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LOYOLA UNIVERSITY CHICAGO

EXPLORING THE IMPACT OF MINDFULNESS ON ADOLESCENTS: A MIXED METHODS APPROACH

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

PROGRAM IN SCHOOL PSYCHOLOGY

BY

POONAM DESAI

CHICAGO, IL

MAY 2015

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The Guest House

This being human is a guest house.
Every morning a new arrival.

A joy, a depression, a meanness,
some momentary awareness comes
as an unexpected visitor.

Welcome and entertain them all!
Even if they're a crowd of sorrows,
who violently sweep your house
empty of its furniture,
still, treat each guest honorably.
He may be clearing you out
for some new delight.

The dark thought, the shame, the malice,
meet them at the door laughing,
and invite them in.

Be grateful for whoever comes,
because each has been sent
as a guide from beyond.

- Rumi

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ABSTRACT

As social emotional learning gains greater focus, identifying effective interventions for high-risk students, such as students with Emotional/Behavioral Disorder (EBD), becomes a priority. Mindfulness, as an intervention, offers a unique set of skills to increase emotional awareness and regulation, while also teaching key social emotional skills (Singh et al, 2007). Mindfulness, or the nonjudgmental observation of one's thoughts, feelings, and emotions, has roots in Buddhist philosophy, but is used secularly in the fields of psychology, medicine, and education (Baer, 2003). In this mixed methods study, the researcher aims to examine the experiences of adolescents who have EBD at an alternative high school as they participate in a mindfulness curriculum taught in their PE/Health class. Data was collected before, during, and after the teaching of the mindfulness intervention, vis-à-vis interviews, journal entries, mindfulness measures, and behavioral trackers. The researcher shows the applicability of mindfulness to the students' lives.

Keywords: mindfulness, school psychology, emotional/behavioral disorder, education, intervention, mixed methods

CHAPTER 1

INTRODUCTION

Statement of Problem and Purpose

Students with Emotional and Behavioral Disorders, which is an educational diagnosis encompassing many disorders, tend to show very poor outcomes overall. More specifically, these students, who often struggle with externalizing problems, and emotional and behavioral regulation require a more holistic approach to mitigate the potentially negative outcomes. Current interventions for students with EBD place heavy emphasis on behavioral systems and skills teaching. One type of intervention that has not been fully explored with this population, however, is the use of meditation and yoga. Mindfulness, specifically, has been identified as a useful intervention tool for various clinical populations, including children and adolescents, and is often used in schools. Mindfulness is the systematic teaching of secular breathing, relaxation, and meditation techniques, and has become a growing force in the clinical field. Studies pertaining to mindfulness and youth have addressed many important topics, including the effects of mindfulness on anxiety, depression, and ADHD (Anderson, 2008; Bach & Hayes, 2002; Birdee et al, 2009; Brady, 2005; Mai, 2010). A recent report from the Garrison Institute (2005), which comprehensively reviews the contemplative programs (e.g. meditation and yoga) used in schools found that, overall, such programs are not only feasible, but also yield positive outcomes and benefits for children and adolescents, both mentally, emotionally, and physically. Specifically, all of these studies have shown positive

benefits on participants' mental health, emotional regulation, impulse control, attention, as well as a host of physical ailment relief. A few studies, including those conducted in classroom settings, attempt to understand the effects of mindfulness from a qualitative standpoint. While the literature has some studies regarding special student populations, there is nothing regarding the utilization of mindfulness as an intervention with students educationally diagnosed with Emotional and Behavioral Disorder (EBD). Further, these investigations are narrow in their focus and do not capture the full experience of individuals receiving mindfulness training. Thus, a need exists in the literature not only to explore this topic of mindfulness more completely and assess the extent to which the participant experiences can generalize to other similar populations, but also to construct a complete understanding of the participants' experiences through the concurrent collection of qualitative and quantitative data.

Current State of Mental Health in Education

Children and adolescents experiencing less than optimal mental and physical health is a major cause of concern, especially taking into account the affected outcome areas: academic performance, violence, substance abuse, and even obesity (Greenberg et al, 2003). This concern for the mental health of our nation's children and adolescents is growing as children are exposed to more and more personal and environmental stressors, which can easily lead to poor mental health outcomes if gone unaddressed (Crespi & Hughes, 2004). According to NIMH Report (2006), approximately 9 billion dollars per year are spent on mental health care for our children and adolescents (cited in Bruin, Ziljstra, de Weijer-Bergsma, & Bogels, 2011). Despite these facts, only 8.3 million children (14.5%) aged 4–17 years have parents who have discussed their child's

emotional or behavioral difficulties with a health care provider or relevant school staff. Unfortunately, many mental disorders have their beginnings in childhood and adolescence and could go undiagnosed and untreated for years (NIMH, 2010). A particularly saddening fact is that students who are at-risk for mental health and/or academic disorders tend to come from low-income families and/or single-parent homes (Wagner, Kutash, Duchnowski, Epstein, Sumi, 2005). Poverty, it is noted, is often associated with poor health, poor education, and poor social health outcomes. Yet, schools stand as a beacon of help for the 12- 22% of children living with diagnosable mental health disorders, many of whom receiving treatment services through their school (Berzin et al, 2011). Concerns with mental health, among other issues, can often lead to difficulties in the school environment, not just at the academic level, but also at the behavioral, emotional, and social levels. It has been hypothesized that the high prevalence of negative school behaviors is in part due to greater exposure to chronic psychosocial stress, such as limited financial resources, family disintegration, overwhelming information dissemination, and violence covered in the media (Barnes, Bauza, & Treiber, 2003). Further, chronically stressed children are often at-risk for behavioral and cognitive difficulties (Mendelson et al, 2010). To be successful in school, it is essential for children and adolescents to have the ability to cope with stressors, use strategies to reduce the effects of mental health issues, and learn better to regulate their emotions (Elias, Zins, Weissberg, Frey, et al., 1997; cited in McLaughlin, 2010).

Special Education law, through IDEA (2004), aims to provide some educational and school-based supports for these children and adolescents through the provision of special education eligibility and subsequent services. To this end, many arguments have

been made for the provision of preventive and clinical mental health services for children at their school (Walter et al, 2011). Reid & Miller (2009; pg. 2776) stated: "The school setting is an ideal environment to reach children because [students] are there for many hours per day, and school is the center of their learning and social experiences." Thus, school staff, typically school psychologists, school social workers, and counselors, are often responsible for delivering effective mental health interventions for students who require them.

Outcomes for Students with Emotional and Behavioral Disorder

One group of students that often requires such school-based mental health services are students with an educational diagnosis of EBD (Emotional/ Behavioral Disorder), a term that encompasses many externalizing disorders. More than 484,000 children and adolescents with emotional disturbance received special education services in response to their individual needs (U.S. Department of Education, 2007). Without appropriate and effective intervention, outcomes for students with EBD are shown to be quite negative. Students with EBD have been shown to have higher arrest rates (Doren, Bullis, & Benz, 1996) and higher dropout rates (U.S. Department of Education, 1998) than students with other disabilities (Anderson, Kutash, & Duchnowski, 2001). Further, students with EBD often have the lowest adjustment outcomes as adults out of any disability group (Kutash & Duchnowski, 1997; Wagner, 1995). According to Wagner (1995), many of these students struggle after leaving middle or high school before sinking into unemployment and/or the criminal justice system. Overall, evidence indicates that students with EBD tend to have fewer positive adult outcomes than students with LD. In a study completed by Anderson, Kutash, & Duchnowski (2001), when comparing the academic performance

of LD and EBD students over a five year period, students with EBD were found to show fewer academic gains, specifically in math and reading, than their LD counterparts, despite overall higher instructional special education time. This study also found that grade retention was associated with lower academic performance over time for this population, in particular.

While special education services are provided through federal funding, there is a gap in support. Students are not being taught the essential skills needed to help give them a sense of empowerment and control over their behaviors. Holistic and alternative therapies, including some contemplative methods, are being explored to a greater extent to help many students with externalizing disorders.

Mindfulness

Mindfulness is becoming an increasingly ubiquitous practice in the West, though its origins lie in Eastern traditions, particularly Buddhism. Though in its original conceptualization, it is a highly spiritual endeavor, the practice of mindfulness itself can be used in a secular or nonsecular manner to receive benefit. To be mindful is to pay attention "in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1994, pg. 4) and to be present in each moment (Olendski, 2003). This conscious awareness can be transformative depending on the seriousness and intensity of practice, just like any other skill. Yet this transformation can also occur with brief encounters with mindfulness.

Many studies have shown that mindfulness can confer numerous positive benefits on those who practice or attempt to practice it. Since mindfulness was first appropriated by the medical field through the work of Jon Kabat-Zinn, there have been many studies

examining the effects of physical ailments. Chronic pain, high blood pressure, anxiety, and depression, among many more ailments, have all been shown to improve with mindfulness training (Barnes, Treiber & Johnson, 2001; 2002; 2003; Duncan & Bardacke, 2010; Kabat-Zinn, 1982; Ma & Teasdale, 2004). From a more psychological standpoint, mindfulness has been studied in conjunction with subjective well-being (Brown & Ryan, 2003; Collard, Avny & Boniwell, 2008), and has been found to decrease negative thought patterns and increase feelings of happiness and self- regulation (Bruin et al, 2011). Mindfulness has also been linked to a greater sense of efficacy with regard to regulation emotions (Jimenez, Niles, & Clark, 2010). Studies with youth populations show similar results. Children and adolescents who have received mindfulness training have used these skills to avoid their traditionally verbally or physically aggressive responses, by practicing one specific, taught skill such as meditating on the soles of the feet (Singh et al, 2007). It has also been shown to decrease anxiety and increase capacity for attention, which are important adaptive skills for students, in lower elementary general education students and individuals with generalized anxiety disorder (GAD) (Kabat-Zinn et al, 1992; Krech, & Holley, 2005; Napoli, Wells, 2002). Further, there has been a building interest in contemplative methods that develop positive habits of the mind leading to resiliency and well-being, not to mention a call for new ideas to create a better balance in life for children and adolescents (Shonkoff, Boyce, & McEwen, 2009).

Though students with EBD are receiving support through special education services, research is showing that their outcomes are still very poor. There are few known studies examining the effects of mindfulness on students with EBD. Yet, these students

would greatly benefit from more targeted and holistic interventions involving mindfulness to increase emotional and behavioral regulation.

Significance

Literature pertaining to mindfulness and adolescents with externalizing behaviors show very positive outcomes, overall, as well as important theoretical connections between mindfulness practices and various behaviors (Wisner, Jones, & Kim, 2010). Thus, mindfulness can play a critical role in a variety of mental health situations (Brown & Ryan, 2003), particularly because it lends itself to being incorporated into extant programming. For instance, research incorporating stress-reduction programs into school curricula has been shown to improve academic performance, self-esteem, concentration, and behavior problems (Ballinger & Heine, 1991; Cheung, 1999; Dendato & Diener, 1986; Kiselica, Baker, Thomas & Reedy, 1994; Pepping, O'Donovan & Davis, 2013; Shillingford & Shillingford-Mackin, 1991, cited in Napoli, 2004). By bringing awareness to the body and mind, students with EBD may be better able to control their emotional and behavioral impulses (Burke, 2010).

There are two main theories for how EBD develops in students: a) from frustration with academics, and b) from the constant comparison with peers that is so integral to our school system (Sutherland, Lewis-Palmer, Strichter, & Morgan, 2008). This lack of control over oneself and one's situation, as well as the constant comparison, can be demeaning for students. Mindfulness teaches individuals to have a sense of autonomy, however, not by controlling thoughts and action, but through the experience of not being controlled by them (Kostanski & Hassed, 2008). As stated by Coholic (2011): "Mindfulness-based practices have the potential to help young people in need learn to

focus on their feelings and thoughts without judging these experiences thereby promoting the development of self-awareness." At the same time, children are dispositionally closer to mindfulness than adults are (Hooker & Fodor, 2008). Take, for example, a child trying a food for the first time, or looking up at the trees in a park; being observant and absorbed in an activity is often something a child does without having to think about it or practice it.

Further, there may be a link between anxiety and poor psychological functioning (i.e. depression, anxiety, control/ regulation of attention and emotions) in children and adults (Saltzman, Place, Park & Goldin, 2004). Self-focused attention, rumination, and experiential avoidance are processes spanning multiple diagnoses that appear to maintain a variety of psychological problems, and can be very characteristic of students with EBD. A review of findings by Baer (2007) show that mindfulness training increases self-focused attention- leading to positive psychological outcomes- while also reducing rumination and experiential avoidance, which tend to perpetuate or increase psychological problems. Mindfulness may be able to change the psychological context with which we experience thoughts, emotions, and sensations- pleasant or unpleasant (Bishop, 2004). Instead of perceiving these events as innate to ourselves, mindfulness help put a distance between these events and one's self-concept. In addition to conferring benefits such as exposure, cognitive change, self- management, relaxation, and acceptance, mindfulness is also highly applicable to clinical concerns, including preventing relapse into major depression (Baer, 2003; Scherer- Dickson, 2004).

Children with externalizing disorders have attentional and behavioral issues linked to underlying deficits in information processing, which could be addressed via

psychological interventions, such as mindfulness (Bogels, Hoogstad, van Dun, Schutter, & Restifo, 2008). Function-based intervention has been shown to improve these students' behaviors, particularly the externalizing ones (Turton, Umbreit, & Mathur, 2011). Stress from negative life events can produce elevated levels of cortisol, which impede the regrowth of hippocampus cells, possibly creating abnormalities in some context-dependent emotional responses (Davidson, Jackson & Kalin, 2000). While early environments certainly are critical to neurological health and development, brain plasticity continues throughout life, meaning the brain can continue to grow and change in response to its environment for most of our lives (Davidson et al, 2000). Even short mindfulness programs can increase functioning in the brain related to the reduction of anxiety and negative affect, as well as increases in positive affect (Davidson et al, 2003). In terms of receptive behavior, mindfulness may increase the capacity to create an interval or time gap between an event and one's reaction, thereby allowing one to survey one's own mental landscape, including behavioral operations, rather than reacting immediately to precipitating events (Brown & Ryan, 2003). Mindfulness can act as a destabilizer in preparing one for major transitions or reorganization of thought patterns by reducing avoidance and over-engagement with negative emotions (Hayes & Feldman, 2004), as well as reduce mental chatter (e.g. the flow of commentary, thoughts, emotions, judgments and self- evaluations in one's mind) (Leary & Tate, 2007). In a study of 91 general education students between grades 5- 7, researchers found that dispositional mindfulness predicted emotional regulation; not only does it predict self-perceived emotional regulation, but also their externalizing behaviors in emotional management/ regulation (McLaughlin, 2010). Children of this age were not the most reliable measure

of their own emotional regulation capabilities; thus, mindfulness was positively correlated with perceived control over emotions and with emotion regulation behavior. Emotion regulation behavior similarly shares a predictive relationship with the ability to perceive and report on personal emotional information (McLaughlin, 2010).

Within the classroom, Langer (1993; pg. 223) discusses "premature cognitive commitments" as the indoctrination of facts into our young students' minds without allowing for variability, flexibility, or creativity of thought; in other words, our educational system encourages mindless, rote memorization of facts, whereas mindfulness could bring real understanding and deeper levels of thought and analysis. Thus, conditional learning, as opposed to absolute, allows for greater creativity. When we teach students that all information is constant, we encourage them to learn *if* it is true rather than *when* it is true (Langer, 1993). Along this same vein, studies suggest that our attitude toward what we do shapes our participation in it. Similarly, engaging in a task one views as negative can be unpleasant unless one is asked to notice details about it. Langer and her colleagues found that the more details one was asked to notice about a 'negative' activity, the more the participant had fun. Thus, mindful learning is something that can be taught to students such that learning becomes fun and engaging (Langer, 2000). It could also possibly be extrapolated to understanding oneself better. Instead of accepting "premature cognitive commitments" about oneself, a student can learn to question, observe, and engage in nonjudgmental awareness of his/herself. Thus, mindfulness can bring benefits to students on multiple levels; as Ritchart & Perkins (2000) explain:

> The real educational potential of mindfulness lies not in raising test scores but in addressing some of the other intractable problems of education such as the flexible transfer of skills and knowledge to new contexts, the development of deep understanding, student motivation and engagement, the ability to think critically and creatively, and the development of more self-directed learners. (Ritchart & Perkins, 2000, p. 29)

Given the numerous benefits for both physical and mental health proven in adults, it would be a disservice to our children, to some extent, not to share this practice (Suttie, 2007). Mindfulness is capable of bringing great benefit to individuals of all ages and backgrounds, yet may be particularly useful for students with emotional/ behavioral disorder.

Research Questions

The primary research question of this study is: Are adolescents in an ED/BD program impacted by mindfulness training? If so, how? At the same time, mixed methods studies often have multiple research questions, or sub-questions, which guide the research at all stages (Creswell & Plano Clark, 2010). Thus, I would like to learn more specifically:

1. What are the experiences of adolescents with EBD when learning mindfulness, in terms of bringing the techniques into their daily lives?
2. What are the effects of the mindfulness curriculum on these students? What is the impact on their day-to-day mindfulness?
3. How could the Mindfulness curriculum be modified and improved to be more applicable to these adolescents' lives?

These questions were used to guide the research design, data collection process, and eventual data analysis and interpretation.

Hypotheses

1. It is hypothesized that the present study (with a focus on students who are diagnosed as having EBD) will reflect the findings of previous, similar studies in which adolescents benefit from mindfulness practices, as reported through mixed methods data and analysis, including qualitative self-report and quantitative changes on reliable and valid measures of mindfulness.

2. It is also hypothesized students will report, in individual interviews and on mindfulness measures, that the mindfulness techniques have been internalized in their lives to some extent, resulting in positive outcomes and greater perceived emotional and behavioral regulation from pre-test to post-test.

3. Given the results of previous studies, it is hypothesized that students' mindfulness scores on the Child and Adolescent Mindfulness Measure (CAMM) and the Five Factor Mindfulness Questionnaire (FFMQ) will improve from pre-test to post-test.

4. Given the results of previous studies, it is hypothesized that students' classroom-based behavior, as measured by the point-level system, will improve from pre-test to post-test.

CHAPTER 2

LITERATURE REVIEW

Introduction

Contemplative education is transformative education. (Anne Zajonc, 2006, p. 2)

The term 'Emotional/ Behavioral Disorder' (EBD) encompasses a few different disorders and comprises its own category of eligibility for special education services under IDEA. Demographic information on children and adolescents with EBD shows certain characteristic patterns of development and skill deficits. While some youth may receive treatment for EBD in private settings, many receive services in their schools through special education programs and/or counseling as EBD is a special education category of eligibility. Many treatment approaches are employed in working with these children and adolescents, and have a strong research base. Nevertheless, alternative therapies like yoga/ meditation are being explored in general education and special education settings (Greenbaum & Harris, 2011). Many of these interventions, and mindfulness in particular, have not yet been fully explored as interventions or evaluated as research. Though mindfulness is a relatively new concept to the field of education, it is has a long, deep history and has been translated into modern settings for some time now. The research shows that mindfulness is effective with various clinical and nonclinical populations (Brown & Ryan, 2003; Hayes & Feldman, 2008; Leary & Tate, 2007; Turton et al, 2011), though little research has been done with students with EBD.

This chapter will seek to detail this information further, outline the current literature related to students with EBD and the literature related to mindfulness, and explain the gap in literature this study seeks to fill.

Overview of EBD

The thirteen eligibilities under which a student may receive services through IDEA includes Emotional Disorder, often combined in practice with Behavioral Disorder. It is commonly known as Emotional/ Behavioral Disorder, or EBD, for the purposes of educational diagnoses, and often simply identified as ED in the literature. Students with EBD have poor academic outcomes as a result of their disability and various other personal and environmental factors. As students classified as having EBD are "significantly more likely than both students with other disabilities and students in the general population to live in households with several risk factors for poor outcomes" (Wagner et al, 2005, pg. 84), early identification and intervention are critical components of improving outcomes for these youth who have EBD (President's Commission on Excellence in Special Education, 2002; U.S. Department of Health and Human Services, 1999).

Diagnosis

IDEA defines ED (EBD) in the following way:

> Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:
> a. An inability to learn that cannot be explained by intellectual, sensory, or health factors.
> b. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
> c. Inappropriate types of behavior or feelings under normal circumstances.
> d. A general pervasive mood of unhappiness or depression.

> A tendency to develop physical symptoms or fears associated with personal or school problems. Further, Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section. (IDEA; *Code of Federal Regulations,* Title 34, §300.8(c)(4)(i))

ED (EBD) could refer to anxiety disorders, bipolar disorder, conduct disorder, eating disorders, obsessive-compulsive disorders, and psychotic disorders, among others (NICHCY, 2010). A student with EBD exhibits at least one of the afore-mentioned, emotionally- based characteristics with such duration, frequency and/or intensity, educational performance is significantly impacted. In such cases, special education services are found to be necessary. For preschool-age children, these characteristics may appear within the preschool environment or in another setting documented through an extended assessment period. To be clear, the student's difficulty is emotionally based and cannot be adequately explained by intellectual, cultural, sensory or general health factors (IDEA, 2004). EBD is not used for students with social maladjustment unless they also have EBD. Common behavioral features of emotional disturbance are: hyperactivity, aggression or self-injurious behavior, withdrawal, immaturity, and learning difficulties (Kalberg, Lane, Driscoll, & Wehby, 2011). Extremely serious cases of emotional disturbance may exhibit distorted thinking, extreme anxiety, strange motor actions, and abnormal mood swings. Various potential factors for emotional disturbance have been studied (e.g. heredity, brain disorders, diet, stress, and/or family functioning), yet none have been proven conclusively to cause emotional disturbance (NICHCY, 2010).

Students with Emotional/ Behavioral Disorder (EBD) are often characterized by a pervasive pattern of socially undesirable and unacceptable behaviors, including both externalizing and internalizing-type behaviors, and limited social skills (Kalberg et al,

2011). They are often seen by many as being 'chronic disruptions' in school, and are, thus, often placed in an alternative educational setting outside of their mainstream school (Turton et al, 2011). An EBD student's often aggressive, and highly disruptive behavior, as well as a lack of motivation can not only impede his or her own learning to a great extent, but also impede the teacher's ability to provide instruction, particularly when other students with different needs are present (Sutherland et al, 2008). Students with EBD also tend to have trouble with forming positive relationships with both peer and adults. Sabornie, Kauffman, and Cullinan (1990) found that adolescents with EBD were found to be less likely to be accepted and more likely to be rejected by their peers than those without learning disabilities and those with learning disabilities (matching for gender, race, and grade). Further, in a study by Sabornie, Thomas, and Coffman (1989), middle schools students and teachers found students with EBD to show fewer peer-preferred social behaviors than those students without disabilities.

Each student's individual behavioral symptomatology may vary, though age and gender provide some markers. Adolescents with EBD, who are the focus of this study, tend to exhibit more inappropriate behaviors, controlling for gender and grade (middle or high school) such as disruptiveness, fighting, disobedience and destructiveness (Cullinan & Sabornie, 2004). Similarly, Tobin & Sugai (1999) found that middle school students with EBD were referred for discipline problems such as fighting and violence more frequently than their peers without disabilities, (cited in Cullinan & Sabornie, 2004). Roughly 21% of adolescents with EBD report severe depressive symptoms than their peers without disabilities, and more suicidal ideation and suicide attempts than students without disabilities (Miller, 1994; Newcomer, Barenbaum, & Pearson, 1995; Maag &

Behren, 1989). Heightened anxiety is also a common feature; adolescents with EBD have also been found to have more feelings of anxiety than their peers without disabilities; excessive stress releases a steady stream of adrenaline (epinephrine) into our bodies, which places the body in continual state of 'fight or flight', and, over time, may deplete the immune system and result in a cycle of stress (Newcomer, Barenbaum & Pearson, 1995; cited in Cullinan & Sabornie, 2004).

In terms of gender differences, not much information is available. Schonert-Reichl (1993) found that boys with EBD exhibited less empathy, fewer contact with friends, and lower quality of peer relationships than their peers without disabilities. Overall, such students with EBD have maladaptive social skills that compound with other risk factors, leading to negative outcomes that could be prevented.

Demographics

Though limited research is available on both demographics and outcomes of students with EBD, a few seminal studies have been completed. A study done by Greenbaum et al (1996) was designed to collect data regarding children with Serious Emotional Disturbance (SED), including demographics, level of psychological and adaptive functioning, services received, and outcomes. Approximately 41% of participants in the study sample had a co-occurring DSM diagnosis, with Conduct Disorder being the most prevalent. Wagner and colleagues (2005) revealed many more important findings about students with EBD. The most common comorbidity reported by parents of their children/ adolescents with EBD was ADHD (more than two-thirds) followed by Learning Disability (approximately 25%). 1% of students with EBD in this study were also identified as having mental retardation as a secondary disability. Also, 58.9% were below

grade level in reading, while 96.3% were below grade level in math (Greenbaum et al, 1996). Wagner and colleagues' comprehensive study (2005) sought to better understand the U.S. population of students eligible for special education under the classification of ED/EBD. This study revealed a great deal of information regarding the demography and statistical makeup of this population. In every high school of about 1,310 students, 17 students, on average, are receiving special education services under the eligibility of EBD. Unfortunately, according to Wagner and colleagues (2005):

> Secondary school youth classified with ED also are older at first diagnosis and at first service by a professional for a disability than their counterparts with other disabilities. In addition, even when identified at the appropriate age to receive early intervention or preschool special education services for their disability, secondary school youth classified with ED are less likely to receive those services than are students with other disabilities. (p. 88)

Further, students with EBD are educated in a separate facility at three times the rate of students with other disabilities (U.S. Department of Education, 2006). Thus, treatment and outcomes for students with EBD are notably negative compared with their peers with other disabilities.

Parents have also reported that their children/ adolescents with EBD had significantly lower social skills than their same-age peers (Wagner et al, 2005). Functional communication skills may be an area of need for many students with EBD; their parents reported that 19.5% of adolescents have trouble with expressive speech and 29.4% have difficulties understanding what others say. Nearly half of these students (45%) report living in the same household as another individual with a disability, indicating an additional home stressor.

Wagner and colleagues (2005) showed that more than three-fourths of youth classified with Emotional/Behavioral Disorder are boys. From a racial/ ethnic standpoint, racial minorities are all more likely to be identified as having mental retardation or learning disabilities than EBD; however, African American children and youth are disproportionately identified as having EBD (27% and 25.1%) than their representation in the general population (17.1% and 15.8%). Thus, African American boys are more likely to be identified as having EBD than any other gender/racial group.

Educational Outcomes

Emotional regulation, behavior, and academics are strongly interconnected for students with EBD. Emotional competence, especially the regulation of anger, has been found to be predictive of adolescents' engagement in risky behaviors such as sex and drug use, particularly hard drugs (Broderick & Jennings, 2013). Children and early adolescents given academic measures showed significant academic deficits when compared to their same-age peers with no disability and their same-age peers with other disabilities (Wagner et al, 2005). According to one study, 83% of children with EBD scored below the norm group on a standardized measure of reading skill (Nelson, Benner, Lane, and Smith, 2004; cited in Sutherland et al, 2008). Sutherland et al (2008) links behavioral issues to academics through two major frameworks: 1) students who repeatedly perform poorly in school eventually build up an internal frustration that leads to emotional and behavioral outbursts, and 2) through emerging normative comparisons, as children grow older and become more aware of the differences between themselves and their peers, they may become embarrassed by their relative performance, leading to negative emotions and problem behaviors. Students with EBD were found to be more likely to fail courses than

either students without disabilities or students with learning disabilities (Wagner, Blackorby, & Hebbeler, 1993). An illustration of this is a study conducted by Skiba and Raison (1990) who investigated the impact of truancy on the academic achievement and progress of students with EBD. They found that that truancy was a consistent predictor of lower academic progress for these students when compared to their average peers. Truesdell and Abramson (1992) examined how behavior and academic achievement affected each other for students with EBD and LD (learning disabilities) and found that class participation and paying attention tended to have a positive correlation with reading grades for elementary and middle school students. Though there are child- specific factors contributing to EBD behaviors, the classroom teacher's behavior can strongly influence the student's behavior. Students with EBD, and those at risk for developing EBD are influenced by student- teacher interaction patterns in general education classrooms in a unique way (Sutherland et al, 2008). Thus, while negative patterns between behavior and academics could cause EBD symptomatology to worsen, positive patterns and intervention can improve situations for students.

Approaches to Treating EBD

There is widespread agreement on the type of evidence-based interventions that should be utilized with this population. Typical school supports for students with EBD include providing emotional and behavioral supports, supporting academics and the learning of social skills, self-control, self-awareness, and self- esteem (NICHCY, 2010).

Most programs that work with students who have EBD individualize their programs to meet the specific needs of the students. Interventions often include self-management strategies, such as self-monitoring, self- evaluation, self- instruction, goal-

setting, and strategy instruction (Mooney, Ryan, Uhing, Reid, & Epstein, 2005). Functional, assessment-based interventions are also commonly used as they effectively address the individual needs of students (Turton et al, 2010; Restori et al, 2007), though these interventions also may include other components such as self- monitoring, task modification, and reinforcement (Restori et al, 2007). For some students, especially those that exhibit anxiety, inappropriate behavior, and low academic engagement, cognitive-behavioral interventions may be more effective (Schoenfeld & Mathur, 2009). Though anxiety is common for students with EBD, typically, they are not identified for internalizing behaviors; nevertheless, CBT-based interventions often help with the anxiety symptoms of EBD (Schoenfeld et al, 2008).

Other fairly common interventions used within the academic programming for students with EBD include: teacher praise/ reinforcement, opportunities to respond, choice, clear instructional strategies, and positive behavioral supports (Gage et al, 2010). A combination of these interventions may manifest as a point-level system, common to many special education programs targeting students with EBD. Of course, many of these interventions share features with the interventions mentioned in the preceding paragraph. The significant overlap between these interventions in terms of their root philosophies, indicate that students with EBD typically respond well to structure, reinforcement, and self-empowerment.

While many alternative treatments have been explored, mindfulness is just now gaining a foothold as a viable intervention for students presenting a wide spectrum of emotional and behavioral issues. Given its history and its current continuum of use, mindfulness shows great promise as a possible intervention for students with EBD.

Overview of Mindfulness

The Trajectory of Mindfulness

Mindfulness is becoming an increasingly ubiquitous practice in the West, though its origins lie in Eastern traditions. The canon of Buddhist philosophy and practice was composed in the Pali language in India between the 6th and 3rd centuries, B.C.E. (Olendzki, 2003). The Pali word for this practice, *sati,* is best translated as "mindfulness" (Chiesa & Malinowski, 2011, pg. 405). The essence of this "single-minded contemplative investigation" originating with the Buddha was "a series of profound insights, a comprehensive view of human nature, and a formal 'medicine' for treating its fundamental 'disease,' typically characterized as the three 'poisons': greed, hatred (aversion), and ignorance/delusion (unawareness)" (Kabat-Zinn, 2003; pg. 145). It formed concurrently with *sramana* or the practice of self-investigation and investigation into the human condition, an endeavor that was both theoretical and practical (Olendski, 2003), and is a part of many better-known Buddhist meditation techniques (e.g. Zen or Vipassana meditation) (Chiesa & Malinowski, 2011), though it can be used in a secular or nonsecular manner.

Olendzki (2003) likens mindfulness to a mountain stream to better illustrate the concept: The mountain stream starts strong and steady at the top of the mountain. Yet, should the stream encounter many outlets its way down, the actual amount of water to reach the base of the mountain will be much smaller than if there had been no outlets in which the stream could dissipate its water. So it goes with attention and energy (Olendzki, 2003). We have great capacities for attention and energy, but when our mind is unfocused, these fantastic raw resources dissipate in trivial pursuits. Jon-Kabat Zinn

(2003; pg. 145), a leader in the field of mindfulness describes how "the words for mind and heart are the same in Asian languages; thus mindfulness includes an affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and interest."

In the area of mental health, some research has focused on the practice of mindfulness in ameliorating a range of behavioral, affective, and social-emotional issues, such as anxiety, depression, stress, and so on (Brown & Ryan, 2003; Goldin et al, 2009; Jha, Krompinger, & Baime, 2007; Kabat-Zinn, 1982; Kabat-Zinn et al, 1998). The practice of mindfulness has evolved over time from being deeply rooted in spiritual tenets to being a popular mental health tool. As mentioned before, it originated in Buddhist meditation practices, but was appropriated by Jon Kabat-Zinn (1982) among others, who used the principles of mindfulness for his pioneering work: Mindfulness-Based Stress Reduction (MBSR). In his landmark study, Jon Kabat-Zinn (1982) first used mindfulness in a clinical setting by helping patients reduce chronic pain through awareness.

Many comparisons have been drawn between the innate features of Buddhist practices and psychotherapy techniques (e.g. *vipassana*, or insight meditation, has been compared to the Gestalt continuum of awareness technique) (Segall, 2003). While there are many similarities there are also important differences. For instance, the Western psychotherapy's focus on 'personal growth' is broad and often encompasses interpersonal aspects; Buddhist personal growth, however, is moral growth: developing a strong sense of personal responsibility, developing such states as compassion and equanimity, and maintaining a state of awareness (Segall, 2003). Yet, there are differences in the conceptualizations of mindfulness cultivated in Buddhist culture and in Western culture,

in that the West may be measuring indicators of mindfulness rather than the full concept of mindfulness itself (Christopher, Gilbert, Neary, Pearce & Charoensuk, 2009).

There are now several types of mindfulness interventions use in mental health settings, including Dialectical Behavior Therapy (DBT), Acceptance and Commitment Therapy (ACT), Mindfulness-Based Cognitive Therapy (MBCT) among many more (Linehan, 1993; Segal et al, 2002; Bach & Hayes, 2002; Kostanski & Hassed, 2008; Chiesa & Malinowski, 2011). Although these different techniques have ultimately different goals, they share the focus of sharpening attention, building emotional regulation skills to manage stress, anger, and gaining self-knowledge (Mendelson et al, 2010).

The literature speaks to the healing capacity of mindfulness as it has taken on the role of biopsychosocial currency in various fields, including medicine and psychology, which continue to develop (Krasner, 2004). Changes based on the philosophy of mindfulness can be seen in health, business, and education, positing the role of mindfulness as transformative for social science and policy (Langer & Moldoveneau, 2000). Some may wonder how a spiritual practice has become so prevalent, yet there are unique features of mindfulness that allow for its applicability. Buddhism is the only spiritual philosophy that 1) is most closely related to psychology (Smith, 1991), 2) aims to identify the causes of human suffering- and the way to free oneself from this suffering, and 3) is highly investigative in nature (Wallace, 1999; 2003), as opposed to most other religions that base themselves on faith in a supernatural power (Wallace & Shapiro, 2006).

Kabat-Zinn (2003) discusses how mindfulness' adaptation to the Western palate and Western ideals may result in mindfulness research and theorizing that proves to be ultimately "limiting, distorting, and ethnocentric" (cited in Chistopher et al, 2009; pg. 593). Kabat-Zinn (2003) and Christopher and colleagues (2009) recognize the narrow perspective Western psychology has taken of mindfulness- as a recognition and acceptance of emotional and physical sensations related to psychiatric symptoms, rather than the true nature of mindfulness- as a practice that is part of a larger spiritual system aiming to help individuals recognize the impermanence of the self and pointlessness of holding on to transient states. Thus, the conceptualization of mindfulness is couched in psychopathology in the West, rather than in Buddhism as it is in the East (Christopher et al, 2009). However, researchers studying mindfulness have found that couching mindfulness within Positive Psychology therapeutic practices, and other practices like MBCT and MBSR, combats, to some extent the misappropriation of this technique (Collard et al, 2008). Though it is important to adapt mindfulness to a Western audience, Kabat-Zinn (2003) also makes the essential point that mindfulness and its related meditation techniques should be treated with great delicacy and respect when being brought to the West. While it is certainly important to integrate such practices into our current epistemologies, we must honor these ancient practices. Further, Kabat-Zinn (2003) notes that mindfulness is not a practice one can simply pick up one day and acquire the benefits, rather it is similar to an "art form that one develops over time, and it is greatly enhanced through regular disciplined practice, both formally and informally, on a daily basis" (Kabat-Zinn, 2003, pg. 148). He also notes that those who simply learn the technique of mindfulness at a conference and then pass it on to others will likely find a

devaluation of its impact; he highlights the important of contextualization in this practice (Kabat-Zinn, 2003; cited in Krasner, 2004).

Thus far, mindfulness has two major areas of study: Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT) (Collard et al, 2008). Both of these have been found to be effective with children and adolescents (Burke, 2009). Since then, Kabat- Zinn and other leaders within this field have completed numerous studies regarding the effects of mindfulness; concurrently, they have worked to bring mindfulness into the realm of education (Kabat-Zinn, 2003; Baer, 2003). While specific school-based programs and studies with child/ adolescent populations are reviewed in a later section, the prevalence of mindfulness highlights its evolution and applicability. In a study examining the prevalence of mindfulness in different settings, it was found that 18 school- and community-based centers were using some kind of mindfulness program, and over 250 health care centers employ mindfulness-based treatments in the U.S. (Schoeberlein & Koffler, 2005; Jha et al, 2007).

What is Mindfulness?

Mindfulness has become a quickly growing area of research and practice in recent years. With roots in Eastern spiritual traditions and its slow, but sure trickle into Western mainstream knowledge and use, mindfulness is not an easily defined term. It is a construct, a mental state, and a practice rolled into one, and thus blurs the lines of what researchers are actually studying (Chiesa & Malinowski, 2011). Therefore, the concept of mindfulness must be explored across these three domains to get a true sense of this term. Before going into detail, it is important to discuss a few salient points regarding mindfulness, as well as offer definitions of this concept:

> "The goal of mindfulness meditation is to reach an insight about the true nature of the self and the world to achieve the end of suffering, which results from incorrect understanding of reality" (Chiesa & Malinowski, 2011, p. 412).

> "Thus, mindfulness is the awareness and nonjudgmental acceptance by a clear, calm mind of one's moment-to-moment experience without either pursuing the experience or pushing it away" (Singh et al, 2007, p. 57).

> "Mindfulness is paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1994, pg. 4).

As Hart (2004) suggests, contemplative practices are not necessarily related to spirituality, but rather expand on our natural human capacity for knowing through observation and awareness. Secondly, despite the claim in Bishop (2004) that mindfulness and meditation are bound together in that mindfulness has primarily to do with internal stimuli, Brown & Ryan (2004) hold that mindfulness is an "inherent natural capacity of the human organism" and that it can be used with both internal and external stimuli.

Bishop (2004) uses an operational definition of mindfulness: the self- regulation of attention so that it is sustained on the immediate experiences and approaching each present moment experience with curiosity and acceptance. There are important distinctions to consider, however, between mindfulness and attention, and mindfulness and intelligence. To pay attention is to focus on one thing while others may go unnoticed; intelligence is a "linear cognitive process" (Langer, 1993, pg. 1) that moves us from problems to solutions. Mindfulness, on the other hand, "is an open, creative, and probabilistic state of mind" that may show one new similarities or differences not otherwise known. Mindfulness is also the ability to see a situation from multiple

perspectives. “An enlightened conception of intelligence must include mindfulness” (Langer, 1993; pg. 2).

Shapiro, Carlson, Aston & Freedman (2005) propose a model of mindfulness in this article, which consists of three axioms: Intention, Attitude, and Intention, conceptualized as a loop with each influencing the other.

1. Intention, according to the authors, is a changing aspect of mindfulness. While it may begin as the intent to self-regulate, it often transforms to self-exploration, and possibly even self- liberation and practice of compassion. Further, intention has been found to strongly determine which outcome practitioners reach.
2. Attention is related to cognitive- behavior therapy in that CBT also asks for present moment awareness, which is curative in and of itself. Further attention aids in multiple skills, including sustained attention, switching attention, and cognitive inhibition.
3. Attitude can vary greatly, but orientation to experience (Bishop, 2004) outline curiosity, nonstriving, and acceptance as the basis of attitude while practicing mindfulness.

Using this model as a general guide to conceptualizing mindfulness, I will explore the idea of mindfulness in the three ways: as a construct, a mental state, and a practice. These are not mutually exclusive categories, and this exploration is meant to capture the meaning of mindfulness in research rather than pinning down a specific definition.

Mindfulness as a construct. Modern constructs of mindfulness, as it is currently being studied, may not be wholly accurate. Mindfulness does not lend itself to being broken down into discrete components, and, it has not yet been defined through consensus (Chiesa & Malinowski, 2011). Mindfulness as a construct is complex; though

it has many indicators, no one definition has been accepted above others. Yet, many studies and ensuing measures of mindfulness have indeed attempted to break the construct of mindfulness into meaningful and measurable components. Perhaps the biggest question in research at this time is whether mindfulness should be conceptualized as a single- or multiple factor construct. The Mindful Attention and Awareness Scale (MAAS) (Brown & Ryan, 2003), for instance, conceptualizes mindfulness as a one-dimensional construct, different from, say, the five mindfulness facets described in the Five Facet Mindfulness Questionnaire (FFMQ, Baer et al. 2006) (cited in Bruin et al, 2011). Similarly to the MAAS, the Child and Adolescent Mindfulness Measure (CAMM) is based on a single-factor conceptualization, rather than a multi-faceted one, as many studies with adults use (Greco, Bayer & Smith, 2011). The findings from a study by Baer et al (2006) support the conceptualization of mindfulness as a multifaceted construct, though single-factor measures may provide supplementary information. In one study by Baum (2010), Describing, Acting with Awareness, and Accepting without Judgment were purported to be indicators of one general mindfulness construct. Constructs can be broken down even further: Nonreactivity and nonjudging were identified as possible ways to operationalize acceptance, a central component to mindfulness (Baer et al, 2006).

Mindfulness as a mental state. Mindfulness is also conceptualized a mental state. Brown and Ryan (2003; pg. 823) define mindfulness as "the state of being attentive to and aware of what is taking place in the present." Cardaciotto and colleagues (2008, pg. 205) defined it as the state of being "highly aware of one's internal and external experiences in the context of an accepting, nonjudgmental stance toward those experiences." The mindful state includes: the creation of new categories, openness to

new information, and awareness of more than one perspective, whereas "mindlessness is characterized by entrapment in a category, automatic behavior, and acting from a single perspective" (Thornton & McKentee, 2005, pg. 252).

Comparisons have been made between mindfulness and self- control. Both are flexible and capable of being trained, and in turn would increase well-being (Masicampo & Baumeister, 2007). Despite this comparison, though, many researchers differentiate mindfulness from self-control as a much more expansive state of mind than simply controlling. Further, most literature points to mindfulness as state in which one is *not* trying to control, but rather simply observing and accepting without judgment, a key distinction, particularly in working with adolescents where treatment often involves control in some form or the other.

Along the same vein of conceptualizing mindfulness as a state, some literature has discussed the concept of dispositional mindfulness, a psychological element comprised of sensitivity, inclination, and ability. In this case, dispositional mindfulness may not mean the ability to practice mindfulness continuously, but rather the tendency to see situations where mindfulness could be practiced, a trait which can be cultivated (Ritchart & Perkins, 2000). This recognition is indicative of a disposition toward mindfulness, but is also consistent with the idea of mindfulness as a state of being. This disposition, or 'state of mind' of mindfulness, is akin to one of the three ways of knowing: rational, sensory, and *contemplative,* where contemplative is the method of quieting and shifting the "habitual chatter of the mind and cultivate the capacity for awareness, concentration, and insight" (Hart, 2004, pg. 1).

Mindfulness as a practice. Despite being a construct and a state, mindfulness is most commonly known as a practice, or set of techniques. While mindfulness may be its own set of unique techniques, it is also the accompanying state of various related practices. As Brady (2007; pg. 6) puts in, mindfulness, or the fostering of "contemplative awareness" can include, but is not limited to, relaxation practices, yoga, eating meditation, and meditation on breath. Thus, as we can see, the breadth of mindfulness as a practice is wide. Further, it should be noted that though mindfulness is an enquiry into human existence and an integral part of Buddhism, it is not Buddhism itself, and can also stand alone as a separate personal practice (Nanda, 2009).

Mindfulness can be cultivated through practice, leading to positive outcomes of meditation. Shapiro et al (2008), found that mindfulness significantly increased at an 8-week follow up after the treatment, indicating mindfulness is a skill that can be developed over time with practice. The intent of mindfulness is not to achieve well-being (Brown & Ryan, 2003), but to attempt to reveal what is occurring, as suggested by many of its definitions, including "bare" attention, and "pure" or "lucid" awareness (Chiesa & Malinowski, 2011, pg. 410). Bishop (2004) proffers a conceptualization of mindfulness as a mode of investigative awareness that involves an ever-changing flow of private experience, which, as a skill, can be cultivated and honed by anyone (Bishop, 2004). Brown & Ryan (2003; pg. 823) put it more specifically: "mindfulness may be important in disengaging individuals from automatic thoughts, habits, and unhealthy behavior patterns, and could" therefore, play a role in fostering "informed and self-endorsed" behavioral regulation, a concept long tied to subjective well-being.

Components of Mindfulness

As mentioned before, there are countless components of mindfulness defined in the literature. Together, I believe these various components point toward the true definition of "mindfulness" as a construct, mental state, and practice. Shapiro and colleagues' (2006) model of the mechanisms through which mindfulness may affect well-being is based on a definition established by Kabat-Zinn (1994). This definition postulates that mindfulness arises from the simultaneous cultivation of three distinct components:

> (a) A clear intention as to why one is practicing, such as for self-regulation, self-exploration, or self-liberation; (b) an attention characterized by the observation of one's moment-to-moment experience without interpretation, elaboration, or analysis; and (c) a quality of attending characterized by an attitude of acceptance, kindness, compassion, openness, patience, nonstriving, equanimity, curiosity, and nonevaluation (Kabat-Zinn, 2004; cited in Carmody, Baer, Lykins, & Olendzki, 2009, pg. 614).

Further, Bishop (2004) proposes a two-component operational definition of mindfulness, including the components of Self- Regulation of Attention and an Orientation to Experience, under which all other sub-components may fall. It is the combination of these conceptualizations of mindfulness that I explore.

Attention. First and foremost is the component of attention. Many researchers tie the ideas of attention and awareness together: Chiesa & Malinowski (2011) define mindfulness as being made of attention and awareness and non-engagement with specific content. However, I believe, as Brown & Ryan (2004) distinguish, that attention and awareness are different concepts. While attention is the fixed focus on some internal (e.g. breath or word) or external stimuli (e.g. candle), awareness is a heightened state that attention gives way to where the individual's consciousness observes the moment-to-moment flow of thoughts, emotions, and sensations. Both aspects of meditation are

important, as they train the mind in different skills. An essential part of attention and awareness is the concept of "nondoing," posited by Leary & Tate (2007, pg. 251). In their definition of "nondoing" students of mindfulness are asked not to expect, try, or do anything (not even try to be mindful!), but rather to "let go." This closely resembles the Taoist concept of *wu wei*, which describes the fostering of a "state of creative quietude in which one lets things happen by themselves" (pg. 252). Attention and awareness are, thus, importantly intertwined, but also distinctly different.

Acceptance. Another important component of mindfulness is acceptance. Tolle (1999) makes the point that to give your fullest attention to what the present moment brings implies acceptance, because one cannot give one's fullest attention to something while also resisting it (cited in Brown & Ryan, 2004). Acceptance, one of the foundations of mindfulness practice, is often overlooked as a goal of clinical treatment; often, clients and clinicians are so consumed with the reduction of unpleasant symptoms they may engage in maladaptive behaviors in an effort to get rid of them, rather than learning to accept certain things (Baer, 2003). Similar to acceptance is the idea of non-judgment. Leary & Tate (2007) describe non-judgment as experiencing reality without evaluating, therefore allowing one to put more space between "the stimulus and one's response" (pg. 252) by experiencing reality more directly.

Reorientation or "reperceiving". The concept of "reperceiving" (pg. 614) has also been identified as a major mechanism of mindfulness (Carmody et al, 2009), allowing for greater clarity, objectivity, equanimity through the minor, direct mechanisms, including self- regulation, values clarification, cognitive and emotional flexibility. These are outcomes in and of themselves, though they may also lead to other

positive outcomes, such as symptom reduction. This includes the actions of observing and describing, believed by many researchers to be important aspects of reorienting oneself to the present moment (Carmody et al, 2009; Greco et al, 2011).

Well being. The final component of mindfulness identified through the literature is the aspect of well-being. Leary and Tate (2007, pg. 253) emphasize the third component of their conceptualization of mindfulness as being "beneficial for the body and mind" in that the practice of mindfulness is often couched within the goals of promoting mental and physical wellness, such as reducing negative emotions and stress, and making one "a better person," viewing oneself and the world with greater clarity, and increasing "spiritual experiences." Similarly, Wallace & Shapiro (2006) posit a model of mental balance that includes four major components: conative balance (balance in one's choice of goals), attentional balance (balanced and increased ability to sustain attention), cognitive balance (clearer picture of mental landscape from moment to moment), and affective balance (balance of emotions where one is free from emotional vacillation, empathy, and inappropriate emotions). Well-being, as defined by the authors is "a way of engaging with life based on a wholesome way of life, mental balance, and a sound understanding of reality" (pg. 691). As stated by the authors, the Buddhist idea of "mental imbalance" (pg. 693) is not intrinsic to an individual but rather is a habitual state that even ordinary people are susceptible to (Wallace & Shapiro, 2006). Thus, mindfulness becomes a tool to re-achieve one's balance and progress toward a greater sense of well-being.

Measures of Mindfulness

There are many measures of mindfulness that have been developed across various settings and for various populations. Typically, measures of mindfulness are created with the intent to see how mindfulness may change as the result of an intervention or mindfulness program. However, as mentioned before, the construct of mindfulness is broadly inclusive of many aspects. The ongoing debate in measuring mindfulness is whether mindfulness is a single- or multiple-factor construct, and if such a concept as mindfulness can even be broken down and measured. According to Chiesa & Malinowski (2011), mindfulness may be better measured by qualities of awareness rather than mindful behaviors and a tendency toward mindfulness in daily life, meaning more specific aspects of awareness and attention above dispositional mindfulness or behavioral mindfulness.

Mindfulness measures are typically self- report questionnaires with a varying number of items. Mindfulness self-report questionnaires available are, overall, psychometrically adequate, showing good internal consistency and expected correlations between various variables (Baer et al, 2006). Measures used in this study are summarized below.

The Child and Adolescent Mindfulness Measure (CAMM) was adapted from three of the four factors on the KIMS (observing, acting with awareness, accepting without judgment), and was found to be a developmentally appropriate measure, with promising preliminary evidence pointing toward reliability and validity (Baer, Smith, & Allen, 2004; Greco, Bayer, & Smith, 2011). The study by Greco, Bayer & Smith (2011) found that CAMM scores positively correlated with the child/adolescent's overall quality

of life, but negatively correlated with child-reported somatic complaints, internalizing symptoms, and externalizing behavior problems. As of 2008, the CAMM is the only mindfulness measure that has been normed and adapted for use with youth populations (Thompson & Gauntlett- Gilbert, 2008).

The Five- Factor Mindfulness Questionnaire (FFMQ) was developed in response to an exploratory study of factor loadings in determining underlying dimensions of mindfulness (Baer et al, 2007, 2008); it measures the factors of Observing, Describing, Acting with Awareness, Non-Judgment of Inner Experience, and Non-Reactivity to Inner Experience. Construct validity and content validity were found to be high for the FFMQ in different populations, such as meditators and non-meditators (Baer et al, 2006; Baer et al, 2008). Further, the measure also showed validity when studying the effects of mindfulness on psychological symptoms and well-being. The Five-Factor Mindfulness Questionnaire measure mindfulness as a multi-dimensional construct, though they do not measure each factor as a separate subscale (Cardaciotto et al, 2008).

How Mindfulness Operates

It is one thing to tell a person that mindfulness 'works,' but it is another thing to explain *how*. As difficult as mindfulness is to define, it is equally difficult to explain what mechanisms are at work, exactly. Partially, this is because of the complex nature of mindfulness as a construct, mental state, and a practice; yet, partially, this task is so difficult because mindfulness is an experiential concept. Many researchers have stressed the importance of practicing mindfulness to truly understand it and how it works (Kabat-Zinn, 2003; Hart, 2004).

Nevertheless, I will attempt to explain the processes of how mindfulness brings about positive outcomes for practitioners based on extant research. Mechanisms of mindfulness, as represented in the broader literature, can be broadly categorized into five major areas, different from the five factors of mindfulness measured in the FFMQ: attention and regulation, acceptance and cognitive shift, rest and reduction in mental noise, neurological mechanisms, and integration of self (Baer et al., 2006). I will discuss each one separately.

Attention and regulation. *"Contemplative practice has been shown to improve a variety of perceptual and cognitive abilities related to the quality of attention." (Hart, 2004)*

Attention is, perhaps, the first and foremost mechanism of mindfulness one should discuss. At the outset of any mindfulness training, the first task, and truly the ongoing task, is to learn to pay attention. "Attention" is defined in a specific way, though. We often consider 'paying attention' to mean keeping our minds focused on a single, stationary object or person (Langer, 1997). However, this is not truly *how* we pay attention. Langer (1993) argues that true attention relies on the continuous movement of the mind as it perceives the present moment. This is line with mindfulness practices, such as the body scan, which asks practitioners to move their attention through their body in a systematic way, noting sensations along the way. Langer (1993) describes how it is much easier to focus on something when it is moving, than when it is stationary. Even familiar concepts and objects are only familiar if we hold them as constants; however if we choose to see them from a novel perspective, they have moved, allowing for greater capacity to be mindful (Langer, 1993). Mindfulness, thus, teaches us to observe changes

in ourselves and our surroundings (Langer, 1993). Further, Langer points out that holding an image still in one's mind does not contribute to enhanced attentional skills, while noticing new things about a changing stimulus does increase attentiveness (Langer & Moldoveneau, 2000). The Self- Regulation of Attention, a mechanism of mindfulness identified by Bishop (2004) uses the skills of sustained attention and switching to observe and attend the field of thoughts, emotions and sensations experienced from moment to moment while bringing attention to back to the breath when the mind begins to wander; this process fosters non-elaborative awareness of thoughts, feelings, and sensations as they arise in one's mind.

The type of attention practiced in mindfulness results in actual increased quality of attention as well as better regulation. As Hart (2004; pg.5) puts it, effective learning is not just dependent on "time on-task," but rather on the quality of the attention we are able to bring to the task. As a regulatory function, mindfulness targets specific thought patterns and moods, which can be especially useful in interventions with individuals who have patterns of negative, depressive, or anxious thoughts (Jimenez et al, 2010). Regulation, defined by one study as the fostering of positive emotion and increase of behavioral effectiveness, is developed by creating space between stimulus and response (Leary & Tate, 2007). Thus, mindful emotional regulation may operate by training oneself not to identify with disturbing emotions as one becomes aware of them, and/or also by increasing one's perception of awareness itself (Chambers, Gullone, & Allen, 2009.)

Cooley and Morris (1990) describe attention as the basis and foundation for the neurological and cognitive processes that we heavily rely on; when we compare this

finding with the fact that multitasking has become the norm, one must wonder what we are doing to ourselves through our lack of attention. This is especially true for children, most of whom begin watching TV and playing video/computer games from an early age (cited in Napoli, 2003).

One particular mindfulness intervention, *Meditation on the Soles of the Feet* (Singh et al, 2007) appears to help children and adolescents quickly shift their attention from an emotionally charged situation to a neutral part of their body, thereby allowing them to avoid physically or verbally aggressive responses. This gives some insight as to how mindfulness operates, to some extent, with child and adolescent populations.

Reduction of mental noise and increased clarity. Another mechanism of mindfulness is the clarification of values and self- regulation (Carmody, 2009). Leary and Tate (2007) discuss this point: a reduction in negative emotions is brought about through the reduction in mental noise and inner self- talk, a natural by-product of practicing mindfulness consistently. As one learns to refocus one's attention on the breath (or noise, or the body scan), one's mind naturally quiets and becomes calmer. When this happens, greater clarity is not guaranteed, but is certainly facilitated.

Hayes and Feldman's (2004) study of mindfulness found that it improved clarity of feelings, the perceived ability to repair one's mood, cognitive flexibility, as well as the ability to understand one's problems from an antecedent perspective without getting mired in pointless deliberation or fantasizing about a positive outcome without brainstorming the steps to get there. The authors also suggest that the value of mindfulness may truly lie in its teaching of equanimity, the art of experiencing life's many ups and downs with balance and clarity. In their study, Feldman and Hayes found

that mindfulness had strong stabilizing effects that were useful in therapy, particularly the decrease of experiential avoidance and rumination (Hayes & Feldman, 2004). These findings are confirmed by a study from Moore and Malinowski (2009), where it is suggested that regular practice of meditation and high mindfulness measures correlate positively with attentional performance and cognitive flexibility, as measured by the Stroop Test and the Kentucky Inventory of Mindfulness Skills (KIMS) with experimental and control-groups for mindfulness training.

Acceptance and cognitive shifts. Arguably the most important aspect of mindfulness is its capacity to facilitate acceptance, nonjudgmental awareness, and cognitive shifts in practitioners. Mitmansgruber and colleagues (2009) found a salutary effect in having an acceptance stance toward one's own emotions and confirmed the effect of self-compassion on one's well-being. In this way, mindfulness is similar to cognitive-behavioral therapy, or even Gestalt therapy, which encourages a nonjudgmental acceptance of where one is and what one is feeling (Hooker & Fodor, 2008). However, instead of being guided by a psychotherapist or counselor, one is guided by one's own practice, resulting not only in the cognitive shifts, but also in greater empowerment to create changes within oneself.

The focus of this mechanism of mindfulness is *thoughts*. Thoughts are continuously running through our minds during our waking hours, often making us distracted, or keeping us up at nights, and only subsiding when we sleep. 'Thoughts' are the focus of much scholarship on the topic of mindfulness because of their power to literally change our mental processes and result in cognitive shifts. Research (Kabat-Zinn, 1982, 1990; Linehan, 1993a, 1993b) indicates that by nonjudgmentally observing

and labeling one's pain and anxiety- related thoughts, one may be able to come to the understanding that they are 'just thoughts' and that one does not need to react to them or avoid them. Similarly, "when thoughts are not treated as fearsome, or are treated as literally true or false, their content can be observed more objectively, and believability seems to plummet without direct change efforts being made" (Bach & Hayes, 2002, pg. 1135). Thus, mindfulness practices may lead to cognitive shifts (Baer, 2003).

Thoughts, of course, are also inextricably linked to emotions. If we think about something sad or frustrating, we typically feel sad or frustrated almost immediately. Similarly, while mindfulness is not intended to directly result in relaxation, it does teach the nonjudgmental observation of various mental phenomena (racing thoughts, muscle tension, etc), many of which are incompatible with relaxation (Baer, 2003). Yet mindfulness works in similar ways with emotions as it does with thoughts. The fostering of nonjdugment and acceptance in relation to thoughts and emotions creates equanimity in response to life situations (Leary & Tate, 2007). Reducing attachments or expectations, as encouraged by Buddhist thought, is related to acceptance and can decrease stress and promote equanimity. It may also promote compassion; as one learns to view one's own flaws with acceptance, one may also learn to view others' flaws the same way (Leary & Tate, 2007).

Both emotions and thoughts can be brought under control, as described by this illustrative and poetic example:

> One classical approach in Buddhist practice is for the meditator to look straight in the eye of the disturbing emotion and understand what it is and how it works... The experiment will show that the more one looks at [the emotion], the more it disappears beneath one's very eyes, like the frost melting under the morning sun.

> When one genuinely looks at it, it suddenly loses its strength… Indeed, at the very source of destructive emotions there is something that is not yet harmful… After this, when emotions arise, they don't trigger a chain of thoughts that proliferate and take over the mind, compelling one to act (Kabat-Zinn, 1990; p. 81).

Mindful attention and awareness may benefit individuals by allowing them to bring insight into their present moment realities, loosen their attachment to outcomes and expectations of the situation and the self, and increase clarity in one's thoughts and actions (Brown & Ryan, 2003). This type of distancing can also be seen with physical or emotional feeling of pain. Pain, which is typically processed, evaluated, and labeled by cognitive functions as 'painful' or 'hurtful' can be mitigated through the repeated practice of mindfulness meditation as the patient learns intentionally to assume an attitude of detached observation toward the sensations as it becomes more conspicuous in the patient's field of awareness. Patients enrolled in the training program also reported deep personal insights, greater patience, an increased ability to relax in daily situations, a willingness to from moment to moment, as well as increased awareness of stressful situations and an accompanying increased ability to cope with said situations (Kabat-Zinn, 1982).

Many researchers discuss the idea of "re-perceiving" as the heart of this mechanism (Carmody, 2009, pg. 614; Shapiro et al, 2006), which is really the cognitive shift mentioned earlier. Shapiro et al (2006) define "re-perceiving" as the process by which thoughts and feelings are found to be transitory events of the mind, requiring no response as opposed to real, accurate, and note-worthy reflections of the self. Further, re-perceiving, seen as a significant shift in perspective, is a meta-mechanism that overarches

other mechanisms of mindfulness including 1) self regulation, 2) values clarification, 3) cognitive, emotional, and behavioral flexibility, and 4) exposure (Shapiro et al, 2005). Reperceiving is related to decentering (Safran & Segal, 1990), deautomatization (Deikman, 1982), and detachment (Bohart, 1983)- all fundamentally a "shift in perspective," but it is differentiated from detachment by researchers (Shapiro et al, 2006, pg. 378). Carmody (2009) specifically discusses mindfulness as linked to mediating factors of de-centering and re-perceiving, all of which increase between pre- and post-intervention measurements. Mindfulness techniques may be helpful in interrupting negative perseveration and can be utilized as behavioral experiments to test patients' metacognitive beliefs about worrying within a cognitive behavioral context (Wells, 2002).

Such a metacognitive mechanism can only work with the right conditions, however. "Orientation to experience" described by Bishop (2004, pg. 233) includes a curiosity about arising thoughts, emotions, and sensations, *acceptance* of what internal stimuli come up through mindfulness, and openness to "whatever happens in the field of awareness" (pg. 233). Such openness and mental flexibility is needed in some small quantity at the very least to produce a cognitive shift.

Neurological mechanisms. Various neurological mechanisms are also at work during the practice of mindfulness. Though they may be more difficult for the common practitioners to observe within themselves, changes at the neurological level suggest the possibility and occurrence of real, long-term change. Meditation has been found to impact the control of the parasympathetic nervous systems, which control stress-response mechanisms and regulate digestion, immunity, mood, and energy use among other

functions (Grossman, 2004). Positive mood states can be enhanced through meditation by means of dopamine release in the ventreal areas of the brain (Kjaer et al, 2002). Further, meditators in another study (Holzel et al, 2011) had increased concentrations of gray matter (processing neurons) in several areas of their brains, including the hippocampus (responsible for learning, memory, and emotions), as well as other areas responsible for remembering the past, imagining the future, introspection, empathy, and perspective taking. The researchers in this study suggest that such changes could be beneficial because they enhance synthesis of neurotransmitters that influence and shape mood (Holzel et al, 2011).

Mindfulness meditation has been shown to reduce the experience of stress load in individuals, an important function (Anderson et al, 2008). As stressors produce elevated levels of cortisol, which impede the growth and regrowth of hippocampus cells, negative life events could possibly result in abnormalities in some context- dependent emotional responses. One important aspect of mindfulness is that it brings the brain to a state of quasi- rest. Neurobiology research suggests that rest is needed to strengthen neurological connections (Hart, 2004), an important function. Anxiety reduction is also seen at the neurological level as a result of mindfulness training (Goldin, Ramel, & Gross, 2009). In one study, participants receiving mindfulness training, either in the form of MBSR or an intensive retreat, were found to have altered functioning of their dorsal attention system to improve voluntary response- and input-level selection processes (Jha et al, 2007). Relaxed attention, cultivated through mindfulness, can also allow flexible psychological and behavioral responses to internal and/or external cues, through a possible restructuring of those brain regions associated with self- regulation (Black et al, 2008). While early

environments are central to neurological health and development, brain plasticity continues throughout life, meaning it can continue to grow and change in response to its environment for much of our human lives (Davidson, Jackson, & Kalin, 2000). Thus, even a short training program of mindfulness meditation can produce an increase in functioning of part of the brain that is associated with the reduction of anxiety and negative affect, as well as increases in positive affect (Davidson et al, 2003).

Meditation may also influence how emotionally ambiguous input may be processed, regulated, and represented in one's conscious awareness; in one study, meditators rated themselves higher in terms of mental clarity- the ability to discern emotional states, and may have increased capacity of their emotional regulatory mechanisms (Nielsen & Kaszniak, 2006). It has also been shown to impact neuroendocrine functioning, metabolic functioning, and inflammatory responses related to these (Grossman, 2004). Thus, mindfulness affects *how* individuals may receive and interpret stimuli at the mental and physiological levels.

Interestingly, different types of meditation can produce different results in the brain. Based on neuro-imaging of the meditation practitioner-participants, researchers found that frontal regions, anterior cingulate, limbic system and parietal lobes were affected during meditation, and that there were different patterns between two meditation states: 'focus-based' meditation and 'breath-based' meditation (Wang et al, 2011). Similarly, the depth of meditation experienced by a participant and his/her neural activity in the left inferior forebrain areas have been observed (Wang et al, 2011) to correlate.

Integration of self. The processes practitioners undergo in mindfulness training is shown to link differentiated components of our mental experiences, thus creating a more

integrated state, which is an essential process of achieving mental well-being (Siegel, 2007). Memory, emotions, sensation, and other such present-moment experiences are "re-perceived" as mentioned above. This type of shift results in a more integrated state of being. Further, it has been suggested however that the level of mindfulness moderates psychological functioning in individuals, but specifically adolescents (Marks, Sobanski, & Hine, 2010).

In one seminal study conducted by Farb and colleagues (2007), researchers monitored participants' enduring traits (a narrative focus of the self) compared with their momentary experience (an experiential, moment-to-moment focus of the self) during an 8-week course in mindfulness meditation. Those participants who had undergone the mindfulness meditation (Experiential Focus, EF) showed marked and pervasive reductions in the parts of the brain that are typically associated with Narrative Focus (NF). The participants also showed a distinct separation of neural processes associated with both these forms of self- awareness, suggesting it is possible to disassociate one's "self across time" from the "self in the present moment (pg. 313)" through the practice of mindfulness (Farb et al, 2007). Though this process seems to describe a separating of parts of the self, in actuality, we are talking about simply recognizing the different parts of the self and how they operate with each other.

In a broader perspective, the integrated state can result in outward positive benefits. For instance, Duncan and Bardacke (2010) studied the instruction of mindfulness skills in expectant parents, especially those which could be used by these future parents to increase their adaptive coping skills for environmental stresses (e.g. major stressor/ life events, low-income/ poverty, loss of job/ work-related stress, stressors

between family members or friends) and demands related to parenting (e.g. developmentally appropriate instances of short infant sleep-cycles, crying) and found that instruction in mindfulness could result in better outcomes later in the family's trajectory (e.g. the absence of child abuse or neglect). Such an example emphasizes how the internal integration of self could create positive shifts for oneself and loved ones over the course of time by decreasing poor choices and increasing the pause between stressor and reaction. Mindfulness is "oriented toward what is 'right' with people rather than what is 'wrong' with them' and aims to nurture and strengthen innate capacities for relaxation, awareness, insight, and behavior change" (Miller, Fletcher, & Kabat-Zinn, 1995, pg. 197). Thus, mindfulness seeks to bring greater balance to the individual, better preparing them to handle life's vicissitudes.

Types of Mindfulness Practice

As mentioned before, mindfulness includes a host of discrete practices, many of which have been modified and repackaged into different programs addressing different clinical concerns. Though researchers do differentiate mindfulness from other practices such as relaxation, meditation, and cognitive behavioral therapy, (Thompson & Gauntlett-Gilbert, 2008), these forms share similar roots and key aspects. The differences and similarities among mindfulness meditation and mindfulness-based interventions should be explored. Chiesa & Malinowski (2011) outline the current forms of mindfulness, including Vipassana- or insight meditation, Zen meditation, Mindfulness-Based Cognitive Therapy (MBCT), Mindfulness-Based Stress Reduction (MBSR), Acceptance and Commitment Therapy (ACT), and Dialectical Behavior Therapy (DBT). I will be highlighting those practices that have the greatest overlap with the construct of

mindfulness I am researching, paying particular attention to those practices that have the greatest alignment with the mindfulness curriculum used in this study.

Mindfulness-Based Stress Reduction (MBSR), a secular intervention developed by Jon Kabat-Zinn, is one of the few forms of mindfulness that is more explicitly rooted in Buddhist traditions- specifically, Mahayana and Theravada (Chiesa & Malinowski, 2011). In his landmark study, Kabat-Zinn introduced MBSR, originally known as a "stress reduction and relaxation program," into a behavioral medicine setting for populations with a wide range of chronic pain and stress-related disorders (SR-RP; Kabat-Zinn, 1982, pg. 33; 1990). MBSR uses breathing, body scans, yoga, and nonjudgmental thought awareness to reduce symptoms in clinical patients (Baer, 2003). In its original conceptualization for its help with chronic pain, MBSR increases exposure to discomfort and pain through sitting still during meditation for longer periods of time; rather than moving around or shifting position, clients are encouraged to observe the pain and reduce judgment and emotional reactions related to it, thereby increasing desensitization and reducing emotional distress (Baer, 2003). This practice, many, including Kabat-Zinn, argue is also effective in reducing general anxiety. This will be explored in a later section of the literature review (MBSR; Kabat-Zinn 1990, 2003).

Similarly, Mindfulness- Based Cognitive Therapy (MBCT) (Teasdale, Segal, & Williams, 1995) is designed to prevent relapse of depression by teaching formerly depressed individuals to observe their thoughts and feelings nonjudgmentally; they are also taught to observe their thoughts as mental events that come and go rather than as parts of themselves, or as accurate reflections of reality (Baer, 2003). Segal et al (2002) further explored the practice of secular MBCT to help prevent depression relapse in

clinical populations. Both MBSR and MBCT include elements of hatha yoga, sitting meditation, and body scan (Chiesa & Malinowski, 2011). Yet, MBCT is an effective intervention that fits in well with the Positive Psychology field of work (Collard et al, 2008).

Dialectical Behavior Therapy (DBT) (Linehan, 1993) was originally developed to help individuals diagnosed with BPD practice acceptance and change as well as helping them to build a life worth living (Chiesa & Malinowski, 2011). DBT, based on the dialectical world view of opposing forces, encourages clients to accept themselves, their history, and their current situations while also working to change their behaviors and environments to create a better life (Baer 2003). The technique emphasizes capability enhancement and changing motivational factors to reinforce appropriate behaviors and teaches important interpersonal, self-regulation, and coping skills. While many of the basic skills and concepts in DBT are similar to MBSR, the ideas are organized differently, focused on the synthesis of acceptance and change and how it applies to a client's daily life, and taught over a long period of time, usually a year, whereas MBSR and MBCT programs are typically 8-10 weeks (Baer, 2003).

Acceptance and Commitment Therapy (ACT; Bach & Hayes, 2002) attempts to increase individuals' willingness to be exposed to unpleasant private life events with the aim to change their relationship with their symptoms rather than decreasing the frequency of their symptoms (Bach & Hayes, 2002). ACT also attempts to produce decreased symptom believability, increased symptom acceptance, and positive behavioral changes (Bach & Hayes, 2002). Acceptance and Commitment Therapy (ACT), while not specifically incorporating techniques of mindfulness, is, in essence, made of the same

mould as other mindfulness practices; in ACT, clients are taught to recognize an 'observing self' that is aware of changing thoughts, emotions, and bodily sensations without judging, evaluating, or attempting to avoid or change them (Baer, 2003)

Vipassana, or Insight Meditation, a specific type of Buddhist meditation technique, may reduce psychological distress experienced by participants by asking them to observe non-judgmentally their thoughts, feelings, and emotions to reduce the importance of "mental content" (Ostafin et al, 2006, pg. 196). Other specific meditation techniques include *anapana* (described later), Zen meditation, and transcendental meditation.

Mindfulness-based interventions. Aside from these primary types of mindfulness-based interventions, a slew of others have been created and incorporated with various populations. Underlying these derivatives of primary mindfulness programs is the common belief and understanding that mindfulness provides mental health benefits to individuals, such as reducing anxiety or depression, increasing feelings of well-being, physical functioning, and even social skills. The studies reviewed below fall under the broad categories of medicine, mental health, nonclinical studies, child/ adolescent studies, and special populations, which are further parsed out below.

Medical field. Since Kabat-Zinn's landmark study on the effects of MBSR with chronic pain patients (Kabat-Zinn, 1982), numerous studies have been completed to document the effects of mindfulness on various clinical and non-clinical populations, creating an evolutionary trajectory. Areas often studied in relation to mindfulness (and as components of mindfulness) include attention, emotional reactivity and regulation, anxiety and depression symptoms, and metacognitive functioning (Saltzman et al, 2004).

Carmody (2009) also notes it is important to test variables such as mindfulness, self-regulation, and de-centering when testing theories of mindfulness effects.

The medical field has been a leader in studying the effects of mindfulness on patient mental and physical health. As mentioned before, Kabat-Zinn's landmark study on the effects of mindfulness on chronic pain patients showed promising findings: the mindfulness training significantly reduced ratings of pain in the patients, as well as reductions in mood disturbance and psychiatric symptomatology (Kabat-Zinn, 1982). Further, mindfulness was shown to reduce mood disturbance and stress in patients with breast and prostate cancer far more than changes in physical symptoms (Brown & Ryan, 2003). Another study dealing with individuals diagnosed with Social Anxiety Disorder examined the effects of an 8-week MBSR program and found that participants had decreased social anxiety, depression, rumination, and state anxiety, as well as increased self-esteem (Goldin et al, 2009). The study suggests, "training in the mindfulness meditation skills may influence habitual distorted social self-views that are deeply entrenched in SAD" (pg. 253). A series of studies examined the effect of mindfulness training on the blood pressure of African American adolescents. The authors of this study found that Transcendental Meditation (TM), used as an intervention to lower stress, decreased the daytime systolic and diastolic blood pressure of the participants demonstrating the potentially beneficial impact of TM on youth at risk for developing hypertension (Barnes, Treiber, & Davis, 2001; Barnes, Treiber, & Johnson, 2004). Relapse Prevention (RP), a lesser-known intervention using mindfulness skills, is directed toward individuals who have been treated for substance abuse. Instead of

focusing on thoughts, emotions, and bodily sensations, RP directs clients to observe their urges, visualizing them as waves that grow until they crest and subside (Baer, 2003).

However, the medical use of mindfulness, outside of its historical contextualizing, is beyond the scope of this study. Though important in terms of understanding the trajectory of mindfulness practices absorbed into Western fields of clinical practice, the above examples of medical uses of mindfulness serve only to explicate how the mind and body are so intimately linked.

Psychology and mental health. The fields of mental health and psychology have also carefully studied the effects of mindfulness on clients through a variety of factors. Brown & Ryan (2003) showed in their study that disposition and state mindfulness predict self-regulated emotions and positive emotional states. Subjective Well-Being, comprised of Positive and Negative Affect and Satisfaction with Life, has been studied extensively by some authors (Brown & Ryan, 2003; Collard et al, 2008). Collard and colleagues (2008) measured Subjective Well-Being within a Positive Psychology framework and found to increase significantly at the end of an 8-week MBCT program, strengthening the conclusion of Brown & Ryan (2003) and showing that mindfulness increased in participants by the end of the program while also being positively correlated to length of time of practice. Further, participants' Negative Affect decreased by the end of the 8-week MBCT program, though there was no change in Positive Affect; Mindfulness and Negative Affect were found to be significantly negatively correlated at the close of the 8-week study (Collard et al, 2008). Correlation between facets of mindfulness and Positive Well-Being (as measured through a PWB scale) were found by another study to be significant and positive (Baer et al, 2008).

Subjective well-being is, of course, only one measure of the psychological and mental health benefits of mindfulness. Mindfulness has been used across all ages, clinical and non-clinical populations with promising results. For instance, participants in one study who were exposed to a 15-minute focused breathing exercise showed greater adaptability to negative stimuli and more positive responses to neutral stimuli (Arch & Craske, 2006). In another study of a sample of the general population of nonclinical adolescents in the Netherlands, researchers found that the relationship between mindfulness and quality of life is positive, particularly in social and physical domains of life (Bruin et al, 2011). Researchers found a negative correlation between mindfulness and ruminations, catastrophizing, and stress, where rumination and catastrophizing are found to be opposite coping strategies than mindfulness. Mindfulness may be considered a protective factor in individual mental health; it correlates positively with happiness and healthy self-regulation, though mindfulness and acceptance were not found to be positively correlated, as one might expect (Bruin et al, 2011). In a study on depression, researchers found support for the role of mindfulness as a regulatory agent with depressive symptoms, as well as the idea that mindfulness may give a sense of efficacy with regard to emotions (Jimenez et al, 2010).

Further, MBSR has shown similar results to MBCT in terms of positive patient outcomes. One study, focusing on MBSR, showed the test group had significantly positive changes in mindfulness and reperceiving/ decentering from pre- to post-intervention, as well as significant overlap in the metamechanisms of mindfulness (Carmody et al, 2009). The four variables proposed as mechanisms of mindfulness (self-regulation, cognitive, behavioral, and emotional flexibility, values clarification, and

exposure) also increased significantly, while levels of stress and other symptoms were significantly decreased (Carmody et al, 2009). Chiesa & Serretti (2009) showed that MBSR, when compared to standard relaxation training, provided similar benefits in reducing stress. MBSR, however, was able to reduce ruminative thinking and trait anxiety, as well as increase empathy and self- compassion (Chiesa & Serretti, 2009).

In another study, which utilized integrative body-mind training (IBMT), a method of meditative practice derived from traditional Chinese practices, the group receiving the intervention showed a significant increase in attention and control of stress than the control group, which was given relaxation training. The results of this study show that even short-term meditation practices, as opposed to the more cumbersome 8-week curricula, still provides benefit including lower anxiety, depression, and anger, as well as higher levels of vigor and immune functioning (Tang et al, 2007). In another study measuring the effects of using the *maha mantra* (derived from Hindu scriptures) on different aspects of personality as measured by the Vedic Personality Index (VPI; Wolf, 1999), researchers found that the *maha mantra*, chanted while thumbing a circlet of 108 beads (similar to a rosary) lowered feelings of stress and depression in participants (Wolf & Abell, 2003).

Certainly, some of these techniques are far removed from the Western psychotherapeutic approaches to mental health. However, increasing evidence through the literature shows that they are effective, and often holistic in treating the client/ patient.

Nonclinical samples. Many studies look specifically at nonclinical samples, an important population to study as they are generally representative of the larger population. At the college level, mindfulness in students was found to be significantly

negatively associated with binge eating, poor sleep quality, and higher stress (Roberts & Danoff-Burg, 2010). Additionally, perceived daily physical activity level was significantly associated with mindfulness in the expected positive direction; mindfulness was found to be positively correlated with general perceptions of better physical and psychological functioning (Roberts & Danoff-Burg, 2010). Sears & Kraus (2009) found that meditation can reduce anxiety and negative affect in nonclinical populations. While longer meditation sessions improved anxiety, negative affect, and hope, shorter meditation sessions helped to reduce the fluctuating nature of day to day anxieties (Sears & Kraus, 2009). Additionally, the authors suggest that while the purpose of mindfulness may not be to enact change in the mind, change is typically an outcome of increased clarity of observation combined with acceptance and kindness (Sears & Kraus, 2009).

There are also more intensive meditation programs such as the *vipassana* meditation retreat, which requires its students of all ages to engage in 10 days of silence and no activity apart from the deep learning of the *vipassana* technique of meditation. In a study completed by Jha and colleagues (2007), the authors found that, not only did the retreat participants (who were long-term practitioners) show greater attentional readiness and alerting as measured through the Attention Network Test, but their alertness corresponded positively to their prior meditation experience. Thus, participants with greater experience with concentrative practices showed greater alertness after the intensive retreat than those with less experience (Jha et al, 2007). Further, the study's results indicate the possibility that mindfulness training resulted in the emergence of receptive attention in the meditation- experienced group, which holds the practice-related trajectory of effects noted in many meditative texts that initial development of

concentrative attention is evident in novice meditators while receptive attention is developed in more experienced meditators (Jha et al, 2007). These findings, overall, indicate the positive possibility of using mindfulness training as a method to increase attention, a skill essential to many higher order cognitive operations (Jha et al, 2007). While not everyone can attend such retreats, this study points to the benefits of practicing meditation/ mindfulness over a longer period of time.

Studies with children and adolescents. Further studies have been completed with adolescent or child populations, contributing to the body of knowledge of this still difficult-to-define concept. The studies reviewed here reveal benefits for children and adolescents ranging from increased attention and relaxation, to better responses to stress and anxiety, to better academic functioning.

Many mindfulness studies have been completed with pediatric populations. These studies provide important information as to how children and adolescents may respond to such interventions as meditation (mindfulness), yoga, and others. A review of literature examining the use of sitting meditation with youth (e.g. transcendental meditation, mindfulness meditation, MBSR, MBCT) shows that sitting meditation seems to be a beneficial and effective intervention for treating psychosocial, behavioral, and physiological issues in youth (Black, Milam, & Sussman, 2008).

Executive Functioning. Executive functioning is an important skill for all children and adolescents to develop in order to be successful in school (Flook et al, 2010). Mindfulness has been shown to increase the capacities related to executive functioning, including attention, monitoring, and reflecting.

With respect to studies focused on children, third grade students (7-9 years) in an 8-week Mindfulness Awareness Practices (MAP) program were found to have increases in behavioral regulation, metacognition, overall executive functioning, as well as specific areas of executive functioning (Flook et al, 2010). Children's ability to shift, initiate, and monitor was found to be a specific area of improvement as perceived by parents and teachers of the students receiving the MAP program (Flook et al, 2010). Another study focused on a sample of 25 students (9-13 years) from low-income, inner-city households (Semple, Lee, Rosa & Miller, 2010). In a 12-week, manualized group-psychotherapy Mindfulness- Based Cognitive Therapy for Children (MBCT-C), these children showed fewer attention problems than the control group, which was still maintained at the three-month follow-up period (Semple et al, 2010). Further, attention was found to be a significant mediating factor for improvements in behavior; 46% of variance of the behavioral changes were accounted for by attentional changes (Semple et al, 2010).

In Wall's (2005) study examining the effects of a combined program of mindfulness-based stress reduction (MBSR) and Tai Chi (TC) on middle school students in Boston, qualitative and subjective feedback from the participants showed that participants perceived improvements in well-being, increased calmness and relaxation, improvements in sleep and self-care, greater self- awareness and sense of interconnectedness with nature, as well as decreased reactivity.

Other studies show that children not only are able to regulate their emotions and mental processes better, but actually learn new skills. In a preliminary feasibility study, correlations were found between mindfulness and creativity, mindfulness and perceived

capacity for learning, and creativity and perceived capacity for learning (Reid & Miller, 2009). A review of studies by Rosaen and Benn (2006; cited in Wisner, Jones, & Gwin, 2010) showed that many benefits may result from using meditation practices with children and adolescents, including restful alertness, increased emotional intelligence, and improved academic performance. A pilot study completed by the Mindful Schools organization, who are the authors of the curriculum used in this study, showed the benefits of the curriculum in an low-income area of Oakland, CA. Results showed statistically significant improvements in attention and social skills rated by the participating second and third grade children and their teachers (Biegel & Brown, 2011).

Students with ADHD. Attention-Deficit Hyperactivity Disorder (ADHD) is a common area of study in conjunction with mindfulness-based interventions. Studies with adults who have long-term found that interventions which increase mindfulness may improve symptoms of ADHD and increase self-directedness (Smalley et al, 2009). Though individuals with ADHD have lower trait mindfulness than those without ADHD, mindfulness was still viewed as a viable approach to increasing attention as it was negatively associated with ADHD and positively associated with self-directedness and self- transcendence (Smalley et al, 2009). These kinds of benefits may translate to youth populations, as well. Mindfulness has been shown to decrease teacher-reported ADHD behaviors in students, as well as decrease test anxiety, and increase selective attention scores (Napoli, Krech, & Holley, 2005). Overall, for this population, reductions in stress, improvements in quality and amount of sleep, decrease of ADHD symptoms, and even a decrease in aggression have been reported through multiple studies (Bögels et al., 2008; Bootzin and Stevens 2005; Singh et al. 2007; Zylowska et al. 2008; cited in Bruin et al,

2011). Intuitively speaking, yoga and mindfulness have benefits for children with ADHD; they are a means of developing physical and mental control and greater self-awareness (Birdee et al, 2009).

Students with externalizing disorders. Externalizing Disorders are also a common area of study with youth and mindfulness, since these disorders are so often characterized by a lack of emotional and behavioral regulation and impulse control. Such disorders include Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), and Emotional/ Behavioral Disorder (EBD), though the latter is more of an educational diagnosis than a clinical one. Studies point to moderate successes with this population of students, which are considered 'at-risk or 'high-need.' Such students may benefit more from simpler relaxation, social, and problem-solving skills, which may emphasize their strengths (Coholic, 2011). Studies show that mindfulness training for adolescents with externalizing disorders show better self- control, attunement to others, improvement on their own goals and symptoms, and increases of parent- reported positive outcomes in externalizing and attention problem behaviors (Bögels et al. 2008; cited in Bruin et al, 2011). Further, children with different disorders characterized by externalizing behaviors show significant improvement on personal goals, awareness, attention, impulsivity, being attuned, social problems, and happiness; children's internalizing symptoms decrease to some extent while their externalizing symptoms decrease significantly (Bogels et al, 2008). In a study of adolescent sex offenders, mostly male, participants cited multiple positive effects resulting from the yoga and meditation trainings: reduced anxiety, self-awareness, self- control, ability to transfer skills to personal life, reduced recidivism of sex offenses, and spiritual development (Derezotes, 2000).

In one study conducted by Nelson-Gray et al (2006), researchers examined the effects of implementing Dialectical Behavior Therapy (DBT) with 32 adolescents with Oppositional Defiance Disorder (ODD). Caregiver reports showed significant decreases in child ODD symptoms, depression, and internalizing/externalizing behaviors, as well as an increase in positive behaviors (Nelson-Gray et al, 2006). One study looked exclusively at the effects of a specific mindfulness intervention (*Meditating on the Soles of Your Feet*) on three adolescents with conduct disorder (CD), showing that the students were able to successfully self- regulate their aggressive behaviors and reduced frequency of aggression at school for more than one year with the alternative consequence of being expelled from school (Singh et al, 2007). Further, this intervention helped a young man with a cognitive disability to control his aggressive behaviors, resulting in his being discharged to community living and not engaging in aggression for 6 months (Singh et al, 2006). Participants in a MBSR study showed a significant improvement for children and their parents in cognitive control of attention, decrease in negative emotion in response to physical and social threat situations, and a decrease in anxiety and depression for adults (Saltzman et al, 2004).

A few recent studies highlight the effects of mindfulness/ meditation practices more deeply. A study conducted on African American adolescents examined the effects of stress reduction, fostered by a Transcendental Meditation Program, on school rule infractions found that TM in a high school setting positively impacted absenteeism, rule infractions, and suspension rates in the sample studied. TM has been shown to have overall positive mental health benefits, including reduction of psychological stress (e.g., depression, anxiety, hostility, or emotional instabilities), as well as reduction of

aggression and increased feelings of relaxation. The four-month intervention of TM resulted in a 83% reduction in suspension rates, as well as decreased absentee periods, rule infractions and suspension days due to behavior-related issues compared to the control group. Further, the findings also indicated a potentially positive impact on anger expression in African American females (Barnes, Bauza, & Treiber, 2003).

Broderick and Metz (2009) evaluated the Learning to Breathe program in a high school where senior girls received the program of adolescent-focused adaptation of the MBSR program and were compared to the control group of junior girls. The senior girls showed a significant reduction in negative affect, as well as increases in their self-reported calmness, relaxation, and self-acceptance. A mindfulness program for fourth through seventh graders was piloted recently in (Schonert-Reichl & Lawlor, 2010) using a 10-lesson classroom- based program focused on mindful awareness of the senses, positive emotions, self-regulation, and goal setting. As an additional part of the weekly program, teachers were also asked to lead students in brief segments of attention training and mindful breathing three times a day. Students who received this program, as well as their teachers, reported improvements in their optimism, positive affect, and externalizing behaviors. In another recent study, fourth and fifth grade girls were recruited from two public schools and were randomly assigned to an intervention group receiving MBSR adapted for a younger audience, and wait-list/ control groups. Results showed the intervention group, which met one hour per week for eight weeks and had 10 minutes of homework daily, may have attained greater awareness of stressor and coping feelings, more aware of feelings associated with stress and generated coping (White, 2011).

Students with internalizing disorders. There are several studies also pertaining to individuals with anxiety, a symptom often comorbid with other childhood/ adolescent disorders. As mentioned above, mindfulness has the capacity to decrease externalizing, internalizing behaviors as well as improve academic functioning in children with anxiety (Semple, Reid, & Miller, 2005); it can also provide positive long-term outcomes (Miller, Fletcher & Kabat-Zinn, 1995). Semple and colleagues (2010) provided mindfulness training to children between the ages of 9 and 13 with some form of identified stress or anxiety; they were found to have fewer attention problems post-mindfulness intervention (even after 3 months maintenance), and anxiety symptoms/ behavioral problems in those students found to have clinically significant anxiety at pre-test. Similarly, in a study completed by Biegel and colleagues (2009), adolescent, clinically- diagnosed, psychiatric outpatients, particularly those with mood disorder, reported decreased feelings of anxiety, depression, and somatic stress, as well as increased self-esteem, sleep quality, and observed Global Assessment of Functioning. As noted in a study completed by Boden, Fergusson, and Horwood (2008), mindfulness-related interventions would,

> "Positively impact stress-related psychological symptoms, such as depression, anxiety, and sleep difficulties, as well as low self-esteem, which in adolescents has been associated with a host of concurrent and later mental health problems."

Individuals with Social Anxiety Disorder (SAD) have been found to show increases in self- esteem, positive self- endorsement, greater activity in brain network related to attention regulation, and decreased anxiety (Goldin et al, 2009). Similarly, individuals with Generalized Anxiety Disorder (GAD) and similar disorders showed sustained improvements in their anxiety and panic as a result of mindfulness training (Kabat-Zinn et al, 1992; Wells, 2002), specifically by helping to interrupt negative

perseveration though a cognitive behavioral method (Wells, 2002). In a study implementing mindfulness and yoga as an intervention with urban youth, it was found that the intervention was effective in reducing the problematic involuntary responses to social stress (Mendelson et al, 2010). The reduction in involuntary stress reactions also indicates a possible enhancement in self-regulatory capabilities, and a reduction in activation or persistent worrying thoughts in the youth studied (Mendelson et al, 2010). Further, youth who have clinical level of anxiety and depressive symptoms were found to have significant reductions in symptomatology after receiving mindfulness training (Semple et al, 2010; Zylowska et al, 2007). In this study, adolescent, clinically-diagnosed, psychiatric outpatients reported decreased feelings of anxiety, depression, and somatic stress, as well as increased self-esteem, sleep quality, and observed Global Assessment of Functioning. Participants with mood disorder showed the greatest change in these areas.

Students with learning/cognitive disabilities. Individuals with intellectual or learning disabilities have also been found to benefit from mindfulness training programs. In fact, mindfulness-based psychotherapeutic practices have also been found to be an effective way of treating individuals with intellectual disabilities (Robertson, 2011). One seminal study examined the effects of relaxation and meditation training with adolescents with a learning disability (LD) on their anxiety, social functioning, and academic performance, and found there was a decrease in state and trait anxiety, an increase in social functioning, and improvements in academic performance between pre- and post-test (Beauchemin, Hutchins, & Patterson, 2008).

Other clinical youth populations. Individuals with other disorders or medical conditions have also been found to benefit mentally and physically from mindfulness training. HIV- positive urban youth showed significantly reduced hostility, general discomfort and emotional discomfort, as well as perceived improvements in interpersonal relationships, school achievement, physical health, and reduced stress as a result of an 8-week MBSR program (Sibinga et al, 2011). Similarly, in another study with HIV-positive adolescents Sinha and Kumar (2010) found that MBCT, implemented with high fidelity, high attendance, and high retention, decreased the reported emotional and behaviors symptoms of adolescents affected by HIV/AIDS. Internalizing and externalizing tendencies for the participating adolescents with HIV/AIDS moved closer to the functional population than the dysfunctional population, as measured by the researchers, through the use of a twelve-week, structured, MBCT program.

Dialectical Behavior Therapy (DBT), a type of mindfulness-based intervention, is typically directed toward individuals with Bipolar Disorder (Linehan, 1993). In one study, DBT was adapted for adolescents with Bipolar Disorder; results indicated that patients showed significant improvement in suicidality, non-suicidal self-injurious behaviors, emotional dysregulation, and depressive symptoms from pre- to post-test (Goldstein, Axelson, Birmaher, & Brent, 2007). It was also found to be highly feasible and acceptable to the participants' parents, as it focuses on skill building and the improvement of emotional regulation helps address the cyclicity and chronicity association with Bipolar Disorder (Goldstein et al, 2007).

Summary of studies. Though the studies covered above span a wide range of clinical and nonclinical concerns, it is clear that mindfulness yields positive outcomes for

most who engage in its practice, even for a short period of time. While individuals are affected to different degrees and in different behavioral or symptomatic ways, typically, the changes benefit the individual.

Most importantly, we learned that mindfulness is an effective intervention for children and adolescents, regardless of clinical and/or special education status. The next section will outline how the literature recommends modifying the available mindfulness curricula to make it age- and developmentally- appropriate.

Modified Curriculum for Children and Adolescent Populations

While mindfulness has been shown to work with multiple clinical and non-clinical populations, modifications to the training curriculum should be made for children and adolescents to make the experiential teaching more developmentally appropriate. Wisner, Jones, and Gwin (2010) advocate for the use of mindfulness and meditation practices with adolescents, and children of all ages, due to the flexibility and adaptability of mindfulness meditation practices to different ages and different student groups.

Special consideration should be given to the feasibility and acceptance of mindfulness training in a school setting, as well as to the importance of teacher experience and authenticity. The recommendations gleaned from the literature that I have outline below were all considered in the adaptation and modifications of the curriculum I used (described in Chapter 3: Methods). Modifications to mindfulness curriculum are supported by the literature in order to make the curriculum developmentally- and age-appropriate for children and adolescents (Jha et al, 2007; Ott, 2002; Mendelson et al, 2010). There is also a pronounced need for clear descriptions of the interventions, and better reporting of qualifications of facilitators (Mendelson et al, 2010).

Modifications Specific to the Developmental Age of Students

Age must first be considered, as higher developmental levels lend themselves better to reflecting activities than lower ones. Thompson & Gauntlett- Gilbert (2008) highlight some differences in terms of when it is developmentally appropriate to begin such work as mindfulness training: according to Piagetian theory, children must be in the 'formal operations' stage (Wagner, Rathus, & Miller, 2006; Wall, 2005), but according to cognitive behavioral therapy, meaningful work can be done as early as 7-12 years of age (Piaget's 'concrete operations phase) (Verduyn, 2000). Mindfulness-based practices have already been researched for children ages 7 and 8 (Semple et al, 2005), 7–9 (Linden, 1973), 9 (Ott, 2002), 9–12 (Semple et al, 2006), 11–13 (Wall, 2005) and 14–19 (Miller et al, 2000). The facilitators should be clear in terms of rules, making sure students know the limits of behavior, but also that they feel safe to be themselves (Semple et al, 2005).

The same curriculum content that is used with adults would not be as effective with student populations, due to age, and developmental levels, etc. In terms of modifying content, Thompson & Gauntlett-Gilbert (2008) offer a plethora of ideas to ensure that children and adolescents are learning what they need to in the way they need to. While there are no set patterns for contemplative practices with different age groups, experienced teachers recommend more dynamic and physically active activities for younger children and more breathing and meditation practices for older children (Birdee et al, 2009), though it is certainly encouraged to include both types of activities for all age groups. Modifications recommended by the literature include: incorporating more comprehensive explanations and rationales, such as using a metaphor of a basketball player practicing three-pointers in isolation so that they can do better in more pressurized

situations, to highlight the important of practicing mindfulness (Mendelson et al, 2010). Similarly, utilizing useful metaphors can teach important concepts to students. Such work in child populations requires youth/ students to have self-awareness and the ability to modify habitual behavioral tendencies. The curriculum should also often utilize metaphors which enable abstract ideas to be described and understood in concrete terms (Stallard, 2002). For instance, Kornfield (2003) describes the metaphor of the mind as a puppy and mindfulness as the owner trying to train the puppy. Greco, Blackledge, Coyne, and Enreheich (2005) describe thoughts as bubbles that gently float through the mind and examining thoughts as a scientist examining an amoeba under a microscope- he is able to see a lot, but there is an undeniable distance between the scientist and the amoeba; these types of ideas help student to understand the nature of their thoughts and how to put a distance between their sense of self and their thoughts. Relevancy to students' lives is also a key idea Thompson & Gauntlett-Gilbert (2008) identify for modifications: mindfulness practice should be largely experiential and not didactic as youth should be learning to apply the skills to their own lives. Further, signs of progress may be found from student's qualitative, subjective experiences but then also by their behavior in real life situations (Thompson & Gauntlett-Gilbert, 2008).

Variety is also considered to be an important part of the adaptation for children and adolescents. Different practices can be used for different situations (e.g. mindfulness of sounds vs. mindful eating) and students can be taught to integrate mindfulness into their everyday activities (Thompson & Gauntlett-Gilbert, 2008). Teaching and practicing different types of mindfulness may help students to see the potential of practicing mindfulness at any point in the day, even while talking to friends or texting. A good mix

of variety and repetition of techniques may create greater engagement and interest, which in turn, may facilitate generalization (Thompson & Gauntlett-Gilbert, 2008).

Modifications Specific to the Setting

Further, mindfulness is often taught in the setting of groups as it allows for greater potency of experience when group members are able to share their thoughts, observations, and experiences (Thompson & Gauntlett-Gilbert, 2008). However, a candid manner should be encouraged, and facilitators should ensure students know there is no 'right' or 'wrong' way to feel with mindfulness- even feeling bored is fine as long as you're learning to be aware. Wagner et al (2005) noted group rapport and camaraderie often develops within mindfulness groups, but particularly with child and adolescent groups. Semple et al (2006) supports this, highlighting the way group members are able to learn with, teach, and support one another in a facilitating manner.

Modification Specific to Dosage/Time of Implementation

Time-related modifications are also important to consider and special attention should be paid to dosage and intensity of interventions (Mendelson et al, 2010). Mindfulness is ideally used at major transition points in the day: at the beginning of the school day, between classes, and/or at the end of the school day (Hooker & Fodor, 2008); as such, efforts should be made for curriculum to be presented at these times. Length of practice is often a concern, as well. Semple and colleagues (2005) hold that mindfulness programs for children and adolescents should be significantly shorter than adult programs,. While adult mindfulness practices may range between 20-45 minutes (Greco et al, 2005), a review of the child and adolescent literature indicates that much shorter practices are used: just a few minutes at a time. Semple and colleagues (2006) use practice sessions of

between 3 and 5 minutes, whereas Wagner and colleagues (2006) report using practices of between 1 and 5 minutes. These few minutes of actual mindfulness practice can be couched within a longer lesson (between 15-25 minutes) that provides more context and opportunities for discussion. Thompson & Gauntlett-Gilbert (2008) note that for their adolescents with chronic pain, they have been able to sit for up to 10 minutes at a time. While shortened time is certainly necessary, it is alternately useful to have longer periods of sitting so that students may work through feelings of discomfort or impulsivity, and even let the initial dust of their daily life that rises up to settle a bit.

Recommendations for Mindfulness Implementation with Children

Facilitators of mindfulness-based practices working with children and adolescents should be cautious, as overwhelming emotions may arise from sensitivity to meditation (Wisner, Jones & Gwin, 2010). This may only happen with more extended practices. Should a child or adolescent show overwhelming emotions in response to the mindfulness practices, they should be encouraged to keep their eyes open and to simply focus on their breathing rather than trying the other activities. Further, under no circumstance should children or adolescents be consulted to use mindfulness in lieu of their medications; rather, they should be used concurrently. For instance, due to the multiple factors that influence the presence of conduct disorder, best practice would be to use psycho-pharmacalogical interventions in conjunction with psychosocial interventions (Singh et al, 2007).

All of these modifications should be considered with special populations, including students with EBD. Researcher-identified elements to be included in future studies using meditation with delinquent populations includes: caring relationships,

empowerment, self-mastery, and immediate reinforcement (Derezotes, 2000). Himeistein (2011) used a transformative approach of actually establishing a relationship between facilitators with participants in this study examining the use of mindfulness with incarcerated youth, with positive results and reactions from participants.

Teacher Perspectives and Role in Mindfulness Implementation

Teachers have also contributed to the literature on mindfulness through their openness to bringing these practices into their classroom and their work with children and youth. In an important study conducted by Napoli (2004), mindfulness was piloted in a classroom, with in-depth interviews conducted with teachers to understand benefits. Three classroom teachers were trained in mindfulness to understand how the practice of mindfulness might influence the teachers' behavior and perceptions with their students, as well as in their personal lives. Researchers discovered from interviews with the teachers that they used the mindfulness skills to aid in their development and implementation of curriculum, to deal with conflict and anxiety, to improve the quality of their personal lives, and to facilitate positive changes in their classrooms (Napoli, 2004).

According to teacher interviews, depth was added to curriculum as well as the teacher's ability to plan and organize the curriculum more intentionally, giving greater day-to-day focus to the implementation. Teachers also saw significant differences in how their students responded to conflict, stressful situations, and their own anxiety, often prompting students to use breathing exercises to reinstate some calm. Further, teachers reported several benefits in their personal lives, including greater attention and focus to daily tasks such as eating, increased awareness of surroundings, and greater ease when trying to wind down. Teacher interviews also indicated that the teaching of mindfulness

to teachers changed classroom practices as teachers tried to integrate mindfulness exercises in their daily curriculum. Suggestions teachers had for improvement were to give the students mindfulness training as well on a consistent basis and making it a part of physical education and/or health (Napoli, 2004). Clearly, teachers may benefit equally with the incorporation of mindfulness techniques in their classrooms.

Teachers may be wary of time commitment or of trying something out of the ordinary; however, in addition to the benefits to teachers mentioned above, anecdotal evidence collected from teachers in another study indicated positive responses to the mindfulness meditation training and the feasibility of implementing such an intervention (Beauchemin, Hutchins, & Patterson, 2008). Further, teachers have reported that the mindfulness program activities were easy to integrate within their classrooms (Schonert-Reichl & Lawlor, 2010).

In another case, a teacher in South Jordon, Utah, implemented mindfulness practices in the classroom, which were observed by colleagues to create an environment of respect, inquisitiveness, and calmness, and also greatly aided the transition to a new physical space for the class (Kabat-Zinn & Kabat-Zinn, 1997). Teachers can also parallel the practice of mindfulness in their academic curriculum by posing teachers should be posing information as a *perspective* or open for discussion rather than as a "closed package" of facts (Langer & Moldoveneau, 2009, pg. 4).

Family Systems Perspective and Role in Mindfulness Implementation

Families and parents may also be able to provide a vital role in the teaching of mindfulness skills to their children (Thompson & Gauntlett- Gilbert, 2008). From a family systems perspective, the mindfulness of a parent can often spill over onto the child

as well (Cohen & Semple, 2010). Wagner et al (2006) suggests that having parents participate may allay their concerns with the practice and may help to reinforce and model mindful behavior for youth. In one study, mothers of children with ADHD were given mindfulness training, which was found to increase the compliant behavior of their children. Further, this study found that when both mother and children underwent mindfulness training, compliance and positive interactions between both parties increased significantly (Singh et al, 2009). While it is not necessary to have parents involved in the process of teaching mindfulness to youth, it can greatly enhance the treatment effects of mindfulness.

Experiential Requirements

As mentioned earlier in the review of literature, it is held by many leaders in the field of mindfulness that teachers of mindfulness should be mindfulness practitioners themselves (Epstein, 2003; Kabat-Zinn, 2003; Kostanski & Hassed, 2008; Krasner, 2004). Thompson & Gauntlett-Gilbert (2008) note the importance of maintaining personal practice so as to provide authentic instructions to the youth. Sharing mindfulness practices with children requires adults to pull from the depths of their *own* practices, make the practices fun and engaging, and use developmentally-appropriate language and concepts (Saltzman et al, 2004). Kabat-Zinn (2003) also states that, as mindfulness is a way of being that must be honed and practice, he and his colleagues believe mindfulness cannot be taught to others authentically unless the instructor is herself a regular practitioner of mindfulness. Without this authenticity, mindfulness runs the risk of losing its transformative nature and becoming mired in its superficial similarities with relaxation and cognitive- behavioral strategies and self-monitoring tasks (Kabat-Zin, 2003).

From a clinical perspective, Epstein (2003) outlines an 8-fold process for incorporating mindfulness into one's medical and clinical practice. Though aimed at professionals in the field of medicine, he highlights some key aspects of mindfulness that bring benefit in any facilitator's interactions with others: priming, availability, asking reflective questions, active engagement, modeling while 'thinking aloud,' practice, praxis, assessment and confirmation. These skills, Epstein (2003) postulates, combined with courage and motivation, create a positive and safe environment in which clients can seek guidance.

Summary

Though mindfulness is increasingly being studied for its effectiveness as an educational intervention, the research is still limited and the body of knowledge incomplete. As seen in the review of literature above, there are many studies conducted within medical and mental health settings, but far fewer within k-12 school settings. As for those studies completed in a school setting, only a few worked with adolescents with EBD. This is an important population to consider when trying to translate mindfulness practices to the schools, as they often represent the students most in need of these types of skills. Students with EBD have poor educational and social outcomes if their behaviors are not addressed with some type of intervention. These students require additional instruction in emotional and behavioral regulation, which is taught in school to some extent, but often not at the intensity that is needed. Mindfulness is an effective tool, already established in medical and mental health settings, that may be easy to integrate into the classroom and provides training in techniques that students can then have in their tool-belts for future use.

Further, studies related to mindfulness have been seen as methodologically weak, as well as weak in design (Burke, 2009). While the research calls for rigorous quantitative methods using large random samples, such an undertaking is beyond the scope of this researcher. Often unrecognized from the literature, is the need for a sound study with deep and rich qualitative data regarding the experiences of children and adolescents and how beneficial *they* think it is for themselves. While various measures give important information, and are used in this study, they cannot capture the actual usefulness of mindfulness training for an adolescent population. This study seeks to accomplish both of these things in a meaningful and ethical way.

In studies pertaining to mindfulness, the literature has addressed many important topics. Adult medical populations, including those suffering from anxiety and depression, college populations, and other clinical populations have been studied quantitatively at great length (Anderson, 2008; Bach & Hayes, 2002; Barnes, Trieber & Davis, 2001; Birdee et al, 2009). A few studies, including those conducted in classroom settings, attempt to understand the effects of mindfulness from a qualitative standpoint (Brady, 2005; Nanda, 2009; Mai, 2010; McLaughlin, 2010; Napoli, 2005). While the literature has some studies regarding special student populations, there is nothing regarding the utilization of mindfulness as an intervention with students educationally diagnosed with Emotional/ Behavioral Disorder. Further, these investigations are narrow in their focus and do not capture the full experience of individuals receiving mindfulness training. Thus, a need exists in the literature not only to explore this topic of mindfulness more completely and assess the extent to which the participant experiences can generalize to other similar populations, but also to construct a complete understanding of the

participants' experiences through the concurrent collection of qualitative and quantitative data.

CHAPTER 3

METHODS

Statement of Purpose

This mixed methods case study addresses the extent to which adolescents with Emotional/ Behavioral Disorder internalize the practice of mindfulness and use it to increase their self- regulation, mental clarity, and appreciation of the external world. A convergent parallel mixed methods design (Creswell & Plano- Clark, 2010) is utilized to merge quantitative and qualitative data and analyses to create an integrated conception of adolescents' experiences with mindfulness. Specifically, the convergent parallel design is implemented in a study where researchers wish to "triangulate methods by directly comparing and contrasting quantitative statistical results with qualitative findings for corroboration and validation purposes" (Creswell & Plano-Clark, 2010; pg. 77). In this study, extant measures of mindfulness, as well as students' school-based behavioral data are utilized to measure the change in attitudes and behaviors of students from pre- to post-intervention. At the same time in the study, the thoughts, reflections and experiences of the students are captured through the use of individual interviews, student journals, and researcher field notes. Collecting both quantitative and qualitative data is essential for converging the two forms of data to bring greater insight into the students' experiences than would be obtained by either type of data alone.

Methodology

Paradigm

This research design reflects a Constructivist paradigm worldview. The paradigm worldview consists of four philosophical assumptions about knowledge (Guba & Lincoln, 2005): ontological, epistemological, methodological, and axiological. Ontologically, from a Constructivist standpoint, reality is subjective and reliant on individual perceptions and reports. Thus, each individual constructs his/her own reality; a shared reality, then, is negotiated through questions, sharing, and clarification in a hermeneutical manner. Thus, each reality presented by an individual must be respected and attempts should be made to understand it and represent this reality in a way that is agreeable to the individual. Epistemologically, the researcher should be engaged in a conversation to understand a participant's experiences, with special attention to power structures that are often in place in experimental studies. Research should be interactive to some extent and cognizant of the "complex cultural contexts" in which knowledge is couched (Mertens, 2010, pg. 48). Methodology, reflecting these ideas, can be a mix of quantitative and qualitative, but should maintain the aspect of interaction between the researcher and participant. Methods should be responsive to the participant and setting cultural contexts, and the researcher should be transparent about power structures at play in the study, as well as cognizant of social justice issues inherent to a setting or population. From an axiological standpoint, ethics must take a primary role in research design. All participants and their views must be protected and respected. Based on the Belmont Report Mertens (2007) outlines three underlying regulatory features of ethics: respect, beneficence, and justice. All participants must be treated with respect and their

experiences and attitudes must also be respected across all cultures and contexts. Beneficence calls for the "promotion of human rights" (Mertens, 2007, pg. 216) with an eye toward increasing social justice through the research. These three aspects link together, informing the research in an ethically just manner. Further, in the Constructivist paradigm, the researcher understands the axiology to be biased (Creswell & Plano-Clark, 2010), and ensures that such biases are actively discussed as well as the researcher's interpretations. At the same time, Pragmatism (Creswell & Plano-Clark, 2010), a postpositivist approach, also guides this research. Since mindfulness in schools is a new and developing area of research, it is practical at this point to shape research design to the available resources and limiting factors, to some extent. Mixing methods can be done at multiple levels, paradigmatic theoretical, methodology, and so on (Greene, 2007). In this study, I attempt to mix methods at different levels. While Pragmatist influences seem at odds with Constructivism, in this study, they seek to accomplish the same thing: understanding the experiences of the adolescents undergoing mindfulness training, though also acknowledging that school and district demands may present limiting factors which the researcher cannot always anticipate.

Contributing Theories

My theoretical lens is a combination of social justice and the 'whole-child' stance of education. Social justice refers to the belief that the underlying societal constructs of power, privilege, and oppression should be minimized, giving greater voice to marginalized populations and empowering them to have equal roles and opportunities in society. Held as a central tenet of my Jesuit University, Loyola University of Chicago, as well as of my own personal values, social justice serves as the core of my research vision.

Social justice can best be defined by its goals: to create a socially just society. Adams, Bell and Griffith (2010) provide a vision of such a society:

> The distribution of resources is according to need so that all members have their basic needs met. In addition, all members are physically and psychologically safe and secure, are able to develop their full capabilities and are capable of interacting democratically with others. All people also have a sense of their potential and actual power as well as a sense of social responsibility toward others and society as a whole (p. 3).

Along these same lines, I also take the stance that education should serve the "whole child" and not simply the mental, academic portion. Thus, it is equally important to teach students social and emotional skills to benefit them throughout life.

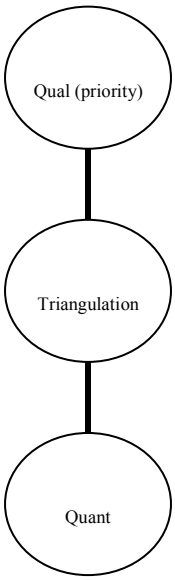
The methodology for this study is dialectical mixed methods (Greene, 2007), where multiple approaches are combined to best address the question at hand, uncover consonance and dissonance between findings, and juxtapose methods to create the most complete interpretation of data findings. In this stance, specifically, "paradigm differences should be respectfully and intentionally used together to engage meaningfully with difference… to achieve dialectical discovery of enhanced, reframed, or new understandings" (Greene, 2007; pg. 69). Using a convergent parallel mixed methods (Creswell & Plano- Clark, 2010) design, greater emphasis has been placed on the qualitative data collected, with quantitative methods used for complementarity and triangulation purposes (Greene, 2007). Triangulation (Greene, 2007) calls for the increase of validity by "using methods with offsetting biases, thereby counteracting irrelevant sources of variation and misinformation or error" (pg. 100). Triangulation uses different methods to examine one phenomenon. Complementarity purposes (Greene, 2007) of mixing methods are used for tapping into "different facets or dimensions of the *same*

complex phenomenon" (emphasis not added) to "elaborate, enhance, deepen, and broaden the overall interpretations and inferences from the study" (pg. 101). I used semi-structured individual interviews and student journals to get a deep and rich sense of what the experiences were like of the students involved in the intervention. As a measure of mixed methods expansion, quantitative differences between the pre-test and post-tests measures of mindfulness and behavior are revealed through statistical analysis. Results from these various sources have been triangulated to answer the research questions posed above.

Mixed Methodology

Multiple authors emphasize the importance of mixing methods, at any level, in order to fully capture the phenomenon one is trying to understand (Creswell, Plano, & Clark, 2011; Denzin, 2012; Mertens, 2007; Nastasi, 2007). In this convergent parallel research design, quantitative (Quant) and qualitative (Qual) data was collected concurrently, with qualitative data holding first priority. The same concepts were assessed through Quant and Qual methods independent sources, though the sample was held constant for both data collection methods.

Figure 1: Mixed Methods Design



Consensual Qualitative Research (Hill, 1997) highlights the importance of researcher disclosure of background and intent regarding the research. In an effort to reach transparency in this manner, it is critical for the reader to understand the researcher's motivations to complete this research, her own background and practice regarding the intervention, and her aim in conducting the research.

Role of Researcher

My motivations for this research are driven by my own experiences and the benefit I have derived from practicing a form of meditation. I believe meditation teaches individuals critical skills for life, including emotional regulation, clarity of mind, and a level of detachment from one's experiences. I believe that meditation is not isolated as an Eastern practice, and indeed I have seen such practices explode in their ubiquity over the past ten years (e.g, yoga, meditation, alternative therapies…etc.) I have been a practitioner of

meditation for approximately five years. I began meditating informally in college and desired a more consistent approach than what I was doing. Thus, through family and friend recommendation, I attended a 10-day *vipassana* meditation retreat and used the technique I learned there on a daily basis for years. I have seen in myself a greater calmness, lessened reactivity to situations that would typically make me angry and/or frustrated, and greater clarity and insight into myself. My aim in conducting this research is to learn how to bring meditation, in a secular or nonsecular form, to students that I work with within the field of school psychology. As stated before, I hold that meditation helps individuals acquire those essential skills to maintaining a positively oriented, peaceful life. I seek to become a better teacher of these skills so that I may make this a part of my school psychology practice, where appropriate. Knowing this was my goal, I attended a three-day workshop in which I was instructed in the Mindful Schools Curriculum (2007) for teaching mindfulness to school-age children and adolescents. I have adopted this curriculum in my research, which is discussed in detail later in this chapter. I also have volunteered at a Children's *Vipassana* Course, which covers the basic technique of *anapana,* or breathing meditation. I served as a group leader, leading the female children in various activities in between the *anapana* instructions and practices. I feel heavily invested in meditation and mindfulness, have seen its benefit on me and those around me, and simply want to share this practice with as many others as I can. My hope is to introduce children to this practice without forcing any ideas or philosophies with it; I believe if it is right for the child or adolescent, he or she will pursue his/her own path.

My background with meditation and investment in its practices, thus, may create a baseline assumption within my research that meditation and mindfulness is a beneficial practice. Though I have attempted to gain a comprehensive picture of these students' experiences with mindfulness, the bad with the good, and report on their experiences in a balanced way, there may be a natural focus on the positive experiences of the students. To create a counter-balance and avoid effects of social desirability in participants, my colleagues conducted the semi-structured interviews. Further, as I wish to see mindfulness used more ubiquitously in schools, there may be a bias towards its benefit in my interpretations. I hope to counteract this by employing the use of a colleague as auditor of my coding themes, coding, and interpretation.

Description of Mindfulness Curriculum

The Mindful Schools Curriculum (Mindful Schools, 2007; Appendix A) consists of 16 sessions, to be taught twice a week for eight weeks. Each session is approximately 15-20 minutes and is led by the facilitator, which is the role I took on, having been trained in the Mindful Schools Curriculum.

The curriculum itself is primarily geared toward students in pre-kindergarten through the fifth grade. Knowing that I would be using the curriculum with adolescents, I sought verbal permission from the developers of the curriculum (Mindful Schools, 2007) at the training to modify the curriculum however I needed to in order to better reach the adolescents I would be working with. Though the developers were in the process of creating an adolescent mindfulness curriculum, it was not yet in working condition. Thus, I sought advice regarding how best to modify the curriculum to cater to an older audience, and I was told to add more into the script regarding relevancy to the students'

lives, as well as more factual information about the brain and how it is affected by mindfulness, which appeals to the intellectual side of adolescents.

The mindfulness curriculum is written out in script form, with prompts for the facilitator to follow, as well as journal prompts regarding the content of that particular lesson. Thus, I took the original Mindful Schools Mindfulness Curriculum (Mindful Schools, 2007) and incorporated more factual information regarding the neurological changes individuals sometimes experience with mindfulness, as well as other facts about the body and brain. I also changed some of the metaphors and phrasings used in the original curriculum to be more age-appropriate for an adolescent audience, and I also tried incorporating more popular culture references where appropriate.

I chose to pilot some of the adolescent curriculum with the students at the high school where I would be collecting data this fall. In order to protect my current study's integrity, I requested that I only work with students who would not be there when I collected my dissertation data the following year (e.g. seniors). The PE teacher, Mr. G, who is my primary contact at the school, was able to identify three seniors who were willing to pilot the adolescent curriculum with me for a shortened session of four weeks (eight sessions). For this pilot study, I administered one of the mindfulness measures, the Child and Adolescent Mindfulness Measure (CAMM; Greco, Bayer, & Smith, 2011), which I discuss more in the instrumentation section before and after the four weeks piloting. I also asked the students for feedback regarding the curriculum and learned the students enjoyed the curriculum, overall, but did not relate to a few of the lessons very well, such as the mindful eating lesson in which mindfully eating a raisin is a key part of the lesson. This pilot study helped to shape the modification of the curriculum. Based on

the feedback of the students, I decided to add more information regarding neuroscience and the relevancy to students' lives to each lesson to increase engagement. Further, although the journal prompts are optional according to the curriculum, I decided, based on the pilot, to incorporate the journal prompts into each lesson, and also use the student journals as feedback for the ongoing improvement of the curriculum lessons.

The mindfulness lessons themselves cover several different aspects of mindfulness. The first lesson discusses mindful listening through the Tibetan singing bowl, which produced a resonating sound that lasts for some time. This bowl and the mindful listening are used to start and end each session thereafter. In the first lesson, I also introduced the concept of the mindful body, which is the basic seated posture students do at their desks for the other exercises. The following lessons include, but are not limited to lessons on mindful breathing, mindful movement, the body scan, mindful eating, gratitude, and compassion/ "heartfulness." The core concepts and techniques of mindfulness have been outlined and discussed in the literature review. Figure 2 outlines the topics of the mindfulness curriculum.

Table 1. Mindfulness Lessons

Lesson 1	Mindful Bodies & Listening	Lesson 2	Mindfulness of Breathing- Finding Your Base
Lesson 3	Heartfulness- Sending Kind Thoughts	Lesson 4	Body Awareness
Lesson 5	Mindfulness of Breathing- Staying at Your Base	Lesson 6	Heartfulness- Generosity
Lesson 7	Thoughts	Lesson 8	Mindful Seeing
Lesson 9	Heartfulness- Kindness & Caring During the Day	Lesson 10	Creating Space
Lesson 11	Slow Motion	Lesson 12	Gratitude- Looking for the Good
Lesson 13	Walking	Lesson 14	Mindful Eating
Lesson 15	Mindful Test-Taking	Lesson 16	Ending Review

The mindfulness curriculum, due to copyright laws, cannot be reproduced here, even with modifications I have made, without the express permission of Mindful Schools. For more information on how to obtain a copy of the mindfulness curriculum, please contact this author or see Appendix A for further information.

Methods

Participants

The participants for this study are adolescent high school students typically given the educational diagnosis of Emotional Behavioral Disorder. The students attended a Chicago suburb high school characterized as ‘therapeutic day treatment.’ One class of students, with approximately 10 students total, was chosen at the discretion of the PE teacher contact, Mr. G. to participate in the study. Mr. G chose one of his PE classes to

participate in the study. All of the students in this school meet the requirements for special education eligibility under "emotional disorder."

The study was completed only with students who returned parental consent forms or could give consent for themselves; thus, parents were asked to sign and return a consent form to allow their child to participate and were informed of their right to withdraw their child from the study at any time. For the children who did not attend the mindfulness lessons, their PE class went on as usual during the intervention times.

Recruitment and Selection Process

The setting for this research was selected purposively. The researcher completed her second-year school psychology practicum in a Chicago suburban high school district. A full-time school psychologist at this high school recommended the researcher speak to the principal of the district's therapeutic day school and facilitated the introduction. Permission to do research in the school was obtained at two levels. The principal first gave his full support to the research, but also stated the district Director of Curriculum and Instruction must also provide her consent. The researcher obtained this consent through a signed letter of support. The Principal also signed a Letter of Cooperation.

The participants for this study were selected purposively for the characteristics of having an educational diagnosis of Emotional Disorder, as defined by IDEA (2004) and/or having a diagnosed externalizing behavior disorder (e.g. Conduct Disorder, Oppositional Defiant Disorder). All participants are students at this therapeutic high school, and thus have goals that align with the mindfulness curriculum, including awareness of needs, improving ability to cope with negative emotion, and response inhibition. As the intervention was to be conducted in the students' Physical Education

period twice a week, the researcher's primary contacts at the school were the head of the PE department, as well as the principal. Both the PE teacher and the principal determined which of the classes might be the most cooperative with the researcher. The researcher only requested the class size be at least 5-7 students. Based on these parameters, the teacher and researcher reached consensus on a PE class that would work the best.

Parents were informed of the class-wide program being implemented through two letters written collaboratively by the researcher and teacher. The first letter informed the parents of the curriculum being used in their child's PE class as part of regular programming; parents could sign and send back the letter/form if they did *not* wish for child to participate in the curriculum. This letter ended up not being needed as only the students who turned in their parental consent forms ended up participating in the lessons. The other students continued their PE class as usual.

The second letter regarded the semi-structured student interviews, and needed to be signed and returned for the student to participate in the interview portion of data collection. Students were also asked to sign an assent form letting them know the risks and benefits of participating before they were allowed to participate in the mindfulness intervention. The parent consent forms were sent out one month prior to the start of the data collection process. The student assent forms were given to students and collected by the researcher when the data collection interviews commenced. All letters of consent and assent are reproduced in the Appendix (Appendix B & C). Students who were 18 years of age or older, as confirmed by school administration, were able to provide consent for themselves.

Finally, teachers were asked to sign a letter of consent before filling out the Teacher Questionnaire. A copy of this informed consent letter can be found in Appendix D. As all of the teachers at the school had all of the students potentially participating in the study, all teachers were requested to fill out a Teacher Questionnaire and needed to sign a letter of consent in order to do so.

Measures and Instrumentation

Multiple measures were used for both quantitative and qualitative data collection. Semi-structured individual interviews, student journals responding to researcher-given prompts, teacher questionnaires, and field notes formed the bulk of the qualitative data collection methods. At the end of Phase 3, evaluation questionnaire forms were also given to the students to get a sense of how they felt regarding specific mindfulness lessons, and what they felt was lacking.

Research-based quantitative measures include the Child and Adolescent Mindfulness Measure (CAMM; Appendix E) and the Five- Factor Mindfulness Questionnaire (FFMQ; Appendix F). Further, as most therapeutic schools do, the school where this research was conducted has a point-level system in place for keeping its students on track and negative behavior to a minimum. The daily point-level sheets for the students were collected at the start of Phase 1 until the end of Phase 3 to track behavioral progress and to be used for document analysis. Attendance was also tracked through field notes of the researcher. Figure 3 below outlines how each measure connects to the research sub- questions guiding this research design.

Table 2. Connecting Research Questions to Measures

Research Sub- Questions	Measure(s)
How do these students in the ED/BD program describe the effects of practicing mindfulness and bringing the techniques into their daily lives?	- Individual semi-structured interviews (pre and post) - Journal entries
What is the impact of the mindfulness program on the day-to-day mindfulness of the adolescent participants?	- Individual semi-structured interviews (post) - Journal entries - Behavioral trackers - Teacher Questionnaires (pre and post) - CAMM and FFMQ - Attendance
To what extent do the quantitative measure results of mindfulness and behavior agree with the qualitative data for these adolescents?	- CAMM and FFMQ - Behavioral trackers - Teacher Questionnaires (pre and post) - Individual semi-structured interviews (pre and post) - Journal entries

Qualitative measures. Qualitative data was collected bi-weekly via journals the students wrote in as part of the mindfulness curriculum. Students were asked to answer 1-2 specific questions regarding that day's mindfulness training, and to add in any further reflections they might have on their mindfulness practice. These journals were collected weekly, and I responded to the students' comments before returning them at the next session. The contents of the journals was not shared with the students' teacher, but they were used to inform the next mindfulness training session if important ideas were shared. Sanger and colleagues (2010) highlight the importance of collecting feedback from adolescent participants regarding an intervention not only to increase engagement, but also to ensure the intervention is meaningful and effective. Further, teacher questionnaires were given to all of the students' teachers before and after the intervention curriculum. The purpose of these questionnaires is to gain an understand of how each

student's teacher perceives their typical reaction style, and how it may have changed over the course of the mindfulness curriculum. A copy of the Teacher Questionnaire can be found in Appendix G. The primary source of qualitative data came from the interviews, though. At the end of the eight-week training, students were again individually interviewed to better understand the unique experience each student had with the mindfulness training. Through the interviews, I hoped to learn specifically what experiences the students had during the mindfulness training, how they felt about mindfulness, and how, if at all, they felt mindfulness translated to other parts of their lives, with questions specifically geared toward the research questions. Further, the journals were used as prompts during the Phase 3 semi-structured interviews to gain a deeper understanding of the students' experiences. The protocol for pre- and post-intervention interviews can be found in Appendix H.

The journals, collected weekly, were transcribed into Word documents to be used as part of student qualitative data, with the original journals ultimately returned to the students for their own use. Interviews, approximately 15-20 minutes per student, conducted at the end of the 8-week mindfulness training program were recorded for transcribing purposes; this was included in the informed consent for the students. These interviews follow a semi- structured protocol format to allow for researcher flexibility to pursue some ideas and thoughts more deeply, when appropriate and relevant, and included references to journal entries as an interview prompt. Teacher questionnaires were created in a one-page, open-response format, and included one rating scale to better understand student behavioral patterns.

Detailed field notes and observations were kept by this researcher throughout the research process (Hill, 1997). In these field notes, I discussed important behaviors, attitudes, events, and insights that may influence the data or reveal certain aspects not previously understood. Thus, these notes were kept starting in Phase 1 and continued through the end of Phase 3.

Finally, intervention evaluation forms were given to student-participants at the end of Phase 3, which concludes the data collection process. Evaluation forms are intended gain specific feedback regarding facilitator style, and to understand what gaps in knowledge or skills the student may perceive in themselves or in the curriculum. A copy of the Evaluation Form can be found in Appendix I.

Quantitative measures.

Child and Adolescent Mindfulness Measure (CAMM). The CAMM has been found to be a developmentally appropriate measure, with promising preliminary evidence pointing toward reliability and validity (Greco, Bayer, & Smith, 2011). The authors of the measure found that the CAMM scores negatively correlated with somatization internalizing and externalizing behaviors, and positively correlated with quality of life. The CAMM is one of the few mindfulness measures that has been normed and adapted for use with youth populations (Thompson & Gauntlett- Gilbert, 2008), though it measures a narrow construction of mindfulness. The measure shows good convergent and construct validity, as well as good internal reliability, with an Alpha Coefficient of .80 (Greco et al, 2011).

The CAMM was developed across four studies. Item development was completed in a mixed methods pilot study. Twenty-five items, reviewed and modified based on the

recommendations of experienced child clinical psychologists, were given to 428 fifth through ninth graders in middle Tennessee. The mean age for these students was 12.10 (SD = 1.28; Range = 10- 17 years) and they were approximately 82% Caucasian, 14% African American, and 4% Other. Administration of the items was followed by qualitative interviews with a sample of 35 students regarding question clarity and student comprehension. Item Reduction and cross-validation analysis was completed in Study 2 with a sample of 334 students from middle Tennessee. Participants had a mean age of 12.60 years (*SD* = 1.68 years; Range =10–17 years), and 66% were girls. The sample was 83% Caucasian, 11% African American, 3% Hispanic, 1% Native American, 1% Asian American, and 1% of other or unknown ethnicities. Participants in Study 2 completed the 25-item CAMM and measures assessing behavioral health outcomes. Study 3 used Confirmatory Factor Analysis (CFA) with the sample from Study 2. Finally, in Study 4, Convergent and Incremental Validity of the CAMM was measured using an independent sample of 319 children and adolescents (59% girls) from two middle Tennessee public schools, ranging from grades 5-10. The sample was 81% Caucasian, 12% African American, and 7% of other or unknown ethnicities. Their mean age was 12.68 years (*SD* = 1.66; Range = 10–17 years).

The CAMM includes ten questions regarding an individual's awareness and acceptance of thoughts and feelings. Examples include: "At school, I walk from class to class without noticing what I am feeling" and "I push away thoughts that I don't like." The individual's total score is computed by reverse scoring and summing all of the ten items. See Appendix E for a copy of the instrument.

Five Factor Mindfulness Questionnaire (FFMQ). The Five Factor Mindfulness Questionnaire was developed in response to an exploratory study of factor loadings in determining underlying dimensions of mindfulness (Baer, 2006). The Five-Factor Mindfulness Questionnaire measures mindfulness as a multi-dimensional construct, though they do not measure each factor as a separate subscale (Cardaciotto et al, 2008). Content and construct validity were found to be strong for this measure (Baer et al, 2008) for multiple populations.

The FFMQ was developed across five studies. In Study 1, available mindfulness questionnaires were studied to determine internal consistency and correlation, as well as convergent and divergent validity with differing populations. Sample 1 consisted of 613 undergraduate psychology students (70% female), was 90% Caucasian, and had a mean age of 20.5 years (Range = 18 – 57). Study 2, which studied facets of mindfulness through exploratory factor analysis, used Sample 1 from Study 1 (n = 613). Study 3, focusing on Confirmatory Factor Analysis, aimed to replicate the five-factor structure developed in Study 2 with an independent sample. Sample 2 in Study 3 consisted of 268 (independent) undergraduate psychology students (77% female), was 90% Caucasian, and had a mean age of 18.9 years. Study 4 examined the differential relationships between mindfulness facets and other constructs. For this study, Samples 1 and 2 were combined for a total n of 881. Finally, Study 5 examined the incremental validity of mindfulness facets in predicting psychological symptoms. The combined sample was again used in this study, which conducted a regression analysis to determine what extent mindfulness predicts general mental health.

The FFMQ consists of 39 items measuring five factors of mindfulness: Observing, Describing, Acting with Awareness, Nonjudging, and Nonreacting. Examples include: "When I have distressing thoughts or images, I just notice them and let them go" and "It seems I am running on automatic without much awareness of what I'm doing." The FFMQ showed good internal reliability in its development studies, with alpha coefficients ranging between .75 and .91 (Baer et al, 2008). See Appendix F for a copy of the instrument.

Student point level system daily trackers. As mentioned before, the point-level system in place at the therapeutic day high school requires detailed tracking of student behavior. The point-level system consists of four behavior levels for students. The lowest level has a limited number of privileges allowed for students, while each subsequent level accumulates more and more privileges. Teachers may give additional classroom incentives to students so long as these do not conflict with the following level guidelines (some examples may include food rewards, assignment coupons, extra credit "A" coupons, or classroom time in the Student Lounge). In addition to privileges earned, points may be accumulated over time with which students may 'purchase' items at the School Store or participate in a variety of activities during the school day. Descriptions and a sample student tracker can be found in Appendices L and M.

During Phase 2 and 3, the school collected the data of the student-participants' behavior levels and daily points earned or lost, as is usually done for all students. In addition to having paper copies, the school also enters the data into an electronic format. After the study was complete, I collected and copied the behavior tracking sheets for each of the participating students for a set time period (one week prior to the start of the

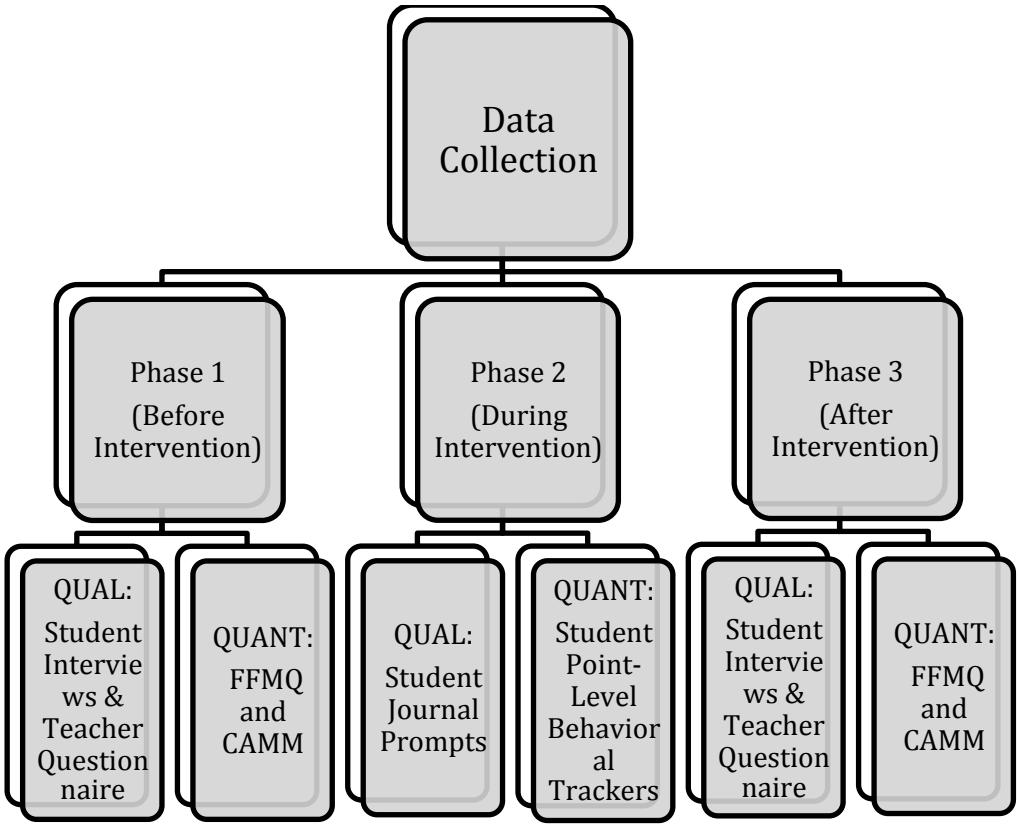
intervention through one week after the end of it,) as well as a printout of the computer-compiled data for each student. These tracking sheets and the computer- compiled data were utilized for document analysis within the larger content analysis efforts. While little statistical analysis could be completed with this particular information, it served as measure of how students' behavior may be impacted by the mindfulness intervention. A summary of guidelines, a visual representation of the point-level system, and a sample student tracker sheet can be found in the Appendix (Appendices L & M).

Attendance. As each session introduced a new mindfulness skill and builds, to some degree, on the skills in the previous session, attendance was an important factor for the students' progress in the intervention. Thus, as part of researcher field notes and observations, student attendance was noted for each of the 16 sessions in addition to general field notes. A copy of the researcher-developed tool can be found in Appendix L.

Procedures. As mentioned before, permission slips were sent out one month prior to the start of the research. Parents had approximately one month to respond, though students were able to sign their assent forms at the time of the interviews if their consent form had been returned. Students who were over 18 years of age were able to provide full consent for themselves. Only those students who had signed parental consent forms and also signed assent forms were able to take part in the data collection, though other students were able to come to the mindfulness lessons instead of their PE class if they wished.

The research and data collection was conducted in three major phases. These phases, as well as the timing and sequence, are represented in Figure 4 below.

Figure 2: Data Collection Timeline



Phase one: Pre-intervention. Phase one of data collection includes all pre-test methods, both quantitative and qualitative. The students in the class were asked to complete two measures of mindfulness: the Child and Adolescent Mindfulness Measure (CAMM; Greco et al, 2011) and the Five-Factor Mindfulness Questionnaire (FFMQ; Baer, 2006). I administered these measures to the students individually prior to their individual interview, so as to prime them to the potentially novel constructs and ideas explored through the semi-structured interview and provide them with some context, which was desirable in this case. I remained present while the students were completing the mindfulness measures so as to provide any clarification or answer any questions by the participating students. A research associate then conducted and recorded the semi-

structured interviews over a two-day period using the researcher-designed semi-structured interview protocol (Appendix H). The first day, interviews were conducted for three of the participating students by one research associate. The second day, approximately 2-3 days later, another research associate conducted the final three interviews. I was careful that the data collection did not interfere with the students' schedule, thus all data collection occurred during the students third period PE class, the time designated for research, intervention, and data collection. I transcribed, de-identified, and anonymized the interviews. All recordings were deleted after being transcribed, and transcriptions were password protected.

Phase two: Intervention delivery. Phase Two of the data collection consisted of the actual delivery of the mindfulness curriculum and accompanying measures of impact. I delivered the curriculum during the students' PE period approximately 30 minutes, two times a week, for an eight-week period. This yielded a total of 16 class sessions, which is consistent with the Mindful School Curriculum and with other mindfulness-based interventions and curricula (Mindful Schools, 2007).

Students were given journals for the purpose of the study and wrote in them at the end of each session to reflect on the curriculum through researcher-provided prompts and questions. I typed the questions for each session and pasted them into the students' journals to facilitate the reflection process at the end of the sessions. Students were informed that their responses would be read and used as part of the data for the study, and thus advised not to divulge anything in the journals they did not wish for me to read or to use in the research. I collected these journals after each session and kept them in a safe place. They were used to inform the next session and make modifications to the

curriculum in an ongoing, dialectical fashion. Additionally, I responded to the journal entries in order to increase engagement and address questions or concerns students may have. The journals were also used in Phase 3 interviews as prompts to gain a deeper understanding of student experience from the sessions. At the end of the final phase of data collection, I converted the journal entries to electronic files, password-protected them, and destroyed the original journals.

The students' daily point-level system behavior sheets were collected at the end of Phase Three. Teachers completed the point-level behavior trackers daily regarding the students' general and individual behavioral goals, as well as any infractions, as part of the daily behavioral system already in place at the school. Each point sheet, containing the students' points earned for that day as well as record of any behavioral infractions, was collected for the six participating students for the period of time spanning the week prior to the start of the curriculum delivery through the week after the curricular instruction was complete. As mentioned previously, this data was compiled through a computer program by the school. I also obtained the computer-compiled data for each student, which served as a validity check for the trackers, which were sometimes difficult to read and understand.

I also kept field notes for each of the sixteen sessions. The field notes included attendance tracking for each of the students, reasons as to why students were absent, as well as thoughts and reflections on each lesson. Each field note was written on-site after the lessons when the students were dismissed back to their PE class.

Phase three: Post-intervention. Phase Three of data collection included post-test methods and evaluation. Post-test methods were parallel to the pre-test methods. They

included a second CAMM (Greco, Bayer, & Smith, 2011) and FFMQ (Baer, 2006) questionnaire to be filled out by each student, as well as a second round of individual interviews with the students. However, these interviews utilized a different semi-structured protocol to elicit specific information regarding how students perceived the mindfulness curriculum and how they incorporated various techniques into their own lives. Students' journal entries were used as prompts to gain a deeper understanding of their experience and understand their likes and dislikes within the curriculum and activities. The interviews were again conducted and recorded by research associates from my graduate training program. Interviews and mindfulness measures were administered over a three-day period the week following the cessation of the mindfulness curriculum.

The researcher-created evaluation (Appendix I) was given to students on the final day of the mindfulness curriculum. Students were given approximately 10-15 minutes to fill out the questionnaire, and I was available for any questions, including cueing regarding the content of different lessons.

I transcribed and analyzed these data according to prior- outlined data analysis methods. All names, websites, and other identifiable information were either removed or changed in order to protect confidentiality.

Validity. A pilot study was conducted prior to the actual study in a different classroom at the same therapeutic day school, in order to refine intervention techniques used with the curriculum delivery. Based on this pilot study, it was determined that data would be collected from multiple sources to triangulate information, enabling the researcher to build a more complete picture of the students' experiences with mindfulness training. CAMM and FFMQ scores, point-level system data, as well as journal entries,

individual interviews, and observations retrieved from field notes were thus used in the triangulation process integrating both qualitative and quantitative perspectives (Baer, 2006; Greco, Baer, & Smith, 2011.) As mentioned before, the researcher's bias is also clarified to better understand and increase the validity of the findings.

Reliability. To increase the reliability of the findings, I checked the transcripts to make sure they did not contain mistakes. As coding proceeded, the codes were constantly by compared with the data, and exemplars were used for each code to ensure the greatest reliability. I have also chosen to use data analysis processes that are well founded for their reliability, including elements of Consensual Qualitative Research (CQR; Hill, 1997) and Content Analysis (Braun & Clark, 2006) procedures for qualitative findings. Once interpretations were made after triangulation of data, the dissertation committee chairperson asked questions and gave feedback to ensure clarity and generalizability of the interpretations made.

Generalizability. Generalizability will be discussed in Chapter Five, as the findings may pertain to other students with Emotional/ Behavioral Disorder attending a therapeutic day school. This was hopefully increased by the use of sound quantitative analysis, thick, rich description, and thorough triangulation so that the transferability of findings can be better applied to different, but similar settings. Thus, data collection and thick description of the setting was critical in facilitating this transfer. The small sample size and absence of random sampling created some difficulty in soundly generalizing the findings of this study to other non-similar settings.

Reporting the Findings

Findings are reported in two major sections: the individual experience, and the group experience of mindfulness. The individual experience consists of individual case-study-type vignettes based on major themes from qualitative data, quantitative data, and triangulation of these findings. Each student-participant's individual story is reported in this manner to capture the full range of experiences in the mindfulness intervention. This includes appropriate tables and graphs reflecting the quantitative data analysis.

The second section, group experiences, speaks to the common themes and patterns across all the individual participants. This is done in hopes of understanding how the *group* feels about the mindfulness training and possibly capturing the effects of group dynamics in such a situation. Through this section, I also seek to understand variability and consistency in responses across the group.

Thematic discussions for both sections have been supplemented by rich, thick description, as well as quotations pulled from the transcripts and field note text and from quantitative data. The final result is the construction of the effects of a classroom-based mindfulness intervention as told through self-reported data, observations, and the lived experiences of adolescents with emotional/behavioral disorder as they learn and practice mindfulness.

Ethical Considerations

Minors and individuals with disabilities are considered to be vulnerable populations that should be used in research with caution. While there are no major risks to the students by participating in the study, anonymity and confidentiality was kept to conform to basic ethical considerations. All names and locations were changed to protect the privacy of the

students involved. Interview recordings and journals were tracked via the student's assigned number. This number was not shared with anyone, even those who helped with the data analysis at later stages of the research.

Additionally, only those students whose parents provided consent participated in the full extent of the activities. Those whose parents request they not take part in the study did not have to take part in any of the activities, unless they were of age to provide consent for themselves. This was in accordance with my research application to the Loyola University Chicago Institutional Review Board (IRB) and their standards for research conduct. Students were also required to give assent for themselves, even if their parents consent. I held this as a requirement with the understanding that any contemplative undertaking, such as mindfulness, should be done in the full volition of the individual and should not be forced upon him/her in any way.

CHAPTER 4

DATA ANALYSIS AND RESULTS

Data collection occurred over a four-month period spanning from January 2013 to April 2013. Analysis was begun shortly thereafter and completed in the span of approximately six months. Analysis was completed in three stages: quantitative data analysis, qualitative data analysis, and triangulation of findings and interpretation. A description of analysis at each step is detailed below. There were no major setbacks or delays in data collection or analysis.

Quantitative Data Analysis

Quantitative data is used in this mixed methods study to allow for demonstrable outcomes that may increase generalizability within the scientific, scholarly community (Mertens, 2007). Due to the small number of participants, the quantitative results did not reach a statistical level of significance. However, descriptive statistics were conducted for the data, which is an important component of the mixed methods approach.

Quantitative data analysis was completed through descriptive statistics, which consisted primarily of frequencies, percent of time spent at each behavioral level, and change between Phase 1 data (pre-curriculum) and Phase 3 (post-curriculum) data. Means were compared to see if major changes on the measures could be observed. Non-parametric data analysis was used. Attendance data for each student was tracked and tallied, and reported in the triangulation phase. When I knew the cause of the absence of a

student, if relevant, I utilized that data in terms of understanding student-related factors that impact response to the curriculum. The Point-Level System data, as well as attendance data, were used for descriptive purposes only and were not statistically analyzed. This data was instead analyzed via Excel graphing tools to note trend lines in points and levels for the students. This information was used to triangulate data in the analysis and interpretation stages of the research.

For the *Child and Adolescent Mindfulness Measure* (CAMM; Greco, Baer, & Smith, 2011), the Mindfulness score was calculated for each Phase 1 and Phase 3 measure for all six participating students. Scoring was completed as per the outlines methods provided in Greco et al. (2011). Using Excel for calculation, the percent change between the Phase 1 and Phase 3 responses was computed for each student and recorded in a password-protected Excel File.

For the *Five Factor Mindfulness Questionnaire* (FFMQ; Baer et al, 2008), each of the five factor scores was computed independently for each Phase 1 and Phase 3 measure for all six participating students. Scoring was completed as per the outlines methods provided in Baer et al. (2008). Using Excel for calculation, the percent change between the Phase 1 and Phase 3 responses was computed for each student and recorded in a password-protected Excel File.

The Behavior Trackers and Point-Level System data were analyzed via Excel graphing tools to note trend lines in points and levels for the students. In addition to daily Behavior Trackers spanning the period of one week prior to Phase 1 through one week after Phase 3, a school-created compilation of Behavior Tracking data was also obtained for each student. In an Excel spreadsheet, each student's points earned, extra credit points

earned, and points lost were checked against the school-compiled data for accuracy and then recorded. Where conflicting information was found, the daily Behavioral Tracking sheet was used as the default correct data point. Each student's points within the five primary domains (Appropriate Behavior, Academic Expectations, Respect, Following Directions, and Personal Goals) were also recorded in the Excel spreadsheet for each day they were present. Personal goals were noted in the spreadsheet, as well as what the students lost points for each day. Further, total points earned on mindfulness-curriculum days and non-mindfulness-curriculum days were averaged and analyzed to determine percent change between mindfulness and non-mindfulness days.

Additionally, time spent at each level in the Point-Level system was calculated for each student. There are four levels: White (lowest), Bronze, Silver, and Gold (highest.) Thus, for the same time period spanning one week prior to Phase 1 data collection through one week after Phase 3 data collection, daily levels and overall time spent at each level were recorded. Overall time at each level was computed by determining how many days were spent at one level divided by the number of total days participating. It should be noted that points earned on the daily behavior tracker sheet determine the number of points on the point-level system. Further, graphs of the students' progress were created by assigning numerical values to each student's daily position on the point level system. For instance, Day 1 at the White Level was assigned the numerical value of "1," and Day 15 on the Gold Level was assigned the numerical value of "45." These values were determined according to the progression of the point-level system as outlined by the school staff (Appendix M: Point-Level System Values).

Qualitative Data Analysis

Qualitative data was collected to ensure adequate representations of participant experiences and to capture participant perspectives at each stage of the research process (Mertens, 2007). Qualitative Data Analysis was completed in multiple steps, informed by CQR (Hill, 1997) and Thematic Content Analysis (Braun & Clark, 2006) to ensure quality of interpretation, reliability, and validity. These steps are outlined in Table 3.

Table 3. Steps of Data Analysis

Data Analysis Steps	Data Analysis
Gather field notes by spending more time as a participant than as an observer.	Field notes were kept from each intervention session (16 total) of the teaching the students mindfulness techniques, as well as from Phase One and Phase Three interviews and administration of mindfulness measures.
Collect journal responses from each student for each session.	Journal prompts were given to students at the end of each session, resulting in a total of 16 journal entries for each student participant related to their experiences with trying the various mindfulness techniques
Conduct semi-structured interview, audio-record the interview, and transcribe the interview	Interviews were conducted before and after the sixteen mindfulness training sessions are completed
Organize and prepare data for analysis	Made sure interviews and focus groups are transcribed, journals are collected, and field notes are typed up.
Reading through all data	Begin looking for overall, general, and emerging themes among the interview/ focus group data and the field notes according to Research Question.
Coding the data	Use preliminary themes to code one transcript each of individual interview, journal entry, and one field note document. Completed by researcher and one external auditor.

Auditor Check	Discussed preliminary codes with external auditor for reliability.
Revise Codebook	Using feedback from auditor-check, as well as from preliminary coding process, made revisions to codebook
Code (re-code) remaining data	Using the final codebook, coded all data to find major themes and description
Connect Themes/ Description	Based on themes and descriptions found through coding, looked for interrelating, overlapping or contrasting elements
Interpretation	Discuss the meaning of the themes/descriptions and how they interrelate, and begin triangulating with quantitative data analysis results
Reliability Check	The dissertation committee chair read the study, asked questions and gave feedback to ensure clarity and generalizability of the interpretations made.

Qualitative Data Analysis was completed in multiple steps to ensure quality of interpretation, reliability, and validity. Audio recordings of focus groups and interviews were transcribed verbatim to be used as textual document, along with student journal responses, field notes, teacher questionnaires, and evaluations (Kerrigan et al., 2011.) These soft-copied textual documents were then labeled and organized into folders according to type of data.

In order to move forward with qualitative data analysis, it was critical to reference the original research questions:

1. What are the experiences of adolescent students with emotional behavioral disorder when learning the Mindfulness curriculum?

2. What are the effects of the Mindfulness curriculum on these students?

3. How could the Mindfulness curriculum be improved to be more applicable to these adolescents' lives?

It was then determined which qualitative measures would be relevant for answering each of the research questions based on the content of the qualitative data compared to the intent of each question. This information is outlined in Table 4.

Table 4. Data Sources per Codebook

Codebook	Data Sources
Student Experiences (RQ1)	• Student Interviews (P1, P3) • Student Journals (P2) • Student Evaluations (P3)
Effects of Mindfulness (RQ2)	• Student Interviews (P1, P3) • Student Journals (P2) • Student Evaluations (P3) • FFMQ- Qualitative (P1, P3) • CAMM- Qualitative (P1, P3)
Curriculum Reflections (RQ3)	• Student Interviews (P1, P3) • Student Journals (P2) • Student Evaluations (P3) • Field Notes (P2)
Student Profile (Mixed Methods)	• Teacher Questionnaires (P1) • Student Evaluations (P3) • Behavior Trackers (P1, P2, P3)

For each research question, the pre-determined data was coded in order to find the most salient themes. First, data were coded for preliminary themes. Similar topics and themes were clustered together depending on each research question. Following this, a sample of each of the data categories (e.g., one student journal, one student interview, one student evaluation), though not necessarily for the same student, was coded according to the preliminary codebook. Through this process, the preliminary codebook

was tested to see how well the coding themes fit the data, and to see if new codes emerged.

A university colleague, who was another doctoral student in my School Psychology program well-versed in qualitative data analysis had completed the CITI certification, which is the Human Subjects Certification utilized by the Loyola University Chicago IRB, and was used as an auditor. She was given the draft codebook and a sample of each of the data categories (e.g. one student journal, one student interview, one student evaluation), though not necessarily for the same student. This colleague audited the codebooks by comparing it to the data sources to determine if the codebook adequately met the research question and the themes in the various data sources. Based on the colleague's recommendations, the codebook was adjusted and refined to reach a finalized version. Then, the all of the data sources pertaining to that research question were coded using the finalized codebook. Inter-Rater Reliability was obtained for the three primary codebooks through a secondary audit of codes by another university colleague. I trained each of the colleagues in their respective codebooks via a brief 15-minute phone conversation. The colleague was then given approximately 10% of the data set for each codebook and asked to code this sampling of data according to the codebook provided. Inter-Rater Reliability was then calculated by comparing the number of similar codes to the total number of codes for the sampling. Inter-Rater Reliability will be reported below for each codebook.

The coded data were transferred into an Excel spreadsheet, where each code had its own sheet and the data for each code was distinguished according to student participant. Using the coded Excel spreadsheet as an aide for theme exploration, major

themes were then determined for each research question. Themes were determined not only at the group level, but also the individual student participant level.

Codebook Information

Codebook 1: Student Experiences

As mentioned before, Student Interviews (Phase 1 and Phase 3), Student Journals (Phase 2), and Student Evaluations (Phase 3) were utilized in this codebook. Major, relevant codes for this codebook include Response Patterns, Acceptance of Self/ Situation, Knowledge of Mindfulness, Perceptions of Mindfulness, Application of Mindfulness to Self and Others, and Perceptions of the Journal. These major thematic areas also had sub-codes and allowed for responses to be coded according to valence (Positive, negative, or neutral). These codes were obtained by keeping the third research question ('What are the experiences of adolescent students with emotional behavioral disorder when learning the Mindfulness curriculum?') in mind and identifying major relevant areas pertaining to this question. Definitions and descriptors for this codebook are displayed in Table 5. All data were coded as noted above, without exception. Using the auditing method outlined above, I obtained an inter-rater reliability of 87% for this codebook.

Table 5. Major Codes for Student Experiences

Code	Sub-Codes/ Notes	Description
Response Patterns	Decision-Making, Projected Response Patterns, Self-Disclosure	How student responds to real or hypothetical situations; student-level factors or characteristics that may impact reactions.
Acceptance of Self/ Situation	Irritants, Desires for Change, Perceptions of Self/Situation	Opinions or outlook student holds regarding acceptance of self or situation
Knowledge of Mindfulness (MF)	Definition; Prior Knowledge	What, if anything, student knows regarding mindfulness and its practice
Perceptions of MF (During and Post-curriculum code)	During- and Post-Curriculum code; Effects of Curriculum; Perception of Curriculum and Techniques	What effects student sees (e.g. General, Stress Relief, Behavior, Attitude, Awareness); how are the techniques perceived.
Application of MF To Self (During and Post curriculum code)	Limitations; Influence on decision-making; Influence on emotional/behavioral regulation; General	How student sees the MF techniques applying to self, if at all; where MF has already been practiced, and where it may fall short.
Application of MF to Others (During and Post curriculum code)	For Adults, Peers, and Children: General; Stress Relief; Behavior/ Regulation; Attitude; Awareness; Perceived Prerequisites.	For whom could MF be beneficial, why, in what way, and what are perceived prerequisites for others to practice MF.
Journal (During and Post curriculum code)	Perceived usefulness; specific entry	What are student's feelings toward journal, specific entries, and its overall utility in learning MF.

Codebook 2: Effects of the Mindfulness Curriculum

To determine the effects of the mindfulness curriculum, CAMM responses (Phase 1 and Phase 3), FFMQ Responses (Phase 1 and Phase 3), Student Interviews (Phase 1 and

Phase 3), Student Journals (Phase 2), and Student Evaluations (Phase 3) were utilized in this codebook. All data, except for the CAMM and FFMQ measures were analyzed qualitatively as outlined above. Using the auditing method outlined above, I obtained an inter-rater reliability of 92% for this codebook.

The CAMM and FFMQ measures were originally intended to be quantitative; however, it was determined some qualitative data could also be gleaned from them. Thus, the CAMM and FFMQ responses for each student were coded. A coding unit for these measures was the Phase 1 and Phase 3 responses for one question/item. Take, for instance, the following sample:

> "I'm always good at finding words to describe my feelings.- D
> *I'm often good at finding words to describe my feelings."

This is one coding unit, and the response to this item is embedded in the code. For an item stating, "I am good at finding words to describe my feelings," the student could respond with Never, Rarely, Sometimes, Often, or Always. Thus, the students' responses could be embedded in the item by qualifying the statement, as shown above. Further, a star was placed by the second (Phase 3) response statement if it differed from the Phase 1 response statement. This was counted as a "Change" in the codebook. If the response increased or decreased by more than two anchor points (e.g. Never to Sometimes, Often to Rarely, or Always to Sometimes), this was coded as a "major change" and noted in the spreadsheet. The "major change" designation was created based on clinical judgment, as it was noted that many of the students' responses tended to move one anchor point from Phase 1 to Phase 3, indicating the measures may or may not be sensitive to change. In

order to sift through responses to find potentially more meaningful changes, the "major change" designation was used, though actual "changes" were also noted.

Major codes for this codebook were determined based on changes within the Five Factors, and meant to address the second major research question ('What are the effects of the Mindfulness curriculum on these students?'). Thus, the codes for this codebook were Observe, Describe, Acting with Awareness, Nonjudging, Nonreacting, and Changes. The Observe and Describe codes also were sub-coded as Cognitive-related, Sensory-related, or Feeling-related. These sub-codes have been suggested in previous research regarding the *nature* of observing and describing (Baer, 2008.) Units were sub-coded as Cognitive-related if the unit had something to do with thoughts within the mind. Units were sub-coded as Sensory-related if the unit had something to do with physical experiences within the body, on the body, or in the environment. Units were sub-coded as Feeling-related if the unit had something to do with feelings or emotions identified within the mind. The codebook also allowed for responses to be coded according to valence (Positive, negative, or neutral). Definitions and descriptors for this codebook are displayed in Table 6.

Table 6. Major Codes for Effects of Mindfulness

Code	Sub-Codes/ Notes	Description
Observe	Cognitions; Sensory; Feelings (Valenced)	Noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells
Describe	Cognitions; Sensory; Feelings (Valenced)	Refers to labeling internal experiences with words
Acting with Awareness	Valenced	Includes attending to one's activities of the moment and can be contrasted with behaving mechanically while attention is focused elsewhere
Nonjudging	Valenced	Refers to taking a non-evaluative stance toward thoughts and feelings
Nonreacting	Valenced	Tendency to allow thoughts and feelings to come and go, without getting caught up in or carried away by them
Change/ Major Change	Valenced	Increase or Decrease in mindfulness qualities (by two or more levels is Major Change). Each pair of statements is considered individually to determine this.

Codebook 3: Curriculum Reflections

In order to understand how the curriculum could be adjusted to better suit the adolescents participating in the program, the Student Interviews (Phase 1 and Phase 3), Student Journals (Phase 2), Student Evaluations (Phase 3), and Field Notes (Phase 2) were utilized in developing this codebook. Major relevant codes for this codebook include Lesson Objectives, Student Behavior, Researcher Actions, Application of Mindfulness to Students, Research Reflection, and Mindfulness curriculum. These major thematic areas also had sub-codes and allowed for responses to be coded according to valence (Positive, negative, or neutral). These codes were obtained by keeping the third research question ('How could the Mindfulness curriculum be improved to be more applicable to these

adolescents' lives?') in mind and identifying major relevant areas pertaining to this question. Definitions and descriptors for this codebook are displayed in Table 7. All data were coded as noted in the previous section, without exception. Using the auditing method outlined above, I obtained an inter-rater reliability of 84% for this codebook.

Table 7. Major Codes for Curriculum Reflection

Code	Sub-Codes/ Notes	Description
Attendance	List; Refusal; Absent (Suspended or Excused); Staff Request	Notes about attendance including who was present and reasons for absence, if known.
Lesson Objective	Achieved; Not achieved	Were objectives for each lesson achieved or not.
Group Behavior	Benefits, Likes/Dislikes, Difficulties, Engagement, State. Valenced and further coded for stated/observed and evaluative/inferential.	Multiple students interacting with one another, or representing general group behavior; what was observed or stated by multiple students.
Student Behavior (Individual is Specified)	Benefits, Likes/Dislikes, Difficulties, Engagement, State. Valenced and further coded for stated/observed and evaluative/inferential.	Individual student behavior or statements.
Application of Mindfulness to Students	Connection to self; practice outside of sessions; anecdotes.	What statements, if any, indicate students' connection of MF to their lives, and in what way.
Researcher Action	Behavior Management, Increase Engagement, Comment/Response:	Researcher's outward speech or action directed toward students and/or staff for the purpose of redirection, to increase engagement, to respond to student

	Teaching, Modeling, Questioning	comments/questions, to share information on MF, to model specific MF techniques, or to probe for information and help make connections.
Researcher Reflection	Desired Outcome, Reflection on Content, Reflection on Students, Ideas on what to Change	Researcher's inward speech reflecting on thoughts, lessons, desired outcomes, etc.; Valence is specified.
Mindfulness Curriculum	Adjustments to Curriculum, Student Feedback to Researcher	How was the MF curriculum modified during delivery and what feedback did students give on the curriculum in order to make it more applicable.
Administrative Concerns	Coded for content as needed	Pertaining to consent forms, handling Restroom or Water breaks, Point Sheets, etc.
Inappropriate Comments	Coded for content as needed	Inappropriate comments made by students regarding sex, drugs, etc.
Environmental Factors	Coded for content as needed	Distractors, confounding elements (e.g. teacher walks in)

Codebook 4: Student Profiles

In order to create Student Profile for each student, Teacher Questionnaires, Student Evaluations, and Behavioral Trackers were primarily utilized. No codebook was developed for these data, as the task was simply to combine data from the three sources above to create "Profiles" for each of the six student participants. Thus, information was compiled to create each profile and typical coding procedures were not used.

Triangulation

Nastasi and colleagues (2007) recommend the concurrent use of quantitative and qualitative methods to get data in evaluation research to facilitate data triangulation, including data from multiple sources and interpretation from multiple perspectives. In the present study, data was integrated and triangulated once analysis had been completed

for quantitative data and when major themes had been identified for each of the three research questions from the qualitative data codebooks. Based on themes and descriptions found through coding each of the three major codebooks and from the qualitative data, I began looking for interrelating, overlapping or contrasting elements (Creswell & Plano Clark, 2011; Greene, 2007; Nastasi et al., 2007.) Thus triangulation occurs primarily in the interpretive stage of analysis and by individual participant. This individual level of analysis aims to understand the individual's experience of the mindfulness, the effect of the mindfulness curriculum on the individual, and how the curriculum could have been modified to better meet the needs of the individual.

This triangulation was completed through the process of writing Individual Case Studies (Stake, 1995) for each of the six participant-students. Each Individual Case Study consists of a student profile, background information and a narrative combining their data for each of the research questions. For the first research question, 'What are the students' experiences with the mindfulness curriculum,' the narrative was further divided by 'Response to the Curriculum,' 'Applications to Self' noted by the student, and 'Specific Experiences or Anecdotes' as a way to broaden the themes and report findings more clearly. The narrative for the second research question, 'What are the effects of the mindfulness curriculum' was divided into the Five Factors (Observe, Describe, Acting with Awareness, Nonjudging, and Nonreacting), as well as 'Notable qualitative effects' to account for purely qualitative effects that did not necessarily fall under the Five Factors. The narrative for the final codebook, 'How could the Mindfulness curriculum be improved to be more applicable to their lives,' was not sub-divided, as information was reported altogether.

Once this analysis was completed for each individual, a cross-participant analysis was conducted to look for major themes across the multiple student participants in this study. The triangulated data and major themes emerging for every student are considered to be a secondary level of data for group-level analysis. This cross-participant analysis aims to understand the collective experience of the group of students participating in the mindfulness intervention. Some group-level data regarding the effects of the mindfulness curriculum and how the curriculum could be improved have also been included along with individual-level data.

School Overview

Washington High School (pseudonym) is a therapeutic day high school for students with moderate to severe behavior and emotional disorders. Washington receives referrals from the two feeder high schools also within the district, and serves approximately fifty students in grades nine through twelve. The staff is comprised of seven certified special education teachers, two social workers, and one school psychologist/licensed clinical psychologist. The majority of students at Washington have a special education classification of Emotional Disorder, and present with a wide variety of emotional and behavioral issues.

Participant Demographics

Six students participated in this research study. The students represented a range of grade levels, including one student in tenth grade, four in eleventh grade, and one in twelfth grade. The six students represented the following racial groups: African American (n =1), South Asian (n = 1), Latino (n = 1), Caucasian/White (n = 2), and Biracial (Caucasian and Hispanic, n = 1). Socio-economic status data was not collected for the students. All

six students had been at Washington for a varying period of time, ranging from three years to just one month at the time the study began. In the case studies below and for the discussion chapter, pseudonyms are used for each of the students.

A total of three teachers participated in the study, providing information on the six students prior to the mindfulness curriculum. Two of the teachers were male and one was female; all the participating teachers were Caucasian/ White.

Individual Case Studies

Student 1: Timothy

Timothy is a sixteen year-old, Caucasian male in eleventh grade. He had been at Washington for approximately two and a half years at the time of the start of the curriculum. He attended twelve of the sixteen sessions during the course of the study.

Background information. Two teachers provided information about Timothy based on the three years they had known him. They described Timothy's "tendency to shut down or leave the building when upset" and suggested he "could be better at accepting consequences." One teacher had observed Timothy have two major negative reaction incidences in the 48 hours prior to filling out the questionnaire at the start of the curriculum; the most severe of the two reactions was rated as a '5' for intensity on a scale of one to ten. The second teacher did not observe any such negative reaction incidences. Timothy's strengths, as described by the teachers, are that he is a "hard worker", "sees a task through to the end", "asks for help", is a "self-starter, independent, and focused." One of the teachers identified Timothy's calming strategies as "music and internet."

From his initial interview and mindfulness measures, Timothy described himself as funny, athletic, sometimes responsible, impulsive, and outgoing. He described his

decision-making process as asking himself "What should I do in this situation?" Timothy corroborated his teachers' reports of his behavior. He specifically mentioned he has "a tendency to give up when things don't go his way; he could blow up or just walk away. It depends." When asked what he would want to change about himself or his situation, he stated he would not change anything about himself, but would change others to "not getting me in trouble," and would also want to eliminate the presence of drugs in his neighborhood. He also shared, through his initial journal entries that he often "focused on past and things that have happened" and "doesn't enjoy focusing on present because it 'worries' him."

What are the experiences of students learning the mindfulness curriculum?

Responses to the curriculum. Timothy's reactions to the mindfulness curriculum and sessions were variable and ranged from ambivalent to positive. He noted that, in response to learning the curriculum, he felt "more aware throughout the day, especially of surroundings." While he did not find the journaling practice to be very useful, he did find the discussions to be helpful, though did not provide further information on the discussions. However, Timothy also felt the curriculum was heavy on activities and he did not like missing his workouts, as his workouts were replaced by the curriculum twice a week. Timothy enjoyed certain aspects of the curriculum, including the mindful breathing technique, but was unsure of whether he would recommend the overall curriculum to those closest to him.

When asked to define mindfulness, Timothy described it as "being aware of things around you," "noticing the way you breathe… the way you act and feel," which suggests his perception of the mindfulness techniques as focused primarily on awareness.

Applications to self. Timothy indicated he would use the mindful breathing techniques he learned when feeling "angry or some other emotion, or when things don't go my way," but would likely not stop and use these techniques in the moment of being angry and ready to react. He also stated he "ideally would like to breathe before I react poorly." Though this appears to be a contradiction, Timothy may be suggesting that mindfulness may not stop him from reacting all the time, but he could use the breathing techniques to avoid escalation when he notices he is angry.

While Timothy originally stated he would not change himself, but would change certain aspects of his school and neighborhood, in the Phase 3 interviews he provided a slightly different answer. He initially shared he would want to take away the "drugs" in his neighborhood, and focused a great deal on people he would want to change:

> "I wish I could change the people around me, but that probably won't really happen. Like the people at this school, just do a lot of stupid stuff… I'd help them stop getting me in trouble…They like swear at teachers, and stuff like that." (Interview)

In Phase 3, Rather than focusing on specific people and wanting to change them, Timothy indicated he only wanted to change his going to Washington because he wants "to be at a regular school." Thus external irritants decreased for him; instead of focusing on the behavior of others, he shifted to focusing on wanting to change his enrollment at Washington School. At the same time, Timothy noticed he had been calmer at school since the mindfulness sessions began.

In Phase 3 of data analysis, Timothy revisited some of the ideas covered during the Phase 1 interview. When presented with the same hypothetical situation describing George, a frustrated teen having a poor day, Timothy stated George would "not do

anything." This compares to his original response that George would probably "just give up." While these answers are not dissimilar, they do have a different quality to them. Giving up implies a reaction to the negative situation George was encountering, whereas not doing anything suggests a response, perhaps coming from a calm state of mind.

Specific experiences or anecdotes. Specific techniques Timothy cited learning included mindful breathing, anchor words, and "learning to be aware" (Evaluation). Interestingly, the body scan done during Lesson 4 made him aware of sick feelings in his stomach, which "stayed" for some time after the lesson was completed. Regarding mindful breathing, Timothy stated he found deep breathing to be most helpful, "particularly in a bad situation," and would recommend that to others. He described his feelings after practicing mindful breathing as being "heavy, deep, relaxing, and calm" (Journal).

Overall, Timothy seemed to respond positively to the mindfulness curriculum and cited many positive things about it. He liked a few specific practices, particularly mindful breathing. Along these lines, Timothy stated in his evaluation that "I am going to be fine if I keep using breathing techniques," pointing to this technique as one that stood out for him from all the experiences included in the Mindfulness Curriculum. Not only did Timothy find the mindful breathing to be "calming" and "relaxing" (Journal), but he also viewed it as a tool to help him regulate his emotions and behavior.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported effects from the journal, evaluation, or interviews. The effects were largely analyzed in

terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Timothy showed a 5% increase in his mindfulness score. Changes on his FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 8a.

Table 8a. FFMQ Subscale Scores: Timothy

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	25	24	- 4
Describe	24	25	+ 4
Acting with Awareness	23	30	+ 30
Nonjudging	24	37	+ 54
Nonreacting	25	22	- 12

Index subscale findings. *Observe:* Timothy experienced a 4% decrease on the Observe Index on the FFMQ between Phase 1 and Phase 3. Overall, on Observe items for both the CAMM and FFMQ, Timothy had more decreases (n = 4) than increases (n = 3). One item showed consistent mindfulness strategies between the two phases: Timothy endorsed he "Often stayed alert to sensations in the shower." He showed one major increase in paying attention to sounds, moving from 'Rarely' to 'Always.' Further Timothy identified both a positive and negative feeling in the Observe category in his journal entries. One observation, which was feelings-related and sensory-related, regarded mindfulness of breath; Timothy stated he felt "heavy, deep, relaxing, and calm" during this lesson. During the body scan lesson (Lesson 4), however, Timothy stated he experienced "sick feelings," in that the body scan made him aware of sick feelings he was experiencing at the time. It should be noted his sick feelings were not a reflection of the

mindfulness technique, but that he was able to observe a negative sensation he was having. He also made an observation in his journal that he "heard people breathing, a fridge, and the heater" during the Mindful Listening lesson. He observed his thoughts during tests and offered the following:

> "Before I wonder and think about what I know about whatever the test is about and after I wonder about how I did" (Journal).

During the Mindful Seeing lesson, he observed "Stickers underneath microwave and the circle dots on the electrical outlets."

Describe: Timothy experienced a 4.2% increase on the Describe index. On Describe items for both the CAMM and FFMQ, Timothy had an equal number of increases and decreases, reflecting the shifts in his mindfulness behaviors, including one major increase and decrease, each. Timothy's major changes were a decrease from 'Rarely' to 'Often' having trouble thinking of the right words to express how he feels about things, and an increase from 'Often' to 'Rarely' having difficulty describing sensations in his body. Timothy further identified 'describing' experiences in his journal entries. Descriptions shared by him in his journal included, "being calm gives you a boost of energy," "is a relief of stress and makes you happy," and that he feels "great" when thinking of things that make him happy, which all reflect not only an increase in mindful behaviors, but also a positive outlook toward them. He also described that being angry felt "hot, tense, and embarrassing," and that he does "not feel calm when testing." These descriptors were not related to the curriculum itself, but were simply reflections of previous experiences Timothy has had, and still indicate an increase in mindful behaviors.

Acting with awareness: Timothy experienced a 30% increase on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Timothy had more increases (n = 6) than decreases (n = 1). He also had three major changes, two of which showed an increase in actions consistent with mindfulness strategies, and one that showed a decrease. The decrease indicated he went from 'Rarely' to 'Often' walking to class without noticing what he's doing. The two increases were from 'Often' to 'Rarely' seeming like he is running on "automatic" and rushing through activities without being attentive to them. One item that showed consistency of mindfulness strategies was that Timothy 'Rarely' does not pay attention to what he is doing because he is daydreaming, worrying or otherwise distracted.

Nonjudging: Timothy experienced a 54% increase on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Timothy had more increases (n = 8) than decreases (n = 1). He also had six major changes, which showed a shift in thinking more consistent with mindfulness. These included changing from 'Often' to 'Rarely' getting upset for having certain thoughts or feelings, 'Often' to 'Never' telling himself he should not be feeling the way he's feeling, 'Often' to 'Never' judging thoughts as good or bad, 'Sometimes' to 'Never' thinking his thoughts are bad or inappropriate, 'Sometimes' to 'Never' judging himself as good or bad, and 'Sometimes' to 'Never' feeling disapproving of himself for having irrational ideas. He also consistently endorsed one item aligned with mindfulness and one item that was not: though he continued to 'Often' push away thoughts he does not like, Timothy also continued to 'Rarely' criticize himself for inappropriate emotions or feelings.

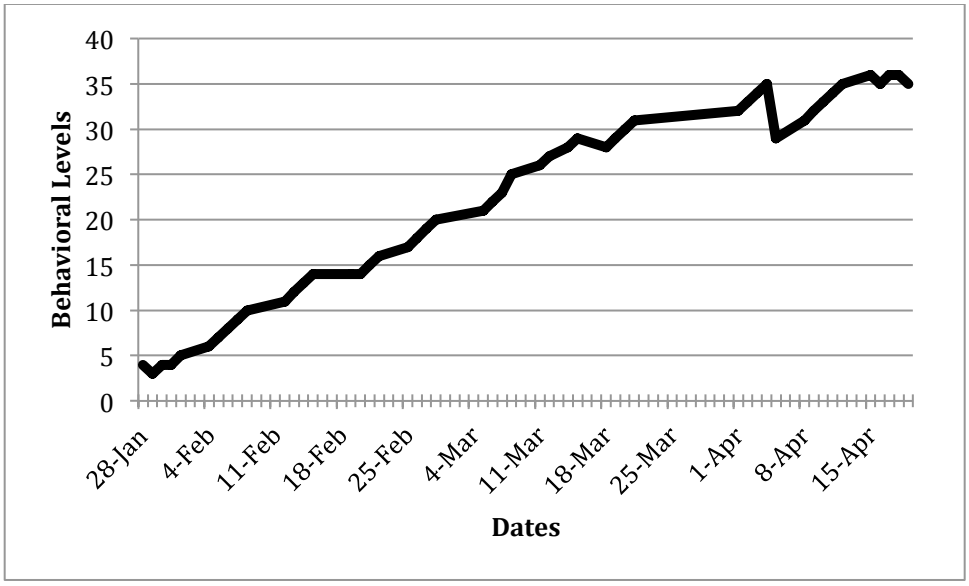
Nonreacting: Timothy experienced a 12% decrease on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Timothy had more decreases (n = 3) than increases (n = 1). He also had one major change, reflecting a decrease in mindfulness behaviors, moving from 'Often' to 'Rarely' noticing distressing thoughts and images and just letting them go. Several items stayed consistently aligned with mindfulness behaviors, including 'Often' stepping back and being aware of a distressing thought or image he has without getting taken over by it and 'Often' just noticing distressing thoughts or images and letting them go. One item that stayed consistently unaligned with mindfulness behaviors was that Timothy continued 'Often' to push away thoughts he does not like. He further noted in his journal that he has "been calmer at school" since the start of the mindfulness curriculum.

Behavior-tracker effects. On Timothy's Behavior Tracker, it was revealed that Timothy had a 1.4% increase in points on Mindfulness Lesson Days. His level on the point-level system increased from White (the lowest level) all the way to Gold (the highest level) during the period spanning the Mindfulness training, as shown on Table 8b. He spent the majority of the days at the Silver and Gold levels, 34.7% and 32.7% of days, respectively. Timothy lost points most often for behaviors related to being 'Out of Area,' 'disrupting,' being 'off-task,' 'not following directions,' and 'sleeping.' The overall trajectory of his place in the point-level system can be visualized in Figure 5.

Table 8b. Time Spent at Behavioral Levels

	White	Bronze	Silver	Gold
%Time	10.2	24.5	34.7	32.7
# Days	5/49	12/49	17/49	16/49

Figure 3: Behavioral Levels: Timothy



Notable qualitative effects. Timothy had initially described mindfulness as "being open-minded and mindful" in Phase 1 of data collection. At the end of the curriculum, in Phase 3, when asked to give a new definition of mindfulness, Timothy stated,

> "Mindfulness is being aware of things around you… being aware of things around you, notice them, noticing the way you breath, notice the way you act and feel, and that's it" (Interview)

Thus, his definition and understanding of mindfulness appears to have expanded and deepened. As mentioned before, he also stated he has "been calmer at school" (Journal) since the start of the mindfulness curriculum.

Timothy indicated in his end-of-curriculum evaluation that Mindfulness would be useful to teach others his age "Because all people need coping skills and it's a good way to learn coping skills" (Interview). He stated he felt school would be "better and calmer if all practiced mindfulness" (Evaluation). In terms of age, Timothy felt adults would benefit from mindfulness training, but that children may not be able to grasp the ideas.

While he was not sure that he would recommend mindfulness to his friends and family, he indicated in his Phase 3 interview that mindful breathing would definitely be beneficial to others, stating "I would teach them [adults and peers] breathing techniques." Despite sharing many important ideas through the journal, Timothy stated he did not find the journal to be useful at all.

Overall effects. Overall, Timothy seemed to respond very positively to the mindfulness curriculum. Not only did his behavior show some improvements by means of the point-level system, but he also tended to endorse items favoring mindfulness concepts in the Phase 3 measures. The scores having the largest increase for Timothy were the Acting with Awareness (30% increase) and the Nonjudging (54% increase) index scores. These mindfulness areas correspond to some of the qualitative changes noted by Timothy, including his increased sense of awareness and his understanding of mindfulness as such. His responses on the Acting with Awareness index indicate he no longer rushes through activities or completes daily activities without paying attention to what he is doing. This corresponds to Timothy's feelings that he has been calmer at school and correlates to his redefinition of mindfulness of being aware of one's surroundings, thoughts, and feelings. His responses on the Nonjudging index indicate significant changes in this area. He reported feeling less critical and disapproving of himself regarding his thought content, feelings, ideas, and emotions. However, this conflicts slightly with the Nonreacting index score. Though Timothy indicated he judged himself less for his thoughts, emotions and feelings, he did indicate he reacted to them by either pushing away thoughts he does not like or ruminating on distressing thoughts or

images in his mind. Thus, Timothy may not be judging the content of his mind, he is still reacting to it or trying to push it away.

He also provided qualitative data regarding the effect of the mindfulness curriculum on him, most notably the perception that he has "been calmer at school since the start of the mindfulness curriculum." As Timothy often reported he felt calm and relaxed when practicing the mindfulness techniques, it could be that his points earned on mindfulness days reflect this. At the same time, he was generally on an upward trajectory regarding his point-levels and he worked all the way up to Gold from White. When he did lose points, it was most often for being out of his designated area or off-task. Though these behaviors did lose him points, they do not seem to be externalizing in nature.

How can applicability of the MF curriculum be improved? According to my field notes, Timothy showed few to no difficult behaviors. Rather than showing distraction during the mindfulness lessons by talking, Timothy would often draw on a piece of paper or color his journal cover intently. However, I did not find this to be disruptive, and Timothy was able to still share his ideas, thoughts, and experiences when asked directly. In fact, I noted in my Field Notes he often needed to be occupied with some kind of activity (e.g. drawing or coloring) during the lessons. Timothy stated in his evaluation of the curriculum that he wanted more activities throughout the lessons. He also stated that the Mindfulness curriculum was good, but "painful" because it prevented him from working out on Tuesdays and Thursdays.

Triangulation. Timothy responded positively to the mindfulness curriculum both qualitatively and quantitatively. His scores on three of the five factors increased. Further, his points earned on Mindfulness Curriculum days were slightly higher than on other

days. These increases were corroborated by qualitative data Timothy provided across his interviews, journal entries, and his evaluation.

Though Timothy indicated he did not like missing his workouts for the mindfulness curriculum, the information he shared tended to be very positive. Timothy's attendance may have something to do with this, as he attended 75% of the mindfulness lessons. Additionally, he typically was engaged during these lessons and did not exhibit any behavioral difficulties. Thus, his presence both physically and mentally may have aided his learning and allowed for a more positive response to the curriculum.

As noted by the teachers, Timothy did not appear to have very intense negative reactions to begin with. Though he was reported to have had two major negative reactions, they were only scored a '5' on a scale of one to ten. Thus, it may be that Timothy already had some positive coping strategies he was utilizing, though he did not report them himself. His teachers, however reported he uses music and Internet as a self-calming strategy, both of which tend to focus on mental calming rather than physical calming. I also noted he tended to color or draw on his journal or a piece of paper during the mindfulness lessons, which may have been useful in keeping his mind active so he could listen to the lessons. Timothy and his teachers described his tendency to shut down or give up when frustrated, which was confirmed in his projective interview responses. As described, Timothy may internalize his feelings and thus keep himself visibly and physically calm. These tendencies could indicate a level of mindfulness already present within Timothy. They could also represent the fact that he has been attending Washington School for over 2.5 years, and is thus well acquainted with rules, procedures, and

expectations of the site. Further, Timothy's points on the Point-Level system and Behavior tracker indicated, as mentioned previously, a general upward movement.

Timothy's case indicates one's behavior and coping strategies affect how one interprets, understands, and is affected by the mindfulness curriculum. His internalizing nature and tendency to use calming strategies not only affected his attention during the lessons and ability to understand and utilize the techniques, but also his mindfulness scores. It may be that certain scores did not show drastic differences (e.g. CAMM) because Timothy already exhibited some mindful behaviors. At the same time, his quiet nature likely made it easier to incorporate some techniques, such as mindful breathing. Though his motivation was unknown, the upward trajectory of his points on the behavior tracker and his expressed interest in leaving Washington for his home school indicate he may have desired these behavioral changes and was willing to incorporate techniques that could help him. Overall, Timothy exhibited an interesting combination of mindful behaviors prior to the start of the curriculum, facilitating his ability to understand and use the techniques in a way that directly benefited him.

Student 2: Lars

Lars is a seventeen year-old, Caucasian and Latino male in eleventh grade. He had been at Washington for approximately two years at the time of the start of the curriculum. He attended twelve of the sixteen sessions during the course of the study.

Background information. Two teachers provided information about Lars based on the one and three years they had each known him. They described Lars' tendency to get upset, speak without thinking, withdraw, and not be able to sit down. Combining both teachers' observations, they had seen Lars have two to three major negative reaction

incidences in the 48 hours prior to filling out the questionnaire. The most severe of the two reactions were rated as a '4' for intensity on a scale of one to ten. While they see Lars' strengths as humor, liking to make people laugh, and working well alone, they also pointed out areas of improvement: maturity, self-confidence, self- control, maintaining appropriate conversation, and not feeding off others' negative behaviors. The teachers identified Lars' self-calming strategies as "taking a break from a situation and then going back," "one on one interactions," and "individual attention."

From his initial interview and mindfulness measures, Lars described himself as "crazy," "loud," "unique," and says what is on his mind. He described his decision-making process as asking himself "just doing whatever I think of first," adding that he weighs his options, but sometimes purposefully chooses "the bad option." Lars corroborated his teachers' reports of his behavior. He specifically mentioned he vacillates between "being really aggravated, having a bad attitude, and in an angry mood" and "just being 'chill' about things." He specifically shared that when things do not go his way,

> I'm probably really agitated. You know, when people talk to me, I'm just like... I've got a really bad attitude. I kind of just will not really talk much. I'll just be in an angry mood, you know. So, I really won't talk much. I'll just be kind of pissed.

When asked what he would want to change about himself or his situation, he stated he would want to change his behavior to be more like it was during the interview and not so much "joking around" and "goofing off" as he does in gym, further stating:

> I just... I have to be different at the right times, you know? Not necessarily change my whole personality, because that's not cool. I just have to, I realized I got more mature I have to change my behavior in different settings.

He would also like to change his sister's situation, expressing he would like her to take her medications that treat a mental illness, and that he would want her to move out of the

house. He shared, through his initial journal entries that he often "focused on the future and what I am going to do" and feels he is "more aware than others" at many times.

What are the experiences of students learning the MFC?

Response to the curriculum. Lars' response to the mindfulness curriculum was overall very positive. He did not believe there were any negatives and stated it was "fun" and "better than going to gym" (Evaluation) Lars also stated he learned he "could think about things more in ways I never knew I could" (Interview) He also shared he was able to "think more" and enjoy things more by doing them as though "it was the first time," such as "listening to a favorite song" or by practicing mindful eating (Journal). He describes this process in the following quote from his Phase 3 Interview:

> "It made me enjoy things more, because some things as humans that we do, we get used to, you know? We keep doing it and doing it and get used it, but there's a way in your mind if you can [carve?] enough you can never get used to it, and you can always approach it the way you approached it when you first started doing it. Like I remember driving, or listening to some songs. Like I listen to these songs that I listened to already for a long time. And I listened to it so many times, it's like kind of getting annoying now. But, when I listen to it, I'm really aware and really conscious. And it's like oh now I know why I like this song, you know?" (Interview)

Lars stated the mindfulness lessons made him feel tired and "very relaxed" compared to other times of the day. He described the overall experience of the mindfulness lessons as "calming." He shared that he believed if others in school practiced mindfulness, "everyone would be calmer and more aware, the school would be calmer," and "peaceful," as well as "everyone would be more cautious and the world would have less conflict" (Journal). Lars also felt adults would benefit from mindfulness to reduce

their stress, and also felt others his age could benefit from mindfulness because it could "help them think on a different level." He did not express any strong feelings about the journal or the usefulness of it.

When asked to define mindfulness, Lars stated it was "taking time to use your mind in the most mindfulness way" and "being more conscious or more aware when you're doing certain things," which suggests an emphasis on awareness Lars perceived in the curriculum.

Applications to self. Lars indicated that practicing mindfulness gives him "time to relax and think before doing anything." He shared he would want to practice the mindfulness techniques on his own because "it would be a better way to handle stressful situations." For instance, he shared,

> "I've been in a lot of situations where my sister would argue with me and scream at me, but if I could breathe and pay attention to my feelings things would of gone smoother" (Journal).

This shows the application of a specific technique to a very common situation Lars seems to experience in his life. According to his statement, he feels that the use of mindful breathing could have a direct impact on these arguments with his sister. Lars also indicated in his journal that a good time to practice specific techniques, such as sending kind thoughts might be "when I'm alone and missing that person" (Journal). Overall, Lars felt he was thinking about things more now before doing them, and felt the mindfulness curriculum changed the way he reacts.

While Lars originally stated he wanted to change his behavior to become more formal and change his sister's behavior, in the Phase 3 interviews, he provided a slightly different answer. He stated he would change certain people around him, but not himself.

He also stated he would want to change the government because it's "cold and evil." The shift from wanting to change oneself and accepting oneself a little bit more is an important one Lars suggests here. However, he continued wanting to change external factors such as people and the government.

In Phase 3 of data collection, Lars revisited some of the ideas covered during the Phase 1 interview. When presented with the same hypothetical situation describing George, a frustrated teen having a poor day, Lars stated George would "have been angry and really frustrated." This compared with Lars' original response that George would be "pissed" like Lars would be, and that George/Lars would just insist the teacher grade the paper. These two answers both indicate a responding feeling of anger. However, in the Phase 3 response, Lars focuses on the emotions of anger and frustration without necessarily describing a response (e.g. insisting the teacher grade the paper) born from these emotions.

Specific experiences or anecdotes. Specific techniques Lars cited learning include mindful breathing, mindful eating, and sending kind thoughts when he is alone or missing a particular person. Regarding mindful eating, Lars recalled the following in his interview:

> "Like I remember we were doing something when we were eating a cookie or something, we were paying attention to how it feels when you chew it or something like that."

In his journal, Lars shared it made him "enjoy the taste more and pay attention to the texture and ingredients that were in there." He did not enjoy the mindful seeing lesson,

though he did share it made his eyes "feel more relaxed." Lars also shared through a journal entry that sending kind thoughts made him

> "Feel more positive about myself, and made me feel that the more positive I am about other people the more positive things will come my way."

He further wrote that, from sending kind thoughts, he felt he "could gain confidence from positive energy and I feel like God will do more for me." He stated, after the body scan, that he "felt more relaxed."

Overall, Lars' experiences of the mindfulness were very positive. He found several ways of connecting the techniques and their effects to his own life in terms of improving his emotional awareness and regulation of his behaviors. He also appeared to appreciate the immediate effects of mindfulness, such as relaxation, and felt that others would benefit from practicing these techniques.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported effects from the journal, evaluation, or interviews. The effects were largely analyzed in terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Lars showed a 4% decrease in his mindfulness score. Changes on his FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 9a.

Table 9a. FFMQ Subscale Scores: Lars

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	29	25	- 14
Describe	20	25	+ 25
Acting with Awareness	16	25	+ 56
Nonjudging	23	27	+ 17
Nonreacting	20	17	- 15

Index Subscale Findings. *Observe:* Lars experienced a 13.8% decrease on the Observe Index on the FFMQ between Phase 1 and Phase 3. Overall, on Observe items for both the CAMM and FFMQ, Lars had more decreases (n = 3) than increases (n = 2). One item stayed consistently aligned with mindful behaviors between the two phases: Lars endorsed he "Often notices the smell and aroma of things." He showed three major decreases and one major increase. The major decreased included 'Always' to 'Rarely' paying attention to sensations like the sun and wind, 'Always' to 'Sometimes' paying attention to sounds like clocks ticking or birds chirping and 'Always' to 'Sometimes' noticing visual elements in art or nature, such as colors, shapes, and patterns. On the other hand, Lars indicated he deliberately notices sensations of his body moving, moving from 'Never' to 'Sometimes.' Further Lars identified several observations in his journal entries. An observation of feelings (or sensations) that was positive regarded mindful eating was previously mentioned (e.g. Mindful eating "made me enjoy the taste more and pay attention to the texture and ingredients that were in there"), as well as his observation that "I did feel a little tingly in my hands" when doing the body scan (Journal). Regarding testing, Lars, stated he "gets stressed out and can't think clearly because I get worried

that I might fail it." While this is not a direct experience regarding the mindfulness curriculum, it is an observation Lars noted he experiences. Further, Lars made the neutral observation in his journal, regarding mindfulness of thoughts that his mind "wanders into the future often or into the environment." These are all excellent examples of the 'Observing' skill in mindfulness.

Describe: Lars experienced a 25% increase on the Describe index. On Describe items for both the CAMM and FFMQ, Lars had more increases (n = 4) than decreases (n = 1), as well as two major increases. These increases were from 'Often' to 'Rarely' having trouble thinking of the right words to express how he feels about things, and 'Often' to 'Rarely' having difficulty describing sensations in his body. Cognitive descriptions that reflected mindful behaviors were that Lars can 'Often' easily put his beliefs, opinions, and expectations into practice, and that sending kind thoughts made him feel "more positive about myself and made me feel that the more positive I am about other people the more positive things will come my way." More mindful sensory-related descriptive items were Lars' description after Mindful Seeing that "my eyes were feeling a little more relaxed." Mindful feeling-related items described by Lars are that he is 'Often' good at using words to describe his feelings. In his journal entry, he also described that mindful listening "was relaxing, soothing, and made me think more and focus," after the body scan he "felt more relaxed," and being kind to someone "feels good, it makes my day more positive and makes me feel good about myself." He also described that being angry "in some ways makes you feel powerful." On the other hand, Lars described being angry as "very stressful" and further stated he can 'Rarely' describe

how he feels at the moment in considerable detail. Lars, thus shared several examples of describing behavior.

Acting with awareness: Lars experienced a 56% increase on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Lars had more increases (n = 8) changes than decreases (n = 1), and two major changes reflecting shifts toward more mindful actions. These major changes were that Lars went from seeming 'Often' to 'Rarely' like he was running on automatic, and 'Always' to 'Sometimes' doing things without paying attention. One item that stayed consistently aligned with mindful behaviors was that Lars 'Rarely' walks to school without noticing what he's doing; however, he 'Often' finds it hard to pay attention to only one thing at a time.

Nonjudging: Lars experienced a 17.4% increase on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Lars had more increases (n = 6) than decreases (n = 4). He also had two major increases and one major decrease. His increases indicated he moved from 'Often' to 'Rarely' makes judgments on thoughts as to whether or not they are good or bad and 'Often' to 'Rarely' tells himself he should not be thinking the way he's thinking. However, he changed from 'Never' to 'Sometimes' telling himself he should not be feeling the way he's feeling, which was a change that was not desired from before to after the delivery of the curriculum.

Nonreacting: Lars experienced a 15% decrease on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Lars had an equal number of and increases and decreases (n = 4). He also had two major changes, both in the nondesired direction, moving from 'Often' to 'Rarely' able to pause in difficult situations without

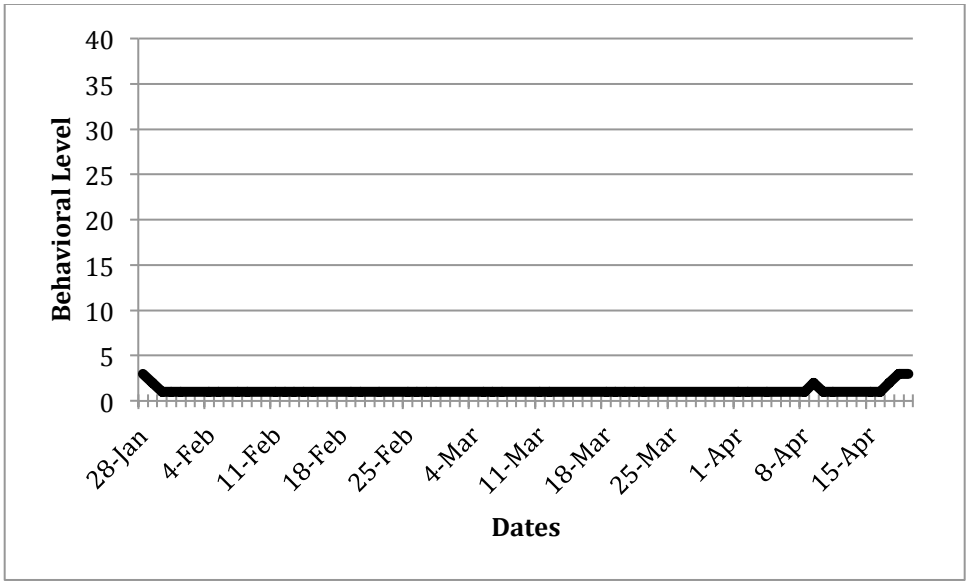
reacting and ‘Often’ to ‘Rarely’ feeling calm soon after having a distressing thought/image. One item stayed consistently not aligned with mindful behaviors: he is ‘Rarely’ able to notice distressing thoughts or images and just let them go. He further noted in his journal that he has “been calmer at school” since the start of the mindfulness curriculum. However, in his journal and evaluation, Lars indicated the mindfulness lessons have been “calming” and have changed the way he reacts in situations.

Behavior-tracker effects. Lars’ Behavior Tracker revealed he had a 4.6% decrease in points on Mindfulness Lesson Days. His level on the point-level system stayed on White (the lowest level) for the entire period spanning the Mindfulness training, as shown in Table 9b. Lars lost points nearly every day, though, for actions such as being ‘Off-task,’ ‘not following directions,’ ‘disrespect,’ ‘inappropriate comments,’ ‘talk of drugs,’ ‘sexual comments/gesture,’ being ‘disruptive,’ ‘out of area,’ ‘sleeping,’ and ‘no point sheet.’ The overall trajectory of his place in the point-level system can be visualized in Figure 5.

Table 9b. Time Spent at Behavioral Levels

	White	Bronze	Silver	Gold
%Time	100	--	--	--
# Days	43	--	--	--

Figure 4: Behavioral Levels: Lars



Notable qualitative effects. Lars had initially described mindfulness as "speaking what's on your mind" in Phase 1 of data collection, and also shared he had never heard of mindfulness before I mentioned it. At the end of the curriculum, in Phase 3, when asked to give a new definition of mindfulness, Lars stated "taking time to use your mind in the most mindfulness way; being more conscious or more aware when you're doing certain things." Thus, his definition and understanding of mindfulness appears to have deepened. His Phase 3 answer contains qualities of mindfulness concepts, such as taking one's time and increasing awareness while one is in the process of doing something.

Lars indicated in his evaluation that Mindfulness would be useful to teach adults and others his age. He shared his belief that if others in his school practiced mindfulness, "everyone would be calmer and more aware, the school would be calmer," and "peaceful" (Journal.) He also felt the world could improve through the practice of mindfulness, stating, "everyone would be more cautious and the world would have less

conflict." Lars also felt adults would benefit from mindfulness to reduce their stress, and that others his age could benefit from mindfulness because it could "help them think on a different level." Despite sharing many important ideas through the journal, Lars did not comment on the usefulness of the journal and expressed his ambivalence regarding it.

Overall effects. Overall, Lars seemed to respond very positively to the mindfulness curriculum. He tended to endorse items favoring mindfulness concepts in the Phase 3 measures and many of his major changes on the CAMM and FFMQ were positive. The scores having the largest increase for Lars were the Describing (25% increase) and Acting with Awareness (56% increase) index scores. These mindfulness areas correspond to some of the qualitative changes noted by Lars, including his increased sense of awareness, peacefulness, well-being, his expanded understanding of mindfulness, and his feeling that he has been calmer at school since the start of the mindfulness curriculum. His responses on the Describing index indicate he is now better able to put his thoughts, emotions, and feelings into words. He evidenced this through his journal entries, often describing his experiences in great detail and sharing the positivity he felt after certain practices such as sending kind thoughts to others. Lars' responses on the Acting with Awareness index indicate he no longer completes daily activities without paying attention to what he is doing. This corresponds to Lars' feelings the mindfulness curriculum would be very beneficial to him at various points in his day, particularly in stressful situations or when trying to slow down while eating. He provided data regarding the effect of the mindfulness curriculum on him, most notably the perception that the mindfulness curriculum has influenced "the way I react in situations." This also connects to his redefinition of mindfulness as being more "conscious or more aware when you're

doing certain things," in that Lars appears to see Acting with Awareness as an essential part of mindfulness practice, though he shared his continuing struggle with focusing on just one thing at a time. Lars' responses on the Nonjudging index also indicate significant changes in this area (17% increase), though not to the extent of Describing and Acting with Awareness. He reported feeling less critical and disapproving of himself regarding his thought content and his emotions, to a lesser extent. However, this conflicts slightly with the Nonreacting index score. Though Lars indicated he judged himself less regarding his thoughts, he also indicated he reacted to them by not being able to calm down in a difficult situation or after a distressing thought or image. Thus, while Lars has decreased the judgment of himself, he continued to struggle with calming himself down during stressful experiences.

On his behavior tracking data, Lars stayed on the lowest level (White) for the entire period spanning the mindfulness curriculum. His point losses were typically tied to not following directions, being off-task or out of area, disrupting, swearing, or making inappropriate (sometimes sexual) comments or gestures. Though Lars often reported he felt calm and relaxed when practicing the mindfulness techniques and some of his Five Factor indices increased, his behavior tracker data did not reflect this. Thus, it is possible Lars had difficulty generalizing the mindfulness techniques to his own life though he was able to grasp and appreciate them at the time he learned them.

How can applicability of the MFC be improved? According to my field notes, Lars exhibited some difficult behaviors. Though he mostly paid attention, and was actually the most engaged student according to my field notes, he also occasionally made inappropriate or lewd comments during discussions of mindfulness, referencing sex and

drugs often. However, Lars was typically responsive to my redirections to another topic and was able to still share his ideas, thoughts, and experiences when asked directly. Lars did not share any information regarding how the curriculum could be improved. However, according to my field notes, Lars often had questions regarding the curriculum and its applications as the lesson was being delivered. For instance, he inquired several times about the neurotransmitters related to mindfulness and their resultant effect on feelings of positive well-being. Such questions suggest an interest in the neuropsychological component of teaching mindfulness to make the ideas more concrete and applicable to students like Lars.

Triangulation. Lars responded positively to the mindfulness curriculum both qualitatively and quantitatively. His scores on three of the five factors increased, though his points earned on Mindfulness Curriculum days were slightly lower than on other days. The increases were corroborated by qualitative data Lars provided across his interviews, journal entries, and his evaluation.

Despite the decreases on his behavioral tracker, Lars' response to the curriculum, both qualitatively and quantitatively tended to be positive. He attended 75% of the sessions and tended to be very engaged relative to the other students, often sharing the most during the lessons, taking the techniques seriously the most, and taking the longest to craft his journal responses. Though he did make some inappropriate comments, he was typically always paying attention and open to trying the various techniques. Thus, his presence both physically and mentally, as well as his willingness to learn and his curiosity, may have aided his learning and allowed for a more positive response to the curriculum.

As noted by the teachers, Lars did not appear to have very intense negative reactions to begin with. Though he was reported to have had three major negative reactions, they were only scored a ‘4’ on a scale of one to ten. Thus, it may be that Lars tended not to react in an extreme way from the start, and the nature of his point loss was less-severe, impulsive behaviors. His teachers reported Lars sometimes takes a break from a situation before going back to calm down. They also noted he tends to benefit from one-on-one talks and individual attention. Thus, Lars may have benefitted from the small environment and my frequent engagement with him in an individual manner (e.g. responding to his interest by asking him more questions and prompting him to share more.) It may also be that, as a result of these interactions, Lars felt successful in the mindfulness lessons and in practicing the techniques, thus making his overall feeling toward the curriculum more positive and perhaps making him more eager to please in order to increase these feelings of success. Lars’ teachers described his tendency to speak without thinking, withdraw, and become restless when upset. As described, Lars may have a great deal of difficulty in regulation his emotions and his impulses. However, these behaviors were not observed during the lessons. It is possible that Lars did not experience any stressful or difficult situations during the mindfulness lessons and was better able to focus as a result. This explanation would better correlate his behavior and response to the mindfulness curriculum to his behavior outside of the mindfulness lessons and his lack of movement on the behavior trackers. Nevertheless, it remains evident that Lars had difficulty generalizing the mindfulness techniques into his daily life where other people were concerned. He reported feeling internally calmer, more relaxed, and able to act with awareness and non-judgment on his own, as opposed to possibly demanding

school situations where he is required to act a particular way. Though Lars had attended Washington School for over 2 years, and was likely well acquainted with rules, procedures, and expectations of the site, his low self-esteem and immaturity, as described by his teachers, may be holding him back regarding his daily behavior tracker and point-levels. On the other hand, Lars increased several of his Five Factor index scores by a great degree. He was able to demonstrate mostly exemplary behavior and was open to redirection during the mindfulness curriculum, a time of the day where he was allowed to feel very successful, share his thoughts openly, and become more in tune with himself.

Lars' case indicates how one may have difficulty generalizing despite excellent understanding of the mindfulness techniques. It is likely some of Lars' personal qualities impacted how he was influenced by the mindfulness curriculum. His potentially underlying desire to feel success affected his attention and engagement during the lessons and may have increased several of his mindfulness scores as such. It may be that certain scores did not show drastic differences (e.g. CAMM, Non-reacting, and Observing) because Lars appeared to become much more aware of his behaviors. He may have been over-reporting in the Phase 1 measures and more accurately reporting in Phase 3, thus leading to a perceived decrease in mindful behaviors. At the same time, his curiosity and willingness to learn likely made it easier to incorporate some techniques, such as mindful breathing, mindful eating, and sending kind thoughts. Overall, Lars exhibited an interesting combination of and openness to learning mindful behaviors prior to the start of the curriculum, facilitating his ability to understand the techniques and derive benefit from them in limited settings.

Student 3: Salman

Salman is an eighteen year-old, South Asian male in twelfth grade. He had been at Washington for approximately four months at the time of the start of the curriculum. He attended thirteen of the sixteen sessions during the course of the study.

Background information. Two teachers provided information about Salman based on the three to four months they had each known him. They described Salman's tendency to swear, get red in the face, laugh anxiously, not wanting to sit down, and focus on negatives when upset. While both teachers observed Salman having two major negative reaction incidences in the 48 hours prior to filling out the questionnaire' observations, their report of these incidences varied considerably. One teacher reported seeing just two incidences with an intensity level of '3' or '4' on a scale of one to ten. The other reported ten ("at least") negative outbursts with an intensity of '9.' While the teachers report Salman's strengths as being polite, social, respectful to adults, and having goals past high school, they also pointed out areas of improvement: needing to work on ignoring peer distractions, being more responsible and focused on academics, and needing more self- control. The teachers identified Salman's self-calming strategies as "one on one conversation," "personal space," "time to cool off," "kind words," as well as being "reminded of goals."

From his initial interview and mindfulness measures, Salman stated others would describe him as business-minded, money-minded, and "protective." He also added that his friends might describe him as "a crazy motherf----r" and "underground," clarifying that he is able to get what people need. He described his decision-making process as trying to see "what would be smarter, after weighing consequences." He also shared that

his “impulsiveness” keeps him from thinking before acting. Salman cited his job as an example of thinking through what the best thing to do is. If something did not go his way at work and it was small, he would try to get over it. If it were more serious, he would act more immediately and stated, “I don’t know what I would do.” Salman corroborated his teachers’ reports of his behavior. He specifically mentioned he is often “impulsive” and reacts with violence without thinking. When asked what he would want to change about himself or his situation, he stated he would want to change “the way I react” and would like to move out of his parent’s house and become a party promoter. Salman expanded, stating he would change the decisions he made that landed him at this school (e.g. “I went for the money rather than focusing on academics”). He would like to become more independent and move out, but he would also like to get out of Washington School, which he feels is too “small” for him. He further shared that the school feels like a “jail cell” or like a “middle school.”

What are the experiences of students learning the mindfulness curriculum?

Responses to the curriculum. Salman’s response to the mindfulness curriculum was overall very positive. He did not believe there were any negatives and stated it was “a lot of learning and discussing.” Salman also stated he learned he “learned different ways to deal with stressful situations, how the body reacts to stressful situations, and learning ways to calm yourself besides substances” (Interview).

Salman stated the mindfulness lessons made him feel more “calm, relaxed, and tranquil” (Interview) compared with other times of the day. He described the overall experience of the mindfulness lessons as “relaxing.” He shared that he believed others in a similar situation to him (e.g., being at an alternative high school) would benefit from

learning mindfulness techniques, but not necessarily everyone his age. He noted that if everyone at his school practiced mindfulness, school would be "boring;" however, he also shared that it would make his day "go smoother and without as may obstacles" (Interview). Salman felt he would want to share the techniques with his cousin, who has anger problems, so he could learn to "sit down and relax." He further shared that adults would benefit from the techniques; he stated in his interview:

> "Within our life, we have many stressful things going on and these techniques could help us use whatever time we have to relax and not bottle everything up and just have a healthy way of releasing it."

Further, Salman felt all people could benefit from "learning different ways to calm yourself than using other substances" (Interview). He reportedly found the journal useful because it helped him "recall things that have happened in the past" (Interview).

When asked to define mindfulness in his interview, Salman stated it was "knowing how your body reacts in stressful situations… and the best way to calm yourself down from them," which suggests Salman not only perceived an emphasis on awareness in the curriculum, but also saw mindfulness techniques as a tool to regulate emotions and behavior.

Applications to self. Salman indicated that practicing mindfulness has taught him "how to deal with stressful situations," "how the body reacts to [stressful situations]," and how to calm down without using substances (Interview). He shared he would want to practice the mindfulness techniques on his own because it influences his decision making and "using these techniques makes me calm down, and take a few second to think about the repercussions of what I do," as well as find a better way to respond to stressful

situations. He cited the projective story utilized during the semi-structured interviews and stated that in such a situation, using the mindfulness techniques, he might find a way to calm himself down, consider what happened and find “a healthy way to resolve the situation” rather than fighting. Overall, Salman felt he had become a lot “calmer” since beginning the mindfulness curriculum. He felt the biggest thing he had learned from the mindfulness curriculum was “Learning that weed isn’t the only thing I can relax with” (Journal).

Salman originally stated he wanted to change his impulsivity and the decisions that landed him in this school, as well as becoming more independent and leaving Washington altogether. However, in the Phase 3 interviews, he provided a slightly different answer. He stated he would not want to change anything about himself or those around him, but he would still want to change his going to Washington for school. The change in his responses suggests a shift from wanting to change himself to accepting himself and those around him. While he continued wanting to change external factors such as going to school, he was not as critical of himself and his past decisions, showing a certain amount of acceptance that was not previously indicated in his Phase 1 responses.

In Phase 3 of data collection, Salman revisited some of the ideas covered during the Phase 1 interview. When initially presented with the hypothetical situation describing George, a frustrated teen having a poor day, Salman immediately transferred the situation to how he himself would act, stating:

> “I would knock the f--- the motherf----r out that was talking to me because I'm that man. Grab my s---, go into class, throw it on the teacher's desk. Either take

> this bull---- or I'm walking out right now. Cuz it's not my f-----g fault, all this s--- just happened. And I'm not f-----g kidding…How most other people would react, I would say, grab their stuff, try to explain to the teacher what happened, and hopefully … he or she will either give you more time, or state the consequences."

Salman then continued to verbally illustrate the physical, violent reaction he would have himself. In Phase 3, when asked the same question, Salman's response did not differ greatly from Phase 1:

> "If I was George, I would have punched the little kid that was talking about the video game. I would have just gotten mad and knocked him the f--- down, and leave him in the puddle…Why I would do that? Because I've got a temper problem. Was it that kid's fault? No... but…"

These two answers both indicate a response of physical violence. However, in the Phase 3 response, Salman does not become caught up in the emotion of the situation. Though he does describe a violent reaction he would hypothetically have, he also shares that he has a "temper problem" and acknowledges the other boy in the story is not at fault for the situation described (Interview). This may suggest some separation from a vexing stimulus and an increased ability to observe the situation without getting as caught up in the related emotion. Salman shared, regarding the hypothetical situation,

> "Like in that situation with the bus, maybe now when I slip and fall, I'll take a few seconds to calm myself down and think about what happened and maybe healthy ways to resolve the situation other than doing… that [referring to reacting aggressively]" (Interview).

This shift in his hypothetical response shows Salman has an increased awareness of alternative ways of responding. Not only that, he sees the value in them, by referencing them as "healthy ways" of resolving difficult or frustrating situations.

Specific experiences or anecdotes. Specific techniques Salman stated he learned include mindful breathing and the use of anchor words. Regarding mindful breathing, Salman shared it felt "creepy" but also that he "liked it" and found it "relaxing" (Journal). Interestingly, Salman stated in his journal he would not want to always be 'in the present' because it would be "bad," though he did not explain why this was so. Salman wrote in his journal that he "would gain peace of mind from sending kind thoughts to others." In another entry, he described how thinking about how to give something that's free "reminds you that there is good in the world," even after "a bad day and when s--- goes harsh." This journal entry, regarding generosity, stood out to Salman as he looked through the journal during the Phase 3 interview. Salman also specifically stated that "breathing" was a technique that was particularly helpful for him. Salman further noted multiple times in his journal and in discussions his tendency to pre-judge or react before having a chance to think about the situation and see it as it really was; he stated mindfulness could help him accomplish this.

Overall, Salman's experiences of the mindfulness were very positive. He found several ways of connecting the techniques and their effects to his own life in terms of improving his emotional awareness and regulation of his behaviors. He appeared to appreciate the immediate effects of mindfulness, such as being able to relax without substances, and felt that others would benefit from practicing these techniques. He was also responsive to some of the supporting ideas of mindfulness, such as sending kind thoughts and generosity.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and

FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported effects from the journal, evaluation, or interviews. The effects were largely analyzed in terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Salman showed no change in his mindfulness score. Changes on his FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 10a.

Table 10a. FFMQ Sub-Scale Scores: Salman

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	17	21	+ 24
Describe	20	20	0
Acting with Awareness	24	24	0
Nonjudging	35	24	- 31
Nonreacting	10	19	+ 90

Index sub-scale findings. *Observe:* Salman experienced a 23.5% increase on the Observe Index on the FFMQ between Phase 1 and Phase 3. Overall, on Observe items for both the CAMM and FFMQ, Salman had an equal number of increases and decreases (n = 3). Two items stayed less aligned with mindful behaviors between the two phases: Salman endorsed he 'Never' notices visual elements in art or nature, such as colors, shapes, and patterns, and also 'Never' pays attention to sensations like the sun on his face or the wind in his hair. He showed three major increases and two major decreases. The major decreases included 'Always' to 'Sometimes' paying attention to sounds like clocks ticking or birds chirping and 'Always' to 'Never' noticing smells or aromas of things. On the other hand, Salman indicated increases from 'Rarely' to 'Often' staying alert to

sensations on his body in he shower, ‘Never’ to ‘Often’ noticing how food and drink affects his mind, thoughts, and body, and ‘Never’ to ‘Always’ paying attention to how his emotions affect his thoughts and behavior. During the body scan, he noted that he observed “sleepiness” in his journal and that this sensation stayed even after the scan was completed. Salman also made the observation that his thoughts are often in the “past and future” during the Mindful Thoughts lesson. These examples show that Salman’s abilities in mindfully observing thoughts, feelings, and sensations have increased.

Describe: Salman experienced no change on the Describe index. On Describe items for both the CAMM and FFMQ, Salman had an equal number of increases and decreases (n = 3), but no major changes. Through his journal, Salman identified several describing experiences representing a range of mindful and non-mindful behaviors. A Feeling/Sensory-related items described by Salman is that he “learned weed isn’t the only thing [he] can relax with,” which reflects more a mindful perspective. Other similar feeling-related items are he feels “peaceful” when practicing mindfulness of breath and finds it “very relaxing,” it feels “good” to be kind to others, and thinking about things that make him happy makes him feel “happy.” Salman indicated neutral feelings about the body scan and sending kind thoughts, stating he felt “fine” after the body scan and “did not feel anything” when he sent kind thoughts. Salman also described that being angry felt “bad,” though this was related to his own reflection on how certain emotions feel rather than his reflection on the curriculum. These are excellent examples of mindful descriptions Salman provided, and they also show his generally positive feelings toward mindfulness.

Acting with awareness: Salman experienced no change on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Salman had more increases (n = 6) changes than decreases (n = 5). He also had four major increases and two major decreases. The major shifts to more mindful behaviors included changing from 'Sometimes' to 'Never' keeping himself busy so he doesn't notice what's happening, 'Always' to 'Sometimes' easily distracted, 'Sometimes' to 'Never' thinking about things in the past instead of focusing on the present, and 'Always' to 'Rarely' find it difficult to stay focused on the present. On the other hand, Salman changed from 'Never' to 'Often' walking between classes without noticing what he's doing and 'Never' to 'Sometimes' finding himself doing something without paying attention. Further, Salman indicated he 'Always' finds it difficult to pay attention to one thing at a time, and shared in his journal that he finds it difficult to stay focused.

Nonjudging: Salman experienced a 31.4% decrease on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Salman had more increases (n = 6) than decreases (n = 1). He also had two major changes in the nondesired direction, including 'Never' to 'Sometimes' making judgments about whether his thoughts or good or bad, and 'Never' to 'Often' judging himself as good or bad when having a distressing thought or image depending on the thought/image content. On the other hand, several Nonjudging items reflected consistently mindful behaviors for Salman. These included 'Never' telling himself he should not feel the way he's feeling, getting upset with himself for having certain thoughts, thinking some of his feelings are bad and he should not have them, and 'Rarely' telling himself he should feel the way he's feeling, thinking his emotions are inappropriate and he should not feel them, and being disapproving himself

for having irrational ideas. However, he did have one item that continued to reflect non-mindful behaviors, in that he 'Often' gets upset with himself for having feelings that don't make sense

Nonreacting: Salman experienced a 90% decrease on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Salman had more increases (n = 7) than decreases (n = 3), as well as a number of major changes. Salman's major increases in self-reported mindful behaviors included 'Never' to 'Sometimes' perceiving feelings and emotions without having to react to them, 'Never' to 'Sometimes' being able to pause in difficult situations without immediately reacting, 'Never' to 'Sometimes' feeling calm after having a distressing thought or image, 'Never' to 'Sometimes' able to watch feelings without getting lost in them, and 'Never' to 'Often' just noticing a distressing thought or image and letting it go. However, this final major increase conflicts with a major decrease of 'Often' to 'Never' able to notice distressing thoughts or images and let them go. This conflict between items of similar content could indicate Salman was endorsing items without fully paying attention to them. Another major shift in the nondesired direction is that Salman went from 'Never' to 'Always' believing his thoughts are abnormal and he should not be thinking them.

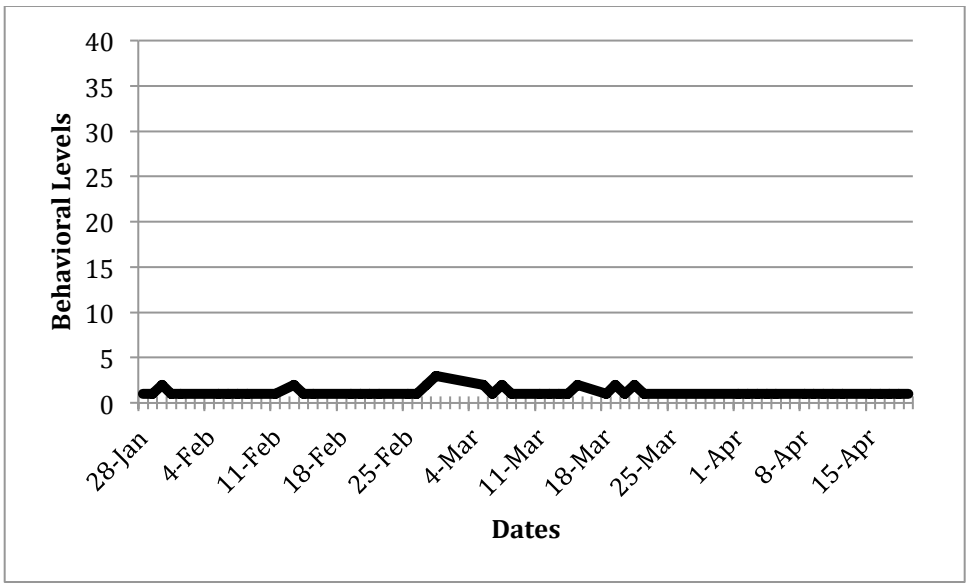
Behavior-tracker effects. Salman's Behavior Tracker revealed he had a 1.8% decrease in points on Mindfulness Lesson Days. His level on the point-level system stayed on White (the lowest level) for the entire period spanning the Mindfulness training, as shown in Table 10b. Salman lost points nearly every day, though, for various actions. Most often, Salman lost points for being 'Off-task,' 'not following directions,' 'disrespect,' 'talk of drugs,' 'being 'disruptive,' 'out of area,' 'sleeping,' and

'inappropriate conduct,' and 'swearing.' The overall trajectory of his place in the point-level system can be visualized in Figure 6. Salman's score on the Point-Level System stayed at 1 or 2, meaning he never left the White Level.

Table 10b. Time Spent at Behavioral Levels

	White	Bronze	Silver	Gold
%Time	100	--	--	--
# Days	50	--	--	--

Figure 5: Behavioral Levels: Salman



Notable qualitative effects. Salman had initially described mindfulness as "knowing more about yourself and how you react to things, and how you solve obstacles that are in front of you" in Phase 1 of data collection, which was very nearly on point. At the end of the curriculum, in Phase 3, when asked to give a new definition of mindfulness, Salman stated, "knowing how your body reacts to stressful situations and… the best way to calm yourself down from them." Thus, his definition and understanding of mindfulness appears to have changed slightly. His Phase 3 answer shifts from "solving obstacles" to knowing "the best way to calm yourself down" from stressful situations.

Both responses showed an understanding of mindfulness as learning about oneself and how one reacts to things.

Salman indicated in several ways that he learned Mindfulness techniques could be used to relax instead of drugs. He was very interested in this idea and eager to share his experience that practicing mindful breathing resulted in the same relaxation experiences as when he used drugs (e.g. shoulders slumping and breathing deepening). Due to this experience, Salman indicated it would be useful to teach adults and others adolescents in his situation these techniques. Salman also found the journal useful for thinking about things that have happened to him in the past. He referenced it during the Phase 3 interview and identified a journal entry he wrote that stood out to him regarding generosity.

Overall effects. Overall, Salman seemed to respond positively to the mindfulness curriculum, though his quantitative data did not reflect this qualitative summary. Though he tended to endorse items not favoring mindfulness concepts in the Phase 3 measures, many his major changes on the CAMM and FFMQ were still positive, though two Indices showed the greatest increase.

Specifically, Observe and Nonreacting scores on the FFMQ increased by 24% (from 17 to 21) and 90% (from 10 to 19), respectively, representing the largest increases. These mindfulness areas correspond to some of the qualitative changes noted by Salman, including his increased sense of awareness, knowledge of his reaction patterns, ability to calm himself down, and his feeling that he has been calmer at school since the start of the mindfulness curriculum. His responses on the Observe index indicate he is now better stay alert to sensations he is experiencing, and better understand how his mind, body, and

feelings are interrelated and affected by thoughts or external factors. Through his journal entries and field notes related to him, Salman evidenced he was often able to observe how the techniques changed his internal state. For example, Salman internalized the message regarding mindfulness helping him to relax without substances. He was able to observe how, after one particular session, he felt his shoulder slump and his breathing slow down much as it does when he is misusing substances. This observation led Salman to state he "might try to lay off the drugs for a while." Salman' responses on the Nonreacting index indicate he acquired a large number of skills in pausing before he reacts and being able to calm himself down in difficult or distressing situations, where he was not able to do so before. These shifts correspond to Salman's redefinition of mindfulness as becoming more aware of his reaction tendencies and better able to calm himself down when stressed or upset. It appears Salman sees Nonreacting as an essential part of mindfulness practice, though he seems to continue to struggle with not judging his thought content and feelings. Salman indicated he judged himself more regarding his thoughts, feelings, and ideas (Nonjudging: 31% decrease), though this could also be attributable to greater awareness of his judgments and an initial under-reporting of his self-judgments.

As mentioned earlier, the conflicting nature of some of his endorsements suggest he may not have been paying full attention while filling out one or more of the mindfulness measures. Thus, qualitative data was relied upon more heavily when determining the effects of the mindfulness curriculum on Salman. He provided data regarding the generally beneficial effect of the mindfulness curriculum on him, most

notably the perception that the mindfulness curriculum has “made me calmer” and shown him “other ways to relax besides using drugs.”

On his behavior tracking data, Salman showed a negligible decrease (1.9%) on his points earned on Mindfulness lesson days, and stayed on the lowest level (White) for the entire period spanning the mindfulness curriculum. His point losses were typically tied to not following directions, being off-task or out of area, disrupting, being disrespectful, or inappropriate conduct and language. Though Salman reported feeling calmer when utilizing the mindfulness techniques, his behavior tracker data did not reflect this. Thus, it is possible Salman had difficulty generalizing the mindfulness techniques to his own life though he was able to grasp and appreciate them at the time he learned them.

How can applicability of the mindfulness curriculum be improved? According to my field notes, Salman exhibited many difficult behaviors. Though he had the second highest attendance for the mindfulness lessons, and was often engaged, he also had a tendency to sleep during some of the lessons, talk to other students in the class, and otherwise ignore the lesson. He made occasional references to drugs and disclosed after one lesson that he regularly uses marijuana and alcohol (Note: this disclosure was shared with the principal, who stated he knew of Salman’s substance abuse). However, Salman was typically responsive to my attempts to engage him, usually through direct questioning, and was able to still share his ideas, thoughts, and experiences. Salman did not share any information regarding how the curriculum could be improved, stating the curriculum had “great lessons.” However, according to my field notes, Salman noted he “might try to lay off the drugs a little bit” after learning the effects mindfulness had regarding relaxation. Such a comment suggests mindfulness could be taught to

adolescents who misuse substances as a way to replace such destructive behaviors, or at least lessen the frequency with which they use. By tailoring the explanations of the mindfulness techniques to what certain adolescents are specifically seeking, they could be made more applicable.

Triangulation. Salman responded to the curriculum positively, as evidenced by qualitative and some quantitative information. His score only decreased on one of the Five Factors, and increased by as much as 90% on another Factor, though his behavior tracker data indicated a slight decrease (1.8%) on Mindfulness lesson days. This quantitatively lukewarm response is colored to a great degree through the qualitative information Salman provided, which indicates an increase in mindfulness.

Despite the decrease on his behavioral tracker and general lack of level-movement, Salman's response to the curriculum, both qualitatively and quantitatively tended to be positive. He attended 81% of the sessions, though his engagement was variable compared to the other students. He typically shared the most when directly asked a question or when just one or two other students were present and was open to trying the various techniques. He encouraged the other students to attend when they were reluctant and was very respectful while I was teaching. Thus, his openness to learning and his politeness in simply listening and trying out techniques may have aided his understanding of the curriculum and allowed for a more positive response to the curriculum.

As noted by the teachers, Salman appeared to have some intense negative reaction tendencies. The teachers differed in their reports of these incidences, with one reporting three incidences with a score of '3' or '4' on a scale of one to ten. The other teacher, however, reported at least 10 major reaction incidences with a score of '9.' Thus, it

appears Salman had some tendency to react in more extreme ways prior to the start of the curriculum, which can often be difficult to change, as evidenced by his chronic loss of points and staying on the White level. I observed many of these behaviors myself during the course of the mindfulness curriculum. He often swore, got red in the face, and refused to comply with requests when upset, as originally noted by the teachers. They also reported Salman sometimes takes time to cool off in stressful or difficult situations. As described, Salman may have a great deal of difficulty in regulation his emotions and his impulses. To provide an illustrative account of Salman's tendencies and how they affected his ability to utilize the techniques, Salman was reportedly hospitalized briefly during the mindfulness curriculum for aggressive behavior toward law enforcement personnel. His temper and difficulty with regulation in the moment created an incredibly negative outcome for him. Also, Salman was very agitated and upset during Phase 3 of the data collection for reasons unrelated to the mindfulness curriculum. He was asked to complete the mindfulness questionnaires and did so in a very rushed fashion, thus leading to some potential misinformation and inconsistent responding as mentioned before in Chapter Four.

Despite somewhat negative reactionary tendencies, Salman had many strengths that helped him as well. His teachers noted his strengths as being very polite and respectful to adults, which I also observed. Salman's teachers also noted he tends to benefit from one-on-one talks, personal space, kind words, and being reminded of his goals when experiencing difficult situations or emotions. In such situations, Salman reportedly benefitted from time to cool off and being reminded of his goals from a trusted teacher. This led to an interesting interplay of impulsive behavior and post-behavior

processing. Many times Salman became very upset when asked to attend the mindfulness lessons, but after being reminded of his goals and given time to cool off, he would attend the lesson cooperatively, was very polite and respectful to me, and would sometimes apologize for his behavior. Thus, Salman appeared to have some ability to self-regulate and calm himself down, though he initially would lose his temper in the moment.

Taking this into account, Salman may have benefitted from a more personalized connection to me as the teacher of the mindfulness curriculum. In fact, Salman would frequently make conversation and ask me questions regarding my life to establish such a connection. I shared only what I felt comfortable sharing and what was appropriate and helpful, much in the manner a therapist uses self-disclosure where it is helpful for her client. He was open to sharing his insights with me (e.g. practicing mindfulness instead of using drugs). It may be that, as a result of these interactions, Salman felt somewhat invested in the curriculum. At the same time, his politeness and respectfulness toward adults could have made him eager to portray his response to the curriculum positively as a way of pleasing the adult in the situation. This explanation would better correlate his behavior and response to the mindfulness curriculum to his behavior outside of the mindfulness lessons and his lack of movement on the behavior trackers. Nevertheless, it remains evident that Salman had difficulty generalizing the mindfulness techniques into his daily life. He reported feeling internally calmer, more relaxed, and felt he reduced his reactionary tendencies, though he was not able to use the mindfulness skills consistently in daily life situations during the course of the mindfulness curriculum. Salman had attended Washington School for just four months at the start of the curriculum, and was

likely still adjusting to the rules, procedures, and expectations of the site, as well as dealing with his feelings of anger and regret for being placed at Washington because of his past choices. On the other hand, Salman increased two of his Five Factor index scores by a great degree. He was able to attend to the curriculum and was open to some redirection during the mindfulness lessons.

Salman' case is indicative of the complexity involved with learning new ways to react when one has become accustomed to reacting in a particular way for some time. Salman showed great insight regarding the use of the techniques, and so it is not likely that he did not understand them or was not capable of utilizing them. Rather, it appears Salman had deeply entrenched behavioral and emotional patterns that were difficult to overcome in just sixteen short mindfulness lessons. Thus, Salman' personal qualities likely impacted how he was influenced by the mindfulness curriculum. Nevertheless, he showed a positive response to the curriculum. There are underlying factors to consider regarding his response, though. His potentially underlying desire to present as polite and understanding may have increased his report of mindful behaviors, particularly in qualitative measures. It also may be that certain scores did not show drastic differences (e.g. CAMM, Describing, and Acting with Awareness) because Salman appeared to become much more aware of his behaviors as a result of the curriculum. He may have been over-reporting in the Phase 1 measures and more accurately reporting in Phase 3, thus leading to a perceived decrease or lack of change in mindful behaviors. At the same time, his willingness to learn and excitement about the potential benefits of mindfulness likely made it easier to incorporate some techniques, such as mindful breathing, anchor words, and sending kind thoughts. Overall, Salman appeared to show an extreme of

emotional and behavioral regulation compared with the other participating students, as well as some unique personal qualities regarding his interactions with adults and his substance misuse. This constellation of characteristics may have made it difficult to see pronounced effects of mindfulness with Salman in terms of generalizing the techniques to more situations. At the same time, he clearly benefitted from the techniques, if only on an internal and subtle level of understanding and motivation. Salman definitively felt mindfulness was helpful to him and expressed his desire to learn more and be able to utilize the techniques in difficult situations. A case such as his suggests the need for more intensive mindfulness instruction for certain students in both frequency and duration.

Student 4: Jordan

Jordan is a fifteen year-old, Caucasian female in tenth grade. She has been at Washington for approximately 4 months at the time of the start of the curriculum. She attended five of the sixteen sessions during the course of the study.

Background information. Two teachers provided information about Jordan based on the three to four months they had each known her at the time they filled out the questionnaire. They described Jordan's tendency to shut down when upset. Neither teacher had observed Jordan having any major negative reaction incidents in the 48 hours prior to filling out the questionnaire' observations. While the teachers see Jordan's strengths as building positive relationships with peers and adults and listening well to lectures and directions in class, they also pointed out areas of improvement, such as coming to school on time and having better attendance records. Neither teacher could name any coping strategies Jordan uses to calm herself down.

From her initial interview and mindfulness measures, Jordan stated others would describe her as "funny, smart, witty, and mature for her age." She also added that she has "bad ADD." She described her decision-making process as thinking "about things before making decision" and felt "mindfulness is important and being aware of your surroundings is important to decision-making." This is noteworthy, as Jordan indicated she had received mindfulness training in the past, was familiar with the concepts, and practiced them regularly, though she did not indicate where she first learned them. She also shared that she is "sometimes impulsive" but also is "more accepting now" and that she "can understand why some things happen and knows to accept even if I don't like it." When asked what she would want to change about herself or her situation, she stated she would not want to change anything about herself, others, or her school/ environment. However, she did state she "might change [her] friends' decision-making skills and help them understand they can't change things in their life just because they don't like it." She shared during the initial interview that she had previous experience with mindfulness.

What are the experiences of students learning the MF curriculum?

Responses to the curriculum. Jordan's response to the mindfulness curriculum was neutral. While she did not believe there were any negatives, in the interview she shared she "did not get anything from the curriculum" or learn anything, because she "already did it on a regular basis."

Nevertheless, Jordan stated she enjoyed the mindfulness lessons because it was a time she did not have to "worry about school or anything," which was "nice." Further, she shared the lessons provided her with "a sense of community" (Journal). There were some specific techniques, she enjoyed, such as mindfulness of breath and practicing

heartfulness. She shared her belief that others her same age would "definitely benefit" because "kids at this age need more of a grounded influence" in their lives (Interview). She stated her belief that adults and children could also benefit from mindfulness techniques, because:

> "Everybody has stuff going on in their lives, but it is one thing that everybody could relate to when it comes to that stuff" (Interview).

Jordan stated in her evaluation that she would definitely recommend mindfulness to her friends and family as "a way to relax and become more conscious." She reportedly did not find the journal helpful because she believed the mindfulness lessons are "more about the mind."

When asked to define mindfulness in her interview, Jordan shared it was "a state of consciousness," but felt her previous experience with mindfulness influenced her definition. Nevertheless, her definition of mindfulness suggests Jordan perceives mindfulness as a state where one is aware and fully present, and also that not everyone is necessarily conscious even though they are awake. Her prior experience with mindfulness appears to have given her an accurate idea of what mindfulness is, though it also colored her experience by perhaps making her less open to learning (or re-learning) some of the techniques. Jordan stated in her Phase 3 interview, "knowing about [mindfulness] beforehand, I think affected how I felt about it."

Applications to self. Jordan indicated that the mindfulness lessons will probably not affect her decision-making or the way she reacts in situations because she reacts "to things well from before anyway" (Interview,) implying she already felt she handled difficult situations well. However, she did state she would continue to practice the

techniques on her own, specifically "the consciousness and everything it entails." She also stated she felt she could gain "peacefulness" from sending kind thoughts to others. Overall, Jordan felt she had not necessarily learned anything new, but did find mindfulness techniques to be helpful to her in general.

Jordan originally stated she did not want to change anything about herself or her situation, but might want to change the decision-making skills of some of her friends, and their sense of acceptance regarding what happens in their lives. In the Phase 3 interviews, she provided a similar answer, stating she would not change herself, others, or her environment because then "it would not be the way it is now." The change in her response suggests a movement toward greater acceptance of people and things that happen in Jordan's life.

In Phase 3 of data collection, Jordan revisited some of the ideas covered during the Phase 1 interview. When presented with the hypothetical situation describing Kate, a frustrated teen having a poor day, Jordan stated Kate would probably get mad and be irritated for the rest of the day. This compares to her original Phase 1 response that "there could be extremes," but a "normal teenager would be pissed off, overreact" and probably "get mad at herself and hate buses for the rest of her life." While these two responses are not dissimilar, Jordan's Phase 1 response indicated a much more dramatic and protracted reaction, whereas her Phase 3 response indicated a frustration that might linger for the length of the day. This shift may suggest an increased sense of acceptance Jordan felt.

Specific experiences or anecdotes. Specific techniques Jordan cited learning include mindful breathing and heartfulness. Regarding mindful breathing, Jordan shared in her journal that it was a technique that helped her calm down and have "consciousness

of her surrounding," and "help to calm you down more and become more aware of satiation." She stated she enjoyed the heartfulness lesson, and that it felt "wonderful" to send kind thoughts to others, elaborating that she felt she could gain "peacefulness" from further practice of sending kind thoughts. She also shared five things she was grateful for ("Mom, cigarettes, friends, music, sleep") and stated that it made her feel "happy" to think of these things. While nothing stood out to Jordan about the journal, she felt that mindfulness was "more about the mind" than anything else and felt the journal was "a little repetitive" because of this.

Overall, Jordan's experiences of the mindfulness were neutral, due to her ambivalent attitude. Though she did not have any negative experiences that she shared, she also felt she did not learn much due to her previous mindfulness training and her reported practice of mindfulness on a consistent basis. Despite this, she found several of the techniques valuable, including mindfulness of breath and heartfulness. It appears Jordan may already be in a comfortable place regarding her emotional and behavioral regulation. This is corroborated by the teachers' report that Jordan's behavior has never presented as extreme in the seven months they have known her. She still appeared to appreciate the time dedicated to the mindfulness lessons, seeing them as a respite from her daily worries and a place where she felt a sense of community. Further, she indicated that others would certainly benefit from mindfulness, and that her own feelings toward the curriculum were colored by her previous experiences.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported

effects from the journal, evaluation, or interviews. The effects were largely analyzed in terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Jordan showed no change in her mindfulness score. Changes on her FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 11a. It should be noted, Jordan mentioned in her interview that she has "bad ADD." While it was not confirmed through data collection, Jordan may have been taking medications to treat ADHD at any point during the study. Thus, her responses may show differences dependent on the medication she was on.

Table 11a. FFMQ Subscale Scores: Jordan

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	34	26	- 24
Describe	38	25	- 34
Acting with Awareness	27	21	- 22
Nonjudging	38	27	- 29
Nonreacting	28	19	- 32

Index sub-scale findings. *Observe:* Jordan experienced a 23.5% decrease on the Observe Index on the FFMQ between Phase 1 and Phase 3. Overall, on Observe items for both the CAMM and FFMQ, Jordan had more decreases (n = 4) than increases (n = 2), with four major decreases in mindful behaviors. These major decreases included Jordan's shift from 'Always' to 'Never' paying attention to sounds, 'Often' to 'Never' noticing smells and aromas, 'Always' to 'Sometimes' noticing visual elements in art or nature, such as colors, shapes, and patterns, and 'Always' to 'Sometimes' paying attention to how emotions affect her thoughts and behaviors. One sensory-related item reflected

consistently mindful behavior between the two phases, in that Jordan 'Often' deliberately notices the sensations of her body moving while walking. She further shared in her journal the Cognitive-related observation that her thoughts are most often "in the past and present."

Describe: Jordan experienced a 34.2% decrease on the Describe index. On Describe items for both the CAMM and FFMQ, Jordan had only responses that reflected downward trends, (n = 6), four of which were major changes. These major decreases include a shift from 'Always' to 'Sometimes' able to put her beliefs, opinions and expectations into words, 'Never' to 'Often" having trouble thinking of the right words to express how she feels about things, 'Always' to 'Sometimes' able to put her emotions into words even when she is very upset, and 'Always' to 'Never' having the tendency to put her experiences into words. However, a way of thinking described by Jordan that is reflective of more mindful behavior is that it is 'Rarely' hard for her to find words to describe how she's feeling. She also shared that she can 'Always' describe how she feels in the moment in considerable detail. Given the conflicting nature of some of Jordan's endorsements, it is possible she answered the mindfulness questionnaire randomly or did not give the items full consideration. Throughout her journal, Jordan identified several describing experiences indicative of mindfulness, and her own positive response to these experiences. When discussing mindfulness of breath, for example, Jordan described her experience as "consciousness of surrounding, helps to calm you down and become more aware of satiation." She also shared it felt "wonderful" to send kind thoughts and that thinking of things she is grateful for makes her feel "happy." Not only are these good

examples of mindful descriptions, Jordan also indicates a positive feeling and attitude toward the techniques themselves.

Acting with awareness: Jordan experienced a 22.2% decrease on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Jordan had more decreases (n = 6) than increases (n = 2). She also had two major increases and two major decreases. Though the items showing a downward trend indicated Jordan changing from 'Rarely' to 'Always' find it difficult to stay focused on the present and 'Never' to 'Often' seeming like she is running on "automatic," she indicated shifts more consistent with mindful behaviors, including 'Sometimes' to 'Never' walking between classes without noticing what I'm doing and 'Sometimes' to 'Never' rush through activities without being attentive to them. Further, while Jordan indicated she is 'Often' easily distracted, she also indicated she 'Rarely' thinks about things that happen in the past rather than staying in the present and 'Rarely' finds herself doing things without paying attention. Her journal, again, revealed a more nuanced picture of the mindful behaviors she engages in. For instance, she mentioned that mindfulness of breath helps her become "conscious" of her surroundings, to calm her down, and to "become more aware of satiation."

Nonjudging: Jordan experienced a 28.9% decrease on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Jordan had more decreases (n = 4) than increases (n = 3), showing a downward trend. She also had two major decreases, including 'Never' to 'Sometimes' telling herself she should not think the way she is thinking, and 'Never' to 'Always' judging herself as good or bad when have a distressing thought or image (depending on the image). However, she had several Nonjudging items

consistently showed mindful behaviors between the two phases, including 'Never' thinking her feelings are bad and she should not have the, criticizing herself for irrational or inappropriate emotions, thinking her emotions are bad or inappropriate and that she should not have them, nor disapproving of herself for irrational ideas.

Nonreacting: Jordan experienced a 32.1% decrease on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Jordan had more decreases (n = 5) than increases (n = 3), as well as three major decreases. Jordan's major decreases included 'Often' to 'Never' watching her feelings without getting lost in them, 'Always' to 'Rarely' pausing in difficult situations without immediately reacting, 'Often' to 'Rarely' able to notice distressing thoughts or images and just let them go. However, she indicated some consistently mindful behaviors between the two phases: she 'Never' stops herself from having feelings she doesn't like and she 'Often' steps back and is aware of distressing thoughts or images she has without getting taken over by them. Again, several of these responses are conflicting, which could indicate randomly answered questionnaires.

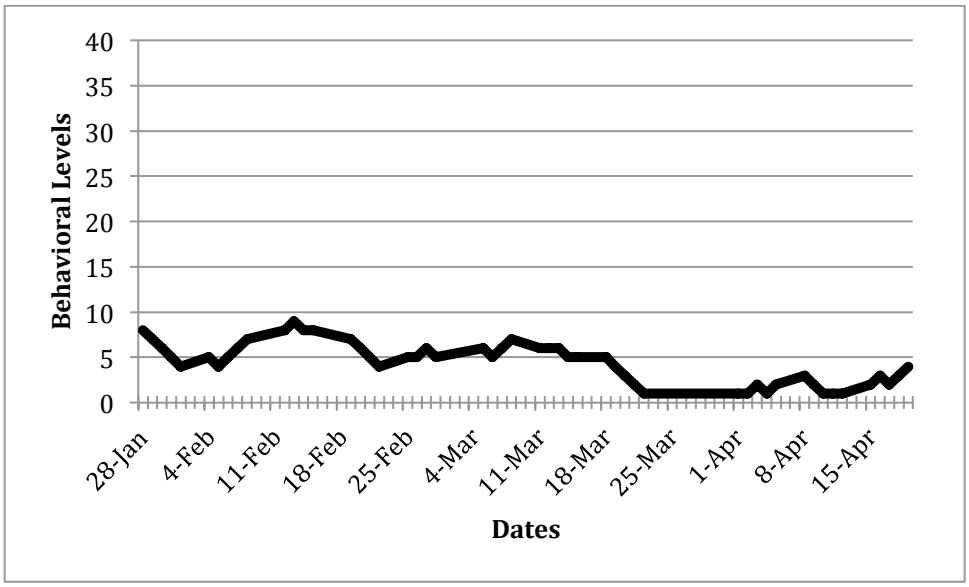
Behavior-tracker effects. Jordan's Behavior Tracker revealed she had a 2.9% decrease in points on Mindfulness Lesson Days. She started on Bronze (the third level on the point-level system) at the start of the curriculum and stayed there for approximately 35% of the duration of the mindfulness curriculum, as shown in Table 11b. However, she dropped to the White level (lowest level) by the time the curriculum ended and spent approximately 65% of the duration of the curriculum on this level. Jordan lost points nearly every day, though, for various actions. Most often, Jordan lost points for being

'Off-task,' and having many "unexcused absences." The overall trajectory of his place in the point-level system can be visualized in Figure 7.

Table 11b. Time Spent at Each Level

	White	Bronze	Silver	Gold
%Time	65	35	--	--
# Days	33/51	18/51	--	--

Figure 6: Behavioral Levels: Jordan



Notable qualitative effects. Jordan had initially described mindfulness as "being aware of your surroundings and consciousness" in Phase 1 of data collection, which was very much on point. At the end of the curriculum, in Phase 3, when asked to give a new definition of mindfulness, Jordan stated, "it's like a state of consciousness." Thus, her definition and understanding of mindfulness appears to remain consistent throughout the mindfulness curriculum. Both responses showed an understanding of mindfulness as involving awareness.

Jordan indicated that though she had previous experience with mindfulness that likely influenced her feelings toward it, she still found several techniques very useful. Highest among these were mindful breathing and heartfulness techniques. Due to Jordan's prior experience with mindfulness, as well as some of the lessons she found helpful, she indicated it would be useful to teach adults, children, and others adolescents her age these techniques. Jordan did not find the journal useful.

Overall effects. Overall, Jordan's response to the mindfulness curriculum appeared neutral and ambivalent. She tended to endorse items not favoring mindfulness concepts in the Phase 3 measures, with all of her Five-Factor items decreasing.

Though her CAMM score stayed the same, all of the Five Factor index scores decreased from Phase 1 to Phase 3 by a roughly similar amount. These decreases are at odds with some of the behaviors Jordan reported through her interviews, journal, and evaluation. Her qualitative data indicates Jordan does understand the mindfulness techniques and derive benefit from them. For instance, she provided many examples of Observing behaviors, such as observing that her thoughts were mostly in the past and the present, and a consistent endorsement for often noticing the sensations in her body when she walks. When asked what stood out to her about her journal, Jordan responded "the cover," showing some attention to detail, but also providing a somewhat superficial answer. Regarding the Describing index, Jordan also indicated several positive examples in her journal, as she described her cognitive and feeling-related positive reactions to the techniques. On her Acting with Awareness index, which had the smallest decrease (22%), Jordan had a more balanced number of positive and negative significant changes, and indicated in her journal that mindful breathing was a particularly effective tool to help

increase her awareness. Jordan's Nonjudging and Nonreacting scores similarly decreased and had a similar balance of more negative significant changes than positive. Jordan's redefinition of mindfulness did not indicate any major changes, as the two definitions she provided were fairly similar to each other. In both cases, Jordan equated mindfulness to "consciousness" and "being aware" of one's surroundings, which parallels many of her qualitative statements.

As mentioned earlier, the conflicting nature of some of her endorsements on the CAMM and FFMQ suggest she may not have been paying full attention while filling out one or more of the mindfulness measures. Thus, qualitative data was relied upon more heavily when determining the effects of the mindfulness curriculum on Jordan. She provided data regarding the beneficial effect of mindfulness on her, most notably the perception that mindfulness "is a way to relax and become more conscious."

Similar to her other quantitative measures, Jordan showed a decrease (2.9%) on her points earned on Mindfulness lesson days. She stayed at the lower two levels (White and Bronze), fluctuating between the two over time. Further, Jordan's level actually decreased from Bronze to White by the end of the mindfulness curriculum. Her point losses were typically tied to being off-task and having a great number of unexcused absences. Jordan had been at Washington School for nearly four months prior to the start of the curriculum, and she may have reached a point where it was difficult to keep her motivation up. Regardless, Jordan reported an ability to grasp, appreciate, and use the techniques outside of the lesson setting.

How can applicability of the mindfulness curriculum be improved?

According to my field notes, Jordan exhibited few difficult behaviors. She had the lowest

attendance for the mindfulness lessons, and was often not engaged in the lessons, often picking at her nails, staring off into space, or talking to Salman. However, Jordan was typically responsive to my attempts to engage her, usually through direct questioning, and was able to still share her ideas, thoughts, and experiences when she was present. Jordan did not share any information regarding how the curriculum could be improved, stating the curriculum was "good." However, Jordan's previous experiences with mindfulness seemed to have affected her response to the lessons, as noted by Jordan herself and in my field notes. Further, compared with the other participants, she had different issues related more to attendance than to disruptive behaviors. It may have been more helpful to have Jordan lead some of the activities when she was present rather than presenting them to her if she was already so familiar with the techniques and concepts. It may have also been more engaging for Jordan if she was given a more distinct opportunity to share her experiences with mindfulness. By increasing her motivation to attend the sessions and her enjoyment of the sessions, she may have been more motivated to attend school, and thus, the sessions, though this is not likely.

Triangulation. Jordan responded to the curriculum in a neutral to negative manner, as evidenced by her quantitative and qualitative data. Her qualitative data demonstrated an ambivalence to the mindfulness curriculum and her quantitative data showed decreases on all of her Five Factors and her behavior tracker data, which indicated a decrease of 2.9% on Mindfulness lesson days. The quantitatively poor response is further corroborated by her qualitative responses, indicating Jordan may not have responded to the mindfulness curriculum well.

In line with the decreases on her behavioral tracker and the Five Factors, Jordan's response to the curriculum tended to be neutral to negative, though her attitude toward mindfulness in general was positive. She attended just 31% of the sessions, the lowest attendance rate of the participating students, and her engagement tended to be limited during the lessons she did attend. When she was present, she often talked to other students participating in the lessons, which distracted her. Jordan appeared somewhat willing to share when directly asked a question, though she would not volunteer responses when a general question was posed to the group. Though she was open to attending the lessons and trying the different techniques, which she appeared to quickly grasp, she did not spend much time on her journal reflections and often presented as disinterested. Thus, Jordan's low attendance and lack of interest in learning or re-learning any of the mindfulness techniques likely decreased her appreciation of the curriculum and her overall response to it.

As noted by her teachers, Jordan appeared to have minimal negative reaction tendencies. Both teachers shared they had not observed Jordan ever exhibiting a major negative reaction in the time she has been at Washington School, nor could they identify any of her coping strategies because of this. Thus, Jordan appears to have more subdued responses and mindful tendencies in negative situations than compared with some of her peers. I also never saw Jordan upset or experiencing a major negative reaction in the time I worked with her during the mindfulness curriculum. These observations by the teachers and myself are corroborated by the behavior tracker, which showed Jordan lost points primarily for absences and being off-task, neither of which are typically associated with poor emotional and behavioral regulation. The teachers noted Jordan's tendency to come

late to school and have unexcused absences, but also indicated her ability to build positive relationships with peers and adults, as well as listen well in class. I did see evidence of this in my interactions with Jordan, as she was polite, respectful, and usually open to receiving redirection. However, because of her low attendance, previous experience with mindfulness, and her belief that there was not much new she could learn, Jordan was not invested in the curriculum in any way and viewed it primarily as a place for her to relax and socialize. She did appear to take the lessons very seriously and felt she already knew how to generalize the techniques to her own life. As such, her view of the curriculum tended to be neutral or negative though her opinions of mindfulness itself were much more positive.

Jordan had several personal characteristics that may have contributed to her feelings about the mindfulness curriculum. She described herself as funny, smart, witty, and mature for her age; it appears her teachers also feel similarly about her, as they indicated she was a good listener in class and could build positive relationships with adults and peers. Thus, Jordan appeared to be confident, intelligent, have an ability to connect with others, and able to self-regulate in daily situations. These personality traits and behaviors may have created in Jordan the feeling that she already knew a great deal of mindfulness and did not need to learn any more. With this feeling as the basis of her participation, Jordan connected with me and with the other students, but not with the techniques or the lessons being taught.

Taking Jordan's personality, strengths, and reactionary tendencies into account, she may have benefited from a more personalized experience. As mentioned previously, Jordan may have felt in some way that she was at a disadvantage in the curriculum. She

felt her prior knowledge affected the way she responded to the curriculum, and yet she was asked to sit through lessons she already had some level of exposure to. Perhaps by giving Jordan a more structured leadership role, or even the opportunity to share her personal experiences more, she might have been able to engage in the curriculum to a greater extent, expanding her previous knowledge of mindfulness. Her behavior-level points on Mindfulness days were lower than on other days and her general trend line was negative, as she went from the Bronze level to White. In this case, Jordan's points were very much tied to her number of absences, and so do not necessarily reflect any effect of the curriculum or her ability to regulate herself in general. Rather, it appears Jordan's decreasing performance in school may have been tied to motivation or some other issue that was not readily apparent. Though she reported regular practice of the mindfulness techniques, I was unable to conclude the extent to which she generalized mindfulness practices due to her absences. I can rely only on her self-report and the report of her teachers that Jordan was already very good at regulating her emotions and behaviors, and can speculate that she had either reached a plateau regarding these skills, or felt she had. She clearly viewed the curriculum as a way to relax and have fun, but not much beyond that. Jordan had attended Washington School for approximately four months and the number of absences she had may suggest a declining motivation to attend and engage in her education. This likely translated to the mindfulness curriculum for Jordan.

Jordan's case is fascinating in that she clearly felt mindfulness was beneficial to her, but her quantitative measures did not represent this and she did not feel motivated to engage in the curriculum. It appears that Jordan already had many positive, mindful qualities that supported her ability to self- regulate and remain in a peaceful state, but

these did not necessarily translate to success in school or success within the curriculum. Jordan's personal qualities and prior experience with mindfulness significantly impacted how she was influenced by the mindfulness curriculum. On the other hand, Jordan may have been inconsistent on one or both days she filled out the mindfulness measures, either swayed by boredom or by under- or over-reporting. In other words, she may have been over-reporting in the Phase 1 measures and more accurately reporting in Phase 3, thus leading to a perceived decrease or lack of change in mindful behaviors.

Overall, Jordan had many personal qualities that were in line with mindfulness techniques, but simply did not feel affected by the mindfulness curriculum in any significant way. Her opinions of mindfulness remain positive, as she stated she felt mindfulness was helpful to her and others, and she expressed her desire to be able to utilize the techniques in difficult situations. Jordan's response to the curriculum suggests that the students' previous experience with and prior knowledge of mindfulness should be taken into consideration and utilized in a way that is constructive and motivating for them and for the others students.

Student 5: Ranisha

Ranisha is a seventeen year-old, African American female in eleventh grade. She had been at Washington for less than a month at the time the curriculum began. She attended fourteen of the sixteen sessions during the course of the study

Background information. One teacher provided information about Ranisha based on the one month he had known her at the time he filled out the questionnaire. He described Ranisha's tendency to start giggling, asking to go to the locker room or

bathroom, turning around in her seat, and finding peers to talk to when she is upset. The teacher had observed Ranisha having three to five major negative reaction incidences in the 48 hours prior to filling out the questionnaire, with an intensity of 2 on a scale of 1 to 10. While the teacher sees Ranisha's strengths as building positive relationships with students and adults, being social, and being polite, he also pointed out areas of improvement, such as learning to ignore a particular female peer, being off-task, and being disruptive. The teacher shared his observation that Ranisha is often calmed by talking to trusted staff, having gentle limits set for her, and giving her time to get back on task. However, he did not name any coping strategies Ranisha herself utilizes.

From her initial interview and mindfulness measures, Ranisha stated others would describe her as "loud, outgoing, and confident." She added that she has ADHD and "fought a girl at my school." Ranisha described her decision-making process as "doing the first thing that comes to my mind." She shared that she can get "mad if something doesn't go my way" and she really cares about it; on the other hand, she is not as affected if "it's not a big deal" to her. When asked what she would want to change about herself or her situation, Ranisha stated she would "want to change my attitude" toward others, "especially people who care about me," further stating she felt her attitude was "bad." Ranisha was not able to provide any definition or guess regarding the definition of mindfulness.

What are the experiences of students learning the MF curriculum?

Response to the curriculum. Ranisha's response to the mindfulness curriculum was very positive. She stated she "had fun and learned a lot of things" (Journal) She also noted she learned that

> "When you take time and actually like focus on things, you notice and observe a lot more" (Interview).

Ranisha shared that, compared to other times of the day, she often felt "tired" during the mindfulness curriculum.

She generally felt the lessons were "cool," and helped her to feel "relaxed" and "focused" (Journal). There were some specific techniques, she enjoyed, such as mindfulness of breath, anchor words, and mindful eating. She shared her belief that others her same age would benefit from learning mindfulness, but could not describe how. At the same time, she also stated that if everyone practiced mindfulness, the school "would be calmer and more peaceful" (Journal) She also felt adults and children could benefit from mindfulness, " 'Cos a lot of people be having stress and stuff, and this is one way to help" (Interview). She shared she would recommend this to her friends and family because "a lot of people are stressed," but particularly to her mother, about whom she indicated,

> "I would teach my mom when she was stressed and I'll teach her mindful breathing" (Journal)

She reportedly did not find the journal helpful, but did not share why she felt that. When asked to define mindfulness, Ranisha shared it was "how you really feel inside," suggesting she perceives mindfulness as getting in touch with one's emotions and feelings, as well as the practice of awareness.

Applications to self. Ranisha indicated that the mindfulness lessons "might" influence her decision-making and it will help "sometimes," but not always because it's "difficult to stop and think about mindfulness if you're mad." At the same time, she

stated she would continue to practice the techniques on her own, particularly "mindful breathing" when she is "mad, stressed, or sad." Through her journal, Ranisha gave instances where she might practice mindfulness techniques. She stated she "could practice sending kind thoughts if she is feeling sad or down because it will help me gain more happiness," she "could use breathing or anchor words when I'm mad or upset," and she "could practice mindful walking on her walk home from school." Further, Ranisha shared in her journal she would handle a negative situation from the past differently now that she knows some mindfulness techniques, and that "breathing well and focusing on your breath is easier, and you will start noticing things you usually don't notice," indicating a perceived connection between mindfulness of breath and increased awareness. Overall, Ranisha felt she had learned many new things and found some of the techniques to be particularly helpful over others.

Ranisha originally stated she wanted to change her attitude toward others, as she perceived it as "bad," particularly toward those who cared about her. In the Phase 3 interviews, she modified her answer, stating she would want to change the negative way people around her act and would also like "to go back to her regular school." The change in her response suggests a movement toward a greater acceptance and of herself, though her answer also appears to reflect a frustration with her present situation. Her focus shifted from herself to others around her, suggesting a change in awareness.

In Phase 3 of data collection, Ranisha revisited some of the ideas covered during the Phase 1 interview. When presented with the hypothetical situation describing Kate, a frustrated teen having a poor day, Ranisha stated Kate would "be really mad." This compares to her original Phase 1 response that Kate would "get upset because she did all

of that work and then another problem happened." These two responses do not appear to be dissimilar, though Ranisha did not provide any additional information as to why Kate would be mad as she did in her Phase 1 response.

Specific experiences or anecdotes. Specific techniques Ranisha cited learning included mindful breathing and anchor words. Regarding these two techniques, Ranisha shared in her journal after practicing them, she felt "relaxed" and that "breathing helped her the most." She mentioned after one lesson that it was difficult for her "to stay focused," but that the "using anchor words in her head helped." She mentioned that practicing mindful seeing made her feel "focused and good that I was noticing things other people had not," that she liked the lesson "where we told what we were thankful for and why," and that she liked the mindful eating lesson the best because "there's a lot of things you don't notice when you're eating." She also shared five things she was grateful for ("Mom, family, friends, school, home") and stated that it made her feel "blessed to have all these things, cause not everybody has these things." While Ranisha did not find the journal particularly useful, one entry did stand out to her: "the one where I sent kind thoughts to my mommy."

Overall, Ranisha's experiences of the mindfulness were positive, and she stated she did not have any negative experiences. Ranisha found several ways of connecting the concepts and techniques learned in the mindfulness curriculum to her own life in terms of improving her attitude, her emotional awareness, and the regulation of her behaviors. She appeared to appreciate specific techniques, such as mindful breathing and anchor words, but felt others would benefit from the curriculum as a whole. She seemed particularly receptive to certain concepts such as gratitude, heartfulness, and generosity.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported effects from the journal, evaluation, or interviews. The effects were largely analyzed in terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Ranisha showed a 25% decrease in her mindfulness score. Changes on his FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 12a.

Table 12a. FFMQ Sub-Scale Scores: Ranisha

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	21	25	+ 19
Describe	28	24	- 14
Acting with Awareness	26	28	+ 7
Nonjudging	31	27	- 13
Nonreacting	13	20	+ 54

Index sub-scale findings. *Observe*: Ranisha experienced a 19% increase on the Observe Index on the FFMQ between Phase 1 and Phase 3. Overall, on Observe items for both the CAMM and FFMQ, Ranisha had an equal number (n = 3) of increases and decreases, with the three increases all being major changes. These major increases included Ranisha's shift from 'Rarely' to 'Often' paying attention to sensation on her body when she's moving, noticing visual elements in art or nature, such as colors, shapes, and patterns, and paying attention to how her emotions affect her thoughts and behavior. Further, she indicated several observation items that are consistent with mindfulness.

Evidence of mindfulness-related thinking she shared in her journal is that "anchor words work better when said in my head instead of you [e.g. the researcher] saying it aloud." She indicated she saw "Mayo on top of fridge and dots on lights" during the Mindful Seeing Lesson. During the Mindful Listening lesson, she wrote that she heard "Salman breathing, Jasmine's [sprinkles], and people outside." She also shared two observations of sensation that indicated mindfulness and enjoyment of mindfulness. These include that she 'Often' pays attention to sounds and that she learned from the mindfulness curriculum that "breathing well and focusing on your breath, it's easier." She further shared in her journal another example of mindfulness, as she observed that her thoughts are "usually… in the past."

Describe: Ranisha experienced a 14.3% decrease on the Describe index. On Describe items for both the CAMM and FFMQ, Ranisha had an equal number (n = 3) of increases and decreases, two of which were major decreases. These major decreases include a shift from 'Never' to 'Often' having trouble thinking of the right words to express how she feels about things and 'Often' to 'Rarely' able to put her emotions into words even when she is very upset. However, she shared several positive and neutral experiences in terms of sensory- and feeling-related describing items through her journal entries. Ranisha's sensory descriptions indicated mindful experiences and positive feelings toward those experiences. She stated mindful listening was "pretty cool" and "I heard a lot of stuff in the background; she "felt focused" during mindful seeing; and she noted that it is 'Rarely' difficult for her to describe a sensation in her body. She also shared sensory descriptions that are indicative of mindful behavior, such as when she is angry, she "gets hot inside" as well as mindful eating's effects: "it tastes way different…

texture was different and the flavor was different." She also shared a neutral description of a feeling when talking about tests:

> "Feelings I have before the test is nervous and scared during the test I'm more anxious to know how I'm doing and after tests I feel releved [relieved] but still kind nervous to know if I failed the test or not."

Ranisha also shared positive Feeling-related items, such as "it felt good to send kind thoughts to my mommy," being kind to someone "feels good, it makes me feel good inside," practicing mindful breathing makes her feel "very relaxed," and feeling "blessed" when recounting things she is grateful for because "not everybody has these things." Generally speaking, these descriptions are not only good examples of the ability to describe within mindfulness, but also indicate a positive view Ranisha holds of the techniques themselves.

Acting with awareness: Ranisha experienced a 7.7% increase on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Ranisha had more decreases (n = 6) than increases (n = 5). She also had seven major changes, three of showed an upward shift, and four of which showed a downward trend. The major decreases included changing from 'Rarely' to 'Often' hard for her to pay attention to only one thing at a time, 'Rarely' to 'Often' think of things that have happened in the past rather than the present, 'Never' to 'Always' has her mind wander off and she feels easily distracted, and 'Never' to 'Often' easily distracted. The major increases include 'Often' to 'Rarely' not paying attention because she is daydreaming or lost in thought, 'Always' to 'Never' finding it difficult to stay focused on the present, and 'Sometimes' to 'Never' rushing through activities without being attentive to them. Given

the conflicting nature of some of Ranisha's endorsements, it is possible she answered the mindfulness questionnaire randomly or did not give the items full consideration. An item that indicated consistent non-mindful behavior between the two phases was that Ranisha 'Often' keeps herself busy so she doesn't notice her thoughts or feelings. Through her journal, Ranisha shared it is often difficult to stay focused because "I have ADHD so it's hard sometimes," but that the best thing she learned from the mindfulness curriculum was that "you notice a lot you don't usually notice," indicating a positive response.

Nonjudging: Ranisha experienced a 12.9% decrease on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Ranisha had more decreases (n = 5) than increases (n = 4). She also had two major decreases across both the CAMM and FFMQ, though the item itself was the same on the two measures: she changed from 'Rarely' to 'Often' telling herself she should not be feeling the way she is feeling. Ranisha indicated a non-mindful behavior that continued between the two phases: she 'Often' tells herself she should not think the way she is thinking." On the other hand, she continued engaging in the mindful behavior of 'Rarely' thinking her emotions are bad or inappropriate and that she should not have them.

Nonreacting: Ranisha experienced a 53.8% increase on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Ranisha had more increases (n = 4) than decreases (n = 2), as well as five major changes (three positive, two negative.). Ranisha's major decreases included 'Never' to 'Sometimes' stopping herself from having thoughts she doesn't like and 'Never' to 'Sometimes' believing her thoughts are abnormal or bad and that she should not have them. Major increases in behaviors

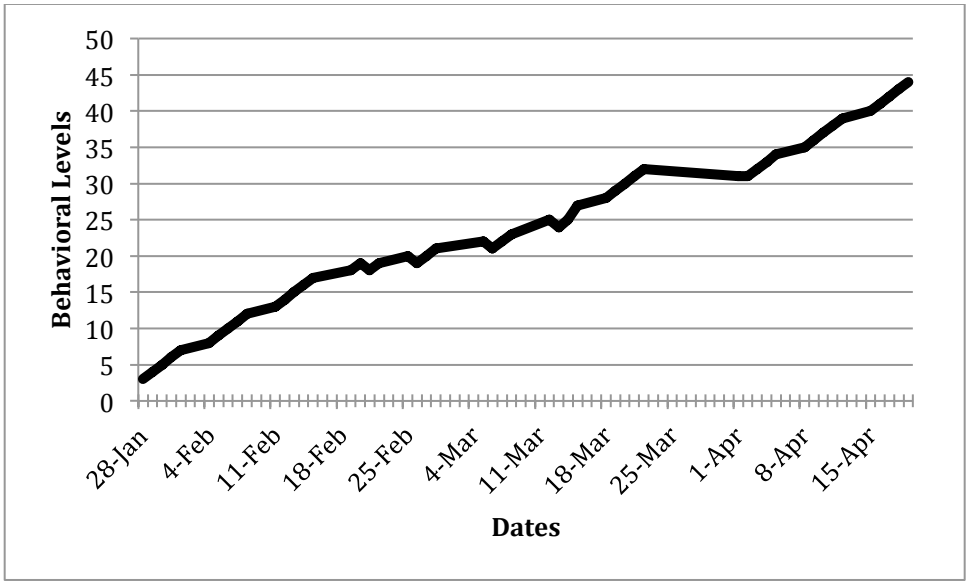
consistent with mindfulness include ‘Rarely’ to ‘Often’ perceiving emotions without having to react to them, ‘Never’ to ‘Sometimes’ watching feelings without getting lost in them, and ‘Never’ to ‘Sometimes’ pausing in difficult situations without immediately reacting. Ranisha also noted that she ‘Often’ pushes away thoughts she doesn’t like, ‘Rarely’ steps back and is aware of a distressing thought or image she has without getting taken over by it, and ‘Rarely’ able to notice distressing thoughts or images and let them go. On the other hand, she indicated that she ‘Often’ feels calm soon after having a distressing thought or image, a behavior that stayed consistently positive between both phases.

Behavior-tracker effects. Ranisha’s Behavior Tracker revealed she had a 9.1% decrease in points on Mindfulness Lesson Days. She started on White (lowest level) and progressed through Bronze and Silver for a minimum number of days before eventually reaching, and staying at the Gold level, as shown in Table 12b. Ranisha lost points on a few days for actions such as ‘Not Following Directions’ or ‘Inappropriate Contact.’ The overall trajectory of her place in the point-level system can be visualized in Figure 8.

Table 12b. Time Spent at Each Level

	White	Bronze	Silver	Gold
%Time	5.9	19.6	41.2	33.3
# Days	3/51.	10/51.	21/51.	17/51.

Figure 7: Behavioral Levels: Ranisha



Notable qualitative effects. Ranisha had initially not been able to describe what mindfulness might mean in Phase 1 of data collection. At the end of the curriculum, in Phase 3, when asked to attempt a definition of mindfulness, Ranisha stated, "it's how you really feel inside." Thus, her definition and understanding of mindfulness appeared to expand and deepen over the course of the mindfulness curriculum. Though she did not initially know what mindfulness meant, Ranisha focused on the awareness of emotions in her Phase 3 response.

Ranisha indicated she felt mindfulness would be beneficial to other students her age, as well as to children and adults, primarily for stress reduction purposes. She found several techniques very useful, particularly mindful breathing and the use of anchor words. Ranisha did not find the journal very useful.

Overall effects. Overall, Ranisha's response to the mindfulness curriculum appeared positive. Her response pattern was variable between the two phases on the

CAMM and the FFMQ. Though her scores on Describing and Nonjudging items decreased, her Observe and Acting with Awareness scores on the FFMQ increased by 19% (from 21 to 25) and 7% (from 26 to 28), respectively. The score showing the largest increase for Ranisha, however, was Nonreacting, which showed a 54% increase (from 13 to 20). Increases in these mindfulness areas correspond to some of the qualitative changes noted by Ranisha, including her increased sense of awareness, ability to calm herself down, and her feeling "good" and "relaxed" as a result of the techniques. Her responses on the Observe index indicate she is now better stay alert to sensations or external elements she is experiencing, and better understand the patterns of her mind and how it responds to different techniques, such as anchor words. She further evidenced, through her journal entries and the field notes, that she was often able to observe how the techniques elevated her mood. For example, Ranisha was very aware of how certain practices created a shift toward feelings of happiness within her. After the gratitude and sending kind thoughts lessons, Ranisha indicated feeling "really good" and "happy." She was also able to observe how, during one particular session, she was better able to focus when using the anchor words. These observing changes correlate with Ranisha's redefinition of mindfulness as "how you really feel inside." She came to equate mindfulness with awareness of feelings, which parallels many of her journal entry observations.

The conflicting nature of some of her endorsements on the CAMM and FFMQ suggests she may not have been paying full attention while filling out one or more of the mindfulness measures. However, her qualitative data points almost absolutely to positive effects from the mindfulness curriculum. She provided such data regarding the effect of

the mindfulness curriculum on her, most notably the perception that the mindfulness curriculum is “relaxing,” “fun,” and that she “learned a lot of new things.”

Despite the jump in her Nonreacting score (54%), Ranisha showed a relatively significant decrease (9.1%) on her points earned on Mindfulness lesson days, though she steadily increased through the four levels on the point-level system. Ranisha’ responses on the Nonreacting index indicate she acquired a large number of skills in pausing before she reacts and being able to calm herself down in difficult or distressing situations, where she had difficulty doing so before. Ranisha indicated she was better able to perceive her feelings and emotions without pushing them away or getting lost in them.

She eventually earned the Gold Level by the end of the mindfulness curriculum. Her point losses were typically tied to not following directions or inappropriate contact. Thus, Ranisha’s increases in Acting with Awareness and Nonreacting appear to correlate with upward trajectory on the point-level system. Ranisha’s recent move to Washington School may have meant an increased motivation to utilize the mindfulness curriculum and generalize the techniques better. Her increase in points may also have led her to report her mindfulness behaviors as increased. Regardless, Ranisha seemed to be able to grasp, appreciate, and use the techniques outside of the lesson setting.

How can applicability of the mindfulness curriculum be improved?

According to my field notes, Ranisha exhibited few difficult behaviors. She had the highest attendance for the mindfulness lessons, and was more often than not engaged in the lessons. However, she also was frequently involved in whispered conversations with Salman and another student who briefly participated in the study. However, Ranisha was typically very responsive to my attempts to engage her, usually through direct

questioning, and frequently was able to share her ideas, thoughts, and experiences. Ranisha shared that she did not find the journal very helpful, but she also shared that her overall experience with the curriculum was a positive one, as she stated she "had fun," "learned a lot of new things," and that "all the lessons were cool." She also shared through her journal and through the interview, that it was helpful when I modeled the techniques after describing them, rather than just expecting the students to follow verbal instructions. Ranisha also had some clear ideas of what was helpful to her, personally; she enjoyed the use of anchor words, but felt it was better when she said it in her own head rather than when I said them aloud. Ranisha seemed overall very engaged with the curriculum, and appeared to respond positively to the techniques.

Triangulation. Ranisha responded to the curriculum positively, as evidenced by her qualitative data, primarily. Factors contributing to her decreases in quantitative data will be explored in Chapter 5, and I will attempt to determine what may have caused discrepancies between the two types of data. Nevertheless, her quantitatively poor response is outweighed in many ways by the qualitative information Ranisha provided.

Despite the decreases on her behavioral tracker and some of the Five Factors, Ranisha's response to the curriculum tended to be positive. She attended 88% of the sessions, the highest attendance rate of the participating students, and her engagement was positive during the lessons, though she did also become somewhat regularly distracted during lessons by talking to other students. Ranisha appeared very willing to share when directly asked a question, and she would also volunteer responses when a general question was posed to the group. Though she was sometimes resistant to attending the lessons, she was always open to trying the different techniques,

participating in the discussions, and was thoughtful in her journal responses. Thus, Ranisha's openness to trying new things, her good attendance, and her thoughtful participation in discussion elements of the curriculum likely aided her understanding of the curriculum on a qualitative level.

As noted by her teacher, Ranisha appeared to have minimal negative reaction tendencies. The teacher shared he had observed between three to five incidences, but with an intensity level of '2' on a scale of one to ten. Thus, Ranisha appears to have more subdued responses in negative reactions than compared with some of her peers, though this is based only on one teacher's report. I never saw Ranisha upset or experiencing a major negative reaction in the time I worked with her during the mindfulness curriculum. These observations by the teacher and myself correlate with Ranisha's general upward trajectory on the point-level system, and her eventual change to the Gold Level. The teacher did note Ranisha's tendency to be off-task, distracted and sometimes disruptive. I did see evidence of this in my interactions with Ranisha, but she was also polite, respectful, and open to receiving redirection. This limited the effects of Ranisha's distraction and may have helped her stay more engaged. These techniques were corroborated by the teacher's report that Ranisha is calmed by gentle limits, talking to trusted staff, and being given time to get on task. Frequently, when Ranisha was feeling resistant to attending the lessons, she would talk to a teacher or staff member at Washington School, who gently requested she come to the lesson. I also made sure to give Ranisha breaks when she requested them. Ranisha's overall positive response to the curriculum suggests she felt respected and cared for in the classroom environment I created. As such, she may have felt more open to learning the techniques, participating in

discussions, and perhaps taken the generalization of the techniques more seriously. Regardless, Ranisha had only positive opinions to share regarding the mindfulness curriculum as a whole.

Ranisha had several strengths that helped her, as well. Her teacher noted her strengths as being very polite, social, and able to build positive relationships with peers and adults, all of which I also observed. The teacher did not share any of Ranisha's coping skills, but Ranisha shared she is comforted by thinking of her mother and that she does not tend to get upset when things do not go her way, unless it is something she cares about. Ranisha also shared her own view of herself as "outgoing and confident." Thus, Ranisha appeared to have a strong sense of self, an ability to connect with others, and some ability to self-regulate regarding daily situations. These personality traits and behaviors may have been helpful in Ranisha's connecting with me as the facilitator, practicing the techniques outside of the lessons, and making them her own.

Taking Ranisha's personality, strengths, and reactionary tendencies into account, she may have benefited from a social structure built in to the curriculum. Perhaps by getting more opportunities to connect with her classmates and me, Ranisha would have felt even less distracted and more willing to participate and attend. She was open to sharing her insights with me (e.g. her feelings about what happened when Salman had a major negative reaction and was taken away). Given Ranisha's social tendencies, she may have felt invested in the curriculum to some extent because of her friendliness toward me, and her polite nature, in general. However, Ranisha's sense of self, strong opinions, and desire to make the techniques more applicable and helpful to herself indicate a level of investment that goes beyond social relationships or politeness. Though

her behavior-level points on Mindfulness days were lower than on other days, Ranisha general trend line was positive, indicating efforts on her own part to control her reactions and regulate herself in accordance with the Washington School's expectations. She clearly viewed the curriculum as a way to relax, have fun, and learn new things, but also as a way to relieve stress, increase her ability to focus, and further help her stay calm when she is mad, sad, or upset. Whether or not she was doing it intentionally, it appears Ranisha was able to generalize some of the techniques to her life, as evidenced by her reports in her journal and in discussions, her upward movement in the point-level system, and the positive changes on three of the Five Factors. Ranisha had attended Washington School for less than a month at the start of the curriculum, and was likely still adjusting to the rules, procedures, and expectations of the site, as well as aiming to go back to her regular school, which she stated was a goal of hers. The large increase on her Nonreacting, Acting with Awareness, and Observing Factor scores tie her self-perception to her goals and her positive movement on the point-level system.

Ranisha's case is complex in that she clearly derived benefit from the curriculum, but the measures did not show this benefit in an absolute way. Ranisha showed insight regarding the use of the techniques in her day-to-day life and made great personal gains regarding her behavior at school. It appears that Ranisha already had many positive, mindful qualities that supported her success in school and her success in learning and understanding the techniques. Some of Ranisha' personal qualities likely impacted how she was influenced by the mindfulness curriculum, including her social tendencies and her confidence. Nevertheless, she showed a positive response to the curriculum. Her negative changes on the CAMM, the Describe and the Nonjudging factors may have been

attributable to an increased feeling of awareness regarding how she is able to verbalize her thoughts, feelings, and emotions and how she generally judges them within her mind. She may have been over-reporting in the Phase 1 measures and more accurately reporting in Phase 3, thus leading to a perceived decrease or lack of change in mindful behaviors. At the same time, her willingness to learn and her insight into her own reactions to the mindfulness curriculum likely made it easier to incorporate some techniques, such as mindful breathing, anchor words, and sending kind thoughts. Overall, Ranisha had many personal qualities that supported her learning and generalizing the mindfulness curriculum. She may have also had an underlying motivation to go back to her old school, and thus her motivation and the techniques may have helped each other in a cyclical way. She stated she felt mindfulness was helpful to her and others, and she expressed her desire to learn more and be able to utilize the techniques in difficult situations. Ranisha's response to the curriculum suggests a more individualized approach or at least individual support and suggestions to make the curriculum more meaningful.

Student 6: Manuel

Manuel is a seventeen year-old, Latino male in eleventh grade. He has been at Washington for approximately two and a half years at the time of the start of the study. He attended nine of the sixteen sessions during the course of the study.

Background information. One teacher provided information about Manuel based on the three years she had known him. She described Manuel's tendency to tear things apart and slam desks when he is upset. She has seen Manuel have two to three major negative reaction incidences in the 48 hours prior to filling out the questionnaire. The most severe of the reactions was rated as a '10' on a scale of one to ten regarding

intensity. While she sees Manuel's strengths as beginning to understand who he is and get along with most of his peers, she also pointed out areas of improvement, including not being as reckless when he earns a point fine. This teacher identified Manuel's self-calming strategies as "not getting point fines," "leaving school," "texting or use of phone," and "using iPod or internet."

From his initial interview and mindfulness measures, Manuel described himself as "nice," "quiet," and "sometimes loud." He described his decision-making process as weighing the consequences before making a decision, adding that he does not make "dumb decisions." Manuel described his response style to difficult situations as either getting "frustrated" or "relax, and take it as it is." This suggests a slightly different view of himself than his teacher's report of his behavior. When asked what he would want to change about himself or his situation, he stated he would not want to change himself or others. However, he did share he would want to change that he goes to Washington, as he finds it "too easy" and feels he needs "more of a challenge."

What are the experiences of students learning the MF curriculum?

Responses to the curriculum. Manuel's response to the mindfulness curriculum was overall positive. He did not believe there were any negative outcomes from the curriculum, and stated, "I thought this experience was really chill and calm" (Evaluation) Manuel also stated he learned "how to be calm when angry," "to send positive thoughts" and feels "mindfulness is one way to control your emotions and reactions" (Interview).

Manuel shared he "felt calm during the lessons" compared to other times of the day, and felt that it was his "free time" (Interivew). He also shared that what he most enjoyed about the lessons was "sitting there in silence" (Evaluation,) referring to the

minute or so of mindful breathing at the beginning of each lesson and other times where silence was requested in order to practice a specific technique. He shared that he believed if others in school practiced mindfulness, “it would be calm and a lot more relaxed” because “teenagers have a lot of emotion they need to let out” (Interview). Manuel also felt adults would benefit from mindfulness to reduce their stress “from looking after their children.” However, he felt children would not benefit because “they are not as mature or educated,” whereas adults are “educated, mature, and know more stuff.” He shared that he would recommend mindfulness to his family and friends because some of his “friends and family members need to chill out and focus on their situations” (Evaluation.) Manuel felt the journal was useful because he got to write down how he feels.

When asked to define mindfulness in his interview, Manuel stated it was “being mindful of our body, your thoughts, the way you move, the way you act, and controlling yourself at times,” which suggests an emphasis on awareness and emotional/ behavioral regulation Manuel perceived in the curriculum.

Applications to self. Manuel indicated that practicing mindfulness showed him how to be calm when angry, send positive thoughts, and control his emotions and reactions. He shared he might practice on his own, stating, “I could practice on my own when I’m mad at someone or something” (Journal). Manuel gave several examples of how he was already utilizing some of the techniques he had learned through the curriculum in his own life, as well as some examples of how he might employ the techniques in hypothetical situations. For instance, when asked what he might do different in a difficult situation, Manuel stated the following:

> "When someone is mad at you, but you care about that person and you want to talk to them, but they just ignore you. Give them a minute." (Evaluation)

He shared he might be able to practice mindful breathing when he is "in class and focusing on work," and that he could practice mindful breathing while lifting weights or working out. Overall, Manuel indicated some of the techniques were already helping him make better decisions and calm himself down more.

While Manuel originally stated he wanted to his going to Washington school, in the Phase 3 interviews, he provided a different response. He still stated he would change his going to Washington because:

> "I think I feel trapped every time I walk in here. I get in a really bad mood. And I never got a chance to experience my normal high school" (Interview).

However, he also stated he would change his "anger," sharing that "If I get of control, I would try to control myself. Try to be more calm" (Interview). The shift to wanting to control his anger better and be more calm is an important one Manuel suggests here. Though he still wanted to change an external factor like school and change himself in the Phase 3 response, he also showed awareness of his tendencies and expressed a desire to move past them.

In Phase 3 of data collection, Manuel revisited some of the ideas covered during the Phase 1 interview. When presented with the same hypothetical situation describing George, a frustrated teen having a poor day, Manuel stated George "would be mad." This compared with Manuel's original response that George would be "embarrassed, mad, and just try to forget about the situation and move on with his day." These responses are not dissimilar, though his Phase 3 response was shorter and much simpler.

Specific experiences or anecdotes. Manuel cited many specific techniques and lessons when reflecting on the curriculum in his journal and his evaluation. Manuel shared the following about mindful eating:

> "Eating mindfully made me realize how the texture and taste or flavors of the food were" (Journal).

He stated he did not like the mindful movement lesson because "I don't like moving slowly." He noted that while his stomach was aching during the body scan (and continued to ache afterwards), this technique made him feel "sleepy and relaxed" afterwards (Journal). Though he stated feeling "distracted" when practicing mindful breathing, Manuel noted this technique the most in terms of practicing mindfulness on his own. He also shared that he like the generosity and kindness/caring lessons because he is "a genuine guy" and he felt he could gain "peace of mind or positive feelings or thoughts" from sending kind thoughts to someone. Similarly, in his journal, when asked to reflect on how it felt to be kind to someone, Manuel explained, "it feels really good and makes me smile. I love being genuine." He shared five things he was grateful for ("family, my life, my love, clothes, food everyday") and stated it makes him feel "pretty happy" to reflect on these things.

Overall, Manuel's experiences of the mindfulness were very positive. He found several ways of connecting the techniques and their effects to his own life in terms of improving his emotional awareness and regulation of his behaviors. He also appeared to appreciate the immediate effects of mindfulness, such as relaxation, and felt that others would benefit from practicing these techniques.

What are the effects of the mindfulness curriculum? Effects of the mindfulness curriculum were determined from the students' responses on the CAMM and FFMQ, as well as their daily Behavior Trackers and Point-Levels and any reported effects from the journal, evaluation, or interviews. The effects were largely analyzed in terms of the five factors: observing, describing, acting with awareness, nonjudging, and nonreacting. All percent-changes reported refer to the change in score from Phase 1 measures to Phase 3 measures. On the CAMM, Manuel showed a 42.7% decrease in his mindfulness score. Changes on his FFMQ from Phase 1 to Phase 3 were much more variable, as shown in Table 13a.

Table 13a. FFMQ Sub-Scale Scores: Manuel

Index Sub-Scale	Phase 1 (Pre-Curr)	Phase 3 (Post-Curr)	Percent Change (%)
Observe	40	40	0
Describe	37	37	0
Acting with Awareness	20	17	- 15
Nonjudging	13	8	- 38
Nonreacting	26	26	0

Index sub-scale level findings. *Observe:* Manuel experienced no changes, and thus no major changes, on the Observe Index on the FFMQ between Phase 1 and Phase 3. He shared some observations of his thoughts and experiences, including one feeling that he is "sometimes… afraid I might get out of control" when discussing his experiences of anger, which feel "bad." He also shared an observation of a sensory experience during the body scan; he noticed his stomach was "aching" during the body scan and "was aching

afterwards," too. This ability to observe feelings and sensation indicate a strong understanding of mindfulness. Overall, Manuel's positive experiences in describing feelings, cognitions, and sensations outnumbered the negative experiences between Phase 1 and Phase 3. Regarding mindful breath, Manuel stated he "was distracted." gets stressed out and can't think clearly because I get worried that I might fail it." Though this observations appears to be negative, his ability to describe his thoughts and feelings indicate behaviors consistent with mindfulness.

Describe. Manuel experienced no change on the Describe index. On Describe items for both the CAMM and FFMQ, Manuel had an equal number (n = 2) of increases and decreases, as well as two major changes. While he changed from 'Sometimes' to 'Never' feeling it is hard for him to find words to describe what he's thinking, he also changed from 'Always' to 'Sometimes' able to describe how he feels in the present moment in considerable detail. Between Phase 1 and Phase 2, Manuel indicated he was consistently 'Always' able to easily put his beliefs, opinions, and expectations into words, an ability consistent with mindfulness. In terms of sensory-related items, Manuel endorsed it is 'Never' difficult for him to describe a sensation in his body. Additionally, he shared through his journal that he felt "sleepy and relaxed" after the body scan and that mindful eating made him "realize how the texture and taste or flavors of the food were." These descriptions show a strong understanding of mindfulness. Regarding Feeling-related items Manuel endorsed he can 'Always' find a way to put his feelings into words, even when terribly upset, and that he is 'Always' good at finding words to describe his feelings. Through his journal, he further shared that it "feels bad" to be angry, yet he also shared it "feels really good [to be kind] and it makes me smile." He

also shared that the body scan felt “relaxing,” that he “felt calm and good” during mindful breathing, and that it made him “feel pretty happy” to think of things he is grateful for. In addition to these positive descriptions of mindfulness experiences, Manuel also displayed a strong understanding of mindfulness through the descriptions themselves.

Acting with awareness: Manuel experienced a 15% decrease on the Acting with Awareness index. On Acting with Awareness items for both the CAMM and FFMQ, Manuel had more decreases (n = 6) changes than increases (n = 1). He also had two major decreases. This trend in the nondesired direction indicated that Manuel went from ‘Sometimes’ to ‘Always’ himself busy so he doesn’t notice his thoughts of feelings, and ‘Never’ to ‘Sometimes’ seeming like he was running on automatic. Items that indicated non-mindful behaviors persisting between Phase 1 and Phase 3 were that Manuel ‘Often’ thinks about things in the past versus the present, his mind ‘Always’ wanders off and is easily distracted, he is ‘Always’ easily distracted, and he ‘Often’ finds it difficult to stay focused. On the other hand, he indicated did not find it difficult to stay focused on his breath (Journal).

Nonjudging: Manuel experienced a 38.5% decrease on the Nonjudging Index. On Nonjudging items for both the CAMM and FFMQ, Manuel showed only shifts in the nondesired direction (n = 4), including one major decrease. This major decrease was that Manuel shifted from ‘Rarely’ to ‘Always’ thinking his emotions are bad and inappropriate and he should not feel them. He also indicated several behaviors not consistent with mindful behaviors that persisted between Phase 1 and Phase 3. These included ‘Always’ getting upset at himself for having certain thoughts, criticizing himself

for irrational or inappropriate emotions, making judgments about whether his thoughts are good or bad, telling himself he should not be thinking the way he's thinking, judging himself as good or bad when having a distressing thought or image depending on the image, and 'Often' thinking some feelings are bad and he should not have them. This overall downward trend shows a weaker overall understand of the factor of nonjudging by Manuel.

Nonreacting: Manuel experienced no change on the Nonreacting Index. On Nonreacting items for both the CAMM and FFMQ, Manuel had more decreases (n = 4) than increases (n = 3), including four major decreases. His major increases were that he shifted from 'Sometimes' to 'Always' watching his feelings without getting lost in them, 'Always' to 'Never' thinking his thoughts are abnormal, bad, or that he should not have them, and 'Rarely' to 'Always' being able to notice distressing thoughts or images without reacting. However, he also changed from 'Always' to 'Sometimes' feeling calm soon after a distressing thought or image. Though he indicated a non-mindful behavior that stayed consistent between both phases 1 and 3 (He 'Always' pushes thoughts away he doesn't like and stops himself from having feelings he doesn't like,) he also consistently felt he was 'Always' able to step back when he has a distressing thought without getting taken over by it. Though these behaviors appear to conflict, Manuel may also be indicating that he pushes away thoughts he does not like, but he also does not become overwhelmed by them, a behavior consistent with mindfulness.

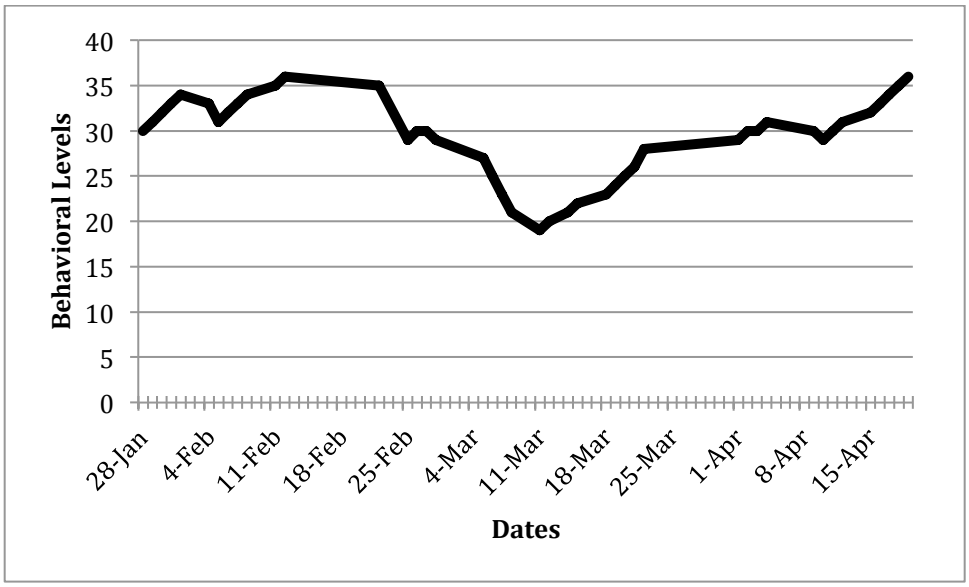
Behavior-tracker effects. Manuel's Behavior Tracker revealed he had a 7.3% decrease in points on Mindfulness Lesson Days. His level on the point-level system stayed primarily on Silver and Gold levels for the entire period spanning the Mindfulness

training as shown in Table 13b. Manuel lost points nearly every day, though, for actions such as being 'Off-task,' 'not following directions,' 'out of area,' or having a 'suspension.' The overall trajectory of his place in the point-level system can be visualized in Figure 9.

Table 13b. Time Spent at Each Level

	White	Bronze	Silver	Gold
%Time	--	--	55.8	44.2
# Days	--	--	24/43	19/43

Figure 8: Behavioral Levels: Manuel



Notable qualitative effects. Manuel had initially not been able to describe mindfulness and did not know what it meant in Phase 1 of data collection, and also shared he had never heard of mindfulness before I mentioned it. At the end of the curriculum, in Phase 3, when asked to give a new definition of mindfulness, Manuel stated "mindfulness is being mindful of your body, your thoughts, the way you move, the way you act, controlling yourself at times." Thus, his definition and understanding of mindfulness appears to have deepened considerably. His Phase 3 answer contains

qualities of mindfulness concepts, such as utilizing mindfulness in multiple settings, taking one's time, and increasing awareness while one is in the process of doing something. Further, Manual stated,

> "When I'm angry, I usually get out of control, but now I just think about Mindfulness and use that instead" (Interview).

He also shared the following regarding the use of mindfulness as a coping skill in frustrating situations:

> "Whenever I get angry at somebody, instead of yelling or swearing or fighting, I'll go to my room, lock myself in, just notice my breath… my breathing" (Interview).

Similarly, he shared that he feels mindfulness might influence his decision-making, and it has definitely changed the way he sees consequences. Now, he shared, he thinks of the consequences every time, whereas he did not before.

Manuel indicated in his evaluation that Mindfulness would be useful to teach adults and others his age. He shared his belief that if others in his school practiced mindfulness, "it would be calm and a lot more relaxed." He felt his peers could benefit because "teenagers have a lot of emotion they need to get out" and adults would benefit "because they get stressed out from looking after their children." He also felt the world could improve through the practice of mindfulness, stating, "everyone would be more cautious and the world would have less conflict." Manuel also felt adults would benefit from mindfulness to reduce their stress, and that others his age could benefit from mindfulness because it could "help them think on a different level." He stated he would recommend mindfulness to his friends and family members. Manuel shared many

important ideas through the journal and also felt it was helpful because it allowed him to write down how he feels.

Overall effects. Overall, Manuel seemed to respond very positively to the mindfulness curriculum. Though his responses on the CAMM and FFMQ stayed largely the same or decreased slightly, the data he provided regarding the effect of the mindfulness curriculum on him, most notably the perception that the mindfulness curriculum has influenced "way I see consequences" and has helped him "just notice my breath" when upset.

The factor scores that did not change (Observe, Describe, and Nonreacting) correspond to some of the qualitative changes noted by Manuel, including his increased sense of awareness, ability to put his thoughts, emotions, and feelings into words, his desire to decrease his reactivity in difficult situations, and his expanded understanding of the meaning of mindfulness. Manuel's responses on the Observing index indicate he observes his thoughts, emotions, feelings, and behavior to the same extent as he did before. Through his journal entries and interviews, Manuel indicated he tended to observe negative things, such as a stomachache or his distraction while practicing mindful breathing. His redefinition of mindfulness captures his belief that Observing is an important part of mindfulness, as he stated, "mindfulness is being mindful of your body, your thoughts, the way you move, the way you act, controlling yourself at times." His responses on the Describing index indicate he is able to put his thoughts, emotions, and feelings into words to the same extent as he could before. In particular, though, he indicated a higher level of comfort with describing beliefs, opinions, and sensations. He further evidenced through his journal entries many examples of describing, such as often

describing his positive experiences after particular techniques and how it feels to be angry versus happy. On the Nonreacting index, Manuel's scores and responses indicate that while he is able to let go of distressing thoughts or images quickly as they come up in his mind, he tries to push them away when he doesn't like certain thoughts or feelings. This connects to his redefinition of mindfulness as including "controlling yourself at times," indicating Manuel's belief that being mindful contains some level of controlling oneself. On his behavior tracking data, Manuel showed a slight decrease (7.3%) on his points earned on Mindfulness lesson days, and stayed primarily on the Silver and Gold levels for the entire period spanning the mindfulness curriculum. His point losses were typically tied to not following directions, being off-task or out of area, or being suspended.

Though Manuel often reported he felt calm and relaxed when practicing the mindfulness techniques, his behavior tracker and Five Factor data did not reflect this. It is possible Manuel had difficulty generalizing the mindfulness techniques to his own life though he was able to grasp and appreciate them at the time he learned them. At the same time, three of Manuel's Five Factor scores stayed the same. These scores (Observe, Describe, and Nonjudging) were high from the beginning, and his behavior tracker data indicated a generally good record of behavior as he stayed on Silver and Gold, though sometimes fluctuating.

How can applicability of the mindfulness curriculum be improved? According to my field notes, Manuel exhibited many difficult behaviors. Though he mostly paid attention, and was often engaged according to my field notes, he also occasionally made inappropriate or lewd comments during discussions of mindfulness,

referencing sex often. He also was often distracted and would distract the other students by, for instance, eating a Styrofoam cup. However, Manuel was typically responsive to my redirections to another topic and was able to still share his ideas, thoughts, and experiences when asked directly. Manuel did not share any information regarding how the curriculum could be improved, however it was noted in my field notes that he responded best to pointed questions directed to him.

Triangulation. Manuel responded to the curriculum positively, as evidenced by his qualitative data, primarily. His quantitative data showed that scores on three of the five factors stayed the same, two of the factors decreased, and his points earned on Mindfulness Curriculum days were slightly lower than on other days. I will explore what factors may have caused these discrepancies between the two types of data in Chapter 5. Despite these differences, Manuel provided overwhelmingly positive data regarding his experiences with and the effects of the mindfulness curriculum through his interviews, journal entries, and his evaluation.

Despite the decreases on his behavioral tracker, Manuel's qualitative response to the curriculum tended to be positive. He attended 56% of the sessions and tended to be engaged for most of the lessons he attended. Though he did make some inappropriate comments, he was typically able to pay attention and open to trying the various techniques. Thus, his presence both physically and mentally, as well as his willingness to learn and his curiosity, may have aided his learning and allowed for a more positive response to the curriculum.

As noted by his teacher, Manuel had some tendencies toward intense negative reactions prior to the start of the curriculum. Though he was reported to have had two to

three major negative reactions, they were scored a ‘10’ on a scale of one to ten. Thus, it may be that Manuel tended to struggle with more extreme reaction patterns from the start, though his point losses were typically tied to impulsive behaviors and suspensions, more than anything else. His teacher reported Manuel does best when he does not earn a point fine, even for minor infractions. When he is upset, the teacher noted he tends to benefit from leaving school, texting or using his phone, and using his iPod or the Internet. Thus, Manuel may have come in to some of the mindfulness lessons with some level of frustration due to point fines. He often missed the mindfulness lessons due to suspension or going home early, as the teacher noted he often does to deal with his frustration. He certainly may have appreciated the non-punitive environment of the mindfulness lessons as well as our positive interactions, thereby increasing his positive feelings toward the curriculum and the techniques. It may also be that Manuel felt successful in the mindfulness lessons and in practicing the techniques, thus making his overall feeling toward the curriculum more positive and perhaps facilitating the applicability he found between the techniques and his own life. As mentioned before, Manuel’s scores on three of the Five Factor indices were consistently high between the two Phases. This suggests Manuel may have already shown mindful behaviors prior to the curriculum and the measures were either not sensitive to changes with Manuel or his scores were over reported in Phase 1, creating the appearance of a decrease in Phase 3 as his awareness of his behaviors increased.

Nevertheless, Manuel may have a great deal of difficulty in regulation his emotions and his impulses. Manuel’s teachers described his tendency to tear things apart and slam desks when he is upset, particularly after earning a point fine. However, these

behaviors were not observed during the lessons. It is possible that Manuel did not experience any stressful or difficult situations during the mindfulness lessons and was better able to focus as a result. On the other hand, Manuel may have left school or not come to the lessons as a result of his negative reactions, thus creating a bias in the behaviors I observed. Overall, Manuel appeared to be calm in his behavior, especially during the mindfulness lessons, but had somewhat frequent negative reaction incidences as noted in field notes, behavior tracker, and his attendance. This likely contributed to the fluctuations on his behavior tracker and his apparent lack of response to the curriculum as observed on the quantitative measures. This explanation would better correlate his behavior and response to the mindfulness curriculum to his behavior outside of the mindfulness lessons and his lack of movement on the quantitative measures.

Nevertheless, it remains evident that Manuel had some difficulty generalizing the mindfulness techniques into his daily life. He reported feeling internally calmer, more relaxed, and able to observe, describe, and not react to his thoughts, feelings, and emotions during and as a result of the mindfulness lessons. However, the mindfulness lessons differed greatly from the typical school environment, which may be demanding in terms of behavior and regulation, as well as punitive in terms of assigning point fines, a practice I did not use during the lessons. Thus, Manuel had somewhat of a free environment in the mindfulness lessons and was able to practice without fear of punishment through point fines.

Though Manuel had attended Washington School for over 3 years, and was likely well acquainted with rules, procedures, and expectations of the site, his difficulties with behavioral and emotional regulation likely held him back in terms of point-level

fluctuations and quantitative measure score decreases. On the other hand, Manuel reported learning a great deal from the mindfulness curriculum and participated in the lessons in a mostly positive way when he was present.

Manuel's case shows the complexity involved in learning patterns of interaction and reaction when one's patterns are often rewarded through attention or being sent home. Manuel indicated understanding of willingness to use the techniques; thus, it is not likely that he did not understand them or was not capable of utilizing them. Rather, it appears Manuel had deeply entrenched behavioral and emotional patterns that were difficult to overcome in just sixteen short mindfulness lessons. Thus, Manuel's personal qualities likely impacted how he was influenced by the mindfulness curriculum. His difficulties controlling his behavior and emotions, including his impulsivity and hyperactivity likely made it difficult to fully adopt the mindfulness techniques. Nevertheless, he showed a positive response to the curriculum. It may be that quantitative scores did not show drastic differences because Manuel appeared to become much more aware of his behaviors as a result of the curriculum. He may have been over-reporting in the Phase 1 measures and more accurately reporting in Phase 3, thus leading to a perceived decrease or lack of change in mindful behaviors. At the same time, his openness to learning new techniques and practice them likely made it easier to incorporate some techniques such as mindful breathing and sending kind thoughts. Overall, Manuel appeared to show an extreme of emotional and behavioral regulation compared with the other participating students. This set of characteristics may have made it difficult to see pronounced effects of mindfulness with Manuel in terms of generalizing the techniques to more situations. At the same time, he clearly benefitted from the

techniques, if only on an internal and subtle level of understanding. Manuel definitively felt mindfulness was helpful to him and would be helpful to others. He expressed a desire to learn more and be able to utilize the techniques in difficult situations. A case such as his suggests the need for more intensive mindfulness instruction, in both frequency and duration.

Group-Level Data

Student Experiences

Multiple students identified benefits of the mindfulness curriculum throughout the duration of the study. Several students identified that mindful listening, and the mindfulness curriculum on the whole made them more aware of their surroundings. Most students noted that practicing kind thoughts and generosity made them feel "good." In the field notes, it was noted that students appeared very appreciative of their individualized cards received on the sixth lesson regarding generosity. The field notes also noted the students appeared to "visibly mellow out" after practicing gratitude, though they had come in exhibiting hyperactive behaviors. Similarly, students felt, and I observed, that the anchor words lesson helped them relax, and even fall asleep. On the other hand, students stated they did not derive much benefit from mindful seeing. Students had mixed opinions on recommending mindfulness to their friends and families. Two were unsure, while the other four endorsed the practices. Five out of the six students indicated they would like to continue practicing mindfulness techniques on their own to reduce stress and make better decisions in difficult situations. Almost all students indicated they were able to practice mindfulness in some way outside of the sessions. Multiple recounted being aware of their thoughts at some point, and also when they were not.

Students' opinions of the mindfulness curriculum appeared to vary, though they were generally positive. Students reported they liked the mindful eating lesson the most, but liked the mindful seeing (n = 3) and slow motion (n = 2) lessons the least. As noted in the field notes, they demonstrated increased attention when discussing examples of mindfulness throughout the day, when positive messages (e.g. Generosity lesson) were directed at them, and when the Tibetan singing bowl was used, particularly when they were able to ring it themselves for the group.

Students were able to identify multiple ways in which they could practice techniques on their own for each lesson. For example, students noted that mindful breathing could be practiced "when upset" or "before going to sleep." Mindful eating could be used "when you're trying a new food" or "if you're sitting on the couch and eating" to prevent overeating. Students often had difficulty identifying how they felt in the moment, but could identify times when they felt strong emotions. Further, multiple students were noted to have recounted previous or current experiences with the topic being covered (e.g. either sharing an experience from the lesson itself, or a previous experience now understood as an example of a Mindfulness technique).

The group's experience with mindfulness was resoundingly positive. All of the students felt the mindfulness lessons were good and beneficial; no student could identify a negative outcome as a result of the curriculum. While some of the students did not like specific techniques, all of them indicated they had received benefits from learning and practicing mindfulness techniques. Even those that had neutral or negative indicators in their quantitative data shared a qualitative understanding of and appreciation for mindfulness. For one student, Jordan, though she found the curriculum not very useful,

she felt mindfulness itself is an important skill that had helped her greatly since she began practicing it. All the students seemed to have a deeper understanding of mindfulness as a result of the curriculum and a desire to practice the techniques on their own. Students consistently made connections between the techniques and their own lives, often indicating how they would utilize specific techniques or how they have already. Many of them indicated they used the techniques taught through this curriculum and had received some benefit from it in terms of increasing their awareness and their emotional and behavioral regulation. Most of the students felt that other people would benefit from learning mindfulness techniques, and a few even had specific people in mind to whom they would want to teach the techniques. A few students connected the mindfulness techniques to spiritual ideas, which was not intended, but is also not surprising given some of the value-related aspects to mindfulness (e.g. compassion, generosity, and gratitude).

The lessons that received the most positive response tended to be very simple, such as mindful breathing and anchor words. Surprisingly, the students also greatly enjoyed lessons having to do with emotional aspects of mindfulness, including the practice of generosity and gratitude. The lessons the students liked the least tended to be ones where they were uncomfortable (e.g. mindful seeing, mindful walking, heartfulness). The lessons were generally perceived as a time for the students to relax, learn, or rest, sometimes literally. Engagement varied depending on the students' moods, state, and previous experiences that day.

In many cases, students either stated or exhibited drowsiness or increased tiredness during the mindfulness lessons. They stated the lessons made them feel very

relaxed and tired compared to other times of the day, as well as actually falling asleep during the lessons at times. For adolescents who likely do not get the amount of sleep they need, being in an environment that caused relaxation and encouraged them to slow down their minds and bodies may have resulted in such drowsiness. Thus, this effect may have been their body's natural response to needing rest and being provided a place to get this rest.

Five Factor Data

Though individual analysis of qualitative five factor data was completed, there are several data at the group level to be reported as well for each of the five factors. When individual student data was compiled in an Excel spreadsheet, group-level data was also noted to increase the comprehensiveness of data analysis.

Observe. Observe items for all six students included several noteworthy elements. The majority of Observe changes were related to sub code of Observe: Sensory-related, and the Observe category exhibited more decreases (n = 17) than positive (n = 12) across the six students. For Feeling-related items, there were 4 positive and 4 decreases. For Cognitive-related items, there were 4 positive and 4 decreases. For Sensory-related items, there were 9 positive and 15 negative. Changes that did not pertain to Sensory-related items involved multiple dimensions: cognitive, feeling, and sensory. Overall, there were more consistently positive (n = 3) Cognitive-related Observe items than negative (n = 1), more consistently positive (n = 13) Sensory-related Observe items than negative (n = 4), and more consistently positive (n = 4) Feeling-related Observe items than negative (n = 2). Further, Sensory-related journal items were mostly neutral and pertained to specific observations related to lesson content.

Describe. Describe items for all six students included several noteworthy elements. The majority of Describe changes were related to the sub code of Describe: Feelings-related, and the Describe category exhibited more decreases (n = 18) than positive (n = 14). For Feeling-related items, there were 14 positive and 7 decreases. For Cognitive-related items, there were 6 positive and 5 decreases. For Sensory-related items, there were 3 positive and 2 negative. Further, there were more positive (n = 4) Cognitive Describe items than negative (n = 0), more positive (n = 8) Sensory Describe items than negative (n = 1), and more positive (n = 30) Feeling Describe items than negative (n = 7). Of those items that were coded as both Feeling- and Cognitive-related (e.g. "natural tendency is to put experiences into words), three out of four changes were negative.

Acting with awareness. Acting with Awareness items for all six students included several noteworthy elements. While there were more consistent negative (n = 10) than positive (n = 7) items, there were more positive (n = 28) than negative (n =25) changes, as well as more positive major (n = 13) changes than negative (n = 11). Most of the students' changes on these items were one-point differences between P1 and P3 questionnaires, and were thus non-major. Regarding journal Acting with Awareness items, two out of three students who answered indicated it was difficult to stay focused on their breath. Further, most students indicated they had difficulty paying attention to only one thing at a time.

Nonjudging. Nonjudging items for all six students included several noteworthy elements. There were more consistent positive (n = 12) than negative (n = 9) items, as well as more positive (n = 22) changes than negative (n = 21) changes. There were an equal number (n = 8) of positive and negative major changes.

Nonreacting. Nonreacting items for all six students included several noteworthy elements. There were more consistent positive (n = 8) than negative (n = 7) items, as well as more positive (n = 22) than negative (n =21) changes. There were an equal number (n = 11) of positive and negative major changes.

Other data. Students' behavioral tracking data showed several common behaviors. Most of the participating students lost points on their daily behavioral trackers for such infractions as being "Off-Task," "Out of Area," "Not Following Directions," and some form of "Disrespect" or "Disruption of Class." These types of behaviors are not surprising for the participating students.

Also, many participating students showed mixed responses to the curriculum. While some showed increases in mindfulness through qualitative and quantitative data, others showed increases only through the qualitative data, and some not at all. The possible causes for this variability will be explored more fully in Chapter Five.

Of the five factors, Acting with Awareness most frequently increased between Phase 1 and Phase 3 and yielded the highest positive average change, whereas Nonjudging decreased with greater frequency and yielded the lowest negative average change. This correlated to the students' redefinitions of mindfulness. When seen as a whole, the redefinitions often had the most to do with awareness of self, awareness of one's surroundings, and self- regulation, which corresponds to the factors of Acting with Awareness, Observing, and Nonreacting. None of the redefinitions included any aspect of acceptance of one's self, one's thoughts, feelings, and behaviors, or one's surroundings, which corresponds to the lowered Nonjudging scores. Regarding the Observing factor, students exhibited more negative changes on Sensory-related items than positive. Their

journal entries also tended to have more Sensory-related content than Cognitive- or Feeling- related. This may be because it was slightly easier to determine physical sensations than thought- or feeling- related ones. On the Describe factor, however, students exhibited far more positive changes on Feeling-related Describe items, though they also exhibited more positive changes on Sensory- and Cognitive-related items. Their journal entries also tended to have more Feeling-related content than Sensory- or Cognitive-related. Thus, it may be easier for students to observe sensations rather than feelings and thoughts, and it may be easier to describe feelings rather than thoughts and sensations. In both cases of observing and describing, thought-related content was found to be the most difficult to be mindful of. Regarding Acting with Awareness, students had more consistently negatively endorsed items than positive, but more positive changes than negative. They also tended to provide a greater number of positive Acting with Awareness examples. On the other hand, students most frequently struggled with remaining focused on their breath and focusing their attention on just one activity. Nonjudging and Nonreacting had more consistently positive items than negative items and more positive changes than negative. Students may have found it easier to reduce their judgments and reactivity to thoughts, emotions, and feelings. At the same time, they may have also wanted to portray themselves in a more positive light regarding their judgments and reactions. It was difficult to determine the exact reasons of many of these changes.

Adjustments to Curriculum

Lesson objectives of the mindfulness curriculum were largely met. According to field notes and feedback from students, they appeared to have a firm understanding of anchor

words, body scans, and the use of hypothetical stories in the curriculum. Heartfulness and mindful seeing were most often reported as the most difficult or uncomfortable lessons. At least three times, environmental distractors cut the lessons short. These included distractors such as noises in the vent, a teacher or staff member coming in, or the presence of food. The greatest number of difficult behaviors was evidenced in the following lessons: Anchor Words, Mindful Walking, and Mindfulness in Stressful Situations.

Regarding engagement, students were generally very engaged in the lessons and would participate in discussions as noted in the field notes. Typically at least one student per lesson presented as distracted, bored, or otherwise disengaged. This was often either Salman, Ranisha, or Manuel, all of whom showed variable levels of engagement depending on what had been going on prior to our meeting. Jordan's behavior was variable on days she did come. Most students attempted every task we took on each lesson, including answering questions about their experiences, especially when asked direct questions. While many students were talking, coloring on their journal (e.g. Timothy), or otherwise distracted, they seemed to be better engaged with experiential activities versus didactic elements. As noted in the field notes, most students, except for Lars and Ranisha, eventually chose not to participate in the minute of mindful silence at the start and end of each lesson. Similarly, most students began spending less and less time on their journals. Instead, students typically chose to talk, play, or do work when they became distracted. Students reportedly often came in initially distracted, not feeling well, hyper, restless, and tired. The exception to this is Lesson 10, in which they were immediately engaged upon entering the room.

Regarding behavior management, most of my actions had to do with asking students either to stop talking or to keep comments appropriate. During Lesson 2, I had to ask Manuel to put a Styrofoam cup down that he was trying to eat. In another lesson, Manuel got up and turned on various timers around the room, which led to them going off at various points in the lesson. I chose not to respond to Manuel's actions at this time, but reflected aloud that it made it difficult to practice mindfulness with the noise. During Lesson 13, I asked the students to try doing the mindful minute again (the only time this request was ever made twice) as students were throwing trash during the first mindful minute; I also asked them to pick up the trash.

To increase engagement, I had the students ring the bell, rang the bell myself, or asked questions as prompts for discussion. I also used positive regard, such as telling Salman I was so glad he was able to join us after he had refused to come. I also used hand-written, personalized letters on stationary to each student to increase engagement, by telling them why I appreciated each of them (Lesson 12). Similarly, teaching during the mindfulness lessons often involved addressing specific interests of the students (e.g. neurotransmitters) or talking about why a specific technique could be helpful and how it might apply to students. During the mindful movement lesson, I asked Ranisha to sit back down slowly and mindfully after being gone for a few minutes to use the restroom.

Other engagement and teaching techniques included modeling and questioning. I modeled most techniques, but particularly mindful breathing at the beginning of each lesson. I also modeled gratitude, anchor words, and mindful movement. Questions were usually technique specific: what did it feel like to do X, when have you done X outside on your own, when could you practice X?

I made several adjustments to the curriculum to either better teach a concept or increase engagement as I saw fit. In the Anchor Words lesson, instead of going all the way through, it seemed the students responded better to talking throughout the lesson and sharing what they were feeling along the way, so we did that. During the Mindful Movement lesson, instead of raising hands or standing up as is mentioned in the curriculum, I offered alternatives that would be more acceptable, such as crossing and uncrossing legs or moving the head slowly. I also picked up on movements they were making unconsciously and asked them to be mindful of those movements, and when Ranisha came back from the restroom, I asked her to sit slowly and be mindful as she sat down, as mentioned previously. During the Mindful Eating lesson, I noted they had difficulty with "hearing" the carrot and cookie and appeared fixated on that, so I took the raisin around, smashing it between my fingers and allowing them to hear it. During Lesson 15, I made two major adjustments. For one, I decided, in the moment, that mindful test taking tips would not be as relevant to them. So, we just talked about stressful situations, how they handled them and how they could be handled in the future. I also decided not to do journals since the questions were about test-taking, and the response and energy levels were visibly low.

Feedback from the students regarding the curriculum was limited. Five out of the six students suggested nothing in the curriculum should be changed, though Timothy stated he wanted more activities. I noted and students reported they did not like the raisins in mindful eating. I elicited verbal feedback from students at the start of Lesson 4. Students present indicated that the lessons were good, but they did not understand why I

had chosen them to do this research. They suggested I was working with "the wrong kids." Salman also stated I was "a good person" for coming to work with them.

Researcher Reflections and Biases

In my field notes, I noted multiple times my desired outcome of wanting students to feel comfortable, to show up, and to experience effective mindfulness lessons. In terms of content, I felt students seemed more interested in brain-related research of MFC, and responded best to direct questions (e.g. Manuel, how was that for you?). I also took liberties of adding in my own experiences and examples if I thought it would help make the lessons clearer. For instance, I used the metaphor of a boat and an anchor to help illustrate the idea of anchor words, which seemed to increase their understanding. To make the lessons more effective, I considered such moves as separating students as a management tool, and considered skipping or rescheduling Lesson 15 because only two students were present, and one was asleep.

CHAPTER 5

DISCUSSION AND IMPLICATIONS

Purpose and Significance

This study investigates the impact of a mindfulness-based intervention on adolescents with Emotional and Behavioral Disorder, a population that is often at-risk for poor future outcomes. At the time of this study, many schools across the U.S. and other countries have begun to adopt mindfulness techniques and mindfulness curricula to teach important skills to students across the board. The primary purpose of this study is to understand how adolescents with EBD respond to a mindfulness curriculum, what the effects are of the curriculum, if any, and how curriculum could be adjusted to better suit the needs of this population. The implications of this study may prove relevant not only to educators working with this population, but also educators who wish to adapt a mindfulness curriculum to any special population.

The burgeoning movement of mindfulness in education (Black, Milam & Sussman, 2008; Broderick & Jennings, 2013; Meiklejohn et al., 2012) means that more students of various backgrounds are receiving these essential skills to address their individual challenges and needs. This study examines the ways in which mindfulness impacts a small group of students with EBD, seeks to understand their experience with the curriculum, and highlights what elements of the curriculum are particularly relevant

to the students and how other elements could be changed to increase relevancy and impact. Though this study's participants attend a small, suburban, alternative high school, findings are likely relevant for educators who are looking to understand how adolescents with EBD may respond to mindfulness curriculum.

Further, this study contributes to the growing literature examining the effects of mindfulness. Though many qualitative and quantitative studies have been done (Brady, 2005; Nanda, 2009; Mai, 2010; Napoli, 2005; Anderson, 2008; Bach & Hayes, 2002; Barnes, Trieber & Davis, 2001; Birdee et al, 2009), there are few that examine mindfulness from a mixed methods perspective (McLaughlin, 2010;), and still fewer that do so examining the specific population of adolescents with EBD. By adding to this research, I hope to help make mindfulness a more ubiquitous element of social-emotional learning interventions and prevention efforts within schools.

In this Discussion Chapter, I relate my interpretations of findings based on the data analysis presented in Chapter 4. Common elements between students' experiences and factors contributing to these are explored and connected to current research in the field. These broad interpretations of group-level data then segue into implications for the field of school psychology that can be derived from this study as well as specific suggestions for practitioners curious to learn more about mindfulness with adolescents who have EBD and other specific populations. I also provide an account of the strengths and limitations of my study, and close by discussing future directions in my own research and in the area of mindfulness within education.

At the group level, several conclusions can be made, based on both group-level data and patterns seen between individual data. Interpretations and connections to current research are made regarding experiences, response to the mindfulness curriculum, adjustments to the curriculum, and factors that impact student experiences.

Research Question 1: What Are the Responses of Students to the Mindfulness Curriculum?

Responses to the curriculum by the six participating students were definitively positive. Most importantly, students reported an increase in feelings of calmness, relaxation, and focus. Some students noted these feelings stayed with them over the course of the day, others not so much. However, there were some shared experiences among the students that point to specific elements in the curriculum that engaged the students more and increased the perception of applicability.

Lessons that were favored by nearly all students shared common characteristics; they tended to be simple, related to emotionality, and/or included aspects of neuroscience. The Mindful Breathing lessons, for instance, was a favorite among the students, which boded well as mindful breathing is one of the most important skills in mindfulness. This lesson is very simple, involves a good deal of silence, and some sharing of experiences at the end. It also uses visual modeling by the facilitator.

Other simple lessons favored by the students included mindful eating and anchor words. Mindful eating involved sensory observations related to various foods, and anchor words, as mentioned above, involved labeling and maintaining awareness of certain feelings or sensations. These lessons were frequently referenced by students as

techniques they enjoyed and have been able to practice on their own. Other lessons related to emotionality, such as gratitude, generosity, and sending kind thoughts were also frequently listed as positive experiences and useful techniques by the students. These lessons focused on the development of interpersonal emotional skills through guided practice. Students indicated that these lessons left them feeling positive and happy, and that these techniques would be very useful in their own lives.

Lessons including information on neuroscience and how the brain responds to mindfulness were observed to be very interesting for the students. Though they did not specifically mention neuroscience in their reflections on the curriculum, data analysis of my field notes indicated that lessons involving neuroscience tended to be coupled with increased discussion and questions from the students. It may be that the concrete nature of neuroscience appealed to the students, for whom mindfulness may have been too abstract initially. Research is limited concerning what specific elements of mindfulness appeal to students of different ages.

The students also shared an increased feeling of calmness, relaxation, and even drowsiness during and after the lessons. Many of them indicated they felt sleepy during the lessons, and nearly all of them, at some point, fell asleep during the practice of some of the techniques. Despite the overt downside of falling asleep (they missed out some instruction and practice), I found this to be a positive thing. I did not inquire as to how much sleep they were getting each night, but research estimates that most adolescents get approximately seven hours of sleep each night, which is two hours less than the recommended nine hours (Noland, Price, Drake & Telljohann, 2009), meaning these students may have been catching up on some much needed rest. Additionally,

mindfulness has been found to increase sleep quality in adolescents (Marks, Sobanski & Hine, 2010; Wall, 2005), so the students may have also benefitted from this. I observed multiple times that certain students would come in with a lot of energy, perhaps even angry or agitated, and would visibly mellow down over the course of the lesson. The fact that the students felt more calm and relaxed after practicing the techniques is a direct positive effect of mindfulness they were able to observe and self-report. The students, indeed, reported through multiple measures (e.g. journal, interviews, and post-curriculum evaluations) that practicing mindfulness techniques increased their feelings of calm, relaxation, and focus. This effect has been seen in many research studies (Napoli, 2003; Noggle & Khalsa, 2010; Suttie, 2007; Wall, 2005), including one conducted by Chambers, Gullone, & Allen (2009), who found that mindful emotional regulation may operate by training oneself not to identify with disturbing emotions as one becomes aware of them, and/or also by increasing one's perception of awareness itself.

Students were also able to make many connections of the techniques to their own lives, as indicated in their interviews, their journal entries, and the end-of-curriculum evaluation. Research has shown that making such connections of the techniques to one's own life helps with generalizing skills (Swiderski, 2011; Wagner et al., 2006). Similarly, connecting new information to previous knowledge can help reinforce the understanding and application of it (Alvermann et al., 2010; Carr & Thompson, 1996). For this reason, teachers often try to access prior knowledge through tools such as K-W-L charts (What I Know, What I Want to Know, What I Learned; Ogle, 1986). Such teaching techniques could be used with mindfulness curriculum, particularly with younger students and with the parts of the curriculum that are more instructional rather than experiential.

Multiple students also noted shifts in their attitude toward certain situations and their understanding of themselves as the entity in power of their emotions and reactions. These students related how they would respond differently (e.g. more mindfully) in stressful situations and indicated their belief that they could and would use some of the mindfulness techniques to regulate their behavior and emotions. This finding relates to findings from Kerrigan and colleagues (2011), who found that the youth whom they taught MBSR experienced "shifts and a newfound openness" as a result of their program. Another finding similar to that of Kerrigan and colleagues (2011) is that students in the present study demonstrated variable experiences and definitions of mindfulness as the curriculum progressed, yet they all exhibited an increased sense of self-awareness, somewhat greater acceptance of their thoughts and feelings, and an increased ability to focus and relax. This also relates to the ideas of "reperceivings," or shifts in attitude and awareness, found in a few other studies (Carmody et al., 2009).

Attendance was also found to have a major impact on the learning of mindfulness and the students' reactions to it. In one case in particular, a student's low attendance of the mindfulness lessons (Jordan) likely impacted her response to the curriculum and her view of the lessons as not being very helpful to her, though she felt the techniques themselves were important and useful. In general, truancy predicts lower academic progress (Skiba & Raison, 1990). Research points to the importance of consistency with such a tool as mindfulness (Napoli, 2003; van de Weijer-Bergsma et al., 2012).

Despite the variability of responses, most of the students felt the mindfulness curriculum was helpful and taught them something new they could apply and use in their own lives. They perceived it to be a tool to increase their emotional and behavioral

regulation. In most cases, they also felt so positive about the techniques that they indicated ways in which they would want to use the techniques and people (mostly adults and peers) whom they believed would benefit from mindfulness instruction. Therefore, my first and second hypotheses are confirmed (*Hypothesis 1: The present study will reflect the findings of previous, similar studies in which adolescents benefit from mindfulness practices, as reported through mixed methods data and analysis; Hypothesis 2: Students will report, in individual interviews and on mindfulness measures, that the mindfulness techniques have been internalized in their lives to some extent, resulting in positive outcomes and greater perceived emotional and behavioral regulation from pre-test to post-test.*)

Research Question 2: What Are the Effects of the Mindfulness Curriculum?

The group's responses to the curriculum in terms of the five factors yielded interesting conclusions. The students' individual responses to and experiences with the mindfulness curriculum varied, though they shared generally positive views of the curriculum and mindfulness techniques. Students found the techniques to be applicable to their own lives and helpful. Qualitative changes were noted for most of the students, though quantitative changes tended to be more variable. This does not necessarily correlate with other mixed methods studies, which have found significant quantitative increases in various areas such as interpersonal relationships, school achievement, physical health, and stress (Sibinga et al., 2011; McLaughlin, 2010). Nevertheless, several noteworthy findings emerged when examining the quantitative Five Factor data and the behavior trackers, which help to explain some of the variability across the students.

One important theme that resurfaced with each student was the possible effect of learning mindfulness techniques on the way they endorsed questions, or self-report bias. For instance, prior to understanding mindfulness and practicing mindfulness techniques, the students were asked to rate their mindful behaviors. Many of them may have over-reported these mindful behaviors, thinking they exhibited certain behaviors or traits to a greater extent. At the end of the curriculum, after learning a great deal more about mindfulness and different techniques, the students may have more honestly assessed their mindful behaviors. This shift in their understanding of mindfulness may have caused many of the students' scores to appear to decrease with the Phase 3 measures. Other researchers have raised similar questions regarding changes in response on a mindfulness self-report measure before and after a mindfulness intervention (Greco, Baer & Smith, 2011). It was also difficult to tell how honestly the students were reporting on the mindfulness measures, as they often endorsed conflicting items or responded inconsistently. Several of them may have filled out questionnaires on days they felt particularly confident or particularly down, thus influencing their response patterns in a way that would be difficult to measure without an accompanying mood-related instrument. They may have also filled out the questionnaires or responded to interview or journal questions in a manner that would portray them in a more positive light. While research has shown that children and adolescents can "reliably report on their internal experiences" (Greco, Baer, & Smith, 2011; p. 607), it is unclear if the students in this study accurately and reliably reported their own internal experiences. Again, without a validity measure built in to the questionnaires or an assessment of malingering during the interview process, it is difficult to ascertain the full extent of this bias.

Data analysis also showed that students tended to find physical sensations easier to observe than thoughts, emotions, or feelings. These sensations tend to be more concrete (e.g. observing that one's hand is tingling or that one's stomach aches) than observing that one is feeling tired or disappointed or sad. Similarly, the students found it somewhat difficult to be mindful of their thoughts. Though they employed anchor words and were able to identify where their thoughts were (e.g. in the past, present, or future), they felt that being mindful of their thoughts was challenging. On the other hand, students appeared to find describing their feelings to be easier. This could be an effect of the therapeutic school environment. Specific factor-related research is limited; as such, there was nothing with which to compare these findings.

Another interesting commonality is that most students found it very difficult to remain focused. Most of the students shared that this was a challenge for them at one point or another during the mindfulness lessons and the data collection. Several students disclosed they had Attention-Deficit/Hyperactivity Disorder, which accounts for some of their struggles with attention. However, it is noteworthy that students were able to become aware of this inattention and still attempted to practice the techniques to the best of their ability. In a study completed by van de Weijer-Bergsma and colleagues (2012), researchers found that after mindfulness training, adolescents' internalizing, externalizing, and attention-related problems had decreased significantly, and executive functioning had increased. Chapter Two also explored the effects of mindfulness on ADHD, showing positive effects. Many students in the present study noted that certain mindfulness techniques helped them to feel more focused and aware, which show apparent reductions in ADHD symptomatology.

Overall, this mixed response between qualitative and quantitative data only partially confirms my hypothesis that students' mindfulness scores on the Child and Adolescent Mindfulness Measure (CAMM) and the Five Factor Mindfulness Questionnaire (FFMQ) will improve from pre-test to post-test (Hypothesis 3). While these quantitative scores did not necessarily increase across the participants, qualitative reports do show increases in mindful behaviors. Similarly, my fourth hypothesis (*students' classroom-based behavior, as measured by the point-level system, will improve from pre-test to post-test*) was found to be only partially confirmed due to the variability of response among students. Yet, despite these findings, it is important to keep in mind that progress in mindfulness is not limited to quantitative increases only, but should be measured through self-report as well (Thompson & Gauntlett-Gilbert, 2009).

Along the same vein, it appears that those students who already had somewhat mindful behaviors prior to the curriculum tended to continue using them. Thus, their mindfulness was enhanced. Students like Ranisha and Timothy, who tended to be quieter or have fewer problem behaviors, continued on their upward behavioral trajectory without any major shifts. They tended to have positive responses, demonstrate and report applicability of mindfulness to their own lives, and practice on their own. On the other hand, students such as Jordan or Lars, who also expressed high levels of interest in mindfulness, did not show any behavioral changes. It may be that the effects of mindfulness are mediated by personality and behaviors. Based on a meta-analysis of mindfulness as it relates to the Big Five personality factors and affect (Giluk, 2009), mindfulness has the strongest relationship with neuroticism (negative correlation) and conscientiousness (positive correlation), in particular, as well as with negative affect

(negative correlation). Giluk (2009) also found that mindfulness positively correlates with agreeableness, openness to experience, and positive affect. Therefore, students who already displayed conscientiousness, positive affect, and agreeability may have more gains with mindfulness and are more open to it. It should also be noted that mindfulness does not change personality, insofar as research has found. Thus, there may be a history effect in terms of which students showed increases in positive behaviors and positive responses to mindfulness.

Research Question 3: How Can the Curriculum be Modified?

In terms of modifying the curriculum, the most important theme arising from the data was that the curriculum would be much more effective and meaningful if it was personalized to some extent for each student. This could be done by focusing on the students' strengths, natural curiosities, and interests, as well as building in time to meet with students individually (Thompson & Gauntlett-Gilbert, 2008). Through data analysis, I learned important things about each student that could help build a better, individualized curriculum for their needs.

Several important modifications of the curriculum became evident through the data analysis process. Information from data analysis indicates that individual attention during the mindfulness curriculum could be a better way to engage some students. Several students exhibited difficulty staying focused during the sessions, which may have been addressed by setting up individual time to meet with them. Students like Salman, Manuel, and Jordan may be better able to focus and learn with fewer distractions. Small groups are also recommended for mindfulness instruction, which decreases distractions and increases individuals' access to the facilitator (Thompson & Gauntlett-Gilbert, 2008).

From my experience working with this group of students with EBD, I suggest a smaller group of 2-3 students with which to facilitate mindfulness instruction. Similarly, though some students stated they found the journal to be helpful, their responses were often very limited and they were not often motivated to complete the journal entries. As such, these students may have benefitted from individual attention when discussing each mindfulness lesson and even providing a review of the mindfulness techniques. Individual attention could also come from the asking of pointed questions to specific students. By frequently eliciting student contributions of their personal experiences with mindfulness, I was able to integrate their ideas, provide praise to them more frequently, and thereby increase engagement (Brophy, 2010). In situations where such individual attention is not possible, students could be given the opportunity to share their experiences in pairs so that they are getting a chance to speak and interact with one another.

Group norms, as with any other group, should also be established. Several students made many inappropriate comments throughout the curriculum lessons. Thus, it may have been helpful to set up the lessons as a group counseling session, where norms are established and can be referenced throughout the duration of the curriculum. Norms and procedures, as many therapeutic groups utilize, can help maintain some order and structure (Greenberg, 2003). This should be done with caution, though; particularly with adolescents, it is important to maintain norms and structure while also creating the perception that the lessons are free-flowing and discussions can be open and honest. In my experience, the ability to share one's experiences and thoughts is an important part of mindfulness, and should not be limited too much.

Neuroscience could also be an important way of engaging students' natural curiosity. For example, Lars appeared to have an interest in the neuroscience behind mindfulness, as he asked several questions regarding neurotransmitters and how they affect the brain and one's sense of well-being. Thus, the mindfulness curriculum could include more of this information, particularly regarding the role of different neurotransmitters and how they work in the brain. Though this was covered briefly, a more in-depth lesson regarding this could be helpful to increase buy-in and engagement from participating students, particularly adolescents and those whose curiosity stems from understanding their brains better. The teaching of neuroscience in mindfulness lessons is common to many mindfulness curricula (Broderick, 2013; Mindful Schools, 2007; Schonert-Reichl & Lawlor, 2010). Salman expressed a similar interest in neuroscience and the effects of mindfulness on the brain, but for a different reason. I noted in my field notes that Salman stated he might want to lay off substance misuse (e.g. drugs) for a while in response to learning the relaxation benefits of mindfulness. Such a comment suggests mindfulness could be taught to adolescents who misuse substances as a way to replace such destructive behaviors, or at least lessen the frequency with which they use. Research has found that mindfulness can contribute to the treatment of substance abuse by countering its very essence; while substance users are attempting to avoid the present moment, mindfulness teaches the acceptance of the present moment without exception (Appel & Kim-Appel, 2009). In the context of the present study, an in-depth discussion of how brain chemistry is affected by drugs compared to how it is affected by mindfulness could be helpful to such a student as Salman. By tailoring the

explanations of the mindfulness techniques to what certain adolescents are specifically seeking, they could be made more applicable.

Making the mindfulness lessons more active and activity-based can also enhance engagement. For instance, having expressed an interest in more activities, and drawing or coloring throughout each lesson, Timothy might have benefitted from a worksheet or handout he could follow along with and perhaps fill out during the duration of each lesson. Timothy did not explicitly state it, but he may have appreciated a way to express his feelings about the curriculum through drawing prompts as opposed to journal prompts. Similarly, Manuel exhibited many distracted behaviors throughout the lessons, and he may have benefited from some type of hands-on manipulative, toy, or handout to keep him occupied so he could remain engaged in the lessons (Holstermann, Grube, & Bèogeholz, 2010; Sadi & Cakirogu, 2011). Further, "fidgets" could also be used to reduce distraction or lesson-oriented handouts could be used to keep the students actively paying attention.

Opportunities for leadership were also demonstrated to be a potentially important part of increasing engagement and generalizing of techniques. Lars, for example, tended to be very engaged in the lesson, often speaking the most out of all the participating students. In response to this engagement, I often called on Lars to share his experiences, which he did so willingly. This often opened up others to share their experiences as well. Lars was also interested in ringing the Tibetan singing bowl at times, and would play with it before or after the lessons. As with any kind of teaching or instruction, it can be helpful to allow students' natural curiosity guide lessons and to give them a sense of ownership over the lessons (e.g. ringing the bowl to start or end the lessons). Jordan's

previous experiences with mindfulness, however, serve as the largest base for potential modification. It appears that Jordan felt the mindfulness curriculum was merely a review for her, and that she was not gaining anything new. Rather than asking her to sit through material she already knew, it may have been helpful to include Jordan in the facilitation of the mindfulness curriculum, giving her more of a leadership role. For instance, I could have had Jordan lead some of the activities when she was present or given her a specific time in each lesson to share her experiences with mindfulness. Even asking Jordan to create a lesson or an activity for an upcoming lesson may have made the curriculum more meaningful to her. Also, having students lead certain activities they are interested in, lead the "mindful minute," or demonstrate the way they practice a technique. This type of "diffused leadership" engages students in the curriculum and makes it more meaningful for them (Smith, 2012). Peer leadership is a well-known way of not only providing students with opportunities to become the expert in a topic, but also serve as a way to empower them through collaborative relationships (Haber, 2011).

Structural elements of teaching these techniques also proved to be critical for some students. As opposed to my simply describing what the students should do, I demonstrated the techniques to them methodically, as is recommended in the curriculum training program I attended (Mindful Schools, 2007). Ranisha, for instance, shared that she benefited from this modeling in learning the techniques. She, thus, felt it was easier for her to practice the technique because of this. This type of modeling was written into the curriculum and is a practice I think all mindfulness curricula should keep, as many students benefit from seeing a model rather than just receiving verbal instructions. Results from data analysis also show that encouragement of personalization should also

be written into the curriculum. Ranisha indicated she benefitted from practicing some of the techniques in her own way. For instance, regarding anchor words, Ranisha stated it was easier for her to say them in her head rather than listening to me say them. Using anchor words is, indeed, a very personal process; the use of anchor words typically parallels breathing patterns and usually uses words that are unique to what a certain person is feeling (e.g. “Angry” “Tired” “Sad”). Therefore, Ranisha’s indication of preferring to use her own words suggests her taking ownership of the technique and making it her own. Such a process is highly encouraged when teaching mindfulness techniques. She, along with the other students, may have benefitted from suggestions in every lesson regarding how she could personalize the technique and make it her own.

To some extent, modifications had to be made ad hoc. It was important for me, as a facilitator, to pay attention to how the students understood the techniques and change my method of teaching to better facilitate their learning. Thus, my own knowledge of mindfulness and firsthand experience in practicing mindfulness was critical in teaching the mindfulness curriculum (Thompson & Gauntlett-Gilbert, 2008). Each student’s experience with the curriculum pointed to subtle modifications that could be included in future mindfulness curricula.

Implications for Research

The U.S. Department of Education (2012) reported that over 420,000 school-aged children (3-21 years of age) qualify for special education services under the category of Emotional/ Behavioral Disorder (EBD). Adolescents with Emotional and Behavioral Disorder display a number of internalizing and externalizing behaviors, which can appear as number of psychiatric diagnoses symptoms, including oppositional defiant disorder,

anxiety, depression, PTSD and conduct disorder (Steiner et al, 2013). Students with EBD diagnoses tend to show a number of behaviors that interfere with typical classroom behavioral functioning and with social functioning (e.g. aggression, impulsivity, poor social skills, etc) (Jack et al., 2004 ; National Center for Special Education Research [NCSER], 2006 ; Seidman, 2005). Approximately 12-13% of school-aged children within the U.S. have at least moderate Emotional/ Behavioral Disorder symptoms (Forness et al., 2011; Merikangas et al., 2010). Long-term negative outcomes have been associated with these symptoms of EBD if they remain untreated, such as academic failure, poor social and personal relationships, low social support, incarceration, substance abuse, and even suicide (Jack et al., 2004; Wagner, 1991.) Such school-aged children and adolescents presenting with these challenging emotional and behavioral problems may not benefit from the more traditional interventions typically utilized in schools (Smith et al., 2011). Mindfulness has been studied at great length in the past few decades, and these studies suggest that mindfulness may positively impact the emotional and behavioral regulation of children and adolescents [Collard, Avny & Boniwell, 2008; Greeson, 2009; van de Weijer-Bergsma, et al., 2012; White, 2012]. The general benefits of mindfulness include the ability to cultivate a positive state of mind, better quality of life, and reduce emotional distress. Mindfulness has been shown to have a salutary influence on the brain, automatic nervous system, stress hormones, immune system, and health behaviors (e.g. eating, sleeping, and substance use) (Greeson, 2009). Emotional identification skills are critical to social support and emotional experiences, particularly with adolescents with whom low EIS skills tended to correlate with decreased social support and more negative emotional experiences than those with higher EIS, indicating EIS is related to the quality

of an adolescent's social support system (Ciarrochi, Heaven, & Supavadeeprasit, 2008). Mindfulness works to address all of these areas, including enhancing emotional identification skills, cultivating a positive state of mind, reducing emotional distress, and improving behavioral regulation skills as well as attention.

In this study, the effects of a mindfulness curriculum on six adolescents with Emotional/ Behavioral disorder, as well as their experiences throughout the curriculum, were examined through a mixed methods design. The positive effects the mindfulness curriculum had on the participants parallel many studies that have been completed in the recent past. The student participants in this study experienced an increase in their subjective feelings of well-being, at least during the duration of the mindfulness lessons. Many researchers have found a link between mindfulness and the subjective well being of individuals. Ciarocchi and colleagues (2011) found that Acting with Awareness, emotional awareness, and acceptance of one's experiences tended to predict prosocial tendencies and increases in well-being over the course of a year for a group of tenth grade students. Collard, Avny, and Boniwell (2008), implementing an eight-week mindfulness-based cognitive therapy program, found that Subjective Well Being, comprised of affect and satisfaction with life, increased significantly for their participants. In Mitmansgruber, et al.'s (2009) study, the authors found a salutary effect in having an acceptance stance toward one's own emotions and confirmed the effect of self-compassion on one's well-being. Awareness and Acceptance, thus, appear to be critical components of adolescent well-being. In fact, Christopher and Gilbert (2010) conclude that acceptance of the present moment is essential to the treatment of depression, as well as prevention of relapse. Nonjudging, another factor found to change frequently within the present study,

has also been identified as correlated with positive outcomes. Acceptance without Judgment (also called "Nonjudging") was found to be predictive of psychological distress relative to the other facets of the FFMQ (Baer et al, 2006), which supports the essential operationalization of mindfulness as acceptance of present experience (Kabat-Zinn, 1994; Christopher & Gilbert, 2010).

Further, mindfulness research also points to the ability of these techniques to increase awareness in children and adolescents, even of their own behaviors and tendencies. Singh and colleagues (2007) demonstrated how three adolescents with aggressive behaviors could actually become more mindful of their aggressive behaviors and thus better regulate and decrease them over time. All of the students in the present study indicated their level of awareness, and to a slightly lesser extent acceptance, had increased through the practice of mindfulness, and that they viewed such a shift as a mostly positive change. Not only were they better able to observe and describe their emotions, in many cases they noted their reactionary tendencies, a critical part of behavioral self-regulation. On the other hand, students Observing scores tended to vary in terms of how they changed. Interestingly, other researchers have found similar confounding effects with the Observe category. For example, Ciarrochi and colleagues (2011) found that Observing tendencies were not predictive of well-being, and were in fact associated with both positive and negative aspects of personality. Pepping, O'Donovan, and Davis (2013) also found that Observing was not related to positive movement in self-esteem, though Nonjudging, Describing, and Acting with Awareness were found to be. Such research demonstrates that facets of mindfulness are not always indicate of positive feelings within an individual. Particularly, changes in Observing may

not need to be given as much weight as other facets such as Nonjudging or Acting with Awareness.

While academics were not measured in this study, evidence points to the ability of the students in the present study to utilize mindfulness techniques when studying, listening to lectures in class, or calming down before taking a test. Roberts and DeMatteo (2012) discuss the benefits of bringing mindfulness into the classroom:

> The development of a mindful classroom begins with a foundation focused on positive and meaningful student-teacher interactions. Such an interaction encourages the student to feel confident in attempting new activities, find relevance and personal interest, consider multiple methods to meet a goal, and utilize prior knowledge to solve new problems (p. 181)

Rosaen and Benn (2006) provide an overview of studies examining this link between increased emotional competence and improved academic performance. Semple, Reid and Miller (2005) found increases in academic performance and decreases in teacher-reported difficult behaviors with 7- and 8- year olds after a six-week mindfulness training program. Napoli, Krech, and Holley (2005) similarly utilized a program combining mindfulness and relaxation with 194 first to third grade children with high levels of anxiety. As a result of the training program, the children in the study showed significant increases in selective attention and decreases in test anxiety and their ADHD-symptomatic behaviors. Students in the present study made qualitative connections between mindfulness practices and academics, particularly related to paying attention in class and calming down before and during tests.

Interestingly, but not surprisingly, certain techniques spoke more to the students than others, such as mindful breathing, anchor words, and sending kind thoughts. This is similar to the findings of Kerrigan and colleagues (2011), who found that the adolescents

in their study tended to struggle with more formal mindfulness methods, and had preference for certain techniques over others. The practice of mindfulness can be highly individual and personal. Thus, the selection of certain techniques over others by the participating students can be interpreted as a positive way of making the mindfulness practices their own. This individualization is supported by the findings of my study, specifically the adjustments to curriculum that can be made based on student interest, as mentioned in the previous section.

The link between mindfulness and social emotional learning is a growing one. Not only do mindfulness programs and curricula teach students about gratitude, compassion, and generosity, they also learn ways to regulate their emotions and their behaviors with peers and adults. According to CASEL (2011):

> SEL teaches the skills we need to handle our relationships, our work, and ourselves effectively and ethically. These skills include recognizing and managing our emotions, developing caring concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively and ethically.

In one study conducted by Kerrigan and colleagues (2011), ten out of 59 urban youth participated in the qualitative portion of a larger quantitative study. Using semi-structured interviews as the primary source of qualitative data, as well as content analysis to making meaning, the researchers revealed the students' experiences with mindfulness and the way they changed as a result of mindfulness. Experiences and reactions to the MBSR program by the youth included feeling more aware and connected to themselves, and recognizing the benefit of the techniques as an "as-needed" recourse rather than a routine or steady practice. In a more extreme setting, with self-injurious adolescents, Williams (2010) discusses her utilization of mindfulness to help such students cope in more

positive ways. Williams utilized core ideas of Gestalt theory along with certain DBT principles and techniques, such as awareness, mindfulness, and acceptance in an integrated manner to improve the outcomes of her adolescent patients exhibiting self-injurious behaviors. This work was done in an intensive manner, over a long period of time. Nevertheless, it speaks to the application of mindfulness techniques in psychotherapy and with adolescent individuals displaying more extreme behaviors. Burke and Hawkins (2012) advocate for the use of mindfulness in social-emotional learning, describing it as "the most sound" educational tool they have encountered for increasing academic achievement and social-emotional learning in students (p. 36). They further connect mindfulness to the movements in education for character development and critical thinking, proffering mindfulness as a way to achieve all of these apparently disparate efforts. In the present study, most of the student participants indicated mindfulness had helped them process a certain emotion or pause before reacting in a difficult situation. For those students who were not able to generalize the techniques as well, they still indicated they would like to use mindfulness techniques to handle difficult situations better and recognized the techniques as being able to help them in the long-term. Such practices adopted by these students highlight the link between mindfulness and social emotional learning.

Similarly, stress relief and the ability to relax without the use of substances was another major area of benefit for the student participants. In Wall's (2005) study, combining MBSR with Tai Chi practices to use with 11 nonclinical, children (ages 11–13 years), he found that participants reported increases in well-being, which includes calmness and relaxation, as well as greater self-care tendencies (e.g., improved sleep and

concentration), greater self-awareness, and fewer, less-intense emotional and behavioral reaction tendencies. Anxiety and stress are, in fact, symptom constellations that are most positively impacted by mindfulness [Napoli, Krech, & Holley, 2005; Boden, Fergusson, & Horwood, 2008; Wisner, Jones, & Gwin, 2010]. In the present study, many students indicated that practicing the mindfulness techniques increased their ability to relax and provided stress relief. Bootzin and Stevens (2005) examined the effects of an integrated mindfulness-based program with adolescent substance abusers, ranging from 13 to 19 years, and found that the six-session intervention improved sleep as well as reduced worry and other forms of mental health distress. In the present study, one student shared in a particularly noteworthy observational comment: mindfulness allowed him to relax in a way that was comparable to his use of drugs. This observation prompted him to consider decreasing his use of drugs. In this case, as in the other examples given above, the students appear to have generalized the use of the techniques to their own life. While they may struggle to actually practice the techniques in a preventative way, the seed has been planted in their minds that there is another way to respond to difficult situations and another way to process one's emotions.

Variability in responses is also not uncommon with smaller, mixed method and qualitative studies. In the present study, participants' responses to the curriculum varied a great deal based on personality traits, environmental and history-related factors, as well as measurement bias. In a study completed by Hartnett and Carr (2013), the authors examined the effects of a mindfulness-based exercise aimed to improve participants' ability to let go of anxious self-statements. The study found that participants' ability to let go of such statements did not decrease at the end of the program. There were several

confounding factors, mentioned by the authors, which may have contributed to these effects. However, this study speaks to the possibility of variable responses in mindfulness-based programs, as well as the importance of certain structural influences of mindfulness programs that likely contribute to their success. For instance, presence of the instructor, sequence of techniques taught, and brevity of teaching appear to have influenced the outcome of this study. In yet another study, completed by Kerrigan and her colleagues (2011), great variability in mixed method response was identified by the researchers. However, the researchers were still able to glean an overall positive response to a mindfulness curriculum despite this variability. Similarly, in the present study, though data was at times conflicting, the overwhelming response to the curriculum appeared positive, particularly from a qualitative lens. Thompson and Gauntlett-Gilbert (2008) note that progress in learning mindfulness can be measured through the students' qualitative and subjective experiences, but also their application of the techniques to their own lives. In the present study and in the study completed by Kerrigan and colleagues (2011), the abundance of positive, qualitative experiences demonstrate an overall positive effect of the mindfulness curriculum despite ambivalent quantitative findings.

The present study advocates for a more intense mindfulness curriculum than the one utilized, in terms of frequency and duration of lessons, due to the limited quantitative effects seen within the participating students. Though qualitative data showed that the students in the study found mindfulness skills to be valuable and applicable to their lives, research has shown that duration and frequency of mindfulness instruction increases the generalizability of practice (Langer, 2000; Thompson & Gauntlett-Gilbert, 2008). Thus, those who receive mindfulness training, even for brief periods of time, multiple times a

week tend to become better practitioners of mindfulness (Broderick & Metz, 2009; Kabat-Zinn et al, 1998). Research points to the need of increased frequency and duration of practice of mindfulness to fully absorb and generalize the techniques and benefits (Zeidan et al, 2010; Greeson, 2009; Hartnett & Carr, 2013). Particularly for students who have difficulty with emotional and behavioral regulation, sixteen short lessons spread over eight weeks was not enough to make a significant, observable change within the students. This limitation has been observed in other studies (Kerrigan et al., 2011). There are already many curricula, programs, and schools that utilize such a comprehensive approach, and with terrific results. The Inner Kids Program (Flook et al, 2010), Inner Resilience Program (Metis Associates, 2011), Learning to BREATHE (Broderick & Metz, 2009), Mindfulness in Schools Project (Huppert & Johnson, 2010), Mindful Schools (Liehr & Diaz, 2010), MindUP (Schonert- Reichl & Lawlor, 2010), Still Quiet Place (Saltzman & Goldin, 2008), and Stress Teens (Biegel et al, 2009) are some of the major, peer-reviewed, mindfulness-based curricula created or adapted for children and/or adolescents. All have noteworthy elements and while are able to reach a broad, nonclinical sample, others are better suited for children and adolescents with particular behavioral or emotional management needs. In the present study, which utilized the Mindful Schools curriculum, the low intensity of the mindfulness intervention likely limited the potential benefits the students received.

Nevertheless, in this study the students indicated the belief that mindfulness techniques could help them, and indeed had already helped some of them, thus substantiating other studies on the potential benefits of mindfulness. They expressed a desire to learn more and found ways of connecting the lessons to their own lives in

profound ways. As in other similar studies, the students in this study described increased feelings of calmness, relaxation, and well-being, as well as increased awareness and a greater ability to recognize emotions as they come up, and find space to pause before reacting. Other studies have found similar effects in mindfulness trainings that are briefer than the one presently used in this study (Zeidan et al., 2010). Nevertheless, future studies should consider the population with which they are working when determining how to adjust frequency and duration of mindfulness programs.

Implications for School Psychology Practitioners

School psychologists are increasingly seeing the potential for mindfulness as an element of social-emotional learning in schools (Burke & Hawkins, 2012; Davis, 2012). As confirmed in this study, the extensive potential benefits of mindfulness can be used with a wide range of students with different challenges and needs. In learning more about mindfulness and the possible skills it may teach, many school psychology practitioners may wonder how to move forward with implementing such a curriculum or integrating mindfulness into their school structure and culture.

Within the field of school psychology, there are multiple avenues for applying the ideas presented within this paper. School psychologists can advocate to implement mindfulness-based interventions, such as those geared toward students with anger, emotional and behavioral disorders, ADHD, externalizing disorders, depression, and self-esteem issues [Broderick & Jennings (2013); Burke & Hawkins (2012); Semple, Lee, Rosa & Miller (2010)]. Practitioners could bring mindfulness into individual or group counseling as a way to support students and teach them self-empowerment and social-emotional skills (Tadlock-Marlo, 2011).

As mindfulness was associated with positive benefits for students with Emotional-Behavioral disorders, similar populations have been studied with regards to the use of mindfulness, such as children and adolescents with ADHD, urban youth, and youth with emotional and behavioral disorders [van der Oord et al, 2012; van der Weijer-Bergsma, et al 2012; Steiner et al, 2013; Kerrigan et al, 2011.] In all of these, mindfulness techniques were shown to have a positive effect on participants, whether by means of increasing positive symptomatology or decreasing negative symptomatology. Not to mention, mindfulness also has uses in nutrition programs through the practice of mindful eating, and can be applied even to clinical medical disorders such as Prader-Willi syndrome. In a study conducted by Singh and colleagues (2011), adolescents with Prader-Willi Syndrome were able to reduce their BMI and maintain a healthier lifestyle with the addition of a mindfulness-based health wellness program. This program focused on five key areas of health and wellness: daily exercise, food awareness program, mindful eating, visualizing and labeling hunger, and "meditating on the soles of the feet" (Singh et al, 2003). Results from this study were astounding in that all three participants were able to reduce their weight by a great degree and maintain their new weight in the face of a disorder characterized by insatiety and chronic overeating. Indeed, in the present study, one student spontaneously mentioned the use of mindfulness as a way to prevent over-eating.

Students with EBD are likely able to benefit from mindfulness-based techniques, or contemplative practices (Garrison Institute, 2005), to better regulate their behavior, which would complement other research-based techniques employed in their school programming (Solar, 2013). Solar (2013) advocates for the use of the PEACE model

(Saltzman, n.d.) in therapeutic environments for students with EBD. The PEACE model consists of five phases: Pause, Exhale, Acknowledge, Choose, Engage. Interestingly, the student is encouraged to audibly exhale as part of the process. Also, Solar states that the "choose" phase of this process could last from a few minutes to a few weeks. Mindfulness can be tied in to a variety of school-based SEL programs. In the PEACE model, mindfulness can be directly utilized in the first three phases (e.g. Pause, Exhale, Acknowledge) by providing students with the specific skills they need to be able to engage in these larger phases. In the present study, many of the participating students engaged these skills, particularly when projecting how mindfulness could be useful in their own lives. For instance, several students discussed how mindful breathing could help calm them down in a difficult situation so that they were better able to respond in a healthy way.

Going beyond targeted intervention for struggling students, school psychologists can bring mindfulness into their schools as the basis for social-emotional learning. By discussing self-regulation, compassion toward others, and awareness of oneself, schools can bring principles of mindfulness into pre-existing curricula or even create a new curriculum geared toward mindful attitudes and techniques. One school in Dallas, Texas has adopted just such an approach by making mindfulness an essential part of the school, classroom, and individual culture. Utilizing the MindUP curriculum from the Hawn Foundation, this school has embedded principles of neuroscience and mindfulness 'lingo,' so to speak, into nearly every component of their school day, including the staff interactions and collaborations with family and community members.

School psychologists can similarly work with school staff to create a school culture built on principles of mindfulness. Felver and colleagues (2013) outlined several ways mindfulness could be incorporated by school psychologists within the school setting. Using the Three-Tiered framework of prevention and intervention, the authors reviewed several common mindfulness-based programs and curricula that could be used at each tier (e.g. universal, targeted, and intensive). To be more specific, though, mindfulness techniques and principles can be integrated at the individual, class, and school-wide level. At the classroom level, school psychologists can act as consultants regarding the integration of mindfulness techniques and principles. For instance, teachers can be trained in the neuroscience related to mindfulness and train their students, in turn, creating a shared verbiage for these concepts. Teachers can incorporate mindfulness techniques into their classroom management and discipline systems, as well as their daily schedule (e.g. taking a mindful minute at the start and end of each day and doing a body scan before and after lunch. Not to mention, concepts related to mindfulness can be integrated into academic curriculum, particularly within science. Burke and Hawkins (2012) provide a beautiful overview of this connection:

> "Education should inspire this self-awareness and mindfulness practice can help students advance towards this goal. It can be as simple as incorporating focused breathing and body awareness exercises, moments of stillness, and even listening exercises into the classroom. Mindfulness practice can also take the form of a more formalized curriculum of specific class lessons. Mindfulness is the basis of a more conscious education where the needs of the whole human are integrated into the curriculum" (p. 37).

This remains true for students with more challenging emotional and behavioral difficulties, such as the participants in the present study.

Beyond teaching students, school psychologists can also lead mindfulness-related trainings for teachers and parents. Extensive research points to the positive effects teacher and parent mindful behavior has *on children.* As found in this study and in countless other studies on human behavior, humans learn well through the process of modeling. Research in the field of mindfulness emphasizes the importance of a home practice of mindfulness for those teaching these skills. Authenticity is key in teaching, but is supported by ubiquity. Thus, educators incorporating mindfulness should not only teach these skills to the students in their own class, but should attempt to involve other teachers and students.

Where possible, teaching families about mindfulness can also be an important way to change the dynamic of students' behavior. Cohen and Semple (2010) indicate that the mindfulness of parents and other important adult figures can trickle down to their students. The best-case scenario might be a whole school community that adopts principles of mindfulness into their school culture, and even in their discipline policies. In such a scenario, teachers, parents, and students reinforce each other in practicing mindful skills and encourage alternative, mindful responses to difficult situations. As van der Oord and colleagues (2012) suggest:

> "For generalization of the learned skills to the school environment in may be crucial to actively inform teachers on mindfulness and how to support the child in application of learned skills to the school environment." (p. 145)

For instance, Gold and colleagues (2010) advocate for the use of mindfulness-based stress reduction techniques with primary school teachers to reduce teacher stress and burnout. In this study, the practice of MBSR was found to decrease teacher levels of anxiety, depression, and stress. Jennings and Greenberg (2009) presents a model for a

prosocial classroom based on the effect of teachers' social emotional competence (SEC) on the well-being and maintenance of positive, supportive, student-teacher relationships, effective classroom management, and effective implementation of social emotional learning programs. The authors advocate for, and this study concurs with, the increased support of teachers' social and emotional competence as a way to reduce teacher stress and burnout, as well as provide positive models for children who are still learning SEC skills.

Though the present study does not explore the impact of mindfulness on teachers, the students themselves frequently noted the positive impact mindfulness could have on others within their school and on adults in general. Duncan, Coatsworth and Greenberg (2009) similarly found that mindfulness can be extended to parenting practices, such that of at-risk students receiving multiple levels of intervention. In this study, a mindfulness-based family prevention program improved outcomes for adolescents and their families. Parents reported greater emotional regulation and improved ability to cope with stress within the family context. As a result, Duncan and colleagues advocate for such mindful parenting techniques and concepts such as listening with full attention, emotional awareness of self and child, nonjudgmental acceptance of self and child, self-regulation in the parenting relationship, and compassion for self and child. Such interventions aimed at improving the ecological structure of a student's behavioral and emotional well-being appear to create some of the best outcomes for students, as they are receiving similar messages and seeing similar techniques modeled around them as they are being taught.

For students with Emotional and Behavioral Disorder, practitioners should keep several important ideas derived from this study in mind. First and foremost, practitioners

must ensure that frequency and duration of mindfulness interventions and programming are increased for students with Emotional and Behavioral Disorder. While benefits may be seen in the short-term, continual practice is critical for long-term adoption of these skills. Further, practitioners should take care not only to maintain authenticity in terms of mindfulness practice, but also in terms of connecting with students. From my own experience in working with these students, it was critical for me to remain honest, self-disclose when appropriate, and maintain a sincere positive regard when interacting with the students. Curricula and programs can be adapted to match the behavioral support structures already in place for students with EBD; in the present study, the mindfulness lessons were purposefully not connected to the behavioral point-level system to decrease the effect of an external motivator of the students on the data. However, in practice, school psychologists could connect these two elements to provide greater structure to the mindfulness lessons. Finally, care should be taken to ensure that the lessons meet the specific needs and interests of the students, as mentioned before. Though standardization of an intervention is useful for research purposes, individualization and differentiation of an intervention can be critical for the success of an intervention for practitioners.

Practitioners are also encouraged to use mindfulness with other specific populations and collect data to contribute to the growing research base. When adapting for other specific populations, it is important for practitioners to note the unique needs and challenges of those students and ensure the curriculum is addressing these. For instance, with a population of students with ADHD, the focus may be placed more on self-calming strategies such as mindful breathing and mindful listening. Such techniques

could be taught as part of a mindfulness curriculum or could be integrated into another SEL intervention, such as an ADHD support group for students incorporating principles of cognitive-behavioral therapy (Semple, Lee, Rosa & Miller, 2010; Sinha & Kumar, 2010; Collard, Avny & Boniwell, 2008). Students with Autism Spectrum Disorder, particularly those that are high-functioning, may benefit from mindfulness instruction that focuses on emotionality and reciprocation of social interactions. In these examples, and with any other population, the mindfulness techniques taught do not change. Rather, the emphasis of certain techniques over others may be appropriate, as well as the framework in which the techniques are taught. As mentioned previously, the techniques may be taught as part of a set curriculum, similar to the one used in the present study, or they may be incorporated into other counseling and therapeutic preventative or intervention efforts.

Practitioners should also keep in mind the social justice aspects of mindfulness, and any SEL-related curriculum. Social justice in SEL means that children everywhere are learning similar messages of empowerment, similar tools for coping and growing, and similar ways of connecting positively with their environment. Mindfulness, in my opinion, is a wonderful example of such a tool. Though there are formal curricula educators can be trained in, the ability to be mindful is something all of us possess and can therefore teach. There are innumerable free and cost-efficient tutorials available online and through libraries. Many mindfulness-focused educational nonprofits, such as Mindful Schools offer scholarships for their training opportunities so that educators in low-income areas can equitably learn and teach principles of mindfulness. The basic ability to breathe and be aware of one's breath is not something that can be bought or

sold, and something that all children are entitled to and can benefit from.

Similarly, mindfulness curriculum easily lends itself to modification based on the student population's particular challenges and needs. A manuscript currently in preparation, written by Desai, Reker, Persaud, and Karahalios, speaks to the social-justice-related modifications and adjustments that can be made to an SEL curriculum such as mindfulness by school psychology practitioners. Specifically, they discuss the importance of choosing SEL curricula that are accessible, cost-efficient, adaptable, culturally sensitive and responsive, equitable in the messages they purvey, connected to standards, and tested with a wide range of groups from diverse backgrounds. While this does not guarantee outcomes for students, as with any mindfulness or SEL curriculum, it does ensure that social justice concerns are accounted for in choosing and delivering a mindfulness curriculum.

Strengths and Limitations

This study had many strengths regarding design and structure, as well as data analysis. This study utilized a case study design, which allowed for an in-depth look at individual student participants and provide rich descriptions of their experiences. Not only was this study able to use students' reports through qualitative and quantitative measures, it also incorporated incorporate the students' backgrounds, history, tendencies, and the immediate environment of the lessons to paint a full picture as to why they may have responded to the curriculum the way they did. Case studies are generally touted for the depth of information they provide (Creswell, 2009) regarding a particular topic or person. This study essentially conducted six, in-depth, mini-case studies and then tied them together to create multiple levels of analysis and interpretation. Further, this study

utilized a mixed methods framework, which allowed for a variety of data sources to be used.

Qualitatively, semi-structured interviews and individualized evaluations were utilized, as well as journals were also used to get immediate reactions to each lesson and make adjustments as needed. Quantitative information came from multiple sources such as behavior tracking data conducted by an objective third party and two valid and reliable measures of mindfulness. This design matched the research questions well. By pulling information from a range of sources, I was able to adequately answer the three questions I posed to guide my research. Triangulation, conducted at the level of interpretation, allowed the data to be integrated in a way that made meaning of the students' experiences and the effects of the curriculum. Further, reliable methods were used for coding and data analysis. I followed a content analysis method of analyzing my qualitative data (Elo & Kynga, 2008; Kerrigan et al., 2011.) Codebooks I developed in the data analysis process achieved inter-rater reliability ranging from 84 to 87%. I also used regularly utilized means of calculating other quantitative data, including score averages, differences between scores, and numerical comparisons. Further, the curriculum itself, from Mindful Schools, is research-based and parallels most eight-week mindfulness curricula. My own knowledge and practice of mindfulness was also a strength, in that research indicates facilitators of mindfulness curricula should be mindfulness practitioners themselves. Felver and colleagues recommend, based on research in the field, that any school psychologist wishing to integrate mindfulness practices have some personal practice of the techniques and some level of competence. This corroborates the opinion of several important voices in this research field [Epstein, 2003; Kabat-Zinn, 2003; Kostanski &

Hassed, 2008; Krasner, 2004; Thompson & Gauntlett-Gilbert 2008,] who indicate personal practice is essential for any facilitator or teacher of mindfulness practices. Within my study, I was able to answer questions about mindfulness from the students as they came up and improvise with the teaching of the material as was necessary to help the students understand different concepts.

There were also a number of limitations in my study. The most important one, I believe, is regarding the measures' validity with youth populations and sensitivity to change. The measures used in this study, the CAMM, FFMQ, and point-level system data were not validated for all youth populations, though the CAMM and FFMQ have been found to be reliable measures of mindfulness by the authors and peer reviews and show construct validity. Information regarding sensitivity to change was not reported in the original research for each measure, but each measure was utilized with the assumption that change in one's mindfulness score would be apparent with the questionnaires. However, change was difficult to measure and it was unclear how accurate the mindfulness scores were. This is partially due to the effects of self-report bias. In many cases, the students' scores decreased from Phase 1 to Phase 3, but this could have been a result of bias in their self-reports. Students did not know much about mindfulness in Phase 1, so for instance, a student may have endorsed items that painted himself in the best light or over-reported his actual levels of mindfulness. At the end of the curriculum, knowing much more about mindfulness and having an increased self-knowledge, he may have reported his scores more accurately in Phase 3, resulting in an apparent decrease. Thus, the very nature of the self-report questionnaires opens the resultant scores up to interpretation and some doubt.

History also may have significantly impacted the students' mindfulness scores. For instance, one student filled out the questionnaires in a time where he was greatly agitated due to unrelated circumstances. However, the time had been allotted for him to complete the measures and it is possible he either did not answer accurately or answered in a rapid, rushed manner that may have rendered his endorsements invalid. This was not possible to determine, however, and the mindfulness measures do not include a validity scale with which to account for some of these effects. Thus, it is impossible to know the accuracy of the students' mindfulness scores. The scores were likely influenced by factors such as mood, level of self-esteem, experiences on the day students took the questionnaire, time of day, school events that cause a disruption to daily activities and environmental factors (e.g. a peer talking to them or fighting in the hallway), or state (e.g. boredom, excitement, fatigue).

Threats from maturation may include within-subject effects such as fatigue or negativity toward the curriculum. These potential effects were discussed for each individual student, as well as at the group level. Selection bias is a threat given the non-random method of choosing participants. However, as the students in the present study are from the same school, and roughly the same age (high school adolescents), the effects of these should be limited.

Further, the study was also limited by the low level of intervention. As mentioned previously, mindfulness programs tend to be most effective with more continuous practice, either through extending the duration of the curriculum over time or increasing the frequency with which the lessons are delivered. Such adjustments were not possible in this study due to constraints at the partnering school. Scheduling conflicts and the

school's desire to limit deviation from the normal school day for the participants led to pre-established times for me to come in to deliver the curriculum. All activities had to be conducted within this pre-established time, and so extending the mindfulness practice into other parts of the day became difficult.

A final limitation is that the present study only looks at a few students who have a diagnosis of Emotional Behavioral Disorder; thus, the results may not be generalizeable to other populations. The participants in this study were not chosen as part of a simple random sampling method, but as part of a convenience sample in a purposive manner. Further studies would need to be conducted with populations that have different characteristics. Nevertheless, care was taken in the data analysis and interpretation to maximize the generalizability to similar populations, as well as how findings could be adapted to apply to other populations and school settings.

Despite these limitations, my findings demonstrate the critical nature of qualitative and mixed methods research in helping to understand how mindfulness techniques and practices are experienced, understood, and applied by adolescents with Emotional and Behavioral Disorder. Understanding their individual aspirations, difficulties, and successes lends a new light to the applicability and utility of mindfulness practices.

Future Directions

The volume of mindfulness-related studies continues to grow, particularly within the realm of education and psychology. My next steps within this study are to follow-up with the teachers at Washington School. While immediate and short-term feedback from each student was collected, the long-term effects of the mindfulness curriculum on these

students have yet to be measured. For instance, it would be important to collect data regarding the students' current levels on the point-level system and whether or not they still attend Washington School. It would further be critical to ask teachers what, if any, changes they saw in the students after the mindfulness curriculum had been completed for some time. This would help gauge the long-term effects of the mindfulness curriculum on students with Emotional and Behavioral Disorders. Further, I would be curious to hear from the teachers and the school staff about their openness and willingness to learn mindfulness techniques themselves and incorporate them into their individual classrooms.

For this field of inquiry, in general, more research is needed. Not only is there a need for large scale, simple random sample studies with control groups, but also qualitative studies to capture the elements of learning mindfulness quantitative data may not catch. In response to the validity concerns about the measures, I believe more sensitive mindfulness measures should be developed, possibly incorporating the input of a parent or teacher so that the measures do not rely on self-report alone. This study was limited in its scope, but I believe it is important to see how different student and/or disability groups respond to mindfulness. For instance, studies aimed at examining the effects of mindfulness on students with Anxiety, ADHD, or Autism would be extremely useful for practitioners. It would also be helpful to develop a research base dedicated to understanding how mindfulness behaviors and techniques should change with age and population.

It would also be very helpful to understand how mindfulness techniques could be integrated into other curricula, both academic and social-emotional. As mentioned before,

frequency and duration of mindfulness practice tends to increase generalizability and positive effects in students. Thus, if principles and techniques of mindfulness were woven into academic lessons and discipline policies, mindfulness could be a part of the fabric of school culture. Teachers can utilize mindfulness themselves for a two-fold purpose. Meilkejohn and colleagues (2012) provide a review of several mindfulness-based health and wellness curricula aimed not only at improving student outcomes, but also addressing the stress and burnout rates of teachers. Thus, it is clear mindfulness should not be aimed just at students within the school community; it would be useful to integrate student and teacher mindfulness programs, so that the inner resilience and emotional competency of teachers is increased and serves as a model to students, as mentioned before (Meilkejohn et al., 2012). Further, mindfulness can be incorporated into alternative discipline efforts, such as Restorative Justice (Umbreit, Coates, Vos, 2007). More research is needed to understand how this can happen, and case studies can be particularly helpful in elucidating these efforts.

On a broader level, I concur with Meilkejohn and colleagues (2012), who propose several suggestions for future directions in the research and application of mindfulness. Practitioners and educators who are implementing mindfulness programs, as well as other stakeholders, should publish their findings and should integrate research into their programs. As mindfulness skills and the benefits from practice increase incrementally with sustained practice, longer experimental trials should be conducted to gauge the extent of these benefits. As I mentioned before, researchers and practitioners should conduct interventions targeting specific groups and populations; however, it is equally important to conduct studies using mindfulness as a universal, preventative measure (e.g.

school- or district-wide). More and more educational leaders are becoming interested in mindfulness as an SEL tool, and thus it is important for future research to better define the relationship between mindfulness skills and important educational outcomes such as academic achievement, social competency, emotional and attentional self-regulation, and classroom behavior (Meilkejohn et al, 2012). The present study agrees with these suggestions for future research in the field of mindfulness. These ideas, as well as the other ideas listed above, work to ensure that schools are making mindfulness, resiliency, and social-emotional competence a community effort, not just an individual staff or student effort.

Conclusion

As with most research, there is always more to study or more sides to examine. In this study, I aimed to understand the experiences of adolescents with emotional and behavioral disorder in response to an eight-week mindfulness curriculum. I also sought to measure the effects of the curriculum on the students and outline ways in which the curriculum should be modified for varying needs. While actual effects were mixed for each student, their response to and experience with the mindfulness curriculum was resoundingly positive. This points to the increasing use of mindfulness as a tool to teach our students about emotional and behavioral regulation, self- awareness, and social-emotional skills such as gratitude and compassion. Though mindfulness curricula can certainly be honed to meet the needs of different student populations, it is clear the mindfulness movement we are seeing in the United States should continue, and schools should open their doors to such programs that encourage values beyond academic and social success.

Education should awaken the capacity to be self-aware. Life's pain, joy, beauty, love and ugliness need to be understood as a whole. The highest function of education is to bring about an integrated individual who is capable of dealing with life as a whole.
~ J. Krishnamurti

APPENDIX A

MINDFULNESS CURRICULUM

The Mindful School Curriculum for K- 5 (2007) is copyrighted and cannot be shared through this study. For more information, or to acquire a copy of the Mindful Schools curriculum, please visit:

Mindful Schools
1260 45th Street, Suite B
Emeryville, CA 94608
(510) 858-5350
www.mindfulschools.org

APPENDIX B

PARENT NOTIFICATION LETTER/PASSIVE CONSENT FORM

Dear Parent,

This letter is to inform you about the start of a new classroom behavior intervention in your student's class. The intervention is based on the principle of mindfulness, and teaches students how better to pay attention to themselves and their surroundings. Research shows interventions using mindfulness lead to better attention, focus, emotional and behavioral regulation, and even increased feelings of well-being. All of these benefits contribute to the academic and social/ emotional success of students, which tend to increase with the teaching and practice of mindfulness.

Mindfulness is a set of breathing exercises and techniques, with accompanying lessons about how to be more mindful, or pay attention more, to everyday occurrences. Mindfulness teaches students to observe their own bodies, thoughts, feelings, as well as the things that are going on around them. A modified version of the Mindful Schools (www.mindfulschools.org) curriculum will be used to teach the students mindfulness. The researcher, who will be delivering the curriculum, has been trained in this curriculum and is able to teach it to children and adolescents.

The mindfulness curriculum will be taught twice a week for 8 weeks during your student's PE/ health class. Each lesson is approximately 15-20 minutes long. The researcher will be collecting information before, during, and after the intervention. Before and after the intervention, students will be individually interviewed on school premises regarding their experiences with the curriculum. Further, they will be asked to fill out two short questionnaires regarding their mindfulness skills learned (before and after). During the intervention, after each lesson, they will be asked to answer brief questions regarding the lesson in a notebook provided by the researcher. These journals will be used to help the researcher make the curriculum more interesting for the students, and will be part of the data collected. All data will be gathered to ascertain the effectiveness of the mindfulness intervention for a doctoral dissertation. No identifiable information will be gathered on your child. There are no known consequences to learning mindfulness techniques.

You have the right to decline your child's participation in this project by contacting the child's teacher or the researcher. However, please keep in mind that the purpose of the research is to evaluate the effect of the mindfulness intervention on the student, and the whole class will be participating. You will have exactly two weeks to decline to participate in the research. Please contact your child's teacher or the researcher by (Month) (Day), (Year) if you DO NOT want your child to participate. If the teacher or the researcher does not hear from you by (Month) (Day), (Year), then passive consent will be

implied. Passive consent assumes that your consent is given unless contact is made with the researcher or the teacher.

If you have any questions about this intervention or would like to decline the participation of your child, you may also contact the researcher, Poonam Desai, at poonamsdesai@gmail.com or (214) 636-1658.

Kind Regards,

Poonam Desai
Researcher
Doctoral Candidate in School Psychology
Loyola University Chicago

APPENDIX C

PARENTAL CONSENT FORM

Parent/Guardian Informed Consent Agreement

Please read this consent agreement carefully before you decide to participate in the study.

This form MUST be returned to your child's teacher.

Purpose of the research study: The purpose of the study is to examine the effects of a mindfulness curriculum on adolescents who have an Emotional/ Behavioral Disorder.

What your child will do in the study: As part of this study, your child will be participating in a mindfulness curriculum in his/her PE class twice a week for 8 weeks. Further, he/she will be asked to participate in an interview before and after the mindfulness curriculum. These interviews will be used to understand how your child typically responds to stress and daily events, and then how they perceive mindfulness could help them, if at all. These interviews will be audio-taped for research purposes *only*, so they can be transcribed. Your child can skip any question that makes them uncomfortable and they can stop the interviews at any time. The mindfulness curriculum will be delivered as part of your child's PE class. However, some instructional time (approximately 20 minutes) will be used when interviews are being completed. If you do not want your child to participate in the study, he/she will be given academic work to do in a separate room.

Time required: The study will require about 1 hour total of your child's instructional time. Before the curriculum begins, students will be interviewed (20-25 minutes) and given two scales measuring mindfulness. After the curriculum is done, students will again be interviewed (20-25 minutes) and given the same two scales measuring mindfulness.

Risks: There are no anticipated risks in this study.

Benefits: Your child may receive some benefit from participating in this research study. Mindfulness has been shown to reduce anxiety, impulsivity, and depressive symptoms, as well as increase feelings of calmness and well-being. The study may help us understand how adolescents with Emotional/ Behavioral Disorder respond to mindfulness as an intervention.

Confidentiality: All data collected from this study will be kept private and confidential. Data will be collected via hard copies of mindfulness measures and via interviews, which will be recorded. Recordings will be kept on the researcher's personal laptop and will be password protected. Only the anonymized transcriptions will be used in data analysis.

Data linked with identifying information:

The information that your child gives in the study will be handled confidentially. Your child's information and your information will be assigned a code number. The list connecting your child's name and your name to this code will be kept in a locked file.

When the study is completed and the data have been analyzed, this list will be destroyed. Your child's name and your name will not be used in any report.

Once the interviews have been transcribed and anonymized, all recordings will be permanently deleted.

Voluntary participation: Your child's participation in the study is completely voluntary. Your child's grade in PE will not be affected by participation in the study.

Right to withdraw from the study: You have the right to withdraw your child from the study at any time without penalty. If you choose to withdraw your child, the interview recording will be destroyed immediately.

How to withdraw from the study:

If you and/or your child want to withdraw from the study, tell the researcher or your child's teacher. There is no penalty for withdrawing. If you would like to withdraw after the research has been conducted, please contact the researcher (below) and all your child's data will be destroyed.

Payment: You will receive no payment for participating in the study.

If you have questions about the study, contact:
Researcher's Name: Poonam Desai, M.Ed.
Department of School Psychology, School of Education, Loyola University Chicago
820 N. Michigan Ave., Lewis Towers 11th Floor, Chicago, IL 60611
Telephone: (312) 915- 6800

Pamela A. Fenning, Ph.D., Faculty Advisor
Department of School Psychology, School of Education, Loyola University Chicago
820 N. Michigan Ave., Lewis Towers 11th Floor, Chicago, IL 60611
Telephone: (312) 915- 6803

If you have questions about your rights in the study, contact:
Angela Vaca
Assistant Director for Research Administration
Office of Research Services
1032 W. Sheridan Rd. Granada Center Suite 400
Chicago, IL 60660
Telephone: (773) 508-2480
Email: avaca1@luc.edu
Website: http://www.luc.edu/ors/contactus.shtml

Agreement:
I agree to allow my child to participate in the research study described above.
I agree to participate in the research study described above.

Signature of Parent/Guardian (or student, age 18 or older):

_____ Date: _____

Signature of Student:

_____ Date:_____

You will receive a copy of this form for your record

APPENDIX D

TEACHER CONSENT FORM

Project Title: Mindfulness for Adolescents

Researcher: Poonam Desai**,** M.Ed.

Purpose of the Study: This research is investigating the effects of mindfulness on adolescents who have emotional/ behavioral disorders.

Expected Duration of the Study: The study will be conducted over an approximately 10-week period. First baseline data will be collected. Eight weeks will be dedicated to the Mindfulness curriculum intervention. After the intervention is complete, post-intervention data will be collected.

Procedure: The intervention utilized will be known as Mindfulness. The researcher will be teaching the mindfulness lessons to all students in one class. There are 16 lessons, each approximately 20 minutes, which will be taught twice a week for 8 weeks. At each lesson, students will be asked to participate in learning the mindfulness lesson that day and then to briefly reflect in a notebook (provided by the researcher) about what they learned. Daily Level-System Tracking sheets will also be used for all participating students to measure reductions in problematic and disruptive behaviors. Interviews will be conducted before and after the 8-week intervention period, and students will also be asked to fill out two questionnaires at these times.

Your Role: While the mindfulness curriculum will be conducted during the students' PE class, other instructional time may be used for conducting interviews. Further, you will be asked to fill out a short questionnaire on each participating student before and after the intervention.

Benefits to the Participant: By participating in the study, the classroom environment may be improved. Disruptive behavior of students may be reduced, which can lead to improved learning opportunities for all students.

Confidentiality: No records of the students or teachers participating will be revealed to anyone else. All identifying information will be removed, making all data collected completely confidential. Each teacher and student will be assigned a code to keep track of data. All records will be destroyed once the research is complete.

Researcher/Contact Person for Questions:
Poonam Desai, M.Ed.
Doctoral Candidate in School Psychology
Loyola University Chicago

Consent to Participate:

_____ _____

Teacher Name **School**

_____ _____

Teacher Signature **Date**

APPENDIX E

CHILD AND ADOLESCENT MINDFULNESS MEASURE

Child and Adolescent Mindfulness Measure (CAMM; Greco, Baer, & Smith, 2010)

We want to know more about what you think, how you feel, and what you do. **Read** each sentence. Then, circle the number that tells **how often each sentence is true for you.**

	Never True	Rarely True	Some-times True	Often True	Always True
1. I get upset with myself for having feelings that don't make sense.	0	1	2	3	4
2. At school, I walk from class to class without noticing what I'm doing.	0	1	2	3	4
3. I keep myself busy so I don't notice my thoughts or feelings.	0	1	2	3	4
4. I tell myself that I shouldn't feel the way I'm feeling.	0	1	2	3	4
5. I push away thoughts that I don't like.	0	1	2	3	4
6. It's hard for me to pay attention to only one thing at a time.	0	1	2	3	4
7. I get upset with myself for having certain thoughts.	0	1	2	3	4
8. I think about things that have happened in the past instead of thinking about things that are	0	1	2	3	4
9. I think that some of my feelings are bad and that I shouldn't have them.	0	1	2	3	4
10. I stop myself from having feelings that I don't like.	0	1	2	3	4

Scoring Instructions: Compute total score on the CAMM by reverse scoring and summing all items.

APPENDIX F

FIVE FACET MINDFULNESS QUESTIONNAIRE

This instrument is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience.

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.

_____ 2. I'm good at finding words to describe my feelings.

_____ 3. I criticize myself for having irrational or inappropriate emotions.

_____ 4. I perceive my feelings and emotions without having to react to them.

_____ 5. When I do things, my mind wanders off and I'm easily distracted.

_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____ 7. I can easily put my beliefs, opinions, and expectations into words.

_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.

_____ 9. I watch my feelings without getting lost in them.

_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.

_____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.

_____ 12. It's hard for me to find the words to describe what I'm thinking.

_____ 13. I am easily distracted.

_____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.

_____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.

_____ 16. I have trouble thinking of the right words to express how I feel about things

_____ 17. I make judgments about whether my thoughts are good or bad.

_____ 18. I find it difficult to stay focused on what's happening in the present.

_____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.

_____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.

_____ 21. In difficult situations, I can pause without immediately reacting.

_____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

_____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.

_____24. When I have distressing thoughts or images, I feel calm soon after.

_____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.

_____ 26. I notice the smells and aromas of things.

_____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____ 28. I rush through activities without being really attentive to them.

_____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.

_____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____ 32. My natural tendency is to put my experiences into words.

_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.

_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 36. I pay attention to how my emotions affect my thoughts and behavior.

_____ 37. I can usually describe how I feel at the moment in considerable detail.

_____ 38. I find myself doing things without paying attention.

_____ 39. I disapprove of myself when I have irrational ideas.

Scoring Information:

Observe items:
1, 6, 11, 15, 20, 26, 31, 36

Describe items:
2, 7, 12R, 16R, 22R, 27, 32, 37

Act with Awareness items:
5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R

Nonjudge items:
3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R

Nonreact items:
4, 9, 19, 21, 24, 29, 33

Reference:

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27-45.

APPENDIX G

TEACHER QUESTIONNAIRE

Teacher Questionnaire

Teacher _____ Subject _____

Student _____ Grade _____ Age _____

1. How many months/ years have you known this student?

2. What do you feel are emotional/behavioral strengths of this student?

3. What do you feel are areas of improvement for this student (emotional/behavioral)?

4. Please list three common reactions this student has to a negative or stressful situation.

-
-
-

5. In the last 48 hours, how often have you observed this student reacting negatively or inappropriately to a stressful situation?

_____ time(s)

How intense was his/her worst reaction on a scale of 1-10? (1 being not severe at all, 10 being the worst you have seen)

1 2 3 4 5 6 7 8 9 10

5. What helps this student to calm down (internal and/or external)?
-
-
-
-

Thank you for your time!

APPENDIX H

SEMI-STRUCTURED INTERVIEW PROTOCOLS

Phase 1 Protocol

1. The purpose of the mindfulness curriculum is to make people think more about how they plan, and how they think about themselves and their actions. How do *you* typically make decisions?

2. How do you typically react when something does not go your way?

3. How would your family and friends describe you in three words?

4. Would you change anything about yourself or those around you? Why or why not?

5. If you could change one thing about your environment (home, school, or otherwise) what would you change and why?

6. How would you define the term mindfulness (whether you've heard of it before or not?)

7. I'm going to give you a hypothetical situation, and I'd like you to tell me how you think most people you know would respond:

   <u>For males:</u>

   George was on the bus to school and it was raining outside. He was trying to get some homework done at the last minute because he knew the teacher would be collecting it and it was worth a lot of points. His friend was sitting next to him, though, and kept trying to talk about a new video game that was out. George knew that if he didn't finish his homework in time, his grade would suffer. Right as the bus was pulling in front of the school, George finished. He quickly gathered his belongings and was the first one off the bus, only to slip on the last step and drop all of his belongings in a puddle. How do you think George would react?

   <u>For females:</u>

   Kate was on the bus to school and it was raining outside. She was trying to get some homework done at the last minute because she knew the teacher would be collecting it and it was worth a lot of points. Her friend was sitting next to her, though, and kept trying to talk about a new movie that was out. Kate knew that if she didn't finish her homework in time, her grade would suffer. Right as the bus was pulling in front of the school, Kate finished. She quickly gathered her belongings and was the first one off the bus, only to slip on the last step and drop all of her belongings in a puddle. How do you think Kate would react?

Phase 3 Protocol

1. How would you define the term mindfulness?
2. What do you feel you learned from the mindfulness curriculum, if anything?
3. What kinds of benefits did you receive from the mindfulness curriculum?
4. What kinds of negative outcomes came from the mindfulness curriculum?
5. Do you feel the mindfulness curriculum may influence how you make decisions? If so, how?
6. Do you feel the mindfulness curriculum may influence how you react when things do not go your way? If so, how?
7. Would you change anything about yourself or those around you? Why or why not?
8. If you could change one thing about your environment (home, school, or otherwise), what would you change and why?
9. How did you feel during our mindfulness sessions compared with other times of the day?
10. Do you think mindfulness is a useful skill to teach students your age? Why or why not?
11. Do you think other people could benefit from mindfulness (children and adults)? Why?
12. I'm going to give you a hypothetical situation, and I'd like you to tell me how you think most people you know would respond:

    <u>For males:</u>

    George was on the bus to school and it was raining outside. He was trying to get some homework done at the last minute because he knew the teacher would be collecting it and it was worth a lot of points. His friend was sitting next to him, though, and kept trying to talk about a new video game that was out. George knew that if he didn't finish his homework in time, his grade would suffer. Right as the bus was pulling in front of the school, George finished. He quickly gathered his belongings and was the first one off the bus, only to slip on the last step and drop all of his belongings in a puddle. How do you think George would react?

    <u>For females:</u>

    Kate was on the bus to school and it was raining outside. She was trying to get some homework done at the last minute because she knew the teacher would be

collecting it and it was worth a lot of points. Her friend was sitting next to her, though, and kept trying to talk about a new movie that was out. Kate knew that if she didn't finish her homework in time, her grade would suffer. Right as the bus was pulling in front of the school, Kate finished. She quickly gathered her belongings and was the first one off the bus, only to slip on the last step and drop all of her belongings in a puddle. How do you think Kate would react?

13. Do you think you will continue practicing mindfulness at all on your own? If so, which parts and why? If not, why not?

*** All interviews require the informed consent of students**

APPENDIX I

EVALUATION OF MINDFULNESS CURRICULUM

End of Curriculum Evaluation

1. Please describe what your experience was with the mindfulness lessons we had.

2. What are your feelings about practicing what we learned on your own now that the class is over

3. If and when you were enjoying the lessons, what experiences did you have that you liked?

4. Which lesson, if any, did you like *best*?

   Why did you like that lesson the most?

5. Which lesson, if any, did you like *least*?

   Why did you not like that lesson?

6. If you could change something about the mindfulness lessons, what would it be?

7. Would you recommend mindfulness to any of your friends or family? If so, why? If not, why not?

8. Is there anything else you would like me to know about the mindfulness lessons or the way they were delivered?

Thank you for your time!

APPENDIX J

POINT-LEVEL SYSTEM

Niles Central Level Guidelines

The following are guidelines to be followed by all students at Niles Central. Teachers may give additional classroom incentives to students so long as these do not conflict with the following level guidelines (some examples may include food rewards, assignment coupons, extra credit "A" coupons, or classroom time in the Student Lounge). In addition to privileges earned, points may be accumulated over time with which students may 'purchase' items at the School Store or participate in a variety of activities during the school day. These guidelines are regularly revisited and revised when necessary. Student input may also be provided both formally (as per Niles Central Student Council) and informally.

White Level

- Requires staff escort in the hallways
- Use of bathroom and drinking fountain only during passing time unless escorted by a staff member
- Use of computer restricted to academic activities with staff supervision
- No walkman/I pod use
- No participation in after school clubs or level-related school activities
- May only purchase school supplies at School Store

Bronze Level

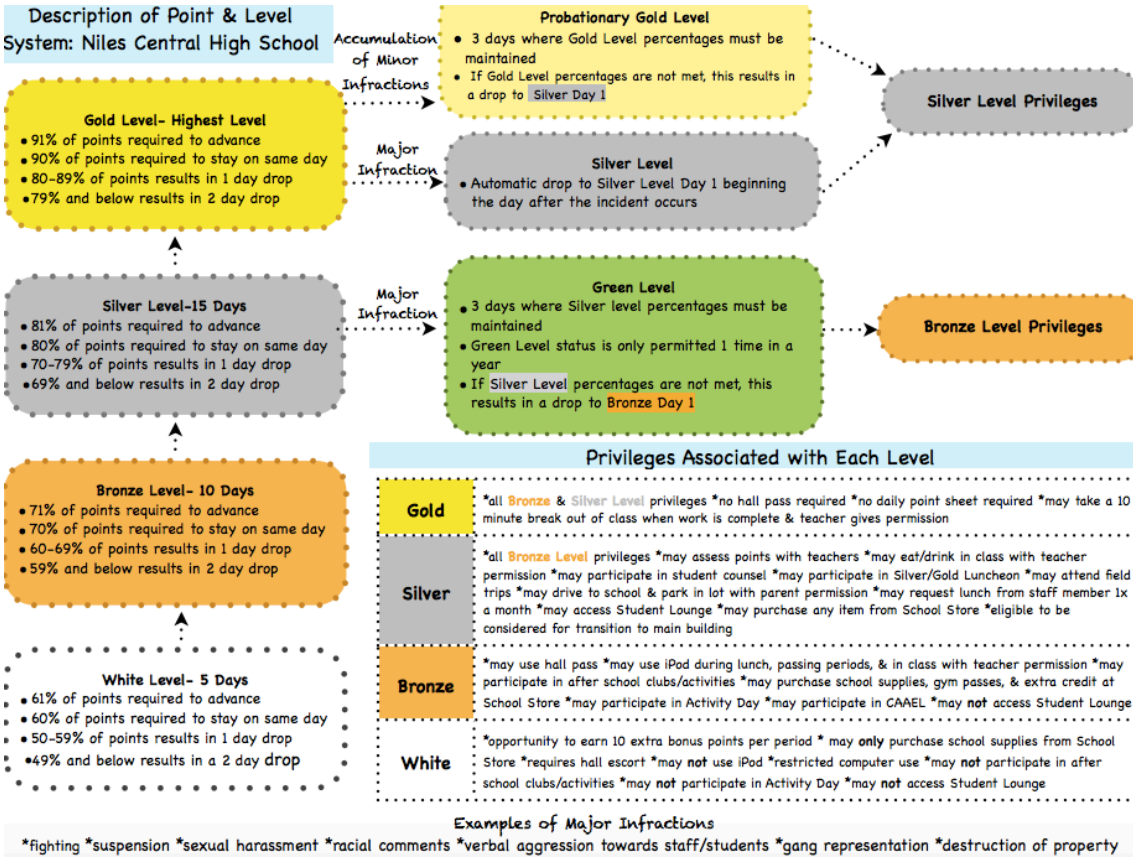
- May use hall passes
- With a hall pass, may use bathroom or drinking fountain, at teacher discretion
- May check out laptop computers at teacher discretion
- Walkman/I pod use during lunch, passing time, and during class time at teacher discretion
- May participate in after school clubs and level related in school activities
- May purchase school supplies, gym passes and extra credit at School Store

Silver Level

- All Bronze Level privileges
- May eat or drink in class at teacher discretion
- May participate in student council
- May attend field trips
- May drive to school and park in school lot with written parent/guardian permission and proper parking permit
- May request to go out to lunch with a chosen staff member once per month
- May purchase all items at School Store, including passes to the Student Lounge
- Conference with student, IEP manager, and therapist when appropriate to transition to Gold Level

Gold Level

- All Bronze and Silver Level privileges
- Walkman/Ipod use during free class time or at teacher discretion
- No hall passes required
- May use locker without a pass
- No daily point sheet required
- Use of Gold Card to monitor progress
- May take a 10 minute break out of class when work is completed at teacher discretion
- May use Student Lounge when available with teacher permission
- Review IEP when appropriate to consider reintegration


Description of Point & Level System: Niles Central High School
Accumulation of Minor Infractions
Probationary Gold Level
• 3 days where Gold Level percentages must be maintained
• If Gold Level percentages are not met, this results in a drop to Silver Day 1
Silver Level Privileges
Gold Level- Highest Level
• 91% of points required to advance
• 90% of points required to stay on same day
• 80-89% of points results in 1 day drop
• 79% and below results in 2 day drop
Major Infraction
Silver Level
• Automatic drop to Silver Level Day 1 beginning the day after the incident occurs
Silver Level-15 Days
• 81% of points required to advance
• 80% of points required to stay on same day
• 70-79% of points results in 1 day drop
• 69% and below results in 2 day drop
Major Infraction
Green Level
• 3 days where Silver level percentages must be maintained
• Green Level status is only permitted 1 time in a year
• If Silver Level percentages are not met, this results in a drop to Bronze Day 1
Bronze Level Privileges
Bronze Level- 10 Days
• 71% of points required to advance
• 70% of points required to stay on same day
• 60-69% of points results in 1 day drop
• 59% and below results in 2 day drop
White Level- 5 Days
• 61% of points required to advance
• 60% of points required to stay on same day
• 50-59% of points results in 1 day drop
• 49% and below results in a 2 day drop
Privileges Associated with Each Level
Gold
*all Bronze & Silver Level privileges *no hall pass required *no daily point sheet required *may take a 10 minute break out of class when work is complete & teacher gives permission
Silver
*all Bronze Level privileges *may assess points with teachers *may eat/drink in class with teacher permission *may participate in student counsel *may participate in Silver/Gold Luncheon *may attend field trips *may drive to school & park in lot with parent permission *may request lunch from staff member 1x a month *may access Student Lounge *may purchase any item from School Store *eligible to be considered for transition to main building
Bronze
*may use hall pass *may use iPod during lunch, passing periods, & in class with teacher permission *may participate in after school clubs/activities *may purchase school supplies, gym passes, & extra credit at School Store *may participate in Activity Day *may participate in CAAEL *may not access Student Lounge
White
*opportunity to earn 10 extra bonus points per period * may only purchase school supplies from School Store *requires hall escort *may not use iPod *restricted computer use *may not participate in after school clubs/activities *may not participate in Activity Day *may not access Student Lounge
Examples of Major Infractions
*fighting *suspension *sexual harassment *racial comments *verbal aggression towards staff/students *gang representation *destruction of property

APPENDIX K

SCHOOL-BASED INDIVIDUAL STUDENT TRACKER

Front:

DAILY POINT SHEET

Name: _____ HR: _____ Date: _____ Point Total: ____% Cumulative Points: _____ Level: _____ Day: _____ Bonus Pts: _____

APPROPRIATE BEHAVIOR	1	2	3	4	5A	5B	6	7	8
Appropriate School Conversation									
Appropriate Hallway Behavior									
Appropriate Dress									
On-Task Behavior									
Ignore Inappropriate Actions of Others									
Totals:					Out of				

ACADEMIC EXPECTATIONS	1	2	3	4	5A	5B	6	7	8
Arrived to Class on Time									
Completed In-Class Assignment									
Completed Homework									
Participated in Academic Discussions									
Prepared with Classroom Materials									
Totals:					Out of				

RESPECT	1	2	3	4	5A	5B	6	7	8
Use of Legal Names									
Use of Non-offensive Language									
Appropriate Voice Tone and Volume									
Maintains Personal Space									
Treats Property with Respect									
Totals:					Out of				

FOLLOWING DIRECTIONS	1	2	3	4	5A	5B	6	7	8
Complies with Level System									
Follows Staff Directions									
Carries Point Sheet									
In Supervised and Appropriate Area									
Accepts Feedback									
Totals:					Out of				

PERIOD:	1	2	3	4	5A	5B	6	7	8
ATTENDANCE:									

PERIOD	1	2	3	4	5A	5B	6	7	8
BONUS POINTS									
WASHROOM/DRINKING FOUNTAIN									

PERSONAL GOAL: 1 _____

2 _____

Inappropriate Behaviors: Indicate the inappropriate behavior, the time of the behavior and how many points the student earned back, up to 50%

1 _____ earn back ____%

2 _____ earn back ____%

3 _____ earn back ____%

4 _____ earn back ____%

5 _____ earn back ____%

PC	
1	
2	
3	

Back:

Point Fine	BAC	Abbreviation	Behavior and Description
150-200	0-3	ARG – Argue	Arguing with staff
200	0-3	CEL – Cell Phone	Having a cell phone in the school building
100-200	0-3	CH – Cheating	Academic dishonesty
50-200	0-3	DIS-P/DIS-S – Disrespect	Communication, verbal or nonverbal, that is disrespectful to a Peer or Staff
100-200	0-3	DRT – Disrupt	Any inappropriate behavior that disrupts the learning environment
150-200	0-3	HAR – Harassment	Bullying of another student
50-200	0-3	ICN – Inappropriate Contact	Having any inappropriate contact with a student, including horseplay
50-200	0-3	INS – Inappropriate to Staff	Any in appropriate action with staff
100-405	0-3	LPS – Lost Point Sheet	Student loses point sheet
50-200	0-3	LY – Lying	When a student is lying to avoid consequences
50-100	0-3	MAN - Manipulation	Any manipulation of staff
50-200	0-3	NC – Name Call	Calling a student any name other than the student's name
50-100	0-3	NFD-Not Following Directions	Not following staff directions
150	0-3	OA – Out of Area	In an area that is unsupervised or is in an area that the student does not have permission to be in
50-100	0-3	OFT – Off Task	Off-task behavior that hinders the students ability to participate in the educational setting
50-200	0-5	PRV – Provoke	Provoking another student to act inappropriately
200-405+2 day drop	0-3	PS – Point Sheet	Damage, alter, or destroy point sheet
50-150	0-3	SLP – Sleeping	Student is or appears to be asleep during class time
50-200	0-3	SWR – Swear	The use of inappropriate language
150-200	0-3	TD – Talk of Drugs	Any talk of drugs
150-200	0-5	THR – Threatening others	Threatening words or gestures toward others
150-200	3-5	TRA – Transportation	Inappropriate behavior on van, or getting off at non-designated drop-off
200*	Suspension	AGP – Physical Aggression	Engaging in physical aggression
200*	3-Sus	DES – Destruction of Property	The destruction of any item that will need to be repaired or replaced
200*	3-Sus	GAN – Gang	Any display of gang representation
200*	3	OB – Out of Building	Student left building without permission
200*	3-Sus	RAC – Racial Comment	Any derogatory statement about race or ethnicity
200*	3-Sus	SCG – Sexual Comment/Gesture	Any sexual comment or gesture
200*	3-5	SI – Staff Interference	Any student interfering with a teacher who is conducting a student intervention
200*	3-Sus	STE – Stealing	Theft of any item or property

- * Indicates automatic earned BAC in addition to Point Fine
- Incident Reports are to be completed with any 200-point fine and/or when BAC is assigned

COMMENTS:

APPENDIX L

ATTENDANCE TRACKER

By Student:

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6
1. 2/5/13	X		X		X	
2/7/13	X	X	X	X	X	X
2/19/13	X	X	X	X	X	
2/21/13	X	X	X			X
2/26/13			X		X	
2/28/13	X	X	X		X	X
3/5/13	X	X		X	X	
3/7/13	X	X	X		X	
3/12/13	X	X	X		X	X
3/14/13	X	X			X	X
3/19/13	X		X	X	X	X
3/21/13	X		X	X	X	X
4/2/13		X	X		X	X
4/4/13		X			X	X
4/9/13		X	X			
4/11/13	X	X	X	X	X	X

APPENDIX M

POINT-LEVEL SYSTEM VALUES

	Level	Value
White	W1	1
	W2	2
	W3	3
	W4	4
	W5	5
Bronze	B1	6
	B2	7
	B3	8
	B4	9
	B5	10
	B6	11
	B7	12
	B8	13
	B9	14
	B10	15
Silver	S1	16
	S2	17
	S3	18
	S4	19
	S5	20
	S6	21
	S7	22
	S8	23
	S9	24
	S10	25
	S11	26
	S12	27
	S13	28
	S14	29
	S15	30
Gold	G1	31
	G2	32
	G3	33
	G4	34
	G5	35
	G6	36
	G7	37
	G8	38
	G9	39
	G10	40
	G11	41
	G12	42
	G13	43
	G14	44
	G15	45

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VITA

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