topic of mental health, two of the most common illnesses to address are depression and anxiety. The previous articles highlight the prevalence of these disorders today. It follows that children are in need of effective tools to manage mental illnesses that are commonly developed at their age. In an analysis of the most common mental disorders in



children, titled “Mental Health in Children: Know the Signs” (Mayo Health Clinic, 2015), the Mayo Health Clinic staff include anxiety disorders, Attention-deficit Hyperactivity Disorder (ADHD), and mood disorders (including depression) as major players in the mental health challenge.

Additionally, in the 2014 study, “Longitudinal associations between depressive problems, academic performance, and social functioning in adolescent boys and girls,” researchers, Verboom, Charlotte E, Sijtsema, Jelle J., Verhulst, Frank C., Penninx, Brenda W. J. H., and Ormel and Johan (2014) analyzed the relationship between three types of functioning and depression in youth, ages 10-18, incorporating a focus on gender discrepancies throughout. Proposing the questions, “Do depressive problems cause poor functioning, does poor functioning predict depression, or are the effects equally strong?” the researchers predicted there would be substantial correlation between depression and level of functioning over time.

In order to execute their empirical, longitudinal, and quantitative study, Verboom et al. (2014) administered structured questionnaires to 2,230 children/adolescents. The children and adolescents’ depressive problems, academic performance, social wellbeing, and social problems were analyzed biennially over three time periods, between the ages of 10-18. The researchers utilized multi-group analyses in order to test for gender-differences. As a means to understand the longitudinal connection between depression and functioning, they applied path analyses with cross-lagged effects and structural equation modeling. Two models were introduced in terms of role functioning and its’ effects.

Upon analyzing both empirical and longitudinal studies, Verboom et al. (2014) suggested that poor academic performance leads to more depressive symptoms as the poor performance could elicit negative feedback and consequently elicit a negative self-perception and depressive

problems. In addition, the results showed that functioning deteriorated in each domain when depressive problems were present, with the only exception being academic performance in boys.

Verboom et al.'s (2014) Longitudinal Associations study findings connect to the current research because the study presents two models that describe how depression throughout adolescence affects role functioning. Understanding role functioning and its effects is imperative in this type of research because the aim of the present work is to suggest tools for improving *role functioning* in children and adolescents. The first model for how depression affects role functioning in adolescence explained and analyzed in Longitudinal Association's study is the competency-based model. This model examines the mechanism that underlies the connection between depressive problems and poor performance in various domains of functioning in everyday life. The theory asserts that children base their self-perception on the way that others regard them. Therefore, they are more likely to have depressive problems if the child believes others negatively regard them. To connect the competency-based model to the Longitudinal Association's study, the results revealed that the competency-based model was applicable to girls' academic performance along with social problems in boys and girls, but not to social wellbeing. The second model comes from the International Classification of Functioning, Disability, and Health (ICF). The ICF suggests that poor functioning or a disability is a direct result of a disease such as depression (Verboom et al., 2014). Understanding how depression affects role functioning is essential to the current research because the focus group of this research is made up of children and adolescents that are of school age. If depressive problems affect school functioning then action should be taken to address depressive problems and the conditions that come with it.

Though the information presented in Verboom et al's. (2014), study is indispensable, it is necessary to consider the limitations that exist. First, this Longitudinal Associations study was administered to students in the United Kingdom. Although the age range matches the focus group of this thesis, the potential differences between children in the United Kingdom and the United States must be taken into consideration. In addition, the social wellbeing component of the study could be dubious because it was conducted by self-reporting measures. Children and adolescents could have yet to develop a strong sense of self-awareness, therefore bringing into question, the validity of the self-report method.

In addition to prevalence of depression and anxiety disorders, in terms of the mental health state of children and adolescents in the United States, the pervasiveness of Attention-deficit-hyperactivity Disorder (ADHD) is an issue in need of discussion. According to Visser, Danielson, Bitsko, Holbrook, Kogan, Ghandour, Perou & Blumberg (2014) results in “Key Findings: Trends in the Parent-Report of Health Care Provider-Diagnosis and Medication Treatment for ADHD: United States, 2003—2011,” approximately 11% of children, ages 4-7 years old have been diagnosed with ADHD since 2011, increasing from 7.8% in 2003. In addition, Katragadda and Schrubiner’s (2007) article, “ADHD in Children, Adolescents, and Adults” provides a comprehensive look at the effects of ADHD in daily life, the prevalence of the disorder in the United States, and the defining characteristics as identified by the DSM IV.

Katragadda and Schrubiner’s (2007) study explains how ADHD impacts an individual’s family life, academic performance, personal relationships, work ability, and more. ADHD is a neurobehavioral disorder that is generally characterized by inattention, hyperactivity, and impulsiveness. It can also lead children to struggle academically, repeat grades, drop out of school, find it difficult to make friends, and become delinquent. According to Katragadda and

Schrubiner's research, which remains consistent with the numbers above, the prevalence of ADHD in preschoolers, school-age children, and adolescents is approximately 9.5%, 11.4%, and 9.5%, respectively. The estimated prevalence for adults is 4.4%, revealing that it is comparable to many other mental and physical health problems and disorders in terms of prevalence. ADHD is also considered the most heritable of all mental health disorders, suggesting both genetic and developmental causation factors (Katragadda and Schrubiner, 2007). Overall, it is essential to review the statistics on this disorder and its effects because alternative ways to treat this disorder may be effective in reducing the accompanying debilitation, either instead of medicine or in addition to traditional medicine.

Another common mental health issue in the lives of many American children and adolescents is test-anxiety, also known as evaluation anxiety. Researchers, Kennedy T. Hill and Allan Wigfield address this pressing issue in a classic 1984 article, "Test Anxiety: A Major Educational Problem and What Can Be Done About It." They ask the following questions in regards to evaluation anxiety. What is anxiety? Whom does it affect? And what can be done about it? The research began as an attempt to understand the picture of anxiety in American children, and later transformed into an intervention to help increase the students' positive motivation towards evaluations.

To answer Hill and Wigfield's (1984) first question, what is test anxiety? Text anxiety is understood as a form of negative motivation that affects a child's performance in school. Text anxiety differs from generalized anxiety in that it occurs directly before, during, and/or after evaluative measures take place. When test anxiety develops in a student in the early elementary years, it is more likely that it will heighten as they age, causing much distress in the coming years. However, the authors explain it is difficult to explicitly determine causality for test

anxiety. Because a measuring tool such as the Test Anxiety Scale for Children (TASC) does not always differentiate between whether elevated anxiety levels prevent students from demonstrating what they know or if students that perform poorly are those that become nervous in testing circumstances, it is difficult to know the exact cause.

Hill and Wigfield (1984) also address the educational consequences of evaluation anxiety. Children that face this issue regularly are more likely to fear failure and react more significantly to feedback from adults than are low-anxiety children. High anxious children actively avoid criticism and feedback due to their fear of negative evaluations. On the other hand, low-anxious children are more likely to enjoy evaluative situations and pursue difficult tasks in the classroom. Therefore, low-anxious children are much more likely to thrive in the classroom through the growth they receive in feedback situations. Findings also reveals that high-anxious children ask fewer task-related questions and are more easily distracted than their low-anxious peers.

Overall, Hill and Wigfield's (1984) work connects to the current research because it provides an illustration of a common stressor in the life of children and adolescents. If students consistently fear feedback and criticism, there are less likely to develop to their full intellectual potential. The pervasiveness of this issue calls for intervention at a systemic level. Children and adolescents presently lack sufficient tools to handle the anxiety they face. Yet, this does not have to be. The question remains, *what can be done?*

Transitioning to the potential causes for mental illnesses and disorders in children and youth in the United States, the American Psychological Association administers a yearly survey to understand the state of stress in American citizens as part of their Mind and Body Health Campaign, titled, "Stress in America: Paying With Our Health" (APA, 2015), the purpose of this

2014 survey is to reveal the prevalence of stress in Americans, to examine the contributing factors to these stress levels, and to explain the impact of such stress on Americans' daily lives.

The 2014 survey was conducted online to 3,068 people ages 18 and older that reside in the United States. The survey report breaks the adults into the following subgroups: Millennials (18-35), Gen Xers (36-49), Baby Boomers (50-68), and Matures (69+).

The results of the Stress in America study (APA, 2015) were both encouraging and disheartening. On the positive side, the overarching stress levels in Americans are declining. Compared to the 2007 results of 6.7, the average level of stress in 2014 was 4.9 on a 10-point scale in which 1 is "little or no stress" and 10 is "a great deal of stress." However, it is evident that the prevalence of stress in Americans varies depending on various factors, namely financial wellbeing, age, and health status of the participants. Parents and younger generations of Americans (Gen Xers and Millennials) reported lower income levels and higher levels of stress, indicating that financial wellbeing is a predictor of stress. The younger generations also admitted to utilizing unhealthy means to manage their stress. To provide specific numbers, the survey revealed that 72% of adults report feeling stressed about money "at least some of the time." 22% rated their stress about money as an 8, 9, or 10 on a 10-point scale (APA, 2015).

Americans lack knowledge and applications of healthy techniques for stress management. The most common "go to" activity for the subgroup of parents to do when feeling stressed was to watch television or movies for more than two hours per day. The second most common technique was to surf the Internet, with napping/sleeping third, then drinking alcohol, and lastly smoking. 1 in 5 Americans said they never engage in activities to help manage or relieve their stress. The survey also describes the common symptoms of stress, how does stress manifest in

the everyday American. The symptoms include feeling: irritable and angry, nervous and anxious, overwhelmed, and depressed or sad (APA, 2015).

Though the prevalence and manifestation of stress is essential to understand when addressing the issue of mental health, limitations exist when applying the “Stress in America” 2014 survey (APA, 2015) to the current work. The main limitation is the variance in ages of the sample groups. In the current survey all of the participants were the age of 18 or over, whereas the purpose of this work is to address the mental health of children and adolescents up to the age of 18. However, the information remains relevant because stress that disturbs American adults is likely stress that was not addressed early on in their lives.

Overall, the Stress in America survey (APA, 2015) provides a detailed picture of stress amongst diverse groups of American Adults. This survey has been included in the literature review because it discloses that stress is a prominent mental health issue in Americans adults. Additionally, it validates the importance of addressing how to alleviate and prevent excessive stress in the American population, preferably at an early age. Ultimately, the overarching goal of this research is to introduce strategies, both preventative and interventional, that help reduce mental health problems in American children and adolescents. Through the Stress in America survey (APA, 2015), it is evident the current methods to prevent and reduce stress (if any at all) in the American Education system are not translating into healthy stress management for American adults.

Supplementing the Stress in America survey (APA, 2015), significant research exists on the causation of both positive and negative well being among children and adolescents. The health and wellness study, “Health Behavior of School-aged Children (HBSC)” (Currie, Zanotti, Morgan, Currie, de Looze, Roberts, Samdal, Smith & Barnekow, 2012) was created to analyze

the numerous factors that affect the health and wellbeing of young peoples across North America and Europe. Factors incorporated included education levels, social context, health behaviors, and risk behaviors. The study also illustrated the current health and wellbeing state of these children. This study was suggested for use as a resource to individual countries as they faced the economic downturn of 2008 (Currie et al., 2012).

The Health Behavior of School-aged Children (HBSC) study was administered in 43 countries. The participants from each country were 11, 13, and 15-year-old boys and girls, selected via random sampling. Approximately 1,500 students in each country were selected, totaling about 200,000 young people. The HBSC Family Affluence Scale (FAS) Scale was one tool utilized to understand the social determinants of health (Currie et al., 2012).

In conclusion, the HBSC study identified many important components that predict the health of young people. Family Affluence was found to be a factor in health outcomes of youth because a lower income can restrict families from participating in health-promoting behaviors such as eating fruits and vegetables regularly and enrolling their kids in fee-based physical activity. As a result of these potential restrictions in addition to others, young people living in low Socioeconomic households are less likely to be able to access health resources and more likely to develop psychosocial stress, two factors that underpin self-rated health and well-being health inequalities (Currie et al., 2012).

The HBSC study also asserts that a child's school environment plays a vital role in their development of self-esteem, self-perception, and health behaviors. Students that viewed their school as supportive were more likely to engage in positive-health behaviors such as high levels of life-satisfaction, minimal health complaints, and less prevalence of smoking. In addition, students who perceived themselves as being successful in school reported higher rates of life-



satisfaction, lower rates of bullying, and fewer subjective health complaints. As students age, they are at higher risks for engaging in behaviors that negatively affect their physical and emotional health, and therefore report lower levels of achievement in school. Lastly, students that feel pressured by school work and the overwhelming pressure to succeed in school are more likely to begin behaviors such as drinking alcohol, smoking cigarettes, and being drunk frequently (Currie et al., 2012).

The HBSC study (Currie et al., 2012) is relevant to this research because it identifies common factors that affect a student's emotional and physical health throughout their time in school. By understanding the affective factors, it is easier to then search for means to counteract the negative impacts of the factors and to implement preventative practices such as mindfulness meditation in educational systems. The study is also effective in developing this research because it provides a comparison of physical and mental health in the United States and in Europe. The majority of the results were similar, consequently validating the use of research from Europe to apply to this research that centers on students in the United States.

To conclude this section, it is evident the state of mental health among American children and adolescents could be ameliorated significantly. The review of relevant literature on mental health issues divulges some of the most pervasive disturbances these young people encounter, often on a daily basis. American children and adolescents struggle with depression, anxiety, other mood disorders, ADHD, test-anxiety, and much more. Yet, these young people lack the resources necessary to combat and prevent the negative consequences of developing mental health disorders at a young age. Despite all the good intentions among parents, teachers, administrators, and other caring adults, these children need more tools in their tool belts. It is that

need, the need for resources and tools to improve mental health, which inspires the next part of this research.

### **Mindfulness Meditation and Its Applications**

What is mindfulness meditation? What research validates the practice of mindfulness meditation as a preventative and intervention tool? Is there a connection between mindfulness practice and mental disorders? The following section centers on this contemplative practice and its potential benefits for improving the mental health of children and adolescents. Through a continued literature review, the following section introduces mindfulness meditation and presents the practice as a potential mechanism to alleviate and prevent mental health disorders in American children and adolescents.

According to Bishop, Lau, Shapiro, Carlson, Anderson, and Carboy (2004), although significant research exists on the benefits and effects of mindfulness as a contemplative practice, this study was the first that aimed to create a testable definition of the practice. In this study, *Mindfulness: A Proposed Operational Definition*, Bishop et al. (2004), proposed a two-part definition. The first component of their definition is: self-regulation of attention. The second component of the operational definition is: adopting a particular orientation toward one's experiences in the present moment. In addition to defining the contemplative practice, this article also provides a detailed walk-through of the meditation process (described below).

Bishop et al. (2004) provide a foundation for which this thesis can work from. In the realm of contemporary psychology, mindfulness has been integrated in as an approach to help practitioners increase their awareness and respond productively to processes in the mind that often lead to emotional distress and maladaptive behavior. The first component of their

consensual operational definition is self-regulation of attention. Self-regulation of attention means to control the moment-by-moment sensations human beings experience by turning the attention to the breath. By focusing on the breath, the practitioner enters the present moment. The concept Switching encourages the practitioner to return their thoughts to the breath when they notice the mind begin to wander. The second part of the operational definition is adopting a particular orientation toward one's experiences in the present moment. The practice challenges its practitioners to experience the present moment by immersing themselves in it, rather than worrying endlessly about numerous factors or stressors that are not occurring in the moment. It is important to note mindfulness is not a practice in which one pushes aside or forgets a negative thought. Instead, they notice the thought, accept it as it is, and return to the breath.

Bishop et al. (2004) also introduce Mindfulness Based Stress Reduction (MBSR), a practice utilized widely to reduce “psychological morbidity associated with chronic illnesses and to treat emotional and behavioral disorders.” A second therapy method introduced by Bishop et al. (2004) ~~explores/profess~~ is Mindfulness Based Cognitive Therapy. This method combines mindfulness practice with cognitive therapy, and has produced encouraging results. Bishop et al. (2004) explains Mindfulness Based Cognitive Therapy can significantly reduce the relapse rate in depression and help to treat a range of psychological disorders such as generalized anxiety disorder, post-traumatic stress disorder, substance abuse, and eating disorders.

Bishop et al. (2004) lays out an actual mindfulness meditation practice. The researchers explain that the participant first comes to an upright-seated position either in a chair or on the floor. It is important the spine stays erect. They shift their attention to one particular focus, commonly the breath. When their attention moves away from this focus, the participant will recognize the distracted thought, accept it, and let it go as they return their attention to the breath.

Potential limitations in the Bishop et al. (2004) study include the newness of the operational definition and the lack of practical applications of it, respectively. In the coming years, future studies will apply the definition and therefore it will further validate the definition. Despite the limitations, the information provided in the study provides an effective, comprehensive look at what mindfulness meditation is and how it can be applied in a practical sense.

~~Abundant~~ A number of research studies (Martorell-Poveda, Martinez-Hernández, Carceller-Maicas, & Correa-Urquiza, 2015; Schoner-Reichl, Oberle, Stewart-Lawlor, Abbot, Thomson, Oberlander, & Diamond, 2015; Volanen, Lassander, Hankonen, Santalahti, Hintsanen, Simonsen, & Suominen, 2016) exist which introduces the practice of mindfulness meditation with children and adolescents as both a preventative and intervention technique. Kallapiran, Koo, Kirubakaran, and Hancock (2015) reviewed 11 studies that utilized Mindfulness Based Interventions (MBI's) in their approaches in the article, "Review: Effectiveness of mindfulness in improving mental health symptoms of children and adolescents: a meta-analysis." Throughout their work, Kallapiran et al. (2015) aimed to investigate the impact of MBI's in clinical and nonclinical samples of children and youth. The intervention methods within the analyzed studies include: Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), Yoga interventions, dialectical behavior therapy (DBT), and acceptance commitment therapy (ACT). This systematic review was conducted in order to analyze the strengths, reliability, and overall effectiveness of varying MBI's in preventing and treating mental health problems among children and adolescents.

In order to execute the study, Kallapiran et al. (2015) first selected the studies they would analyze utilizing the databases MEDLINE, EMBASE, CENTRAL, Psych INFO, CINAHL,

openDOAR. Criteria for selection included: randomized control trial, children or adolescents, MBIs, studies that utilized control conditions, studies that used standardized outcome methods of mental health symptoms, stress, anxiety or depression, and clinical and nonclinical samples. Of the 1,601 studies found related to mindfulness, the researchers narrowed the numbers to 11 studies, those of which covered all criteria mentioned above. The researchers analyzed pretest and posttest results among participants in the respective MBI interventions.

Kallapiran et al. (2015) concluded mindfulness-based interventions proved to be successful in reducing levels of stress, anxiety, depressive symptoms, and quality of life in the clinical and nonclinical samples. Mindfulness Based Stress Reduction and Acceptance Commitment Therapy proved to maintain statistically significant results in two RCT categories in two independent studies on children and adolescents, further validating the approaches as strong intervention and prevention methods.

The meta-analysis conducted by Kallapiran et al. (2015) included in the literature review because it introduces the concept of Mindfulness Based Interventions and lists the most common ones utilized in prevention and intervention programs. In addition, this source validates the use of MBI's in addressing the mental health of children and youth through the researcher's analysis of the 11 mindfulness based studies. Yet, due to the complexity of various studies analyzed, the researchers are unable to prove that the mindfulness components of the interventions were fully responsible for the improvements in the mental health of the subjects. However, there is a strong likelihood in this being the case. Further research is necessary to fully validate the claims. In addition, future studies should utilize larger sample sizes if possible in order to gain a greater understanding of the effectiveness of MBI's in children and adolescents.

As mentioned above in the review of Bishop et al.'s (2004) work in constructing an operational definition, significant research exists in the realm of mindfulness meditation. In order to gain a more comprehensive understanding of the practice, Burke (2009) provides an overview of current research on mindfulness based approaches in her article, "Mindfulness-Based Approaches with Children and Adolescents: A Preliminary Review of Current Research in an Emergent Field."

Burke (2009) centers her work on interventions that incorporate Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT). Burke suggests that for this field to advance, further research studies should be large, intricately designed studies that adopt standardized formats for replications, rather than the feasibility studies that currently dominate the research scene.

Burke (2009) provided a brief description of both MBSR and MBCT. Generally, these intervention practices are 8-week courses that incorporate weekly group sessions, expectations for home practice, and a curriculum based in both formal and informal mindfulness practices such as body scan, walking meditations, intentional eating/showering/gardening etc. A group meeting usually involves a teacher-led meditation and enquiry, discussion of experiences, and psychoeducation. In both MBSR and MBCT, it is imperative that the teacher has extensive experience and training in both practices before administering an intervention to a group.

Burke (2009) also provided a review of research on mindfulness-based interventions with children and adolescents. The articles reviewed were gathered from online databases such as PsychINFO, PSYarticles, BioMed Central, CSA Illumina, Medline, Blackwell Synergy, JSTOR, and more. All studies selected were completed in English and incorporated either MBSR or

MBCT interventions, rather than concentration interventions. Burke reviewed a total of fifteen studies.

Upon analyzing the fifteen studies, the Burke (2009) discovered that all interventions were accepted and well-tolerated by all participants. One study analyzed was a case study in which two children with ADHD, ages 10 and 12, completed a 12-week mindfulness meditation intervention in addition to a 12-week mindfulness program administered by their parents. The results showed that the children's compliance to the parents' requests increased by 262.7% during the intervention and by 10.2% in the 24-week follow up. These are profound statistics in terms of the implications of mindfulness practice on children with ADHD. In addition, Burke reviewed a non-clinical study of 31 children grades 4-6 that participated in an 8-week MBSR intervention. The preliminary analysis data revealed an improvement in the participants' attention maintaining function, emotional reactivity, and some measures of metacognition.

In examining Burke's (2009) meta-analysis, not all results were encouraging. In analyzing a 10-week MBCT-C program administered to 25 children ages 9-12, Burke found patient-related externalizing behaviors decreased significantly, yet the internalizing behaviors did not change. In terms of mindfulness based programs in high schools, Burke reviewed a 6-week study completed on 55 adolescents ages 13-19 years old that had received treatment for substance abuse. The participants exhibited self-reported decreases in sleepiness, worry, and mental health distress. However, the prevalence of substance abuse *increased* throughout the study. Additionally, many studies analyzed, lacked pertinent components such as a control group or post-analysis data.

Burke's (2009) research analysis presents a comprehensive look at the research available on mindfulness-based interventions in children. It contributes to the overall goal of this work

because it illustrates the popularity and effectiveness of mindfulness based interventions. Each study analyzed revealed positive effects ranging from decreased test-anxiety to improved externalizing behaviors, and less evident effects of ADHD. Burke (2009) also noted that future research would be needed in order to capture a better picture of the diverse, positive effects of interventions driven by mindfulness techniques.

To hone in on the practical applications of mindfulness meditation, numerous research articles present the results of integrating mindfulness practice into school systems and the elementary, middle, and high school levels (Flook, Goldberg, Pinger, Bonus, & Davidson, 2013; Volanen, Lassander, Hankonen, Santalahti, Hintsanen, Simonsen & Suominen, 2016). Schonert-Reichl, Oberle, Lawlor, Abbott, Thomson, Oberlander, and Diamond (2015) introduce the integration of mindfulness based meditation into school systems in their study, “Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: a randomized controlled trial.” Schonert-Reichl et al. (2015) hypothesized that a social and emotional learning program (SEL) involving caring for others and mindfulness practice would improve cognitive control, lower levels of stress, promote well being and prosociality, and generate positive school outcomes for upper elementary aged students. This study aimed to evaluate and establish effective methods in ameliorating and/or preventing many of the school-linked mental health problems that develop as children enter into puberty.

In the Schonert-Reichl et al. (2015) study, the sample group consisted of 99 elementary school children in the 4th and 5th grades in a large Western Canadian city. The researchers decided to administer this program to children in upper elementary grades because it had been shown that this is the time period in which children begin to establish personalities and behaviors



that will permeate into adulthood. Sixty-six percent of the children reported English as their native language, with 25% being of East Asian origin, and the remaining 10% reported an array of native languages (e.g., Spanish, Polish). As for the four teachers enrolled, they represented an array of cultural backgrounds and all had at least five years of teaching experience. The children in the experimental group were enlisted in two programs: MindUP and a social responsibility program. MindUP was a 12-week social and emotional learning program. The students participated in lessons once per week lasting 40-50 minutes, with each lesson incorporating a different mindfulness technique.

In addition to regular mindfulness practice, the curriculum included lessons to promote self-regulation, social-emotional understanding, positive mood, and performing acts of kindness or community service activities. The social responsibility program was established on four main guidelines set by British Columbia's Ministry of Education. The categories were: "(a) contributing to classroom and school community (e.g., sharing responsibility for their social and physical environment), (b) solving problems in peaceful ways (e.g., using effective problem-solving steps and strategies), (c) valuing diversity and defending human rights (e.g., treating others fairly and respectfully, showing a sense of ethics), and (d) practicing democratic rights and responsibilities (e.g., knowing and acting on rights and responsibilities)" (Schonert-Reichl et al., 2015).

The results of the MindUP program are encouraging. Children that participated in the MindUP program presented significant improvements in self-reported measures of well being, and peer-reported prosocial behavior. In addition, participants of the MindUP program showed better math performance results in comparison to the control group that completed the social responsibility program. Lastly, the MindUP students scored higher on tests evaluating response

inhibition, working memory, and cognitive flexibility in comparison to their control group counterparts (Schonert-Reichl et al., 2015).

The MindUP program (Schonert-Reichl et al., 2015) is only one of thousands of new programs introducing mindfulness into school systems. In Broderick and Metz's (2009) study, "Learning to Breathe: A Pilot Trial of a Mindfulness Curriculum for Adolescents", they introduce another mindfulness intervention program. Initially these researchers hypothesized that the participants in this program would demonstrate decreases in negative affect, greater understanding of emotions, reduced tendency to rumination, and reductions in somatic symptoms upon completion of the program.

Broderick and Metz's (2009) initiative, Learning to BREATHE, was a six-week program centered around six themes: body awareness, understanding and working with thoughts, understanding and working with feelings, integrating awareness of thoughts, feelings and bodily sensations, reducing harmful self-judgments, and integrating mindful awareness into daily life. It began as a lunchtime option in which students could opt out of their normal routine to join a class on stress-management. It stayed as this for the first three years. However, limitations such as students having to miss out on time to socialize with their friends and other activities only available during the lunch time, led the program developer to advocate for this program as a classroom initiative. Learning to BREATHE was integrated into the school curriculum as a health-based course. One hundred and twenty senior girls in Suburban Pennsylvania participated in the six-week pilot program. Thirty students classified as juniors served as the control group. All participants were administered pretests and posttests.

Broderick and Metz (2009) assessed both Positive and Negative affect through the Positive and Negative Affect Schedule (PANAS), and the ability to regulate emotions through

the Difficulties in Emotion Regulation Scale (DERS). They also utilized the Ruminative Response Scale (RRS), and Somatization Index of the Child Behavior Checklist (SICBC). Upon completion of Learning to BREATHE, the participants reported decreases in negative affect and an overall increase in feelings of calmness, relaxation and self-acceptance in comparison to the control groups. The participants also demonstrated an increase in emotional regulation and an improved sense of awareness about their feelings. On a physiological level, the girls reported feeling less tired and less aches and pains in their body from the pretest to the posttest.

It is important to note that Broderick and Metz (2009) exposed various limitations to the study. First, the sample group was homogeneous in terms of gender, ethnicity, and social class. Second, the control group was an average of 1-2 years younger. This proposes the possibility that the seniors could have experienced such cognitive changes due to the maturity and development of their cognitive functioning. Lastly, the program was only administered for six-weeks, proposing concerns on the lasting ability of the positive effects. Overall, this program presents promising results for the field of contemplative practices.

A third program that instituted mindfulness into an educational system is a program created by Arizona State researchers, Maria Napoli, Paul Rock Krech, and Lynn C. Holley, titled “The Attention Academy”(Napoli, Rock-Krech, & Holley, 2005). The purpose of their study was to analyze the results of the mindfulness program administered to first, second, and third graders at an elementary school. The Attention Academy was established with the goal to help students increase their attention to the present moment, approach each new experience without judgment, and view each experience as novel and new, with a “beginner’s eye.” Napoli, Rock-Krech, and Holley (2005) hypothesized that children and teachers can benefit from training in mindfulness

because it will help them to deal with stress in more effective ways and will increase their ability to focus in the school environment.

In the Napoli et al. (2005) study, graduate assistants and professional researchers traveled to nine classrooms in two elementary schools located in the Southwestern United States. Two hundred and fifty-four students participated in the program. The children attended twelve, bi-monthly Attention Academy Program sessions led by the graduate assistants and trainers throughout September 2000-May 2001. Exercises included paying attention to the breath, and movement and sensory activities to simulate “being in the moment.” Before completing the 24-week long program, each student either completed on their own or was given four evaluation measures: The ADD-H Comprehensive Teacher Rating Scale (ACTeRS), the Test of Everyday Attention for Children (TEA-Ch), which utilizes five subtests measuring sustained and selective attention, and the Test Anxiety Scale (TAS).

Napoli et al. (2005) found a significant difference between the control group and the students that participated in the Attention Academy Program. The students in the experimental group demonstrated an increase in selective attention and an overall reduction in test-anxiety and ADHD-like behaviors. The researchers also asserted integrating mindfulness into the curriculum of elementary schools is an ideal way to begin teaching children how to deal with stress and anxiety, and beginning this at an early age. Overall, the researchers suggested mindfulness practices will likely be effective for children from diverse religious and cultural backgrounds because the practice is non-secular.

Napoli et al.’s (2005) findings are relevant to the current research because the data demonstrates a growing interest in introducing mindfulness at an early age. The results indicated that initiatives such as the Attention Academy Program can be successful in teaching young

children to pay attention to the present moment along with reducing test-anxiety and ADHD-like behaviors. Although it should be noted that because the program was administered in 2000-2001, and is somewhat dated, there may be certain limitations in generalizing these findings to today's school settings. It is fifteen years later, hence, the overall school environment in the United States has changed significantly with technology transforming the classroom and there are newly developed teaching practices arising every day. Therefore, it is possible this research is not as relevant in our world today. In addition, the study suggested that one limitation was the lack of diversity amongst the sample group, as the majority of the participants were Caucasian females.

Researchers have expanded beyond the realm of public schools to test the effects of mindfulness on children and adolescents. In one study conducted by Liehr and Diaz (2010), titled "A Pilot Study Examining the Effect of Mindfulness on Depression and Anxiety for Minority Children," the researchers administered their program to minority children at a kids' summer camp. The purpose of this pilot study was to analyze the impact of mindfulness in regards to depression and anxiety amongst minority children. Liehr and Diaz (2010) recruited 18 children from the Caribbean and Central America with the age average being  $9.5 \pm 1.6$  years. The intervention group of children received Mindfulness Intervention (MI), a program developed by the Mindful Schools initiative that included practice in paying attention to the breath, mindful movements, and offering generosity. The program was administered in 15-minute increments, once per day for two weeks. The control group received Health Education Intervention (HEI). Liehr and Diaz (2010) measured the results of the programs with two tools: The Short Mood and Feelings Questionnaire and The State Anxiety Inventory for Children.

Upon completion of the program, the children that received Mindfulness Intervention reported lower levels of depressive symptoms ( $9.2 \pm 7.7$  to  $3.6 \pm 4.3$ ) overtime compared to the

students with HEI intervention. Both the Mindfulness Intervention group and the Health Education Intervention group showed lower levels of anxiety overtime, with the students receiving MI reporting a more significant decrease in anxiety. Liehr and Diaz (2010) expressed positive sentiments towards the Mindful Schools intervention program as the curriculum incorporated activities that were familiar (for example, the game “Heads Up, 7Up”) and meaningful for the students.

It is important to recognize limitations in Liehr and Diaz (2010) study. They noted a small sample group and a short administration period as limitations in the study. Overall, Liehr and Diaz’s (2010)’s study is relevant because it validates the Mindfulness Intervention program, developed by the Mindful Schools initiative, as an effective program to integrate in elementary school age students. Throughout various articles and studies (Greco & Hayes, 2008), researchers have expressed support for the Mindful Schools initiative, thereby, providing support for utilizing this particular program in a proposal for mindfulness based intervention in United States public schools.

A second illustration of incorporating the practice of mindfulness meditation to minority and at-risk youth can be found in Sibinga, Kerrigan, Stewart, Johnson, Magyari, and Ellen’s (2011) study, “Mindfulness-Based Stress Reduction for Urban Youth.” The aim of the study was to assess domains of effect of mindfulness-based stress reduction (MBSR) for urban youth infected with human immunodeficiency virus (HIV) and, who were generally considered at-risk.

The sample group for the Sibinga et al. (2011) study was composed of 13-21 year-old youth recruited from an urban tertiary care hospital’s pediatric primary care clinic. Program completers included the following: 11 participants were HIV-infected, 77% were female, all were African American, and the average age was 16.8 years. To begin the implementation, all

participants were separated into four MBSR groups. Each group completed nine weekly sessions of instruction in MBSR. The three components of the MBSR program were (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” during group meetings and encouragement of home practice; and (3) group discussion focused on the application of mindfulness to everyday situations and problem-solving related to barriers to effective practice. Both formal and informal techniques were utilized.

In order to evaluate the effectiveness, Sibinga et al. (2011) utilized quantitative data such as attendance, psychologic symptoms, and quality of life as determined by the Child Health and Illness Profile-Adolescent Edition evaluation. As a result of participating in the program, the women showed significant reduction in hostility, general discomfort, and emotional discomfort. The consensual feeling among the sample group was that the program helped them to feel more calm and relaxed, and better able to manage their anger and conflicts. The participants who previously reported frequent sadness found the MBSR techniques helpful in lifting their mood to feeling happier and more cheerful. Overall, the effects of the program had implications on the participants’ interpersonal relationships, academic achievement, and physical health. Sibinga et al. (2010) noted the need for assessment of the MBSR program’s efficacy in the domains of MBSR vs. nonspecific group affects.

### **Conclusion**

Research unveils the numerous benefits that contemplative practices have on the mental health of children and adolescents. Summarizing only a handful, mindfulness meditation has the power to reduce levels of anxiety and depression, increase feelings of calmness, decrease hostility and aggression, reduce the effects of ADHD, improve social competence, and more. It is

evident that mindfulness based practices have significant positive implications, and therefore should be introduced to the United States public education system.

It is these benefits alongside the pressing needs in terms of the mental health of children and adolescents that motivate this work. There is a problem- the mental health of children and adolescents- and there is a solution- mindfulness meditation. Mindfulness meditation should be integrated into the United States public education because children lack appropriate and effective tools to handle the mental health pressures apparent in their daily lives. As previously noted, stress levels among children and adolescents are high due to financial insecurity, food insecurity, safety concerns in neighborhoods, the pressure to achieve in school, social comparison, self-esteem struggles, and so much more. However, this does not have to be the reality for future generations. Providing children and adolescents with the resource of regular practice of mindfulness meditation has the power to transform their academic, social, and emotional wellbeing, and ultimately our country as we know it (See Appendix A for a sample program proposal).



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## Appendix A A Program Proposal

What does a mindfulness based program look like? How long does it last? Is it feasible to introduce to school districts? Who will administer the sessions?

The following document presents an overview of the program that was inspired by the review of literature in the realms of mental health and mindfulness meditation. It has been developed for 3rd, 4th, and 5th graders, however, it can be easily adapted for older or younger audiences.

### Stress Less: A Mindful Solution

**Purpose:** The aim of the Stress Less program is to decrease the stress, anxiety, and ADHD like behaviors of elementary aged students while increasing emotional regulation, attention maintaining capabilities, and self-acceptance. The Stress Less program teaches children how to bring their attention to the present moment and to observe daily situations nonjudgmentally.

**Method:** Stress Less is a 16-week program for children in 3rd, 4th, and 5th grade. The program integrates practices from Mindfulness Based Stress Reduction (MBSR), MindUP- a social and emotional learning program, and The Attention Academy, a program established to improve quality of life through mindfulness.

### Program Set-Up:

- 16-weeks, bi-weekly lessons
- 20-30 minute lessons
- Lessons administered by teachers as part of the health and wellness curriculum
- all teachers provided a 5-hour training on administering MBSR to children

### Curriculum topics:

- Mindfulness practices (body-scan, sitting, walking, loving-kindness, etc.)
- Self-regulation
- Social-emotional understanding
- Positive vs. negative moods
- Performing acts of kindness
- Community service
- Breathing techniques
- Movement and sensory activities

Evaluation:

Students will complete the Test of Everyday Attention for Children (TEA-Ch) and the Child and Adolescent Mindfulness Measure (CAMM) prior to beginning the program and upon completion.