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Mindfulness in Schools:

A Case Series on the Processes of Program Adoption and Implementation

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An abstract of
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Abstract

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By Kathryn A. Muldoon

The practice of mindfulness has been increasingly explored as a tool for promoting mental health in a variety of populations and settings. The purposes of this qualitative case series were to understand the basic elements of successful mindfulness-based programming implemented in schools as well as to examine factors relevant to the diffusion of the programmatic innovation. Two Atlanta schools currently using mindfulness-based programming were recruited for the study. Teachers and administrators at each school were interviewed about the processes through which mindfulness-based programming was introduced. These inquiries centered on the individuals involved, and pathways of communication and implementation. Participants were also asked about their perceptions of, and experiences with, the programming. A combination of purposeful selection and snowball sampling were used to recruit participants involved with introducing or implementing the programming. Interviews were conducted face-to-face at each school and later transcribed. A review of relevant documents was used to support data from in-depth-interviews. Narratives pertaining to the introduction of the programming were constructed, and thematic coding was used to identify significant patterns in perceptions of programming implementation.

The qualitative data analysis revealed that two to three people were initially responsible for introducing mindfulness-based programming at each school. Both schools incorporated mindfulness practices on a voluntary basis. Participants identified several critical factors to the successful implementation of mindfulness-based programming. These factors included programmatic leadership, school support, teacher training, and community-building. Based on the findings, this study recommends that schools interested in bringing mindfulness to the classroom establish dedicated time to practice mindfulness, facilitate ongoing teacher training, and support a school-based mindfulness community that promotes resource-sharing and discussion around mindfulness and other contemplative practices.

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CHAPTER 1. INTRODUCTION

Mindfulness is one component in an array of contemplative practices that promote self-inquiry and an experiential mode of learning. Mindfulness is generally defined as being the directing of attention to a specific focus in the present moment, without judgment (Meiklejohn et al., 2012). Though it has its roots in Buddhism, mindfulness is practiced secularly in a variety of ways. Examples of popular mindfulness-based practices include sitting meditation, mindfulness of sight and sound, mindful yoga, and Tai Chi. A limited but growing body of research has demonstrated the potential efficacy of mindfulness-based programming in school environments (Zenner, Herrnleben-Kurz, & Walach, 2014). With growing interest in the applications of mindfulness, the past 20 years have produced literature supporting its usefulness in improving health outcomes within a variety of populations, including among youth as part of a school's curriculum (Meiklejohn et al., 2012; Semple et al., 2005; Shapiro et al., 2011; Weare, 2013). Not only has observational and self-reported evidence indicated the efficacy of this type of intervention, but studies in neuroscience have produced reasonably strong evidence for the impact of mindfulness on learning and cognition, social and emotional skills, physical health conditions, and overall well-being (Weare, 2012).

Statement of the Problem

Despite increasing interest in mindfulness and other contemplative practices being used as tools for supporting well-being, there has been relatively little research conducted on the efficacy of these practices in school settings. Of that research, there has been virtually no concentration on the means by which mindfulness is introduced and implemented in schools. This study is designed to address that gap. With so little information on this topic, there is the

opportunity for unique pathways of communication to reveal themselves. There exists an underlying assumption that the leader of an organization makes the decisions that result in the acceptance of an innovation within that organization. While it is very plausible that school administrators tend to introduce and guide the incorporation of mindfulness-based programming into school curriculums, individuals outside of consideration may have participated in this process and it is, therefore, an assumption worth questioning and learning more about.

Potential differences between the process of implementation of mindfulness-based programming at public and private schools could be a valuable addition to this field of knowledge. This dichotomy provides the opportunity for process descriptions with an array of experiences and challenges that add depth to the existing base of knowledge. Differences between schools, as well as commonalities, broaden the scope of the study and its generalizability.

The findings of this research are meant to complement and add depth to the existing information on mindfulness-based programs in schools. A greater understanding of the processes of implementation will increase the ease with which similar programs may be realized, as well as lay a foundation for further research on the topic.

Gaining a better understanding of the methods employed by schools in overcoming obstacles during programming implementation serves as a guide to others in the position to initiate similar programming. Through reconstructing and building an explanation for the process undertaken at each participating school, relatable complications may emerge along with realistic solutions.

Purpose

The purpose of this study is to examine the basic elements of successful mindfulness-

based programming implemented in schools as well as examine the factors relevant to the diffusion of this innovation. The overarching goal is to collect the information needed to successfully promote the implementation of mindfulness programs in schools throughout the United States. By gathering additional information on the perceptions of teachers, administrators, and parents at schools that have adopted mindfulness-based programming, we may learn how to better encourage the spread of the practice. In-depth interviews regarding the processes of programming implementation, the challenges to programming implementation, and perceptions of best practices for implementation provide knowledge that guides future research and practice. The purpose of this study was to examine the process through which mindfulness programming is introduced and integrated into a school's curriculum. The ultimate goal was to better understand the path mindfulness-based programming takes in becoming successfully integrated into a school environment so that replication of this process becomes increasingly feasible.

Research Questions and Propositions

The research questions I posed were best answered with detailed description and depth of knowledge; therefore a descriptive case series was chosen to be the most appropriate design. Case study research is described as being "empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2003, p.13). This method of study retains the holistic and meaningful characteristics of events as they naturally occurred. Due to the exploratory nature of this case study, the research questions were designed to allow for broad responses, while providing some structure for the process of analysis.

Research Question 1.

> Through what processes was mindfulness-based programming introduced to the school?

Research Question 2.

> What challenges to implementation have been encountered and how have they been overcome?

Research Question 3.

> Through what approaches can mindfulness-based programming be most successfully implemented at schools?

While maintaining open-ended expectations for the outcomes of this research, I created propositions to add an additional level of rigor and structure to the analysis of the findings:

Proposition 1)

> The introduction of mindfulness-based programming to the school will have been initiated by a small number (1-3) of strong proponents of the programming.

Proposition 2)

> Through the framework the Theory of Diffusion of Innovations, particular factors within the prior conditions, knowledge, and persuasion constructs will emerge as being more significant than others in implementing mindfulness programming in schools.

Significance of Study

At this time, very little research has elaborated on the processes through which mindfulness-based programming is brought to a school (Zenner et al., 2014)**.** Illuminating this process through in-depth explanation has the potential to inform future attempts at implementing mindfulness and similarly alternative programming in schools. The information gathered may provide details of communication pathways and techniques of persuasion and implementation previously unexplained. With a focus on the details that are typically absent from the literature on mindfulness in schools, the dissemination of this innovation will be encouraged and eased.

In addition to contributing to efforts towards the dissemination of mindfulness-based programming in schools, this case research will lay the groundwork for further research on the topic. By gaining a preliminary understanding of the pathways and processes that are successfully used to implement such programming in schools, a more highly structured, possibly quantitative, approach could be designed in order to add breadth to the depth of understanding gained through this inquiry.

Theoretical Perspectives

The Diffusion of Innovations Theory (DoI) (Rogers, 2010) served as a guiding framework for this investigation and data analysis. The theory of DoI seeks to explain how, why, and at what rate new ideas and technologies spread throughout a culture (Rogers, 2010). According to the theory, an innovation is: "An idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Glanz, Rimer, & Viswanath, 2008, p. 317). With mindfulness being a seldom but increasingly-used tool in schools, it fits the theory's definition of an innovation, and the structure of DoI provides a useful perspective with which to steer the

research. Though not previously applied to the practice of mindfulness, DoI has been shown to effectively explain the diffusion of new practices in schools and other educational settings (Webster et al., 2013; Montrieux, 2014). According to the theory, the innovation-decision process consists of five stages: Knowledge, Persuasion, Decision, Implementation, and Confirmation, preceded by Prior Conditions (Rogers, 2003). The first two stages explain the process of identifying and acknowledging a problem, and experiencing need for change at a specific level (e.g. personal, organizational, societal). Behavioral and mental health problems among children are frequently acknowledged and persistently concerning for schools, families, and society (Rempel, 2012). Given this, it can be inferred that many schools linger in the Persuasion stage, in which they are open to improvements but cautious, or inhibited, in moving through the decision-making process towards a potential solution.

The theory of DoI identifies characteristics of interest in this Persuasion process; they include perceptions of Relative Advantage, Compatibility, Complexity, Trialability, and Observability. Understanding these constructs from the perspectives of schools that have implemented mindfulness programming will provide crucial information about what aspect of the Persuasion process was memorably impactful during the school's decision-making process. It will also provide information regarding the obstacles encountered while attempting to integrate mindfulness content into a curriculum. Additionally, it is worth noting that in order to understand diffusion of an innovation at the organizational level of schools, factors such as change in policy, change in role and function of personnel, and method of program introduction must all be considered (Glanz, Rimer, & Viswanath, 2008). Knowing more about how these characteristics of a mindfulness intervention are perceived by administrators and teachers could allow

proponents of such interventions to anticipate challenges and successfully promote implementation.

According to DoI, Persuasion is also influenced by Knowledge (Rogers, 2010). Key factors influencing Knowledge are the communication channels through which the decision-making unit gains information. Consequently, it is also imperative to learn more about the communication channels through which the mindfulness-based innovation is brought into the schools. This information guides our understanding of what methods of communication have been successful for program implementation and what may be replicated in future efforts of diffusion.

Rogers further describes categories of adopters, and the characteristics of the decision-making unit in each category. The established categories are: 1) Innovators, 2) early adopters, 3) early majority adopters, 4) late majority, and 5) laggards (Glanz, Rimer, & Viswanath, 2008). While it is apparent that schools that have adopted mindfulness-based programming are among the first adopters, it would be beneficial to know whether they are innovators, early adopters, or early majority. Attaining a clearer understanding of this factor will assist researchers and program planners in recognizing characteristics of schools that may be on the cusp of initiating such a program.

Thesis Overview

This chapter introduced the study for the thesis as a whole, presented the problem statement, the purpose, and the research questions, described the significance of the study, and explained the theoretical perspective. Chapter 2 presents a review of the literature on mindfulness-based programming with a focus on K-12th grade school-based programs and

interventions in the United States. The review describes research findings on the general benefits of mindfulness practice, mindfulness practice among youth, and mindfulness practice in the school setting. Chapter three discusses the epistemological and methodological underpinnings of this study as well as researcher trustworthiness, ethical considerations, and my personal perspective as an investigator into this topic. Chapter 4 discusses the results of this study. Chapter 5 draws conclusions from the examination of these results in the context of the current state of research and program implementation, explores implications for programming implementation, and makes recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

Psychological Distress and Risks

Children in the United States today are facing many mental and emotional challenges, both at home and in the classroom. Poverty, familial discord, and high academic expectations, among other factors, can often lead to psychological distress (Drapeau & Beaulieu-Prévost, 2012). Psychological distress is defined broadly as being an anguished emotional state consisting of any combination of depression and anxiety, and often exhibiting somatic and behavioral symptoms (Drapeau & Beaulieu-Prévost, 2012). Epidemiological reports of prevalence indicate that psychological distress and other mental health problems are rising, with an estimated one in five children experiencing difficulties serious enough to warrant their need of mental health services (Schonert-Reichl & Lawlor, 2010).

Chronic psychological distress is of particular concern, as neuroscience has linked it with diminished cognitive and emotional regulation capabilities (Mendelson et al., 2010). Generalized anxiety disorder (GAD), which is characterized by the American Psychiatric Association as pervasive an intrusive worry, has been shown to alter neural responses to external stimuli including facial expressions (Holzel et al., 2013). Problem behaviors associated with this condition include aggression, hostility, and self-harm (Sprague, Verona, Kalkhoff, & Kilmer, 2011).

The impact of negative school behaviors associated with psychological distress may be significant. According to the Youth Risk Behavior Survey, 32.8% of high school students reported having been in a physical fight within the past year (Eaton et al., 2012). Beyond the immediate outcomes, psychological distress in children is associated with far-reaching consequences including impaired interpersonal communication and school dropout (Schonert-

Reichl & Lawlor, 2010). Alleviation of distress occurs either when the causal stressor is removed or when the individual acquires appropriate coping skills for emotional regulation (Drapeau & Beaulieu-Prévost, 2012).

Non-cognitive Skills and Mindfulness Practice

Non-cognitive skills (sometimes termed character strengths) refer to executive functions including traits such as gratitude, optimism, persistence, and self-regulation. Each of the aforementioned traits has been positively correlated with measures of subjective well being in adolescents (Gillham, 2011). The acquisition of non-cognitive skills has been correlated with reductions in psychological distress, improved academic outcomes, and improved temperament in adolescents (Desmond & Hanich, 2010; Greenberg & Harris, 2012).

The practice of mindfulness, with its focus on self-regulation, is an integral component in the development of this non-cognitive skill set. Mindfulness employs a variety of mechanisms including focused attention, decentering, and emotion-regulation (Zoogman, Goldberg, Hoyt, & Miller, 2014). Practitioners of mindfulness are encouraged to continually anchor their attention in present moment experience by noticing thoughts, emotions, and body sensations. By non-judgmentally observing one's thoughts, the "decentering" process guides practitioners away from habitual (and often emotionally-disruptive) thought patterns (Zoogman et al., 2014). It is hypothesized that sustained use of mindfulness-based practices routinizes neural or mental patterns that subsequently regulate emotions and behavior in a relatively automatic way (Greenberg & Harris, 2012).

Studies based in a variety of academic and methodological disciplines have demonstrated the benefits of mindfulness for many mental and physical health outcomes. Along with

observational and self-reported evidence indicating the efficacy of mindfulness interventions, studies in neuroscience have produced reasonably strong evidence for the impact of the practice on learning and cognition, social and emotional skills, physical health conditions, and overall well-being (Weare, 2012). Basic research indicates that methods of mindfulness may act by altering the action and organization of neural circuitry associated with stress reactivity and immune function (Greenberg & Harris, 2012). Brain imaging studies among adults indicate that mindfulness meditation may increase blood flow to, and thicken areas of, the cerebral cortex, which is associated with attention and emotional integration (Weare, 2012). One study on the effects of mindful-attention and compassion training on the amygdala, a part of the brain associated with emotional processing and attention, found that eight weeks of mindful-attention meditation training decreased the amygdala's response to emotional stimuli (Desbordes et al., 2012). Since fMRI measurements were taken while participants were in a non-meditative state, the study indicates that the positive effects of mindfulness training may precipitate enduring changes in mental function (Desbordes et al., 2012).

Mindfulness Practice Among Youth

Along with demonstrating efficacy among adults, the practice of mindfulness has shown promise as an intervention aimed at psychological distress among youth, as well. Though fewer studies have examined the effects of mindfulness within the youth population, those that have indicate that it may be a useful tool for decreasing stress and anxiety, among other outcomes (Zoogman et al., 2014). Popular vehicles for delivering mindfulness practices to youth have been Mindfulness-based Stress Reduction and Mindfulness-based Cognitive Therapy programs (Zoogman et al., 2014). One meta-analysis of reports of mindfulness-based interventions with

youth showed a small overall effect size with a broad range of outcomes (Zoogman et al., 2014). The study also found that mindfulness-based interventions consistently outperformed control conditions (Zoogman et al., 2014).

Search Methods

Articles for this review were found by searching PubMed and by locating specific articles discovered in the references of articles found. The database was searched using varying combinations of the terms "mindfulness + school(s) + classroom + intervention + training + program + children + MBSR + stress + anxiety". The resulting articles were further narrowed by excluding those not meeting the following inclusion criteria: 1) Written within the past 12 years 2) Written in English 3) Pertained to either a mindfulness intervention or institutionalized mindfulness programming 4) Implemented in a U.S. school for youth ages 3 to 18 5) Not restricted to a special-needs group (i.e., articles on mindfulness programs for children with ADHD or diagnosed anxiety were not included). Both published and unpublished studies were taken into consideration.

Review Results

Program Characteristics

The search resulted in thirteen published articles and one unpublished article (Broderick & Metz, 2009) that met all of the eligibility criteria; creating a total of fourteen articles. One additional article was identified but was unavailable in full-text. The school-based mindfulness programming described in the articles generally involved relatively small groups of students. The average number of participants was 121, with the smallest study having 11 and the largest having

409. The median number of participants was 97. The ages of participants ranged from seven to eighteen. The length of the programs ranged from five to twenty-four weeks, with the majority lasting between eight and twelve weeks. While none of the studies dealt exclusively with indicated populations (i.e., students were not previously diagnosed with particular mental or physical disorders), several worked with students from disadvantaged populations, and stated the intention of addressing an elevated need (Barnes, Bauza, & Treiber, 2003). It is worth noting that nine of the studies were randomized, controlled trails (Barnes et al., 2003)**.**

The program designs described in these articles mainly used the structure and content of mindfulness programming previously used for adult populations, adjusted for participant age by the researchers or participating teachers. Two studies cited the use of mindful awareness practices (MAPs) (Desmond & Hanich, 2010; Flook et al., 2010), and six cited the use of mindfulness-based stress reduction (MBSR**) (**Barnes, Bauza, & Treiber, 2003; Desmond & Hanich, 2010; Mendelson et al., 2010; Sibinga et al., 2013; Viafora, 2011; Wall, 2005). Though there exist many such frameworks and collections of mindfulness practices (e.g., MAPs, MBSR), the differences in content between the frameworks appeared to be relatively minimal.

While a variety of mindfulness practices were employed, the most common (and those found in each intervention) were: body scan, mindfulness of breathing, mindfulness of sight, mindfulness of sound, and sitting meditation. One study involved Transcendental Meditation (Barnes, Bauza, & Treiber, 2003), and two also incorporated active mindful movement, including Tai chi and yoga (Gould et al., 2012; Khalsa et al., 2012; Mendelson et al., 2010; Wall, 2005). All articles noted the introduction of didactic mindfulness material as a method of guiding students' understanding of the practices.

A range of methods was used for program implementation, but almost all interventions relied heavily on teacher and administrator support. Most often, mindfulness programming was incorporated into the framework of an existing schedule; becoming an alternative or supplementary component of a class. In several cases, mindfulness activities were inserted into gym and recreational time slots. Of the articles that addressed the logistics of implementation, most reported directly consulting schools and holding informational sessions in order to recruit the assistance of teachers. In one case, researchers initially looked to the superintendent of the school district for support of the intervention (Barnes, Bauza, & Treiber, 2003).

Every mindfulness study in the review reported either positive or non-significant results for the variables of interest, with most reporting improvements in several areas of either mental or behavioral functioning. Each of the randomized controlled trials demonstrated improvements in executive functioning, and two measured decreased involuntary stress responses in participants (Barnes, Bauza, & Treiber, 2003; Brittin et al., 2014; Desmond & Hanich, 2010; Flook et al., 2010; Gould et al., 2012; Khalsa et al., 2012; Mendelson et al., 2010; Sibinga et al., 2013). Decreases in oppositional behaviors including aggression and inattention were reported in four of the studies (Barnes, Bauza, & Treiber, 2003; Flook et al., 2010; Napoli, Krech, & Holley, 2005; Wall, 2005).

Little, if any, information was gathered in these studies directly relating to participant or implementer perceptions of characteristics of the innovation (relative advantage, compatibility, complexity, trialability, and observability). Any information regarding these characteristics must be inferred. Since each article in this review deals with a school (schools) that decided to adopt mindfulness programming, it is understood that the cited DoI characteristics in regard to this type of intervention were viewed favorably enough as to initiate action. What distinctively remains

unknown is which characteristics may have slowed the process, hastened the process, or spurred a rethinking of the process.

Information regarding communication channels for the introduction of the mindfulness innovation was relatively scarce, as well. In large part, articles did not include reports of who initiated and supported the introduction of mindfulness programming, and what logistical arrangements were made for its inclusion in the curriculum before and during implementation. In most cases, it appears that the researchers approached school administrations to initiate the programs. In at least one case, the researchers and the school had a preexisting relationship, which facilitated the project (Napoli, Krech, & Holley, 2005). In one of the studies, teachers at the schools had a notable prior interest in the topic of mindfulness (Desmond & Hanich, 2010). What can be gathered from the limited logistical information provided in these studies is that researchers and opinion leaders within the schools played influential roles in the realization of the mindfulness interventions.

Gaps in the literature

The successful studies examined in this review demonstrate the efficacy of incorporating mindfulness-based practices into a school setting, as well as provide supportive evidence for the utility of such practices in improving the mental health of students and the overall school environment. Despite these encouraging indications, few schools in the U.S. have attempted a mindfulness-based intervention, and even fewer have institutionalized a universal mindfulness component within the curriculum. None of the studies reviewed in this process indicated that the participating schools were using mindfulness on an ongoing basis; rather, the programming was implemented as a limited-time intervention. The studies surveyed here lack information

pertaining to the process through which the mindfulness interventions were brought into practice at schools. In order to spur the nationwide diffusion of this school-based training, information must be gathered about the perceived characteristics of mindfulness interventions and programs from the perspectives of schools that have participated or currently participate in such interventions, as well as schools that have not participated.

It is also important to note that no information was provided regarding the continuation of mindfulness practices following the studies. All appear to have been designed as isolated interventions rather than permanent additions to school curricula. If the schools continue to use mindfulness-based programming, no information regarding that change is included. There is a dearth of research on the topic of permanent, universal mindfulness interventions, largely because so few exist. This observation underlines the need to better understand the innovation diffusion process for mindfulness programming.

CHAPTER 3: METHODOLOGY

Research Design

Considering the exploratory goals of this study, it was clear to me that qualitative

methods would the most suitable choice. In-depth interviews provide the richness of detail

needed to understand the full picture of how and why mindfulness-based programming enters a

school environment. Interviews are also able to capture nuance in the decision-making processes

of participants; something that would be missed by a quantitative approach. This project was

guided by an interpretive approach to qualitative research. The interpretive paradigm developed,

in part, as a reaction to the problematic minimization of subjective experiences seen in the

positivist approach to research (Hennink, Hutter, & Bailey, 2010). It seeks to understand the

emic, or the 'inside', perspective by recognizing the meaning that people attach to their

experiences. Given that decisions related to the introduction and implementation of mindfulness-

based programming at schools are built on the subjective experiences of those involved,

capturing this emic perspective is relevant and important.

Case Study

For this study, I wanted to deeply explore a set of related events that are relatively

unique, therefore a qualitative case study was an ideal option. Case study methodology has been

used extensively in social science and practice-oriented research, making it a strong fit for

exploration into education systems (Yin, 2013). Definitions of case study vary but it is generally

described as, "An empirical inquiry that investigates a contemporary phenomenon within its real-

life context, especially when the boundaries between phenomenon and context are not clearly

evident" (Yin, 2013, p.13). Others add to that description by calling it a method of inquiry in

which the researcher conducts an in-depth exploration of a program, event, activity, process, or individual. Each definition of case study implies a desire to examine contextual conditions due to the belief that they may be highly pertinent to the phenomenon being studied. A case study research strategy can include the use of both qualitative and quantitative data, and many case studies employ both. While numerous purely quantitative methods of research strive to separate a phenomenon from its context, qualitative research, and particularly qualitative case study research, seeks to explore both simultaneously (Yin, 2013).

In conducting a case study, researchers can collect detailed information using a variety of tools including the use of interviews, documents, archival records, observation, and physical artifacts (Rowley, 2002). It is these multiple sources of data that provide a case study with its depth. Whichever data sources are utilized, three key principles guide the data collection process: 1) triangulation; 2) case study database; 3) chain of evidence. Triangulation allows the researcher to corroborate a particular finding using multiple sources. The case study database creates a comprehensive and organized collection of the researcher's notes, interview transcripts, and other key documents; increasing transparency and repeatability of the study. Establishing a chain of evidence links the research questions, the propositions, and the collected data in a clear manner. Along with these three principles of data collection, creating a high quality case study is contingent on the competence of the researcher: Unlike many quantitative data collection tools, the researcher is an active agent in the processes of both gathering and defining the evidence.

Preeminent case study scholar Robert K. Yin (2013) proposes that effective case study design should include five components: 1) research questions; 2) propositions and purpose of study; 3) units of analysis; 4) logic linking the data to the propositions; 5) criteria for interpreting findings (Yin, 2013). For this line of study, the questions I have posed are mainly in the form of

"how" and "what": Specifically, I ask how mindfulness-based programming comes to be introduced at the school, what the most significant obstacles to programming are, and how those obstacles can be overcome.

The second component of case study research design is the articulation of a purpose, most commonly recognized as a purpose statement. For this case study, my purpose was to closely examine the process of bringing mindfulness-based programming into schools, as well as to examine the factors that help and hinder its implementation.

The third component of case study research design is the unit of analysis. The unit of analysis serves as the basis for the case, and may be an individual, an event, or an organization (Rowley, 2002). For this project, the unit of analysis is the school, which makes this a two-unit case study. There is much value in using multiple cases to examine a phenomenon or an emerging innovation such as mindfulness-based programming. As an analytic unit, each case can be viewed as being akin to an entire experiment, therefore, multiple cases allow for beneficial cross-case analysis (Yin, 1981).

The fourth component of case study research design is the connection between the data and the propositions. Following, and during, the process of data collection, the researcher uses an iterative process to identify significant emerging themes. Using the questions and propositions as some form of structure, I was able to identify key themes in the data that contributed to the description I was building and addressed the questions I was posing.

The fifth component of case study research design is establishing criteria to interpret the findings. This process involves determining what data is necessary to either support or demolish the propositions (Rowley, 2002). By identifying the pathways by which mindfulness-based

programming was introduced and implemented at the schools, and by gathering participant impressions surrounding these topics, both of the propositions I put forth are addressed.

Research Sites

Case selection was based on feasibility and I approached key administrators at multiple schools in Atlanta about participating. Contacts were identified through referral by Emory professors and independent online research into Atlanta-area schools using mindfulness-based programming. Two schools supplied letters of support and facilitated interviews (See Table 1). The participating schools were a charter school in west Atlanta (School 1) serving children from kindergarten through eighth grade and a private school in east Atlanta (School 2) serving children from kindergarten through twelfth grade. I will refer to the schools as School 1 and School 2 throughout this paper. School 1 was the smaller and more ethnically diverse of the two institutions. Approximately 250 students were enrolled at the time of this study, and the student body was comprised of approximately 88% African Americans, 5% Caucasians, 4% students with multiple ethnicities, 2% Indians, and 1% Hispanics. As it is a public school, there is no cost for attendance and the opportunity to enroll is determined by a lottery. School 2 had approximately 975 students enrolled at the time of this study, and the student body was comprised of approximately 73% Caucasians, 13% African Americans, 7% Asians, 6% Hispanics, and 1% Indians. Being a private school, all students are required to complete a competitive application process. Yearly tuition for attending the school is $12,507 for half day (ages 3-5 years), $19,989 for elementary, $22,320 for junior high, and $22, 320 for high school.

Table 1. School Characteristics

School	Type of School	Location	Grades Taught Number of Students Student-teacher Ratio	School Philosophy
School 1	Public Charter School	West Atlanta, Georgia	K-8th grade 225-275 students 8 to 1	Focus on holistic education: socio-emotional development, physical health, creativity, and general happiness
School 2	Private School	East Atlanta, Georgia	K-12th grade 950-1,000 students 6 to 1	Focus on academic excellence, respect for diversity, social responsibility, egalitarianism, empathy, ethics, the environment, and the importance of the present

Participants

I used a combination of purposeful selection and snowball sampling to select participants for this study. The study population consisted of the adult individuals involved in the decision-making process that brought mindfulness-based programming into the participating schools, as well as individuals who regularly implemented and supported the programming at the schools. Participants held positions as both school administrators and faculty.

After interviewing the initial school contacts, additional contributing individuals were identified through referral: At the end of each interview, I asked participants about who else associated with the school played a significant role in introducing, approving, or otherwise implementing the mindfulness-based programming. Purposeful selection is sometimes defined as the choosing of particular people or places in order to discover information that cannot be found elsewhere (Maxwell, 2012). In this study, purposeful sampling occurred when prioritizing possible interview participants based on their potential to add to the understanding of

mindfulness programming implementation at that school. People whose names were mentioned by multiple participants and people who were named as being integral to the initial implementation of mindfulness-based programming were given high priority. Interviews were conducted until the point of saturation; at which time no new themes or key pieces of information were being identified. Between the two participating schools, total of sixteen interviews were conducted; seven interviews at School 1 and nine interviews at School 2.

Data Collection Methods

Interviews

There are several compelling reasons why I chose in-depth interviews (IDIs) as my primary source of data collection for this study. The overarching purpose of this research was to gather information about mindfulness in schools for use in the process of program replication and to aid future implementation efforts. Due to the exploratory nature of this topic, I decided that semi-structured, in-depth interviews were the ideal means by which to garner a broad understanding of mindfulness-based programming implementation in the context of a school. This method allowed for participants to lead the way in a detailed conversation about how the programming was introduced and implemented, as well as to openly express their views on what has and has not made programming successful. In addition to leaving room for the narrative of mindfulness programming implementation to freely emerge, IDIs allow ample opportunity for unexpected solutions and obstacles to be revealed (Hennink, Hutter, & Bailey, 2010).

All interviews were recorded and transcribed. In addition to recording the interviews, I kept expanded field notes for the purpose of tracking methodological, observational, and theoretical observations during my primary data collection (Hennink, Hutter, & Bailey, 2010).

The interview questions I used were broad and loosely structured, allowing for an explanation of the true process of programming introduction and implementation to emerge. A sample question with probes is:

- *Can you describe any challenges you encountered while attempting to implement the mindfulness-based programming?*
- *Can you describe any objections that were raised in reference to the programming?*
- *From what groups of people did these objections arise (teachers, administrators, parents etc.)?*
- *Can you describe any logistical challenges you encountered while attempting to introduce or implement the programming?*

Document Review

In addition to interviews, I took into consideration all relevant documents available for review. These documents included notes from before, during, and after interviews, resources used for training teachers to use mindfulness, and anonymous written feedback from students regarding the mindfulness-based programming. The themes that I saw emerging from these data sources were triangulated with the interview transcripts. The use of these documents assisted me in clarifying and substantiating participants' statements (Yin, 2013).

Data and Safety Monitoring Plan

Prior to beginning the data collection process, approval for the study was obtained from the Emory University Institutional Review Board. No unanticipated problems involving risks to

subjects or others, interim results, or protocol modifications arose during the course of the investigation. All electronic data were secured in a password-protected computer and deleted from the recording device initially used. When not in use, all devices were stored in a secured and locked personal office. Any and all hard copies of the data were also secured in the locked personal office.

Informed Consent

Signed informed consent was obtained from all participants prior to interviews taking place. Interviews were arranged over the phone or through email and prospective participants were provided with an explanation of both the aims of the research as well as the role of participants. Written consent was obtained in-person at the location of the interview. Participants were given time to fully read the consent document and sign it prior to any questions being asked. All adults participating in the study had capacity to give informed consent. The principal investigator, Kathryn Muldoon, was responsible for carrying out the informed consent process. To minimize the possibility of coercion or undue influence, no compensation was offered in exchange for interviewing.

There were no known risks to participation. The results of this research may not individually benefit participants, however the information obtained from these interviews will be shared with the participating schools and has the potential to benefit the community.

Data Analysis

Qualitative research calls for a cyclical interplay between data collection and data analysis; therefore, after conducting the first four interviews, I began looking for emerging

patterns (Hennink, Hutter, & Bailey, 2010). My approach to data analysis was guided by the broad principles of grounded theory as described by Hennink, Hutter, and Bailey (2010). Grounded theory, developed by Barney Glaser and Anslem Strauss in the mid-1960s, seeks to bring structure and transparency to qualitative research; combining the rigor of science with the creative aspects of new discovery (Hennink, Hutter, & Bailey, 2010). I employed the process of grounded theory throughout data collection and data analysis.

The transcripts from interviews with key informants were coded according to dimension of experience. I created a codebook using data from the first four interviews. Although I created most codes inductively, DoI provided some structure for the process: Due to my interest in the theory's model of the Innovation-Decision Process (prior conditions, knowledge, persuasion, decision, implementation, and confirmation), it was possible to create theory-based concept clusters in addition to inductive concept clusters. Interview transcripts were coded line-by-line in order to extract the maximum amount of information from this thick form of data (Hennink, Hutter, & Bailey, 2010).

Following the coding process, information gathered through additional observational notes and resources provided by participants was triangulated with the coded interview transcripts. Drawing on multiple sources of data served to bolster the validity of findings and widened the scope of the case study (Hennink, Hutter, & Bailey, 2010, Yin, 2013).

Following the processes of coding and data triangulation, I revisited my research questions and propositions. The propositions were reviewed in light of the data that were collected. Ways in which the findings differed from and matched the assumptions were noted and became another element of the analysis in conjunction with the coding. All data collected were compiled into a case study database, which served to strengthen the repeatability of the

research and increased transparency and organization (Yin, 2013). Furthermore, during this stage of conducting interviews and compiling details of the case, the literature on program implementation and mindfulness in schools was continually consulted in order to gain a better understanding of new data and retain a current grasp on the expanding field of school-based mindfulness research.

In order to increase the reliability of the results, a second researcher was recruited to code three of the de-identified transcripts. All comparisons of coded interviews were done by hand. During this process, I took note of discrepancies in the coded transcripts and reconsidered coding choices as necessary (Hennink, Hutter, & Bailey, 2010). No additional changes in the codebook were suggested or made at this time.

The final stage in the analytical process consisted of writing the case study report. One goal was to create full and detailed descriptions of both cases; placing all developments in chronological order. The other goal was to describe the themes that emerged from that data and to illuminate those themes that were most highly emphasized by participants. In this portion of the analysis, relevant DoI constructs were more closely examined in light of that data. Finally, suggestions for some best practices in mindfulness-based programming implementation were developed and future research topics were identified.

Research Steps

A uniform protocol was followed in the conducting of this research, to ensure that the interviews yielded data consistent with the study's goals:

1. Participants were met by the researcher at the school they were affiliated with and informed of the risks involved.

2. In depth, semi-structured interviews were conducted with participants at their respective schools.

3. Documents relevant to the introduction and implementation of the mindfulness-based programming were gathered from participants.

4. Field notes were written about the interview process.

5. Interviews were audio recorded and transcribed within one week of the interviews.

6. The researcher coded the data for emergent themes.

7. A second coder reviewed three de-identified interview transcripts for coding reliability.

Goodness and Trustworthiness

In order to increase the quality of this research, steps were taken to address construct validity, internal validity, external validity, and reliability. To maximize construct validity, multiple sources of evidence were used and a chain of evidence was established. To help ensure internal validity, pattern matching and explanation building were used. The use of case study protocol and the inclusion of two, diverse schools supported external validity. Reliability was strengthened by the creation of a case study database (Rowley, 2002). To properly prepare the data for analysis, interviews were transcribed verbatim, code development was described, and memoing was used to reflect deeply on the data (Hennink, Hutter, & Bailey, 2010).

Ethical Considerations

Although the subject matter of this study is not of a sensitive nature, I put measures in place to ensure the safety and respect of participants. A written informed consent procedure was followed with all individuals who contributed to the study. Each interview took place in-person

at the participating school in a private or semi-private room. Every interview was recorded and transcribed, and recordings were destroyed following transcription. Potentially sensitive disclosures by participants were removed from the transcripts and each transcript was de-identified as much as was feasible.

The final manuscript resulting from this research will be shared with the participating schools so that they might benefit from its findings. The ultimate intent of the research is to shed light on the process of mindfulness-based program adoption so that may be more readily accessed and utilized by schools. With this goal in mind, I will also make the manuscript available to schools that are, or may be, interested in implementing mindfulness-based programming.

Researcher Positionality

An important distinction between qualitative and quantitative research is the role the researcher plays in the process. Being the primary research tool, the researcher must acknowledge the lens through which he or she is collecting information, which inherently introduces personal biases, views, and limitations. Qualitative research assumes that these human attributes affect the outcome of any study (Hennink, Hutter, & Bailey, 2010). By acknowledging the interactive nature of data collection, however, the interpretive approach of qualitative research provides the tools needed to begin to understand subjective, meaningful experiences (Hennink, Hutter, & Bailey, 2010). In the interest of full disclosure and to guard against any unethical or unintentional influences on my interpretation of how and why schools adopt and implement mindfulness-based programming, the following discussion outlines my personal experiences relevant to this study.

My personal experiences with mindfulness-based and other contemplative practices began in childhood when I was introduced by family members and acquaintances who took part in such activities. I have been immersed in a cultural context that places high value on contemplative practice and my personal beliefs reflect that. In addition to my personal background, I have spent over ten years working with teachers and children in a variety of capacities. This experience gives me insight into the potential challenges and aids to implementing mindfulness-based programming and has eased my personal comfort and understanding of the environments in which this research took place.

Summary

Chapter three discussed the epistemological and methodological underpinnings of this study as well as the ways in which these choices created a foundation for the research design and the process of analysis. A rationale was presented for using both qualitative research methodology and a case study research design. This chapter concluded with a reflection on researcher trustworthiness, ethical considerations, and my personal perspective as an investigator into this topic.

Chapter 4 discusses the results of this study. Chapter 5 draws conclusions from the examination of these results in the context of the current state of research and program implementation, as discussed in the literature review. That chapter also explores implications for programming implementation and makes recommendations for further research.

CHAPTER 4: RESEARCH FINDINGS

Background

The purpose of conducting this qualitative study was to discover the processes underlying the introduction of mindfulness-based programming to schools, as well as to gain an understanding of the challenges and supports to programming implementation. Before beginning the research process, I put forth three guiding questions: 1) Through what processes was mindfulness-based programming introduced to the school? ; 2) What challenges to implementation have been encountered and how have they been overcome? ; 3) Through what approaches can mindfulness-based programming be most successfully implemented at schools? I also put forth two propositions developed from those questions: 1) The introduction of mindfulness-based programming to the school will have been initiated by a small number (1-3) of strong proponents of the programming. ; 2) Through the framework of the Theory of Diffusion of Innovations (Rogers, 2010), particular factors within the Prior Conditions, Knowledge, and Persuasion constructs will emerge as being more significant than others in implementing mindfulness-based programming in schools.

In order to answer question one and address proposition one, I created descriptive narratives about the process of mindfulness-based programming implementation at each of the two participating schools. These narratives provide rich details about the mindfulness programming; from the initial inspiration to introduce it, to the state of its current use at the school. Mapping the diffusion of the programming within each school inherently illuminates those people who were integrally involved, and provides the necessary information to reflect on proposition one.

Research questions two and three, as well as proposition two, are best addressed

through a close examination of the emergent themes expressed in the interviews. Though each school's story of program adoption is unique, many of the themes pertaining to challenges and aids to mindfulness programming implementation are shared. Therefore, the second section of the study findings will examine information gathered from both schools. This aggregated data will be used to reflect on proposition two in the discussion section.

Study Findings

School 1.

The first school to be examined in this study was an Atlanta charter school founded in 2010. Mindfulness-based programming was first introduced to this school through one of the two co-founders who was serving as founding principal. Social and emotional skill-building was a highlighted area of learning from the school's inception. It was, in part, due to an exploration of this topic that mindfulness-based programming was initiated. The original introduction of the programing took place at the fall 2013 annual one-day staff and faculty retreat. Along with covering a variety of other teaching-related topics at the retreat, the principal spoke to the group about the potential benefits of using mindfulness-based practices in the classroom and presented multiple short video examples of its applications. The videos had been located by searching the internet for resources on social and emotional learning, and at least some of the material used on this day was obtained through the Mindful Schools website.

According to the principal, the use of mindfulness was inspired mainly by the school's established commitment to fostering five core socio-emotional skills: 1) self awareness; 2) managing feelings; 3) motivation; 4) empathy; 5) social skills. It was through conducting independent research on these topics online and through literature searches that mindfulness

emerged as a helpful tool. As the principal stated it, he came to mindfulness "from the socio-emotional angle" and recognized that the practice might be particularly beneficial for teaching self-awareness and self-control to students.

In his experience working with children, and his particular experience at this school, the principal observed how often students struggled with impulse-control. This observation both spurred initial interest in mindfulness and encouraged its continued use at the school. He recalled working with one boy who had an especially difficult time managing his emotions. After starting to use mindfulness-based breathing activities with him, the principal and teachers noticed fewer instances of him "lashing out" when met with adversity. First hand observations of success, along with positive teacher feedback, have significantly motivated the continuing inclusion of mindfulness in this school's classrooms.

It is important to note personal experiences the principal had with mindfulness and contemplative practices: Along with a strong belief in the efficacy of the practices in a school environment and the school's established goal of providing holistic education, the principal's interest in using mindfulness was also supported by personal experiences with mindfulness-based activities including multiple types of meditation. He shared that one of his parents had been deeply involved with meditative practices and he had been introduced to the ideas and their potential benefits at a young age. In addition, he had returned to meditation as an adult as a method for coping with stress, and had found it to be effective.

After having been introduced to the concept of mindfulness in the classroom, a minority of teachers at the school began using mindfulness-based activities on a consistent basis. Of these teachers, several had had previous exposure to contemplative practices. The majority of teachers spoken to, however, recall being first introduced to mindfulness at the fall 2013 retreat.

Of all the teachers who showed an interest in mindfulness following that retreat, one demonstrated particular enthusiasm. Seeing this, the principal decided to create a stipended, part-time position for a Social Emotional Learning Coordinator (SELC). With an increased use of mindfulness-based activities in mind with the creation of the position, the title 'Social Emotional Learning Coordinator' was chosen, mainly to allow the potential for a broader focus, but also to make the meaning of the position more understandable to those less familiar with contemplative practices. The position was designed to be taken on alongside a full-time teaching position, and the current SELC estimated that she spends ten percent or less of her working time on projects related to it. For the first year in the position, the SELC took time to research a variety of methods for teaching socio-emotional skills and much of what she learned and gathered on the topic was based in mindfulness.

Since the school officially incorporated a social and emotional learning component in the curriculum in the fall of 2014, the SELC has re-introduced mindfulness-based activities in a variety of ways. During the fall 2014 teacher retreat, she described some of the benefits of utilizing mindfulness in the classroom and led a meditation activity for everyone in attendance. She is also scheduled to lead quarterly professional development sessions on socio-emotional learning; including instruction on the teaching of mindfulness and other contemplative practices. In addition, she has created posters and distributed materials aimed at spurring a school-wide conversation about these topics, as well as helping to develop a common language around social emotional learning. Along with the activities she guides and materials she provides, the SELC is also a general point-person for teachers looking for additional advice or assistance on implementing mindfulness in the classroom. The SELC expressed that she wished she had more

time to devote to promoting socio-emotional learning, but that it wasn't possible given her dual role.

It is worth noting the SELC's prior experience with and exposure to mindfulness-based practices: Her mother is a teacher of contemplative prayer and she, herself, has practiced yoga with meditative components. She expressed a strong personal interest in the use of contemplative practices in schools and in the preceding summer (2014), she took an online course on mindfulness through the Mindful Schools organization. Prior to teaching at this school, she had also been exposed to mindfulness during two years she had taught at a private school in Atlanta.

As it currently stands, the use of mindfulness-based approaches at School 1 is encouraged by the administration, but used regularly by a small minority of teachers. Of the teachers who use it, mindfulness tends to be employed during times of transition, such as first thing in the morning, or after recess or lunch.

School 2.

The second school to be examined for this study was a private school in Atlanta. Mindfulness-based programming was officially introduced when the parent of a student connected the school to researchers who were interested in bringing contemplative practices to schools. The parent was a supporter and advocate of Emory University's Mind-Body Program and the Emory-Tibet Partnership, and it was through this channel that she heard of researchers who wanted to study a recently- developed Cognitively-based Compassion Training (CBCT) program in school settings. Having heard that the researchers were interested in recruiting schools, she brought the idea to School 2's psychologist (also the wife of the school's founder). It wasn't uncommon for parents to make programming and curriculum suggestions to school

leaders, however, in most cases, changes were not made in response to the suggestions. In this case, though, the nature of the suggested programming was well-matched to the overarching goals of the school as well as the current interests of the school leaders. At the parent's suggestion, the psychologist at School 2 reached out to the Emory researchers. A decision was made by both parties to initiate a CBCT program that would be studied, and would aid in the development of a CBCT curriculum for youth.

Emory researchers came in 2011 and brought with them preliminary curriculum and activity ideas for selected elementary classrooms. While, over the course of the program, many ideas worked well for the children involved, regular classroom teachers were often relied upon by the Emory study staff to tailor language and activities to specific ages and personalities. Members of the research team would visit the elementary classrooms two to three times per week. The CBCT curriculum consisted of a combination of teaching, discussion, and CBCT meditation practice. Activities originally developed for an adult audience were altered for the young target audience: Material was delivered through dynamic and interactive methods including games and storytelling. In addition, silent mediation periods were significantly shortened to suit the abilities and needs of children (Pace et al., 2013). Though the program included a variety of contemplative practices, mindfulness was a strong component of the activities, therefore it can be considered to be mindfulness-based programming for the purposes of this study.

After the completion of the Emory program and study, a majority of the teachers who had been involved continued to use mindfulness in the classroom in some capacity. It was during this post-intervention time that the ground-up community support for mindfulness took form at School 2. One teacher who had a longtime interest in contemplative practice began to use it

regularly as an opening activity for weekly mentoring meetings for new teachers. Another

teacher who had formerly been unfamiliar with mindfulness practice co-taught a short class on

the use of mindfulness in sports.

As it currently stands, a minority of teachers at School 2 regularly use mindfulness-based

programming in the classroom. The use of mindfulness, however, appears to be poised for

growth. Multiple groups on the school's campus provide encouragement and support for both

personal and classroom practice of mindfulness: A weekly morning group meditation is held and

a quarterly 'mindfulness meet-up' brings together people interested in expanding the use of

mindfulness and other contemplative practices in the classroom. It was through this group that

the idea for a mindfulness resource website emerged. The website is currently in development

and will be aimed at sharing classroom activity ideas and other mindfulness resources. Financial

backing for the project comes from a grant directly from School 2.

Themes

The two schools examined in this study exhibited very similarly-themed responses to

most interview questions about the process of programming implementation, which were

therefore analyzed and synthesized together to reflect common experiences, challenges, and

solutions. From the interview transcripts, I identified 18 codes (themes) (See Appendix D). Of

the 18 themes that I identified through the coding process, some that were discussed and

emphasized the most were 'time', 'accountability', 'training', and 'leaders'. 'Time' comprises

references to time needed to implement mindfulness or to train students and teachers in the

practice of mindfulness. 'Accountability' refers to comments ensuring that mindfulness is

practiced in classrooms. This includes any mention of administrative follow-up or follow-

through concerning mindfulness programming. 'Training' refers to comments about training and educating teachers and administrators on the uses and applications of mindfulness in any capacity. 'Leaders' refers to comments about having a person or team dedicated to instituting mindfulness programming.

The themes of time, accountability and leaders were mentioned by twelve of sixteen interview participants, and the theme of training was strongly emphasized by all participants. Considering these 18 highly underscored themes, I hesitated to label any as solely deductive or inductive: While I anticipated hearing interviewees cite time constraints as being an obstacle to mindfulness programming, my interview questions did not ask about it directly: Rather, it emerged inductively from the data. This dynamic applied to other themes including 'accountability' and 'structure'.

During this stage of theme-identification, I took into account all information I had gathered for the document review. The documents mainly consisted of field notes I had written before, during, and after interviews. Also included were examples of teacher resources that were used for mindfulness training and implementation; along with my notes on participant comments pertaining to those resources. Finally, I was given two anonymously written examples of student feedback about the mindfulness programming. All types of collected documents were used to clarify and substantiate participant statements.

In this section, I present the thematic groupings that were emphasized most strongly in the data and most effectively convey what participants had to say about mindfulness-based programming. Though the schools presented different specifics and stories of programming introduction, the majority of insight from each easily merges to create a cohesive statement. Although I have tried to group the themes to present them clearly and simply, many themes are

interrelated and interdependent. In this section, I aim to describe each individual theme while also placing it in the context of the findings as a whole.

Individual Influence on Programming

While gathering narratives from each school pertaining to the introduction of mindfulness-based programming, it became apparent that very small numbers of people were initially responsible for championing the idea. Even as the number of people involved and interested in the programming grew, the same few people were repeatedly referred to as the strongest proponents.

> *"Yeah, we have a teacher, (name). She's retired now, but she led groups at the school, and one of the groups that she led, I was in. She did mindfulness training, and different types of routines and activities with us, and then when she retired, she also gave me a book on it. And, I mean, she was the one who showed us the way!"*

In addition to assisting with mindfulness training and the logistical arrangements that programming entailed, these individuals were described as being inspirational to members of each school's faculty and staff.

> *"So (name) and some other professors and students would come in, I think on a weekly basis, to a few of the classrooms, and my classroom was one of those classrooms. And then that following year, I came in, so it was kind of already part of our routine and part of our habit, but it was developed in conjunction with the University and a specific group of people who were really dedicated and passionate. That kind of passion is catching and spreading and people are going 'Ooh! That's working in your room. What are you doing differently? What can I do that you're doing? And I want to try it too!'*

"It was kind of interesting to hear the teachers, as we are using a little more widely in the

elementary school… then when they go to junior high and then there are teachers who

are dedicated in junior high using it….it's kind of filtering up. And that's been a really

cool thing to see. I would say Kelly was instrumental to some of that. If you get a chance

to talk to her, just this amazing, passionate, influential person. So she had friends all over

campus and she talked about [mindfulness]."

Personal Motivations

The individuals who were asked to participate in interviews were referred to me because

one or more colleagues of theirs had acknowledged their interest in, or regular use of,

mindfulness-based activities in the classroom. Beyond that commonality, most participants also

shared having had previous experience with or exposure to contemplative practices, usually

including mindfulness. It became apparent while collecting and reviewing the data that prior

positive experience with mindfulness-based activities was a significant factor in the comfort and

frequency with which a teacher used mindfulness in the classroom. It also became clear that this

prior personal exposure was a highly motivating factor for teachers. Several teachers shared how

their personal successes with mindfulness affirmed their belief in its value for improving aspects

of mental health.

"Going through the [MBSR] course I noticed significant benefits from the daily

meditation practice in term of anxiety levels. And then I had a rough period afterwards

where I fell off the bandwagon, so to speak, and was less frequently doing the daily

meditation, and I got in touch with one of the teachers and I've been meeting with her,

and in general, I noticed that when I'm practicing daily…it always goes better when I meditate with a group, so that's one lesson learned. Or at least if I have that exposure once a week. But when I'm doing daily meditation I do notice physical and emotional benefits from it for sure."

"I think it all kind of boils down to the exposure to mindfulness that key faculty and staff have had. Those of us who are doing more with it are ones who've had more exposure and success with it ourselves."

"I think that some teachers who have had previous exposure to the concept, like myself, were really excited, like' Wow this could be cool!' Others, especially at the retreat, last year I remember, had very common reactions to maybe their first time sitting for five minutes, is, you know 'Am I supposed to be…Am I doing it wrong? Am I supposed to be thinking, not thinking, trying to not to think?' You know, so there's a lot of fretting going on about the five minutes we spent. And, and so for some teachers, umm, I have not heard anyone say "Oh, I don't think this is important' but I'm sure if teachers have had no exposure to it before, then it's going to be a lot harder to get buy-in from them; either because A. They feel overwhelmed with all the other numbers of initiatives they're supposed to be implementing in the classroom and B. Umm, they don't feel adept at these practices and concepts themselves. So, you know, the, the thought pattern would be "How am I then supposed to, umm, teach my own students how to be mindful?'"

Several teachers expressed their belief that a personal mindfulness or contemplative

practice is essential for anyone trying to teach it or introduce such programming into a classroom.

> *"What is really true and authentic for me is, I cannot transmit mindfulness unless I am practicing it. But, that isn't such an easy sell, if you see what I mean. If you want to try to, kind of spread it, because there are teachers who are very drawn to mindfulness practice for their kids, but don't necessarily want to buy into the whole story. But I personally think that the way that I can do it is modeling what it's doing for me really."*

Other Motivating Factors

Aside from powerful personal experiences with mindfulness and contemplative practice, several teachers reported that their main motivation to use mindfulness in the classroom came from observing positive outcomes that students experienced from through the practice.

> *"Third grade last year had a cultural problem. I don't know if (lead administrator) went into this, but the whole grade just seemed to start bickering and fighting, and this happens to us every once in a while where a whole grade can seem to kind of plummet and people are not happy anymore and there are bullying dynamics. And I felt like part of the strategy for dealing with that decline was mindfulness and having a lot of communication; a lot of talking. But then there was just also time, space made, for just being quiet with one another and I felt like it was effective. The culture of that group this year is better than where we left it off last year. So I feel like it's almost an intervention approach. I think that the current sixth grade class has also done some similar stuff. They've also struggled sometimes with culture. They have some similar mindfulness-oriented interventions. But then there are also classes that…the current third graders*

which were second graders last year, which have not had a cultural decline, but their teachers have been pretty consistent in doing mindfulness. And the kids, the things that they'll say coming out of a mindfulness experience are just…they get really, really inspiring, and the teachers want to share it with everyone. Like, you know, insights that will come to them."

"I think we're both, my teacher partner, we're both very like aware of how it helps students and how, especially little kids, how they have trouble controlling their emotions sometimes, and so it's helping them to calm down and helping them to realize what they're feeling. And we just both value it and think it's important and so we make sure to include it. And we both do it on our own as well. You know, we like to meditate and that's just part of our lives."

When I asked one teacher about the best ways in which to introduce other educators to the practice of mindfulness and its classroom applications, she emphasized the need to promote the practice as a helpful classroom management tool rather than an additional programmatic burden.

I would tell [teachers] that this is something that we do every day. It's something that we do with the kids. It's calming for us as well as them. You can do it in five minutes. I would make it more like a commercial. 'These are the top five reasons you can do it and I'll teach it to you in five minutes or less!' You know something like that, and you can see who buys-in, but, I would definitely make it more about what you'll get out of it as well as what the kids get out of it."

There are a variety of paths by which the teachers and administrators interviewed for this

study first became interested in mindfulness. In the majority of cases, positive personal

experiences kindled their interest in spreading the practice. In other cases, mindfulness was

viewed as an effective tool for the calming of children and classroom management.

Training and Support

Based on what I gathered from the interviews, there was a strong link between personal

or first hand experiences with mindfulness and its use as a classroom tool. Teacher buy-in

appeared to be highly influenced by personal experience, observation of student outcomes, and

the understanding that mindfulness can be an effective tool for classroom management.

Further conversation with interview participants revealed more information about the aids

and obstacles to implementing mindfulness-based programming in a school. Many themes arose,

but each centered, in some way, on the topics of training and support. Common themes were

structural programmatic support from the school, the allocation of time, the establishment of a

mindfulness leader, systems of accountability, community around mindfulness, and access to

resources. It should be noted that these topics emerged at both schools in both positive and

negative contexts; as elements that helped programming succeed at the schools and as elements

that were lacking, thereby not sufficiently supporting the programming.

Training

A concept that was strongly emphasized by participants was the importance of providing

comprehensive mindfulness training for teachers. Interviewees said that, while they perceived

agreement from fellow teachers that mindfulness in schools was a worthwhile pursuit, the

majority did not make it a regular part of their curricula. The explanation for this was framed by

most interviewees as a need for additional teacher training and preparation.

I think that teachers are much more willing to try these techniques with their students if they have had success with the techniques, so, how do you make time to introduce every teacher to techniques that people naturally tend to be pretty skeptical of? From the get-go you hear a lot of statements like 'Well I just can't sit still for that long' or, 'My brain's always going fast.' You know, there's not the assumption that this is just human nature: It's the assumption 'I am like this' and so, that alone would take significant time to sort of blow the dust off of some of those myths and misconceptions. Actually do some practicing as a faculty I think would be important."

A number of comments were made about the need to clarify to teachers and administrators what mindfulness is and what the practice of it consists of.

"You would want to assure teachers up front that you don't have to be a meditation guru in order to implement some of these techniques. In fact, we can be doing this concurrently with our students and we can learn just as much as if we were practicing on our own."

Comments were also made about the ideal nature of teacher training and the importance of spending sufficient time on it; so as to allow teachers to become more comfortable with the practice.

"I think [teachers] need to have a, a good amount of training before they're going to feel comfortable. We just finished our training for teachers at (school). We trained twelve teachers; six of them in mindfulness, six of them in the full compassion training program, and most of them didn't feel comfortable after. It was about a ten week, once a week training that we did. Only maybe two of them felt comfortable actually bringing it into the

classroom after ten weeks. And so that signaled to me that they need to have a stronger

background…I think we need to create really great programs that train teachers, and

that allow them to think about how they would actually bring that into the classroom. And

right now, there are few places that are trying to do that."

During discussions on communicating with teachers who are being newly introduced to mindfulness, training was framed as an opportunity for convincing them of the practice's merits.

"I would want to, kind of hook people in right away with talking about research and

experience with the effectiveness of it and then I would want to show them that this is a

focus of the school but we're going to be doing everything we can to make this as

painless as possible for teachers."

The majority of participants discussed effective and ineffective forms of administrator-teacher communication. Most agreed that activities requiring additional reading or writing for teachers would be less popular and, therefore, less frequently used. The use of training videos, group discussions, and first-hand mindfulness experiences were deemed to be more effective methods for spreading the information throughout a school.

"Whoever the teachers are who need to be bought-in; getting them all in one place at one

time, and having a majority of the information dissemination be verbal and through

dialogue and conversation, and through practicing instead of like, 'Here's a big email.'

or 'Here's a Google doc.' or 'Here's a Google folder with a bunch of docs in it.' That

might be helpful. I'm a realist. Just because you have an idea and you want to make it

happen doesn't mean that you can just trust that everyone else is just as excited as you

are. So the number one aid would be getting everyone together at the same time."

Several interview participants commented on the potential effectiveness of having an

outside consultant or teacher lead the mindfulness programming for students, teachers, or both groups. While participants spoke of such collaboration positively, one person mentioned the high economic cost that pre-arranged programming can incur on schools.

"[Bringing in an outside consultant] would be the best case scenario. Absolutely. Because then, [teachers and administrators] just show up and we're receptive and we brainstorm and think about how it fits us, but the intensive research and development piece wouldn't have to be there as much, because you're relying on someone else's expertise. We've gone through the same process in thinking about a variety of other programs, but then there's the money question."

Structural Support

For these purposes, structural support refers to broad, school-provided backing for mindfulness-based programming. This theme may encompass the facilitation of training, access to resources for teachers, scheduling allowances for mindfulness practice, the creation of leadership positions at the school, and the support of an active mindfulness community at the school. Most of those topics will be expanded on individually in this report, but here I present some additional aspects of structural support from a school using mindfulness-based programming.

Although partial (rather than mandated, school-wide) mindfulness programming implementation was in place at both schools, there was discussion among some interview participants about the benefits of administrative initiatives to add expectations and structure to mindfulness-based programming.

"Well, I would want to make sure that we had a schedule in place so I knew…what that

setup and structure would be, so I could plan the level of intensity. You know it seems like you can experiment with mindfulness techniques with students, which might look quite different from fully implementing a mindfulness program in a school. So I would want to know that, and I would really want to share with teachers up front that, as a fellow educator, if it were me as a fellow educator, you know, my goal is to provide teachers with techniques that I genuinely believe will improve the quality of their experience as teachers and the students' level of happiness at school….Like, for instance, (teacher) came away from the meeting before last saying 'Ok, so I'm, I'm going to provide a poster with I messages for each class and something with the following acronym on it that helps us to remember XYZ.' That, versus sending teachers an email with an attachment, like 'Print this out and post it in your classroom.' Well, the majority of people aren't going to do that, so…doing a lot of the legwork for teachers."

"For administrators, I say it's important to get them on board because they control how time is spent, and they also control the overall agenda for any given staff meeting. And then the third reason would be, in order to really do it well, you're going to need someone who's not in the classroom all day to be monitoring what's actually happening with it: So the accountability piece too."

"The staff development has been very helpful. Being able to be sent to the Garrison Institute or, some teachers went to the Omega Institute. And then a general stance from the administration saying 'Yeah, this is a good thing, and if you wan to do it you should, and if you need help, we'll help you.'"

Time Allocation

The theme of time as an obstacle was frequently discussed during interviews. The perceived difficulty of finding time to use mindfulness with students in the classroom was the most common context for this theme. Other mentions of it highlighted the challenge of finding sufficient time to introduce teachers and administrators to the practice and train them in its uses.

"With any public school, even if you're a charter school, you are accountable for any number of tests, assessments, reporting. Plus, on top of that we're wanting to do this that and the other to make [the school] special, you know, to be special, to provide opportunities for our kids, and I, after five years, more and more I see the value of a school really saying like, 'We're going to do these few things really well.' But public schools, in a sense, I think don't really have that luxury that much because of the baseline of reporting and testing that we have to do anyway. I'm not saying I don't think it's possible to have a thriving mindfulness culture in a school but it would need more time than we've been able or willing to give to it."

"I think that the biggest obstacle is time. I do think that if we spent enough time really talking about all of the emerging research that's out there, about the effects of mindfulness in schools, it would…any teachers who were nervous about it maybe having religious undertones, or, 'Why are we doing this?'…I think that time spent on talking about the 'Why' question is critical, and I don't think we've spent enough time talking about why."

Establishment of Leadership

One concept that was emphasized by all participants was the importance of having a person, or team of people, dedicated to the implementation of the mindfulness programming. It was repeatedly expressed that, in order to keep the programming on-track, there needs to be at least one individual whose job description includes the development of mindfulness-based programs at the school:

> *"In order to really do it well, you're going to need someone who's not in the classroom all day to be monitoring what's actually happening with [the mindfulness programming]."*

> *"I just see over and over that with programs like this in schools, the amount of thought and thoughtfulness you give it from the beginning makes a huge difference in how well it's implemented…if the capacity is there, having a team of people helping with conceptualizing the program would be the most effective way to do it."*

System of Accountability

The theme of accountability repeatedly emerged during discussions of barriers to consistent mindfulness programming implementation. The presence of teacher autonomy, which is discussed later in this section, provides flexibility to include alternative programming such as mindfulness, but also allows those teachers who are disinclined to use it, to exclude it from their classes. When asked what factors or mechanisms would be most effective in encouraging all teachers to use the mindfulness-based practices, many interviewees responded that a system of

administrative accountability could be highly effective.

> *"(Name) did a really good job of training on [mindfulness] and providing resources. So that's one thing, but also having someone who's checking in to make sure it's happening, because teachers…there're so many things we have to do that if it's not something that's important to them, then they might not be doing it. But if they're being held accountable, then they'll do it and I think they'll see why it's important."*

Several participants at School 1 made the suggestion that mindfulness practice could be mandated school wide at a certain time of day (e.g., first thing in the morning) and that such an arrangement would allow for an administrator to physically visit classrooms and ensure that the practice was being used.

> *But then, not to just leave it [with the mindfulness training]. To really check in with people so that it's not forgotten, because [teachers] learn so many things and hear so many things that we definitely will forget about something. So, like a check in is good…if it was an administrator or someone who actually has time to check in at those times. Or, even have a school-wide time that everyone is kind of like, just quiet and….like from this time to this time is mindfulness time and that would even help to implement it as a school. So that everyone knows that this time is allotted for it, and it can be done.*

Community

The theme of community is a broad one, and may encompass everything from optional weekly teacher meditation sessions to an online message board aimed at facilitating the sharing of ideas pertaining to the use of mindfulness in the classroom. In this context, community is essentially the creation of space for teachers, administrators, parents, and students to share

successes, challenges, and ideas related to mindfulness and other contemplative practices. This theme includes, but is not limited to, the sharing of resources. Among the majority of interviewees who discussed topics related to community, each person referred to it as a significant asset to mindfulness in schools.

> *"Well, people just say 'Oh, you're doing mindfulness? What are you doing about it? Tell me about it, because I'm trying something and I don't know if I'm on the right track, or I feel like it's only meditation. What are you doing that different from just meditation?' So those kinds of conversations, kind of stem and we make time within our own meetings, even, to talk about curriculum at age level, or across age level. Having those dedicated times to discuss things that are important to those particular teachers, that's so necessary, because if there isn't a conversation, then nothing's happening."*

> *"We always borrow from each other and use each other's ideas, and book resources, and book notes, and quizzes. It's a big, shared community; whether that's just in your own little community, or in the internet web community, but definitely. I think that pulling in teachers that know the resources, and know the software and could easily get those going would just…you still have to be taught how to use the materials, but you would already have the teachers so far set up to succeed, versus just giving them a book; it's like 'Ohh…well, let me put that one on my shelf and I'll read it next year.'"*

Access to Resources

One of the resources that was spoken of during interviews as being most significant was a community of people practicing mindfulness (as discussed in the previous section). In addition to

this overarching source of support, the majority of participants noted the need for specific types of resources; both for easing classroom implementation, and for helping teachers who were unfamiliar with mindfulness better understand its applications. Video guides and demonstrations, mainly to be found online, were repeatedly mentioned as being highly valuable.

"I think the thing that teachers seem to always be the most impressed with is videos of other teachers doing the exact same stuff. I feel like the best is if it's teachers from your school, but if it's teachers from other schools, that's also impactful. Watching those California kids do this stuff and watching some of their conversations that they would have probably was the most effective part of my presentation to [the faculty]. So seeing it in action. Seeing, definitely it's best if it's not too polished I think, because then they know it's promotional, and then it seems less realistic. Like, if you can see the problems that might come up, emerge, so then you don't think 'Oh, they'll be no problems.' Let's say there are some kids who don't take it seriously, and they try to sort of undermine it. You know, show them in videos, too. Because [otherwise] it just wouldn't be helpful to that teacher whose classroom management isn't quite where she needed it to be, or he needed it to be. So, that's one tool. I find that when we have too many readings about things, teachers don't read them. I think that there are some websites out there that could probably capture the teachers' attention more than, you know, printing off pages."

"For schools that are interested, I really think that, like the Mindful School's, you know network that has videos, I mean that is just super helpful because you're not having to reinvent the wheel and create all the documents on your own."

Another resource-related thought that was expressed by most participants was the need

alternative approaches to learning. The theme of teacher autonomy was reiterated by more than half of participants. The qualities of openness, flexibility and autonomy were most often used to describe why the schools were uncommonly receptive to contemplative practice.

"I feel like our faculty…we're pretty young on the whole. We tend to be pretty open-minded and we come from a wide variety of backgrounds and there's the understanding that you need to be respectful of different approaches and ways of doing things."

"I think this is pretty grassroots experimental school. We do project-based learning, so we always have kids coming in and out 'We're taking a survey for this.' and 'We're raising money for this.' You know, for their various projects, and there's just a general culture and feel of 'Sure! Yeah, let's give it a try.' Now, the downside of that is that we can be jack of all trades, master of none, but I like the openness of it as a faculty culture."

While some participants framed it as being an asset to the diffusion of mindfulness-based programming, teacher autonomy at a school was sometimes cited for inhibiting the broader use of mindfulness-based programming implementation.

"Well, one of the problems, I think, is we have a culture here that is so focused on teacher autonomy that even when you try to make programmatic changes, it's harder. So, I think that in that way, some schools might have an advantage over us. So, if they wanted to do mindfulness work with the teachers, and the culture is like, 'When we say do mindfulness stuff, it happens.'"

"I have come to see [teacher autonomy], in this more reflective phase that we're in right

now, as, you know, there's a pendulum I guess, and we may have swung too far to the other side of that…We have a fifteen minute daily meeting every day that is a great opportunity for mindfulness, and a lot of teachers, that's exactly what they started doing. We also have project-based learning, and project-based learning…I can see submitting projects being related mindfulness. We also have large class days. We have segments where I feel like it could be a good fit. If you're not willing to mandate it, if that's not the culture of your school, than you're going to have some people just doing what they're already doing during those blocks. So that's what happened. Some people started to do it and some people didn't."

Summary

In this chapter I presented the findings of the study, which were based primarily on analysis of the interview transcripts. These findings were supported by a review of documents and observations collected throughout the course of the study. Chapter 5 will draw conclusions from the examination of these results and will explore implications for programming implementation and make recommendations for further research.

CHAPTER 5: DISCUSSION, RECOMMENDATIONS, AND CONCLUSION

Discussion

Reflections on Proposition 1

Proposition 1 suggested that, at each school, the mindfulness-based programming would most likely have been introduced and upheld by a small number of strong advocates. This idea appears to be true for both schools examined in this study. I determined that this was the case by verifying the key individuals and events with each interview subject. All participant accounts were in agreement about who had championed the programming.

The slight differences in the pathways of program introduction at each school shed some light on the variety of possibilities that exist. While at School 1 the founding principal was responsible for suggesting the use of mindfulness, School 2 was steered towards the use of mindfulness by an interested parent. In order for a program to be incorporated into a school's curriculum, the administration must be on board to some degree. Due to this necessity, it might be assumed that ideas for new programming are introduced by a school's faculty or administration. A parent having made the initial connection to the programming for School 2 suggests that there are feasible alternative pathways.

Reflections on Proposition 2 and Diffusion of Innovations Theory

In order to anchor the findings of this study in a theoretical framework, and therefore increase the transferability of the ideas, I mapped the content and themes from interviews onto constructs of DoI. As suggested in Proposition 2, particular constructs of DoI were more evidently salient than others. Although open-ended questions did not directly attempt to elicit

information on specific elements of DoI, the narratives emerging from interviews often described experiences applicable to the theory's constructs. Both of the schools included in this study demonstrated Innovativeness by adopting programming that can be reasonably considered to be an innovation; being a practice that is perceived as being new by both individuals and schools (Glanz, Rimer, & Viswanath, 2008). Participants characterized their respective schools as being open to experimentation and new ideas.

All DoI-named characteristics of innovations (Relative Advantage, Compatibility, Complexity, Trialability, and Observability) were recognizable in the collected data. The perceived Relative Advantage of using mindfulness-based practices was apparent. The majority of participants spoke of how using mindfulness as a classroom tool helped both students and teachers: Its use was believed to improve student behavior and, in turn, teachers reported being better able to manage their classrooms.

The DoI constructs of Compatibility and Previous Practices played noticeable roles. As I discuss in this report, teacher use of mindfulness in the classroom was reportedly highly influenced by personal practice of mindfulness. The majority of people interviewed had been familiar with contemplative practices prior to implementing them at the school. This denotes that the practice was compatible with both their personal and professional interests.

The DoI constructs of Complexity and Trialability were emphasized by participant assertions of teacher autonomy and its implications. Due to the flexible nature of each school's curriculum, as well as the social norms of each school, teachers reported having a large amount of autonomy. According to participants, this independence decreased the complexity of introducing mindfulness-based practices to the classroom. Autonomy, and the lack of a school-wide mandatory implementation, also allowed teachers to test the use of mindfulness-based

practices in their classrooms without having to make a final decision about adopting the practice.

The DoI concept of Observability stood out as being important for gaining the initial interest of teachers as well as supporting the continued use of the programming. This is exemplified by the multiple comments made about the helpfulness of watching short videos of contemplative practice in action. Videos of teachers using various mindfulness-based activities provided a clear picture of implementation possibilities and clarified for some

Limitations and Strengths

Though this qualitative case study provides some insight into the process of mindfulness-based programming implementation in schools, there are factors that limit its reach. Firstly, while case study design offers many advantages it also has drawbacks. One limitation to any case study, though notably not a goal of the study design, is generalizability. The value of case research to the expansion of knowledge is an often-debated subject due to the specificity of the findings and the varying levels of rigor employed when it is undertaken (Yin, 2003, Yin 1981). Additionally, so much data was collected through interviews and notes that it was difficult to fully convey the complexity of opinions and issues in a simple a straightforward manner. In light of that, it was necessary to make decisions about what to emphasize and how to organize data meaning that my interpretation was one of multiple ways in which the data could have been represented. Additionally, case studies do not lend themselves to numerical representation, which can make it more difficult to convey the data they contain (Hodkinson & Hodkinson, 2001).

In this case study, the schools being examined had unique characteristics. School 1 was a five-year-old public charter school serving a predominantly African American population. Class

sizes were small and the student-teacher ratio was approximately seven to one. Based on the opinions of key informants, the school leadership possessed an unusual amount of flexibility compared to most public schools. School 2 was an elite private school. Although it was not entirely lacking in diversity, it enrolled fewer racial minorities than School 1, and served students from more affluent families. Considering the unique qualities of these institutions, it cannot be assumed that what is found to be true for these schools in terms of mindfulness-based programming will be true for most schools.

Another limitation to this study is its purely qualitative approach to understanding mindfulness in schools. A mixed methods design could have increased the rigor of the study and added to the validity of the findings. Additionally, the participant sample size for this study was very small (n=16) and random sampling was not used; therefore, the perspectives of those individuals may not be representative of school personnel as a whole.

Another limiting factor I encountered over the course of this research was the broad range of translational technique in the field of mindfulness. Although much of the literature on the topic tended to use the same definition for the practice, individuals' definitions of what mindfulness consists of varied rather greatly. During interviews, this inconsistency sometimes caused slight confusion on the part of participants about which school-based activities were of interest. Beyond this study, lack of uniformity and a common language surrounding mindfulness can make discussion about research on and implementation of mindfulness-based programming unclear.

Although the results of this study may not be generalizable, I believe that the broad themes are largely transferable. Concepts such as having sufficient leadership, structure, and accountability for mindfulness-based programming are expansive enough that, regardless of the

specific qualities of a school, the recommendations may be molded to fit. The rich data collected

through this qualitative method of study can provide a deeper level of understanding in regards

to the process of mindfulness programming implementation at schools. If analyzed effectively, a

case study on the processes through which mindfulness is introduced into schools has the

potential to contribute valuable knowledge pertaining to the dissemination of mindfulness

programming as well as the implementation of other alternative programming in schools. The

Diffusion of Innovations Theory (Rogers, 2010) provides the structure through which analytical

generalization can take place. Through this process, each case (each school) may be viewed as a

point of comparison, either reinforcing or calling into question the established propositions.

Additionally, between-case comparisons can be made to better understand the relationship

between the mindfulness programming implementation process and the constructs of DoI.

Though the findings of this case study may not be generalizable to all populations, they are

certainly generalizable to the theoretical propositions being used to structure the analysis.

Recommendations as a Result of This Study

The majority of recommendations I make as a result of this research are aimed at

supporting existing and emerging mindfulness-based programming in schools. Though I have

made some suggestions pertaining to the wider dissemination of the practice, much of the

information that emerged during interviews was system- and process-focused.

Support for Existing and Emerging Programming

One of the most significant aids to supporting existing and emerging mindfulness-based

programming is the creation of a community around that topic at the school. This community can

take many forms, but its key functions are allowing for the sharing of information and the provision of encouragement. Interview participants without prior personal experience with, or exposure to, contemplative practices shed light on the hesitancy sometimes felt when first encountering mindfulness. Having a personal connection to someone more familiar with the practice was often cited as a participant's initial link to mindfulness. It was also cited as a significant factor in their continued use of it. Having an accessible community also encourages personal practice of mindfulness, which may, in-turn, support its use in the classroom.

Another important component of forming a school community around the topic of mindfulness is the engagement of parents. If not actively encouraging their children to follow through with school-initiated mindfulness practice, parents should at least be aware of why the school finds the activity to be worthwhile. Interactive information sessions could be an effective way to accomplish this goal. Several interview participants suggested holding an event where parents and children are invited to take part in a mindfulness activity together. Engaging parents would not only clarify the meaning of and uses for mindfulness, but it would further disseminate the practice and possibly expand students' use of the practice to their home environments.

Several interview participants expressed that the ease with which teachers could initially learn about mindfulness, or sample a mindfulness experience, had a substantial impact on their choice to explore mindfulness. A school interested in introducing mindfulness practice or expanding an existing program would benefit from making the introduction and training processes as simple as possible. As one teacher new to contemplative practices suggested, introduction and training sessions could be held during regular school hours so as to not extend the length of the workday. While the benefits of mindfulness practice itself provided sufficient motivation for the teachers I interviewed to continue using it, those teachers who have little or no

mindfulness experience may require additional encouragements: Incentives such as free lunch or refreshments were cited as being influential in attracting new teachers to the practice.

Any school wanting to incorporate mindfulness-based programming into the curriculum would benefit from establishing a leader for this effort. Ideally, a school could hire someone whose sole responsibility was to plan, guide, and support the programming. Depending on the school's size, the administration's inclinations, and its financial capability, this type of leadership could take a variety of forms. The position could be either full-time or part-time. There is also the option to broaden the leader's goals to encompass topics associated with mindfulness, as was exemplified by the Social and Emotional Learning Coordinator in School 1. While engaging a leader to solely focus on mindfulness-based programming (or similar subjects) would be ideal, it is beyond the capacity of most schools to take this step. Within the reach of many schools is the option to create an auxiliary mindfulness-focused position for a teacher or administrator with a passion for the subject.

Establishing easy access to mindfulness activity resources for teachers is an enormous step towards extending mindfulness into the classroom. A lack of activity ideas was often cited by teachers in this study as being the biggest barrier to using mindfulness in the classroom. Although mindfulness activities, programs, and curriculums for children are still in the early stages of development, there are some developmentally appropriate resources available online and in books. Consolidating what ideas there are into a website (as School 2 is doing) or, more simply, into a compendium for teachers to refer to, would be an efficient way to provide educators with support for the in-class use of mindfulness.

Encouraging Wider Dissemination

In the early stages of this research project, my focus was entirely on the process of mindfulness-based programming dissemination and the expansion of the practice to the school-aged youth population. Though I continue to have that guiding thought in mind, I have realized that there are critical steps that must precede a large-scale, school-based implementation of mindfulness and other contemplative practices.

An important finding that emerged from this project was the scarcity of strong research on the topic of mindfulness-based programming and other forms of contemplative practice among youth; particularly in a school setting. Though the research that exists demonstrates largely positive results, the rigor of most studies on the topic is lacking, with few randomized controlled trials and heavy reliance on self-report or teacher-report. Having high quality research on the effectiveness of mindfulness-based programming in schools would not only more firmly establish whether mindfulness is an effective tool in a school setting, but it would provide affirmation and resources to schools already convinced of the practice's merits. Throughout the past decade, mindfulness has made its way into popular culture and there is growing enthusiasm for its many applications. Without a firm foundation of research, however, it will be difficult to widely diffuse this innovation.

Recommendations for Future Research

Within the topic of school-based contemplative practice, a focus on developmental appropriateness is needed. Of the previous youth-centered studies examined, most used programs and course materials that were originally developed for adults. Though small alterations can often make adult mindfulness activities suitable for children, the lack of programming aimed

explicitly at children is a deterrent to its use in schools; especially among teachers who are unfamiliar with the field.

Another pertinent research topic would be on the sociodemographic and socioeconomic barriers to practicing mindfulness. Though there have certainly been efforts to bring contemplative practices, such as mindfulness, to a variety of schools and communities with low socio-economic status, there appears to be a higher level of social acceptance for such practices in more affluent communities where parents and children alike have had previous exposure (Olano et al., 2015). Examining the nature of these social and economic barriers would help to inform program design for contemplative practices aimed at a broad audience, and ultimately increase accessibility to them.

Additional research on this topic would benefit from working with a larger number of, and wider variety of, schools. Studies looking closely at schools that have highly structured and expansive mindfulness-based programming, as well as schools serving greater numbers of students would be valuable additions to the literature. During the course of this research, I did not discover one article that focused on a school that had ongoing mindfulness-based programming. This field of research would also benefit from exploring negative cases in which a school attempted to implement mindfulness-based programming but failed to continue it.

Conclusion

School teachers and administrators who decide to include mindfulness-based programming in a school's curriculum believe the practice to be beneficial to the students as well as the people involved in those students' lives. The limited research available on the topic supports this notion and provides reason to believe that mindfulness-based programming may be

an effective tool for increasing student well-being in areas of both mental and physical health. In addition to potential health benefits, there are indications that mindfulness-based programming may have an impact on an assortment of other outcomes, including school-completion rates, academic performance, and interpersonal communication.

The results of this study suggest that teachers and administrators are receptive to the use if mindfulness-based programming and interested in exploring new and more effective ways of using it. These findings also indicate that some forms of structure are crucial to the successful implementation of mindfulness-based programming at a school. With the support of additional research on this topic, mindfulness and other contemplative practices have the potential of enriching educational systems, and the people who pass through them.

APPENDIX A: LITERATURE REVIEW SUMMARY TABLE

Literature Review Summary Table

Author Year Article	Participants	Program Description	Participant Assessment	Findings
Barnes, V.A., Bauza, L.B., Treiber, F.A. (2003) Impact of stress reduction on negative school behaviors in adolescents	African American students ages 15-18 yrs N=45	Four-month program of mindfulness-based stress reduction (MBSR). Participants assigned to Transcendental Meditation group (TM) or health education control group. TM group engaged in 15-minute sessions each day	Primary outcome measures assessed pre and post-test, including changes in absenteeism, school rule infractions, and suspension days	TM group associated with decrease in absentee periods, infractions, and suspension days. Control group associated with increases in all domains
Black, D. S. & Fernando, R. (2014) Mindfulness Training and Classroom Behavior Among Lower-Income and Ethnic Minority Elementary School Children	California K-6th grade public elementary school children N=409	Five-week mindfulness-based program based on a Mindful Schools (MS) curriculum of 15 minute sessions 3 times/week. Students received either 5-week program or 5-week program + 7 once-weekly sessions. No control group.	17 teachers reported on student attention, self-control, participation in activities, and caring/respect for others pre-intervention, immediate post-intervention, and 7 weeks post-intervention	Teachers reported improved classroom behavior up to seven weeks following intervention. MS+ group demonstrated increased attention compared to MS group.
Britton et al., (2014) A randomized controlled pilot trial of classroom-based	Healthy sixth-grade students (55 boys, 46 girls) N=101	Non-elective, classroom-based, teacher-implemented, mindfulness meditation intervention. Students	Self-reported measures included the Youth Self Report (YSR), a modified Spielberger State-Trait	Both groups decreased significantly on clinical syndrome subscales and affect but did not differ in the extent of their improvements. Meditators were

mindfulness meditation compared to an active control condition in sixth-grade children		randomized to either an Asian history course with daily mindfulness meditation or an African history course with a matched experiential activity (active control group).	Anxiety Inventory, and the Cognitive and Affective Mindfulness Measure – Revised (CAMM-R).	significantly less likely to develop suicidal ideation or thoughts of self-harm than controls.
Broderick, P.C. & Metz, S. (2009)	The total class of high school seniors (average age 17.4 years) from a private girls' school in suburban Pennsylvania N=120	Pilot trial of Learning to BREATHE; a mindfulness curriculum for adolescents created for a classroom setting. Part of students' health curriculum. 6 sessions: Body awareness, understanding & working with thoughts, understanding & working with feelings, integrating awareness of thoughts, feelings & bodily sensations, reducing harmful self-judgments, & integrating mindful awareness into daily life	Main outcome variables measured with pre and post-tests: Positive and Negative Affect Schedule, Difficulties in Emotion Regulation Scale, Ruminative Response Scale, Somatization Index of the Child Behavior Checklist	Relative to controls, participants reported decreased negative affect and increased feelings of calmness, relaxation, and self-acceptance. Improvements in emotion regulation and decreases in tiredness and aches and pains were significant in the treatment group. Qualitative feedback indicated a high degree of program satisfaction.
Desmond, C.T & Hanich, L. (2010) The effects of mindful awareness	6th grade students ages 11-12 years in urban, low income, public middle	A 10-week MBSR Program. Participants assigned to either control group or Mindful Awareness Practice (MAP) intervention group.	Teacher-rated measures were used to assess pre and post metacognition, executive attention, and control	MAP group participants maintained or improved executive attention and one of the executive control behaviors. Control students regressed in both

teaching practices on the executive functions of students in an urban, low income middle school	school N=40	MAP group met for 25- 45 minutes once per week. Each lesson included group discussion, practice of MAP skills, and closing reflections	behaviors in both groups; using the Behavior Rating Inventory of Executive Function (BRIEF)	domains.
Flook, L.et al., (2015) Promoting prosocial behavior and self- regulatory skills in preschool children through a mindfulness- based Kindness Curriculum	Preschool children from 7 classrooms in 6 different public schools in a Midwestern city. N=68	12-week mindfulness-based Kindness Curriculum (KC) delivered in a public school setting	Executive function, self-regulation, and prosocial behavior measured by teacher-rated social competence, several tasks related to attention and self-control, and grades	The Mindfulness-based Kindness Curriculum intervention group showed greater improvements in social competence and earned higher report card grades in domains of learning, health, and social-emotional development, whereas the control group exhibited more selfish behavior over time.
Flook et al., (2010) Effects of Mindful Awareness Practices on Executive Functions in Elementary School Children	UCLA-associated school 2nd and 3rd graders (7-8) N=164	MAPS, Sitting meditation, body scan, attentional awareness 30 minutes twice weekly for 8 weeks	Pre and post executive function assessment by parents and teachers. (BRIEF questionnaire)	Improvements seen in executive functions in treatment group. Those with the lowest ratings saw the most improvement
Gould et al., (2012) A school-based mindfulness intervention for urban youth:	4th and 5th grade participants from 4 urban public elementary schools	Randomly assigned to intervention or wait-list control condition. Received a 12-week yoga-inspired mindfulness	Self-report measures: The Short Mood and Feelings Questionnaire-Child Version, The Emotion Profile	Results indicated that gender and grade did not moderate intervention impacts. However, baseline depressive symptoms moderated both impulsive action and involuntary

Exploring moderators of intervention effects	N=97	program	Inventory, & The Responses to Stress Questionnaire,	engagement stress responses: intervention youth who reported lower levels of baseline depressive symptoms were more likely to demonstrate decreases in these stress responses relative to controls.
Khalsa et al., (2012) Evaluation of the mental health benefits of yoga in a secondary school: a preliminary randomized controlled trial	Adolescents in 7 11th and 12th grade classes in a rural Massachusetts secondary school N=212	Students were randomly assigned to regular physical education classes or to 11 weeks of yoga sessions based upon the Yoga Ed program over a single semester. Intervention group attended 2-3 yoga sessions per week.	Self-reported pre and post measures: The Self-Report of Personality version of the Behavior Assessment Survey for Children Version 2, The Profile of Mood States, The Resilience Scale, & The Perceived Stress Scale	Yoga participants showed statistically significant differences over time relative to controls on measures of anger control and fatigue/inertia. Most outcome measures exhibited a pattern of worsening in the control group over time, whereas changes in the yoga group over time were either minimal or showed slight improvements.
Mendelson et al., (2010) Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth	4th and 5th graders in four Baltimore City, public, low SES elementary schools N=97	A 12-week MBSR program: Participants assigned to intervention (MBSR) group or wait-list control group. Participants attended program during school hours 4 days per week. Each session was 45 minutes and included	Self-report measures: Responses to Stress Questionnaire, Short Mood and Feelings Questionnaire-Child Version, People in My Life,	Intervention group showed Improvements on Involuntary Engagement scale, rumination, intrusive thoughts, and emotional arousal.

		variety of mindfulness practices.		
Napoli, M., Krech, P. R., & Holley, L. C. (2005) Mindfulness training for elementary school students: The attention academy	1st, 2nd, 3rd grade students from two schools in a Southwestern U.S. city. N=228	Held 12 sessions over 24 weeks, using Attention Academy Program: Breath work, body scan, movement and sensorimotor awareness. Intro session in 9 classrooms in 2 schools. School administrators and researchers had preexisting relationship.	Self-reported and teacher-rated pre and post measures: Comprehensive Teacher Rating Scale, Test of Everyday Attention for Children, Test Anxiety Scale	Results showed significant decreases in test anxiety and increases in attention among intervention participants.
Sibinga et al., (2013) School-based mindfulness instruction for urban male youth: A small randomized controlled trial	7th and 8th grade boys in application-based, tuition-free middle school N=41	MBSR components: Participants assigned to MBSR or control Program for 12-week, once-weekly, 50-minute sessions. Intervention group received mindfulness instruction and practice of purposeful attention to the present moment. Control group participated in standard health program.	Pre, post, and 3 months follow-up measures collected. Self-report assessed psychological functioning, mindfulness, and coping approaches.	MBSR participants showed less anxiety, less rumination, and a reduction in negative coping approaches
Viafora (2011) Teaching mindfulness to middle school	Students from both a traditional charter school	An 8-week MBSR Program. Two separate treatment groups: students from middle school and students	Pre and post-intervention assessment with self-report scales	Both treatment groups had greater changes in all 3 measures between pre and posttest than the

students and homeless youth in school classrooms	and a school serving homeless youth N=56	from a school serving homeless youth. One control group. Treatment groups participated in mindfulness course over weekly 45-minute sessions: instruction in mindfulness and discussion	measuring acceptance and mindfulness, psychological inflexibility, and self-compassion	comparison group, which showed a negative direction of change in all 3 measures
Wall, R.B. (2005) Tai Chi and mindfulness-based stress reduction in a Boston Public Middle School	Six 6th grade boys and five 8th grade boys from a Boston public middle school N=11	Used combined Tai Chi and MBSR during the 5-week program	Qualitative statements from participants assessed: calmness, relaxation, sleep, reactivity, self-care, self-awareness, and sense of interconnection	Statements the boys and girls made in the process suggested that they experienced well-being, calmness, relaxation, improved sleep, less reactivity, increased self-care, self-awareness, and a sense of interconnection or interdependence with nature.

APPENDIX B: INTERVIEW GUIDE

MINDFULNESS IN SCHOOLS
TEACHER AND ADMINISTRATOR INTERVIEWS

1. Can you describe your involvement with the school?

- In what capacity are you connected with the school?
- How long have you been connected with the school?

2. How would you define mindfulness?

3. Can you describe your experience with mindfulness-based activities prior to this project?

- What types of mindfulness-based activities have you been involved with outside of this school program?
- How would describe the importance of these activities in your life?
- Can you describe your prior involvement with mindfulness-based programming for children?

4. Can you tell me about the mindfulness-based programming that has been implemented at the school?

- By what name(s) is it referred to?
- Who leads the programming?
- Who participates in the programming?
- How long has the programming been in place at the school?

5. Can you describe your involvement with the mindfulness-based programming at the school?

- Can you describe your involvement, if any, with the initial introduction of the mindfulness-based programming to the school?

o Can you describe your involvement, if any, with the implementation of the mindfulness-based programming at the school?

6. Can you describe any issues the mindfulness-based programming was aimed at addressing at the school?

o Can you describe your impressions of how those issues were supposed to be remedied by the programming?
o Can you describe any previous programming at the school that attempted to address these issues?
o Why was this programming preferable?
o

7. Can you describe any challenges you encountered while attempting to introduce or implement the mindfulness-based programming?

o Can you describe any objections that were raised in reference to the programming?
o From what groups of people did these objections arise (teachers, administrators, parents etc.)?
o Can you describe any logistical challenges you encountered while attempting to introduce or implement the programming?

8. What actions did you or others take in order to resolve or overcome challenges to implementation?

o How would you describe the success of these actions?
o How have (and how can) time obstacles be overcome?

9. Can you describe the most significant aids to the implementation of mindfulness-based programming at the school?

o What factors ,would you say, were the most helpful in assisting the initial implementation of the programming?
o What factors have been the most helpful in sustaining the programming?

10. Aside from yourself, who were the key people helping to put the programming in place at the school?

- o What roles did the key people play?
- o Are you aware if that person had history of mindfulness practice?
- o What about these people made them helpful?

11. Not that many schools have introduced mindfulness programming, are there things that this school does differently? (Innovativeness, norms of the system)

- o If yes, can you describe those differences?

12. Looking back, what lessons have you learned about mindfulness-based programming implementation at schools?

- o What advice would you offer someone interested in implementing a mindfulness-based program at a school?

13. Do you feel as if the mindfulness-based programming at this school has produced the intended results? (Confirmation)

- o Why or why not?

14. Is there anything else you would like to add about mindfulness-based programming at this school or at any school?

APPENDIX C: INFORMED CONSENT

Emory University School of Public Health
Consent and Authorization to be a Research Subject

<u>**Title:**</u> Mindfulness in Schools

<u>**Principal Investigator:**</u> Kathryn Muldoon B.A.

<u>**Introduction:**</u> You are invited to take part in a semi-structured interview for the study "Mindfulness in Schools" because you are an individual who has been involved with the implementation mindfulness-based programming at the (School). The purpose of this interview is to find out more about your role in the implementation of this programming, your impressions of this programming, and your impressions of the implementation process.

<u>**Procedures:**</u> The interview, which will be held at the (School), will take about 40 minutes. We will tape-record the session so that we can make accurate notes. The tape recording will not be shared with anyone else and will be destroyed at the end of the study. We may also ask you for related educational materials that you routinely provide to students, parents, or administrators.

<u>**Benefits and Risks:**</u> Taking part in the interview may not benefit you personally, but we may learn new things that will help others. There are no known risks.

<u>**Voluntary Participation and Withdrawal:**</u> Your participation is completely voluntary and you have the right to refuse to take part in the interview. You can stop at any time after agreeing to take part in the interview.

<u>**Confidentiality:**</u> The tape recording will be destroyed after the end of the study. Neither your name nor any personal information will be shared outside of the group. We will never reveal your name and other facts that might identify you. People other than those doing the study may view the written compilation of the interview findings, but the information will be de-identified. Agencies and Emory departments and committees that make rules and policy about how research is done have the right to review these records. So do companies and agencies that pay for the study. The government agencies and units within Emory responsible for making sure that studies are conducted and handled correctly that may look at your study records in order to do this job include the Office for Human Research Protections, the Emory University Institutional Review Board, and the Emory Office of Research Compliance. In addition, records can be opened by court order or produced in response to a subpoena or a request for production of documents. We will keep any records that we produce private to the extent we are required to do so by law. We will use a study number rather than your name on study records where we can. Your name and other facts that might point to you will not appear when we present this study or publish its results. Study records can be opened by court order. They may also be produced in response to a subpoena or a request for production of documents.

Cost/Compensation: It will not cost you anything to be in the structured interview. You will not be compensated for your participation in the structured interview.

Contact Persons: If you have any questions about this study call Kathryn Muldoon. Her phone number is 207-939-2944. Call the Emory University Institutional review Board, if you have any questions about your rights as a participant in this study. The telephone number is (404) 712-0720 or, toll-free, 1-877-503-9797. You may also contact the Emory University Institutional Review Board via e-mail at irb@emory.edu

_____
Subject's Printed Name

_____
Subject's signature   **Date**   **Time**

_____
Signature of person obtaining consent Date   **Time**

_____
Printed name of person obtaining consent

APPENDIX D: CODEBOOK

Code Hierarchy:

- Expressions
- Challenges
    - ○ Pushback
    - ○ Constraints
- Supports
    - ○ Buy-in
    - ○ Backing
    - ○ Community
    - ○ Motivation
        - ▪ Transitional
        - ▪ Outcome
    - ○ Resources
    - ○ Structure
        - ▪ Leader
        - ▪ Training
        - ▪ Accountability
- Prior
- Unique
    - ○ Autonomy

Code	Description	Example
Expressions	All ways in which mindfulness is used at a school by teachers, administrators, and students or at home by students and their parents.	"We have a peace corner. A cozy corner and we kind of use that for mindfulness, like if they're having time where they're having difficulty with, like, they're upset about something, they can go there and take time to center themselves and calm down."
Challenges	General challenges or barriers to mindfulness programming implementation at a school (not otherwise described by "challenges" sub-codes).	"(teacher) and I went to a professional development workshop of theirs and loved it, so then we were like 'We've got to get a consultant to come in!' but it was just way way way too expensive."
Pushback	Objection to and/or disengagement with mindfulness-based programming by teachers, administrators, parents, or students.	"I think if we were to ask teachers to fill out one more form, or write anything at this point, it would be met with a fair amount of pushback."

Constraints	Factors impeding mindfulness-based programming, including time limitations, lack of interest, inadequate communication of goals, and confusion over the practicing or teaching of mindfulness.	"[Teachers] don't feel adept at these practices and concepts themselves. So, the thought pattern would be "How am I then supposed to, umm, teach my own students how to be mindful?""
Supports	General factors that contribute to the successful implementation and continuation of mindfulness-based programming (not otherwise described by "support" sub-codes).	
Buy-in	Teacher, administrator, parent, and community member philosophical buy-in (or lack of buy-in) to the mindfulness-based programming.	"For administrators, I say it's important to get them on board because they control how time is spent, and they also control the overall agenda for any given staff meeting."
Backing	Concrete support for mindfulness-based programming originating from the administration of a school (e.g. financial support, scheduling support).	"[The school] going to have four hours of professional learning, where right now we have zero hours of professional learning, and what we could do with that is to keep on bringing up the issue of mindfulness and training teachers and giving them ideas, and having lessons even prepared for them that they could implement."
Community	The reinforcement of mindfulness teachings and practices outside of the classroom for both teachers and students (e.g. Mindfulness-related groups or communities for teachers at or outside of the school, students practicing at home with family)	"I think it helps if we do it as a group. Like, when everyone does it at church and we just have this special meditation time, and the whole church is quiet. Like it really is cool, because you're practicing it. So if you're practicing it yourself, then, you'll incorporate it into your daily life or teaching."
Motivation	Motivations for the implementation of mindfulness-based programming at the school: Why mindfulness is something worth teaching.	"It kind of came out of 'How do we improve our socio-emotional learning in our school?' and we have a lot of students who, to be very frank, don't have time to stop and process, and a lot of impulsiveness."
Transition	Mindfulness-based activities used during	"A settling in, is what we called it,

	transition times in the school day (such as the beginning of the day or after recess).	and it was used for a transition between recess and beginning the afternoon activities, and it was very effective."
Outcomes	Changes at the school or among students, administrators, teachers, or parents that are attributed to use of mindfulness-based practices.	"I've seen a lot of improvement in how [the students] treat each other. That, for sure has improved."
Resources	Resources that are or could be helpful to a school implementing mindfulness-based programming (specific and general).	"I really think that the Mindful School's, you know network that has videos, that is just super helpful because you're not having to reinvent the wheel and create all the documents on your own."
Structure	Structure that is used or could be used to implement mindfulness-based programming in schools.	"Develop a common language, so that when students go from one teacher to the next teacher to the next teacher, your words are the same. Either we're all saying mindfulness, or we're all saying quiet time, or we're all saying something else… I think creating a common language and a plan of implementation and then sticking to that plan [is effective].
Leader	A person or team of people from the school with dedicated time for planning and implementing mindfulness-based programming.	"If the capacity is there, having a team of people helping with conceptualizing the program would be the most effective way to do it."
Training	Training teachers and school administrators about methods for applying mindfulness; teaching them about uses and implementation.	"I'm a huge YouTube person, even as an instructor, I will type up writing workshop examples and watch someone do something. I think teaching is the prime example of copying people in a positive way."
Accountability	Administrative oversight, follow-up and follow-through; ensuring that teachers use programming as asked or instructed.	"The accountability would come in the form of administration observing what's going on, so the, the implicit statement is "You need to be doing this because we're coming around to see you doing this.""
Prior	Prior personal experience with or	"I took a [mindfulness] class this

	exposure to mindfulness-based activities.	summer. My mom teaches something called contemplative prayer, so she's always tried to get me into meditation."
Unique	How the school is special, unique, or possibly different from other schools; qualities of the school that make it an environment conducive to mindfulness-based programming.	"…Taking [students'] gifts and using that in the classroom. I think that is something that we pride ourselves on and that we're really good at doing. Mindfulness comes into play because we do care about how you're feeling."

REFERENCES

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), 1-7.

Black, D. S., Milam, J., & Sussman, S. (2009). Sitting-meditation interventions among youth: A

review of treatment efficacy. *Pediatrics*, *124*(3), e532-e541.

Burke, C. A. (2010). Mindfulness-based approaches with children and adolescents: A

preliminary review of current research in an emergent field.*Journal of Child and Family

Studies*, *19*(2), 133-144.

Desbordes, G., Negi, L. T., Pace, T. W., Wallace, B. A., Raison, C. L., & Schwartz, E. L. (2012).

Effects of mindful-attention and compassion meditation training on amygdala response to

emotional stimuli in an ordinary, non-meditative state. *Frontiers in human

neuroscience*, *6*.

Desmond, C. T., & Hanich, L., (2010). The Effects of Mindful Awareness Teaching

Practices on the Executive Functions of Students in an Urban, Low Income Middle

School. Millersville, P. A.

Drapeau, A., Marchand, A., & Beaulieu-Prévost, D. (2012). Epidemiology of psychological

distress. *Mental illnesses—understanding, prediction and control*, 105-134.

Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J., ... & Wechsler, H.

(2012). Youth risk behavior surveillance-United States, 2011.*Morbidity and mortality

weekly report. Surveillance summaries (Washington, DC: 2002)*, *61*(4), 1-162.

Flook, L., Smalley, S. L., Kitil, M. J., Galla, B. M., Kaiser-Greenland, S., Locke, J., ... & Kasari,

C. (2010). Effects of mindful awareness practices on executive functions in elementary school children. *Journal of Applied School Psychology*, *26*(1), 70-95.

Gillham, J., Adams-Deutsch, Z., Werner, J., Reivich, K., Coulter-Heindl, V., Linkins, M., ... & Seligman, M. E. (2011). Character strengths predict subjective well-being during adolescence. *The Journal of Positive Psychology*,*6*(1), 31-44.

Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). (2008) Glanz, K., Rimer, B. K., & Viswanath,

K. (Eds.). (2008). *Health behavior and health education:*

theory, research, and practice. John Wiley & Sons.

Greenberg, M. T., & Harris, A. R. (2012). Nurturing mindfulness in children and youth: Current state of research. *Child Development Perspectives*, *6*(2), 161-166.

Hennink, M., Hutter, I., & Bailey, A. (2010). *Qualitative research methods*. Sage.

Hodkinson, P., & Hodkinson, H. (2001). The strengths and limitations of case study research. In *Learning and Skills Development Agency Conference at Cambridge* (Vol. 1, No. 1, pp. 5-7).

Holzel, B. K., Hoge, E. A., Greve, D. N., Gard, T., Creswell, J. D., Brown, K. W., . . . Lazar, S. W. (2013). Neural mechanisms of symptom improvements in generalized anxiety disorder following mindfulness training. *Neuroimage Clin, 2*, 448-458. doi: 10.1016/j.nicl.2013.03.011

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

Kohlbacher, F. (2006, January). The Use of Qualitative Content Analysis in Case Study Research. In *Forum: qualitative social research* (Vol. 7, No. 1).

Kuyken, W., Weare, K., Ukoumunne, O. C., Vicary, R., Motton, N., Burnett, R., ... & Huppert, F. (2013). Effectiveness of the Mindfulness in Schools Programme: non-randomised controlled feasibility study. *The British Journal of Psychiatry*, *203*(2), 126-131.

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach: An interactive approach* (Vol. 41). Sage.

Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., ... & Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness*, *3*(4), 291-307.

Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth. *Journal of abnormal child psychology*,*38*(7), 985-994.

Montrieux, H., Vanderlinde, R., Courtois, C., Schellens, T., & De Marez, L. (2014). A Qualitative Study about the Implementation of Tablet Computers in Secondary Education: The Teachers' Role in this Process. *Procedia-Social and Behavioral Sciences*, *112*, 481-488.

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

Olano, H. A., Kachan, D., Tannenbaum, S. L., Mehta, A., Annane, D., & Lee, D. J. (2015). Engagement in Mindfulness Practices by US Adults: Sociodemographic Barriers. *The Journal of Alternative and Complementary Medicine*, *21*(2), 100-102.

Pace, T. W., Negi, L. T., Dodson-Lavelle, B., Ozawa-de Silva, B., Reddy, S. D., Cole, S. P., ... &

Raison, C. L. (2013). Engagement with cognitively-based compassion training is associated with reduced salivary C-reactive protein from before to after training in foster care program adolescents. *Psychoneuroendocrinology*, *38*(2), 294-299.

Rempel, K. (2012). Mindfulness for Children and Youth: A review of the literature with an argument for school-based implementation. *Canadian Journal of Counselling and Psychotherapy/Revue canadienne de counseling et de psychothérapie*, *46*(3).

Ritchhart, R., & Perkins, D. N. (2000). Life in the mindful classroom: Nurturing the disposition of mindfulness. *Journal of Social Issues*, *56*(1), 27-47.

Rogers, E. M. (2010). *Diffusion of innovations*. Simon and Schuster.

Rowley, J. (2002). Using case studies in research. *Management research news*, *25*(1), 16-27.

Schonert-Reichl, K. A., & Lawlor, M. S. (2010). The effects of a mindfulness-based education program on pre-and early adolescents' well-being and social and emotional competence. *Mindfulness*, *1*(3), 137-151.

Semple, R. J., Reid, E. F., & Miller, L. (2005). Treating anxiety with mindfulness: An open trial of mindfulness training for anxious children. *Journal of Cognitive Psychotherapy*, *19*(4), 379-392.

Shapiro, S. L., Brown, K. W., Thoresen, C., & Plante, T. G. (2011). The moderation of Mindfulness‐based stress reduction effects by trait mindfulness: Results from a randomized controlled trial. *Journal of clinical psychology*, *67*(3), 267-277.

Sibinga, E., Perry-Parrish, C., Chung, S. E., Johnson, S. B., Smith, M., & Ellen, J. M. (2013). School-based mindfulness instruction for urban male youth: A small randomized controlled trial. *Preventive medicine*, *57*(6), 799-801.

Sprague, J., Verona, E., Kalkhoff, W., & Kilmer, A. (2011). Moderators and mediators of the stress-aggression relationship: Executive function and state anger. *Emotion*, *11*(1), 61.

Thompson, N. (2014). Theory of Diffusion of Innovations. Behavioral Science and Health Education 550R. Emory University; Atlanta, GA

Viafora, D. P. (2011). *Teaching mindfulness to middle school students and homeless youth in school classrooms* (Doctoral dissertation, San Diego State University).

Wall, R. B. (2005). Tai chi and mindfulness-based stress reduction in a Boston public middle school. *Journal of Pediatric Health Care*, *19*(4), 230-237.

Weare, K. (2012). Evidence for the impact of mindfulness on children and young people. *The Mindfulness in Schools Project in association with Mood Disorders Centre. Available at http://mindfulnessinschools. org/(accessed 13 June 2013)*.

Webster, C. A., Caputi, P., Perreault, M., Doan, R., Doutis, P., & Weaver, R. G. (2013). Elementary Classroom Teachers' Adoption of Physical Activity Promotion in the Context of a Statewide Policy: An Innovation Diffusion and Socio-Ecologic Perspective. *Journal of Teaching in Physical Education*, *32*(4).

Wright, L. B., Gregoski, M. J., Tingen, M. S., Barnes, V. A., & Treiber, F. A. (2011). Impact of stress reduction interventions on hostility and ambulatory systolic blood pressure in African American adolescents. *Journal of Black Psychology*, *37*(2), 210-233.

Yin, R. K. (2003). Analyzing case study evidence. *Case study research: Design and methods*, 109-140.

Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.

Yin, R. K. (1981). The case study crisis: some answers. *Administrative science quarterly*, *26*(1), 58-65.

Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in

schools—a systematic review and meta-analysis. *Frontiers in psychology*, *5*.

Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2014). Mindfulness Interventions with

Youth: A Meta-Analysis. *Mindfulness*, 1-13.

Zucker, D. M. (2009). How to do case study research. *School of Nursing Faculty*

Publication Series (Paper 2), University of Massachusetts Amherst.

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