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Teaching Mindfulness in High School Settings

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TEACHING MINDFULNESS LESSONS IN HIGH SCHOOL SETTINGS

by

Gena Roisum

A capstone project submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Education.

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Capstone Project Facilitator: Jana Lo Bello Miller
Content Expert: Andy Highstrom

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DEDICATION

To my family, friends, and instructors and classmates for your support and ideas. To the brilliant youth of my community, this project is for you. Thank you for always bringing hope and energy to the adults in your lives.

“When educating the minds of our youth,
we must not forget to educate their hearts.”

-Bstan-'dzin-rgya-mtsho,
Dalai Lama XIV

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CHAPTER ONE

Introduction

Three dozen 17-year-olds tumbled into the classroom, buzzing with energy. It was Friday the 13th, or Homecoming, or the day before Halloween. It was some sort of occasion that whipped up a frenzied atmosphere at the public high school where I taught social studies. It was the type of day when a teacher could see even before the bell rang that learning world history was not the top priority. There was just too much excitement.

When class started, I called everyone's attention. Some students struggled to calm themselves, but they were curious about what was happening when I briefly explained that we were going to experiment with a simple breathing exercise. I asked the students to follow my lead so we could collect ourselves as a group and activate the calming parasympathetic branch of our nervous systems. Together, we silently inhaled for three seconds, held our breath for three seconds, and exhaled for three seconds. "Let's repeat."

I was honestly skeptical that this approach would help, so I was pleasantly surprised when we all brought our attention back to class after several repetitions of the breathing cycle. The mood had changed noticeably. Students' collective energy downshifted, the volume of their conversations dropped dramatically, and they simply looked more relaxed. Maybe we would learn some history, after all!

Background

Leading that basic mindful breathing exercise was the first time I thought seriously about incorporating similar practices into my social studies classes. While I had entered teaching eager to support students in their learning and their lives, I never anticipated the degree to which educators also act as coaches and mentors. As I gained experience, I became more aware of students' mental health struggles and the seeming rise of anxiety year after year. When students shared glimpses of their mental health experiences, it became increasingly evident that schools could do more to holistically support childrens' mental wellbeing. These experiences learning about students' challenges managing stress and cultivating their mental health pointed toward the research question for my capstone project: *How can engaging in mindfulness lessons impact high school student and educator stress levels?*

To engage students' curiosity about their own wellbeing and take opportunities to decompress as a class, I began building "mini neuroscience lessons" into my history and psychology courses. Kids were fascinated by the complex workings of our brains, even when executing a brief but challenging brain break activity like crossing our arms, clasping our hands together, and attempting to wiggle specific fingers.

Teenaged students were more likely to buy into activities if I gave a brief description of why it would benefit their brains, memory, and overall learning. This was especially effective for activities that required greater effort to engage 17-year-olds, like a roaming station activity with frequent standing and moving. When I projected and explained two composite MRI images, one that showed students' limited brain activity

after sitting quietly for 20 minutes before a math task and one showing active brains after students walked around for 20 minutes, students started the activity more readily than usual and stuck with it (Appendix A). This simple and practical approach to increasing student engagement made me curious about expanding the lessons.

The brief mindfulness teachings introduce additional benefits beyond high student involvement in the neuroscience content behind the activities. Taking a few seconds for a breathing exercise at the start of class, especially on days when kids were high energy or tense, could help collectively calm the jitters and prepare students for learning. The potential for a three breath exercise to soothe a room of teens made me wonder how continued mindfulness learning could impact students and their teachers.

Given my undergraduate background in psychology, I am especially curious about exploring mindfulness and neuroscience. During undergrad senior thesis research, I examined the effects of alternative therapies in correctional settings and found that the most promising studies pointed to statistically significant behavioral and psychological benefits of regular meditation practices in correctional settings. Reflecting on this research made me eager to learn about impacts of mindfulness meditation in other settings and how it may affect the ever-changing brains and behaviors of teens.

While I no longer work in a classroom setting, I continue to support young people as they pursue their education goals as an Education Support Specialist. I work as a county government case manager, advocate, and academic coach for about 25 children in grades K-12. The youth I work with are referred to Education Support because they are already receiving other county services, such as mental health or child protection

services, and are seeking resources to help them with school engagement. Since many of the children I serve have experienced trauma and/or high levels of stress, I anticipate my learnings about mindfulness, stress, and trauma will also be relevant to the youth I currently serve.

Rationale

Now is a critical time to address adolescent and educator stress. The COVID-19 pandemic is still looming and concerns about the pandemic's impacts on youth wellbeing and education will likely continue through 2021 and beyond. The outcry in response to George Floyd's death, in addition to Daunte Wright's death at the hands of police during the Derek Chauvin trial, brought a laser focus to ongoing harm caused by the systemic racism that pervades our communities. A contentious election cycle capped by an insurrection at the U.S. Capitol layered additional persistent stressors on students. Even before this tumultuous year, concerns about student stress and mental health in the United States were growing more severe.

Recent analysis suggests that stress levels for adolescents are rising (Milligan et al., 2016). In educational settings, teachers also experience high stress levels, at the expense of their teaching efficacy and job satisfaction (Collie et al., 2012). It is useful to consider potential school-based interventions that may reduce stress levels and lead to additional benefits for student and staff health, wellness, and efficacy.

American schools face significant challenges to effectively helping students manage stress and cope with mental illness. Counselors are inundated with students: the average ratio nationwide is one counselor to 500 children, which is twice the

recommendation from the American School Counselor Association (Anderson & Cardoza, 2016). Up to one in five public school students in the United States shows signs of a mental health disorder, yet a majority of these children may not receive treatment (Anderson & Cardoza, 2016). Many schools have limited access to psychologists, nurses, and social workers, if they employ one at all. COVID-19 has upended how students typically access needed resources, and many questions remain about its short- and long-term impacts on children's development and well-being.

According to national surveys, each year one in six U.S. youth aged 6-17 years old experiences a mental health disorder (NAMI, 2020). By age 14, 50% of all mental illness begins, and 75% begins by age 24 (NAMI, 2020). During the extraordinary circumstances of the COVID-19 pandemic, young adults in the U.S. are experiencing disproportionately elevated suicidal ideation, worse mental health outcomes, and elevated substance use (Czeisler et al., 2020). Particularly at this point in human history, it could prove valuable for educators to help students develop practices that support mental wellbeing from a young age.

Practicing mindfulness, or an acceptance and awareness of our thoughts, feelings, and environments, has been linked to numerous benefits in various studies (University of California Berkeley, 2020). Positive outcomes include increasing immune system health, decreasing stress, reducing behavior problems and aggression, and improving attention and memory (UC Berkeley, 2020). Such outcomes are especially promising for classroom environments with stressed students, and for the population I currently work with as a county government case manager.

While more research is needed on any potential negative effects of practicing mindfulness meditation, a recent study by UW-Madison researchers intended to estimate risk of meditation found zero cases in which participants' negative symptoms worsened more than control groups' symptoms (Hirshberg et al., 2020). Based on existing research, mindfulness is a beneficial practice that is promising for educational professionals to implement in their work with children.

As a high school teacher, I found that students were more likely to engage in wellness activities like mindful breathing or walking to stations if they learned about the activities' benefits for their brains and cognition. While building neuroscience "mini-lessons" into my history and psychology courses, many of the brain and nervous system materials I could access catered either to an elementary school or to a medical student audience, rather than to adolescents. I was curious about how to bring background knowledge and passion for neuroscience together with mindfulness and will include relevant, developmentally-appropriate background information for educators and students in the mindfulness lessons project.

In my experiences as a teacher, grad student, and networking with educators in recent years, social-emotional learning (SEL) has become an education buzzword and growing practice. According to the Collaborative for Academic, Social, and Emotional Learning (CASEL), SEL is a process through which people learn how to understand and reflect on their emotions, to set and achieve goals, to cultivate empathy, and to make prosocial and relationship-building decisions (CASEL, 2020). SEL curricula may naturally complement my capstone's focus on mindfulness. Given the opportunities SEL

curricula may provide for all students to build their social and emotional awareness, I anticipate this will be a growing field.

My research, and the activities that come from it, should most importantly benefit the students who engage in them. Given the diverse benefits of practicing mindfulness, youth who engage in mindfulness lessons may improve multiple aspects of their physical, mental, and social health. Successfully teaching students these practices requires adults who are also in tune with their own emotional wellbeing, and who are prepared to teach the material. Supporting adults with this process can empower them to better support and engage children who are navigating developmental changes on top of the stressors of life today. This capstone project includes thorough background context for educators and guidance in implementing the activities in their classrooms. Hopefully adult educators, many of whom are stressed by the countless demands of their work, will also benefit from engaging in the lessons.

Beyond youth and educators themselves, there is an array of stakeholders who could benefit from learning and applying lessons in mindfulness. This includes youth program facilitators, social workers, medical professionals, parents, and greater school communities. Potential mindfulness impacts such as increasing happiness and decreasing aggression may lead to ripple effects in school communities (UC Berkeley, 2020). Mindfulness and any connections to behavior referrals, school culture, and suspensions are important considerations in future research, especially given existing disparities in prevalence of punishment by race.

In the context of this research, I explore several subfields: stress, trauma, and mental health; mindfulness; SEL; and teacher self-efficacy. The stress, trauma, and mental health section of the literature review in Chapter Two defines each term and explores their prevalence and impact on today's American teenagers. Mindfulness is a reflective and gentle awareness of and focus on our present thoughts, emotions, and environment (UC Berkeley, 2020). Social-emotional learning (SEL) is a process through which people learn how to understand and reflect on their emotions, to set and achieve goals, to cultivate empathy, and to make prosocial and relationship-building decisions (CASEL, 2020). Teacher self-efficacy is teachers' perceptions of their capabilities to influence student learning (Klassen & Chiu, 2010).

Summary

This research and capstone project center on the following question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* Mindfulness can be defined as paying attention to the present moment and one's experience in it without judgment (Creswell, 2017; Kabat-Zinn, 1994). Stress is the body's reaction to any stimulus that requires a response or adjustment (Cleveland Clinic, 2021).

In my professional experiences, using mindfulness teachings in conjunction with lessons about the activities' impacts on the body has been highly promising. Incorporating movement or breathing exercises, along with explanations of why they are beneficial to students' brains and nervous systems, has led to more sustained engagement in class activities. Given the sizable stressors reported by American teenagers and

teachers, it is an opportune time to investigate the potential impacts of incorporating more mindfulness and neuroscience teachings in a school or youth program's SEL curriculum.

The following chapter investigates the literature on stress, trauma, and mental health; mindfulness; SEL; and teacher self-efficacy. It expands upon ideas introduced in this introduction and examines benefits and limitations of mindfulness and SEL interventions. In Chapter Three, I describe the research-based project I developed based on literature review findings: a series of ten weekly mindfulness activities for high school students. Finally, Chapter Four reflects on the entirety of the research and capstone project process and offers suggestions for future directions for research and application of the findings.

CHAPTER TWO

Literature Review

Introduction

This chapter examines the research to thoroughly prepare for the creation of a research-based weekly mindfulness curriculum that responds to the research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* Stress, trauma, and mental health will first be addressed, including the challenges that can arise from experiencing chronic stress. Mindfulness is next introduced, followed by a discussion of the growing field of social-emotional learning (SEL). Finally, the chapter examines teacher self-efficacy research and its connection to the other subsections: stress, mindfulness, and SEL.

Throughout the chapter, cross-cultural differences and inequities are addressed. Each section also considers the topic of discussion as it applies to educational settings, and attempts to bridge sections by identifying connections in the research.

Stress, Trauma, and Mental Health

This section begins by elaborating on the functions of stress in our daily lives and addresses different types of stressors. Cross-cultural perspectives on stress, trauma, and mental health are included. Additionally, this section explores how our sympathetic nervous system responds to stressors and trauma, and further considers the role that stress can play in the development of some mental illnesses (Hankin et al., 2015). Finally, it details the prevalence of stress, trauma, and mental illness for today's American high school students and teachers.

Defining Stress, Trauma, and Mental Health

Stress, trauma, and mental health have all been addressed in existing literature considering mindfulness practices. This subsection aims to define each concept to establish common language used throughout the literature review and capstone process. While the research question, *How can engaging in mindfulness lessons impact high school student and educator stress levels?*, focuses on stress, trauma and mental health are also key components to consider when developing mindfulness programming or planning for a child's ability to engage in such programming. Perceptions of stress, trauma, and mental health can vary by culture and are further discussed later in this subsection (Ellis et al., 2020; Gollub et al., 2019; Katz & Lamoreux, 2018).

Stress is the body's reaction to any stimulus that requires a response or adjustment (Cleveland Clinic, 2021). People experience different types of stressors in their day-to-day lives. These range from normal and manageable stressors that help people accomplish tasks, like keeping up with deadlines for work, to serious and traumatic stressors, such as experiencing homelessness or abuse (Tyler & Schmitz, 2018). A person's ability to respond to stress in a healthy manner is dependent on various factors, including genetic predisposition to stress sensitivity (Hankin et al., 2015). Studies suggest that chronic stress can influence educational outcomes for adolescents and can lead to negative health outcomes, including the onset of depressive disorders (Milligan et al., 2016). Continued stress can also lead to exhaustion or insomnia, high blood pressure, digestive issues, unhealthy coping behaviors, and a weakened immune system (Cleveland Clinic, 2021).

Trauma is an emotional response to witnessing or experiencing an adverse event (APA, 2020; van der Kolk, 2014). Short-term responses to traumatic events often include denial and shock, while long-term responses may include physical symptoms such as nausea, flashbacks, relationship strain, and unpredictable emotions (APA, 2020). Trauma can alter brain activity, for example by causing the brain to become overactive or unresponsive to threatening stimuli (van der Kolk, 2014). Exposure to traumatic events is linked to increased anxiety and depressive disorders, in addition to an increased likelihood of developing Post-Traumatic Stress Disorder (PTSD) (Tyler & Schmitz, 2018). Chronic trauma may even be connected to an increased likelihood of developing immune disorders due to the body's hypervigilance about addressing possible threats (van der Kolk, 2014).

People with PTSD experience frequent arousal of the sympathetic nervous system (SNS), which is the communication system responsible for preparing organs and muscles for a fight, flight, or freeze response (van der Kolk, 2014). There are a number of strategies that people can use to counter this automatic response and instead activate the body's calming parasympathetic nervous system, including mindful exhalations, spending time with a safe and calming person, and sustaining a strong social support network (van der Kolk, 2014). Given the correlation between mindful breathing and parasympathetic nervous system activity, mindfulness lessons that include breathing activities for students who have experienced trauma is an important area for further research.

Perceptions of mental health vary by culture (Katz & Lamoreaux, 2018) but for the purposes of this capstone research, mental health is defined according to the World

Health Organization's (WHO) guidelines as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community" (WHO, 2018, [Mental Health Fact Sheet](#)). Mental health is not necessarily the absence of mental disorders; rather it is a holistic state of wellness that can be impacted by biological, environmental, social, and psychological factors (Katz & Lamoreaux, 2018; WHO, 2018).

Perceptions of mental health and mental illness (also referred to interchangeably as mental health disorders and psychological disorders in this paper), also vary by culture (Ellis et al., 2020; Gollub et al., 2019; Katz & Lamoreaux, 2018). While Western psychology tends to focus on a medical model of illness, there are other views that attribute psychological disorders not only to physical factors, but also to supernatural and moral factors (Ellis et al., 2020). Some perspectives disagree with Western views that traumatic experiences lead to psychological disruption (Ellis et al., 2020).

Treatments of mental illnesses vary by culture and can include medications, indigenous healing methods, and spirit exorcisms (Ellis et al., 2020). Mental illness symptoms may also present differently across groups, both internationally and within a country (Gollub et al., 2019). As one example, Black children in urban settings in the United States have been found to be less likely to present depressive symptoms than children of other racial backgrounds (Gollub et al., 2019).

It is important to note that in the United States, there are significant disparities in mental illness diagnoses and treatment (Gollub et al., 2019). Examples of these

disparities include significantly higher prevalence of mental illness in the LGBTQ community, and linguistic and cultural barriers to treatment in immigrant communities (Ellis et al., 2020; NAMI, 2020). Misdiagnosing and under- or over-diagnosing illnesses is an additional barrier to mental health in the United States. For example, PTSD is frequently misdiagnosed or untreated especially in ethnic minority populations (Gollub et al., 2019).

School Settings and Stress, Trauma, and Mental Health

Educational settings are home to diverse communities of students, all of whom experience significant developmental and social changes as adolescents (Milligan et al., 2016). Reported stress levels for adolescents are currently on the rise (Milligan et al., 2016). Student stress is not the only concern in educational settings: teachers' high stress levels can have a negative impact on their teaching efficacy and their job satisfaction (Collie et al., 2012). It is therefore worth considering school interventions that may reduce stress levels and lead to benefits for student and staff health, wellness, and self-efficacy.

In addition to stress, educational environments are impacted by childrens' traumatic experiences. Children bring their trauma into school settings and it is important for educators to prepare to best create safe learning environments. Exposure to violence in a home or community is an example of a traumatic event students may experience. A U.S. Census Bureau study of adolescents living in urban areas found reported lifetime community violence exposure prevalence rates of 55% (Gollub et al., 2019). Youths' likelihood of experiencing additional traumatic events in their lives is compounded when

they also experience homelessness, substance use, or sexual abuse (Tyler & Schmitz, 2018).

Mental health challenges for American high school-aged children are widespread and an additional consideration when developing a mindfulness curriculum. Fifty percent of all lifetime mental illnesses begin by age 14, and 16.5% of children aged six to 17 years experienced a diagnosed mental illness in 2016 (NAMI, 2020). Disparities exist amongst groups of children, with disproportionately high numbers of children in the juvenile justice system diagnosed with mental illnesses, and disproportionately high numbers of LGBTQ youth seriously thinking about suicide (NAMI, 2020).

Mindfulness practice may benefit students with mental illness, since it has been linked to decreased anxiety and depression symptoms (Hirshberg et al., 2020; Hofmann et al., 2010; Yang et al., 2019), improved emotion regulation (Feldman et al., 2006), and structural and functional changes in the brain that correlate with decreased anxiety and depression symptoms (Yang et al., 2019). Some of these benefits, such as improved emotion regulation, could also help all students cultivate general mental health (Feldman et al., 2006).

Schools in the U.S. face considerable barriers to adequately supporting students who experience significant stress, trauma, and/or mental illness (Anderson & Cardoza, 2016). The U.S. averages one school psychologist for every 1,400 students while each school counselor is responsible for approximately 500 students, which is twice the number the American School Counselor Association recommends (Anderson & Cardoza, 2016). While mindfulness interventions are not treatments for mental illness, providing

additional opportunities for children to cultivate healthy stress management and coping skills in class may be beneficial to children, staff, and school climate, especially when public school resources are severely strained.

Summary

Stress is a reality of daily life for everyone, but when stressors are chronic and severe, student and staff well-being is adversely affected (Milligan et al., 2016). Many adolescents in the United States have had traumatic experiences, and they bring the weight of those experiences to school with them (Gollub et al., 2019; Tyler & Schmitz, 2018). Mental health is of particular concern for adolescents, since 50% of all lifetime mental illnesses begin by age 14 (NAMI, 2020). Designing a trauma-informed curriculum that may help students develop healthy strategies for managing stress, as the capstone project aims to do, is an equitable approach to support all students' unique learning needs.

Despite the sizable number of high-school aged youth experiencing profound stress, trauma, and/or mental illness, American schools are woefully under-resourced to support them (Anderson & Cardoza, 2016). It is therefore promising to explore approaches that may support students and staff in mitigating these stressors when considering the research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* One possible approach is detailed in the following section: mindfulness.

Mindfulness

Mindfulness is the practice of paying attention to the present moment and one's experience in it nonjudgmentally (Creswell, 2017; Kabat-Zinn, 1994). According to Anālayo (2003), most mindfulness practices in contemporary literature are secular, but are rooted in 2,500 year-old Buddhist traditions (as cited in Creswell, 2017). This section introduces different mindfulness practices, then explores the research addressing their potential benefits and risks. Finally, mindfulness practices specific to diverse high school settings are considered.

History and Practices

Mindfulness as a Western field of study and practice has existed for roughly three decades (Brown et al., 2015). It has grown in popularity as a research subject, particularly in the fields of psychology, psychiatry, and more recently, education (Brown et al., 2015; Hirshberg et al., 2020). Contemporary mindfulness practices are often secular in nature, but they have been shaped by Buddhist tradition (Anālayo, 2003). In Buddhism, mindfulness is a crucial tool in meditation and one aspect of the path to enlightenment (Gethin, 2015). In Western literature, mindfulness is constrained to focusing on *present* thoughts and feelings as they occur, as opposed to more expansive views of mindfulness found in other spiritual and religious contexts (Gethin, 2015).

Research-based mindfulness practices take varied forms, including meditation and martial arts. Examples include Mindfulness-Based Stress Reduction (MBSR), an 8-week program that includes weekly classes and regular practice (Kabat-Zinn, 2013). MBSR is used and studied widely in health care and other settings (Hirshberg et al., 2020).

Mindfulness-Based Cognitive Therapy (MBCT) is used in psychiatric settings to address depression, substance abuse, and stress (Hirshberg et al., 2020). Mindfulness can also be applied in martial arts programs, such as a 20-week program implemented with high school students with mental health risks (Milligan et al., 2016).

Benefits and Limitations

The literature details a variety of benefits correlated with mindfulness practice. These benefits include positive impacts on *interpersonal* factors such as perceptions of relationships with others and *intrapersonal* factors like stress management (Hirshberg et al., 2020). Studies also investigated potential drawbacks of practicing mindfulness. This subsection considers the positive, negative, and neutral effects of mindfulness practices for a wide range of people. The following subsection addresses findings specific to high-school aged youth.

Benefits correlated with mindfulness practice vary and can be grouped by intrapersonal and interpersonal effects. Studies suggested that intrapersonal benefits of practicing mindfulness include stress reduction (Eva & Thayer, 2017; Feldman et al., 2006), decreased anxiety and depression symptoms (Hirshberg et al., 2020; Hofmann et al., 2010; Yang et al., 2019), improved emotion regulation (Feldman et al., 2006), and even structural and functional changes in the brain that correlate with decreased anxiety and depression symptoms (Yang et al., 2019). Researchers also considered interpersonal results of mindfulness practice and identified connections between mindfulness practice and improved perceptions of social relationships (Hirshberg et al., 2020), increased perspective-taking (Creswell, 2017), and reduced loneliness (Creswell, 2017).

A small number of studies challenged mindfulness programs. Hirshberg et al. (2020) analyzed over 2,000 Mindfulness-Based Stress Reduction (MBSR) participants to determine whether participants experienced risk of harm in the interventions and found zero cases in which mindfulness practice led to harm of participants. In two studies, participants experienced no change in self-reported mindfulness or in perceptions of self-efficacy after engaging in the mindfulness programming (Himmelstein et al., 2011; Milligan et al., 2016). Both studies, however, also found statistically significant positive changes for other cognitive and emotional factors (Himmelstein et al., 2011; Milligan et al., 2016).

Potential risk of harm is an area that requires further research, but initial findings suggest that participating in mindfulness programs may *protect* subjects from harm rather than risk harm (Hirshberg et al., 2020). Other limitations of mindfulness research include small trial sample sizes and a lack of robust post-treatment follow-up measures (Creswell, 2017). Despite these limitations, studies largely suggested promising results, and further research is warranted (Creswell, 2017; Hirshberg et al., 2020).

High School Settings and Mindfulness

Adolescence is a time of considerable developmental change. At this stage of life, young adults' self-reported stress mirrors that of older adults (Milligan et al., 2016). In recent years, mindfulness interventions have become increasingly popular in high school settings where they aim to address student stress management and social and psychological well-being (Milligan et al., 2016). This subsection considers applications of mindfulness practices in diverse settings for high-school aged youth.

Implementing mindfulness interventions for six to ten weeks in high school settings was linked to intrapersonal benefits including a statistically significant decrease in stress (Eva & Thayer, 2017; Himmelstein et al., 2011; Luong et al., 2019; Wisner & Starzec, 2016). Mindfulness practice also correlated with statistically significant improvements in stress management when implemented in alternative and private high schools (Wisner & Starzec, 2016; Worthern & Luiselli, 2017).

Additional intrapersonal themes in the literature include statistically significant improvements in self-esteem (Eva & Thayer, 2017), healthy self-regulation (Himmelstein et al., 2011; Luong et al., 2019; Wisner & Starzec, 2016), and decreased anxiety and depression symptoms for teens participating in mindfulness programs (Luong et al., 2019). Correlations between mindfulness and interpersonal effects include improved perceptions of relationships with others (Wisner & Starzec, 2016), and increased trust in others (Wisner & Starzec, 2016).

It is important to note that these findings include a range of educational settings and diverse populations. Populations referenced included majority male students of color facing barriers to completing high school on time (Eva & Thayer, 2017), incarcerated adolescents (Himmelstein et al., 2011), German high school students and teachers (Luong et al., 2019), and students with severe mental health challenges (Milligan et al., 2016). Wisner and Starzec's research took place in an alternative school setting (2016), while Worthern and Luiselli's was set in a private school (2017). The purpose of including varied settings and demographics is to better analyze how to effectively serve the needs

of diverse youth, both in mainstream, traditional settings and in specialized settings such as alternative learning centers, day treatment programs, or juvenile detention centers.

Summary

Mindfulness is the practice of paying attention to the present moment and one's experience in it nonjudgmentally (Creswell, 2017; Kabat-Zinn, 1994). Mindfulness is rooted in a long history of Buddhist practice and grew as a secular practice in recent decades. Empirical studies have linked mindfulness with many statistically significant benefits for research participants, several neutral outcomes and few, if any, negative impacts.

This information is particularly useful for informing a capstone project, because when examined for risk of harm, mindfulness programs actually were found to actually protect participants from harm (Hirshberg et al., 2020). Programs for adolescent students have been successfully applied in a variety of educational settings. This is important to consider as the capstone investigates mindfulness programming effects on diverse learners. The next topic for evaluation is social-emotional learning (SEL), an approach that may be implemented in harmony with mindfulness practices.

Social-Emotional Learning

Social-emotional learning (SEL) is a multifaceted process in which people learn how to manage emotions, cultivate empathy for others, and develop supportive relationships (CASEL, 2020). This section first details approaches that schools have taken to incorporate SEL into their curricula and school culture, then explores the potential benefits and limitations of implementing SEL in educational settings. It also

considers cross-cultural approaches to SEL, including a study in the United Kingdom that challenged whether an SEL curriculum benefited all students (Berry et al., 2016). Finally, it elaborates on connections in the literature between SEL and mindfulness practices in schools.

SEL in Schools

SEL is a relatively new term for teaching approaches that can be traced back thousands of years to some early civilizations' emphasis on the value of managing social relations (Cohen, 1999). The concept that social and emotional abilities can and should be fostered in the classroom is newer in recent American history and gained attention in the 1960s (Cohen, 1999). In the decades since, teaching SEL as a topic in and of itself has grown in popularity (Cohen, 1999; Durlak et al., 2011).

Advocates of SEL programs argue that it is essential to build self-understanding, interpersonal, and self-control skills in order to live a balanced life (Pasi, 2001). Further arguments in favor of SEL recognize the positive impacts SEL may have on communities, and on youth who may otherwise be marginalized in schools due to disability or membership of a cultural or sexual orientation minority group (Katz & Lamoreaux, 2018). The potential benefits and drawbacks of SEL programming are discussed in the following subsection after addressing what SEL programming looks like in schools.

SEL programming varies by educational setting. One option for programming includes the direct instruction, modeling, and application of social and emotional skills in classrooms (Durlak et al., 2011). Skills cultivated in SEL direct instruction may also be

applied in targeted problem-solving interventions, such as drug abuse and conflict mediation (Durlak et al., 2011; Pasi, 2001). Students and school staff may participate in a variety of additional activities to develop social and emotional competencies, including youth or adult advisor programs, peer mediation groups, intentional and guided reflections during the school week, service learning, student-led initiatives, and whole building community-building activities (Durlak et al., 2011; Pasi, 2001).

Benefits and Limitations

SEL's benefits and limitations are addressed in multiple studies. Evaluations of SEL programming in schools suggested that participants showed statistically significant improvements in social and emotional skills (Durlak et al., 2011; Katz & Lamoreaux, 2018), academic behaviors (Berry et al., 2016; Durlak et al., 2011), and academic performance (Durlak et al., 2011; Katz & Lamoreaux, 2018; Zins et al., 2004). It is also worth noting that SEL program implementation correlated with significantly improved behaviors for children who struggled with emotion regulation, even when no significant changes were found in the overall student population (Berry et al., 2016). SEL programming has been linked to decreased teacher stress and decreased student and teacher conflict (Katz & Lamoreaux, 2018). This finding is especially relevant to the context of this capstone project's research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* Tying lessons to SEL teaching may directly impact teacher stress and therefore teacher self-efficacy, which will be discussed in a later subsection.

Other research pointed to no significant effects or challenged the implementation of SEL in school settings. For example, an evaluation of an SEL program for four to six year olds in a diverse city school district in the United Kingdom found no significant changes in childrens' behavior at 12 months following the intervention or at 24 months in the overall population (Berry et al., 2016). The study did, however, find significant improvements in behaviors of children who struggled with emotion regulation (Berry et al., 2016).

Criticisms of SEL programming include its failure to adequately and explicitly address the impact of historic and contemporary inequities on childrens' social and emotional experiences (Simmons, 2019). Educators may shy away from addressing controversial topics in class out of fear of politicizing their classrooms, risking their jobs, or feeling underprepared to address highly-charged and sensitive issues (Simmons, 2019). Further, SEL curricula have been questioned for privileging white norms and values and discrediting the experiences and perspectives of youth of color and LGBTQ+ youth, rather than creating culturally-affirming practices (CJSF, 2020). The possibility that SEL teachings would reaffirm the status quo and harm children of marginalized communities is crucial to analyze in order to avoid harm when developing SEL-related activities for use in classroom settings and when training educators to implement the activities.

SEL, Mental Health, and Mindfulness

Researchers point to overlaps between SEL, mindfulness practices, and mental health. Katz and Lamoreaux acknowledge that mental health is inclusive of SEL, but goes beyond SEL since it also addresses topics such as clinical disorders (2018). They

also argue that SEL targets specific skills that, when developed, help young people cultivate improved mental health (Katz & Lamoreaux, 2018). Since mindfulness-based programs and SEL both address topics like empathy, understanding emotions, and self-control, mindfulness programs can naturally be incorporated into SEL programs (Moreno-Gomez & Cejudo, 2018).

Summary

SEL has a long history in education, but has gained recent popularity in U.S. classrooms. SEL programming may target particular or general behaviors in classroom settings. Studies suggest various benefits and limitations of SEL programming. Limitations in embracing norms of students of all backgrounds are crucial to analyze critically in order to reduce the possibility that curricula marginalizes students. The interplay of mindfulness, mental health, and SEL will be especially useful in informing the development of a set of mindfulness lesson plans for high schoolers that will draw on SEL topics for this capstone project. The following subsection explores the concept of teacher self-efficacy and its implications for mindfulness programming.

Teacher Self-Efficacy

Teacher self-efficacy is teachers' perceptions of their capabilities to influence student learning (Klassen & Chiu, 2010). The literature suggests an association between teachers' self-efficacy and student and teacher outcomes (Hattie, 2009; Klassen & Chiu, 2010). This section unifies prior sections in its discussion of the impacts of work-related stress on teachers and their self-efficacy, in addition to the effects of teacher perceptions and preparedness on social-emotional learning (SEL) and mindfulness teaching. The

section finally examines any connections in the literature between teacher stress, mindfulness, and effective teaching.

Teacher Self-Efficacy and Stress

Teacher self-efficacy is a term for teachers' beliefs about their abilities to influence student learning (Klassen & Chiu, 2010). In a review of over 800 meta-analyses, Hattie found that first and foremost, teachers are among the most powerful influences on student learning (2009, p. 238). Educators' ability to support student learning can be affected by stress: the literature suggests that higher levels of teachers' perceived stress is correlated with lower perceived self-efficacy levels for teachers (Collie et al., 2012; Klassen & Chiu, 2010). In addition, perceived stress related to workload and sense of teaching efficacy is directly related to teachers' sense of job satisfaction (Collie et al., 2012). This is an important relationship to keep in mind given current high teacher turnover rates (Klassen & Chiu, 2010).

The impact of work-related stress on teachers' sense of job satisfaction can be mediated by increasing teacher self-efficacy (Klassen & Chiu, 2010). Recently, there has been growing interest in mindfulness interventions that support teachers with developing their teaching skills *and* promoting their well-being and self-regulation (de Carvalho et al., 2016). Since work-related stress can significantly impair teacher self-efficacy and impact student outcomes, it may be especially beneficial for educational settings to examine these types of interventions that address teacher self-efficacy (Collie et al., 2012; Hattie, 2009). The following subsection addresses connections in the literature between teacher self-efficacy, SEL, and mindfulness programming.

Teacher Self-Efficacy, SEL, and Mindfulness

In order to effectively implement SEL and mindfulness teachings in schools and other settings, it is important to train teachers so they are knowledgeable about the topic (Collie et al., 2012). In a study of over 600 elementary and secondary teachers, researchers found that teachers' comfort in implementing SEL activities had the most powerful impact on students of the SEL-related factors examined (Collie et al., 2012). To create effective learning opportunities, teachers must know the learning goals and outcomes of lessons, and participants in the lessons must feel safe learning and relearning as they explore new information (Hattie, 2009). These findings informed the capstone project curriculum design's emphasis on teacher preparation for understanding the content and learning targets.

Teachers themselves may also benefit from mindfulness curricula. A review of three mindfulness programs for teachers yielded promising results including significant increases in teacher mental well-being, classroom management, and teacher self-efficacy (de Carvalho, 2016). An additional study on mindfulness interventions found a significant improvement on self-reported mindfulness for teachers following the intervention (Luong et al., 2019). Considering current high levels of teacher stress, it may be constructive for teachers' well-being, job satisfaction, self-efficacy, and student outcomes to implement mindfulness practices in educational settings (Collie et al., 2012; Klassen & Chiu, 2010).

Summary

Teacher self-efficacy is teachers' perceptions of their capabilities to influence student learning (Klassen & Chiu, 2010). The literature suggests a link between teachers' self-efficacy and student and teacher outcomes, in addition to negative influences of stress on teacher self-efficacy (Hattie, 2009; Klassen & Chiu, 2010). Given the potential benefits of stress reduction on teacher effectiveness, implementing stress-reducing mindfulness programming in schools merits further research (de Carvalho, 2016). Findings from teacher self-efficacy research informs the creation of the capstone project by stressing the importance of thoroughly preparing teachers to teach mindfulness, and guiding them along as active participants in the mindfulness lessons.

Chapter Summary

Chapter Two examined research required to address the research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* First stress, trauma, and mental health were defined, and potential challenges that arise from exposure to chronic and acute stress and trauma were examined. The chapter then explored the concept of mindfulness, grounded in history and applied to educational settings. Next, it reflected on the growing field of social-emotional learning (SEL) and its potential benefits and limitations. Finally, the chapter addressed research concerning teacher self-efficacy and its connection to stress, mindfulness, and SEL.

The literature points to several types of mindfulness programs that have been implemented in high school or other educational settings. However, these programs tend to be intensive, multi-week programs that are facilitated by specialists. During a time of

rising adolescent and educator stress levels (Milligan et al., 2016; Collie et al., 2012) and restricted opportunities for schools to address stress management and mental health due to budget constraints (Anderson & Cardoza, 2016), it may be beneficial to offer free or low-cost and low-time commitment programs that address student and teacher stress. This project aims to address that gap by offering a free, research-based, and approachable introductory mindfulness lesson set for educators to use in any setting with teens. This project further addresses a gap in resources for developmentally-appropriate neuroscience content for high school students by incorporating accessible brain and nervous system research into the lessons.

Throughout the chapter, cross-cultural differences and inequities were analyzed in the interest of addressing the research implications for as diverse a student and staff population as possible. The literature review also considered the application of each section topic in educational settings specifically. The impacts of mindfulness programming in school settings, SEL, and teacher preparation and self-efficacy informed the creation of the final capstone project. The following chapter details the application of the research findings to create an effective mindfulness curriculum design.

CHAPTER THREE

Project Description

Introduction

This chapter introduces the mindfulness curriculum design and its foundation in research. Based on current trends of increased stress and mental illness for American teens, high prevalence of traumatic experiences, and personal experience hearing strong educator interest in mindfulness programming, I developed a research-informed set of weekly mindfulness activities to implement in high school classrooms and other educational settings in response to the question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* These lessons can be implemented in any classroom setting and are designed to occur throughout one quarter of high school-level learning.

Project Overview

The following subsections elaborate on the capstone project design. I created a set of weekly mindfulness lesson plans with educator guides, responsive teaching tips, and context behind each strategy. The lessons are designed for use throughout one quarter of high school curriculum with teenagers in educational settings. The material is meant for implementation in any content area or educational setting.

This project overview includes research theory, setting and audience, project description, and timeline for completion. The project overview first focuses on the research paradigm. The intent is to introduce the curriculum design research paradigm, which was selected to adhere to best practices for planning and instruction.

Research Paradigm

The mindfulness lessons were created using an Understanding by Design (UbD) and differentiated instruction (DI) backwards design framework developed by Wiggins and McTighe (2011). As emphasized in the UbD/DI design paradigm, the project first identified desired results, then explained what evidence illustrates these results, and ultimately intentionally planned learning experiences and instruction in order to create effective and engaging lessons (Wiggins & McTighe, 2011).

Reasons for selecting the UbD/DI framework include its efficacy in clearly identifying learning goals and student progress toward them, and the framework's emphasis on including differentiated instruction for students with unique needs such as Special Education or English learner support. The mindfulness lessons content was informed by a literature review focused on stress, trauma, mental health, SEL, and teacher self-efficacy that was examined in Chapter Two. The mindfulness lesson plans were grounded in UbD/DI and backwards design theory (Wiggins & McTighe, 2011). The lessons were created to implement in any courses at high schools or other educational settings.

Setting

The capstone project was designed for adolescent-aged students in any educational setting. It was designed intentionally with a racially, culturally, and socioeconomically diverse student population in mind and can be effectively used in traditional classroom settings for any subject matter, in treatment centers, or in any setting serving teenage youth. Sharing this curriculum among teachers and youth workers

is encouraged as it was designed to provide guidance for any educators who wish to use it in their work with adolescents, regardless of prior knowledge.

The intended audience for application of the curriculum resides in a Midwestern county where a majority of children live in urban and suburban settings. The county population is racially and ethnically diverse with 68.4% of residents identifying as White, 13.8% as Black or African American, 7.5% as Asian, 7.0% as Hispanic or Latino, 3.3% as two or more races, 1.1% as American Indian and Alaskan Native, and 0.1% as Native Hawaiian and other Pacific Islander (U.S. Census Bureau, 2019). The population I work with is a majority students of color (70%), with highest percentages identifying as Black or African American, followed by Hispanic or Latino and Asian.

In 2018, 10.3% of the county's population lived in poverty (U.S. Census Bureau, 2019). When I worked in a Title 1 school in a previous teaching position, students qualifying for the free and reduced lunch programs made up 41% of the student body. Most of the children I work with at the county level now also face economic barriers to their educational goals. These barriers have been further compounded by the pandemic, since most children needed reliable internet and technology access for the entirety of the first semester of the 2020-21 school year, and many remained in distance learning full or part-time for part or all of the second semester. The mindfulness lessons were created with these backgrounds in mind and are appropriate to use in diverse schools with particular stress and trauma needs, and in Title I schools with high socioeconomic needs. The lessons require easily accessible materials for classroom teachers to provide to all

students, regardless of socioeconomic status or mode of education (hybrid, distance, or in-person learning).

Target populations for this capstone project include racially and socioeconomically diverse teenage students. The project application takes place in an urban and suburban Midwestern county. It can be used in any educational settings for teenage youth, and may be particularly effective with diverse youth managing stress and trauma. The following subsection describes the capstone project in depth.

Project Description

The capstone project included ten mindfulness activities with accompanying educator guides. Ten lessons allows for a weekly lesson throughout one quarter of classes, and aligns with program length of interventions explored in Chapter Two that mostly ranged from six to ten weeks in length. The curriculum is best suited for a teenage audience, but may be adapted for younger students. The curriculum outlined step-by-step instructions for each activity including a hook, mindfulness activity such as box breathing, and a formative or summative assessment. Each lesson also included educator guidance with content information, responsive teaching tips, and research background for each activity.

The mini-mindfulness lesson set included a mix of individual, partner, small group, and large group options to cater to the unique needs of each student and setting. The project was created using the UbD/DI and backwards design framework and templates developed by Wiggins and McTighe (2011) and Tomlinson & McTighe (2006). The goal for students engaging in the lesson set is to engage in a series of short

introductory mindfulness activities and apply what they learned to their own lives to manage stress. Essential questions for the curriculum include the following: What is stress? What are helpful strategies to cope with stress? What is mindfulness? How do mindfulness activities affect my well-being? How can I apply what I learned?

It is recommended to introduce the five to 20 minute lessons either at the start of class, end of class, or as a mid-class brain break. Each lesson begins with a hook to engage students in the mindfulness topic for the day. It then provides detailed educator guidance for leading students in the mindfulness activity, followed by formative assessments like exit slip journals or summative assessments like Checkpoint #1 and Checkpoint #2. The lessons include a thorough introduction to the content at the start to best prepare teachers to introduce the material. They also each include responsive teaching tips for each mindfulness strategy to best address student needs. Finally, lessons include a summary of research connections to the specific activities.

To reflect on the effectiveness of the curriculum, I designed formative and summative assessments for student self-reflection on their stress levels and strategy effectiveness. Educators using the curriculum can administer the summative assessments at week five and week ten of the project. For formative assessments, the project included suggestions for each lesson. In some lessons, the formative was an exit slip journal handout with prompts, and in others I provided more informal suggestions such as thumbs up/down/middle to give a quick read of students' take on an activity.

The capstone project was a series of weekly lessons developed using the UbD/DI and backwards design framework (Wiggins & McTighe, 2011; Tomlison & McTighe,

2006). Resources included in the curriculum are intended to facilitate student self-reflection, teacher evaluation of the program, and teacher delivery of the content. Finally, the project provided opportunities for assessing student learning through informal formative checks, exit slip journals, and two summative assessments. The next subsection outlines the timeline for project completion.

Timeline

This subsection identifies the timeline for completion of the mindfulness lesson plan project and elaborates on the timeline intended for implementation of the lesson plans. The mini-mindfulness lessons project was designed during Hamline University's 2021 spring semester. Background research and preparation took place during Hamline's 2020 fall semester. To successfully meet completion requirements for the project, a project design timeline was created and revised during GED 8490. The project was also reviewed by peer reviewers, a content advisor, and the capstone project facilitator prior to final submission.

The project included a set of ten mindfulness-based activities for use in a high school classroom. The reason for ten lessons is twofold: it allows a high school teacher to implement a weekly activity for each week of a quarter, and it mirrors the duration of mindfulness programs from the literature review. The programs analyzed in Chapter Two ranged from six to ten weeks in length. An educator implementing the lessons into their work with teenagers needs to plan for about five to twenty minutes once a week for ten weeks to successfully engage in the mini-mindfulness lessons.

Educators who use the lesson plans start by reading the historical context and background information. They may wish to select a particular day of the week to use the activities to start class, or they may choose to have students help them decide when to include an activity within their day's curriculum. The activities are meant to guide each educator, but are also flexible to allow for adapting to students' needs to best engage them. They range in time from five minutes or less to about twenty minutes in duration. They do not need to be completed sequentially and may be best applied as fits each class's weekly timelines for regular instruction and content.

Summary

Chapter Three described the process, rationale, and timeline for designing the capstone project mindfulness activities curriculum. It identified the UbD/DI and backwards design research paradigm informing the curriculum creation in order to prioritize best practices. The curriculum was designed to respond to the research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?*

Chapter Three also described the urban and suburban setting and diverse population of teen students targeted with this particular application of the curriculum. The mindfulness curriculum can also be appropriately applied to any educational setting for teens, and may be particularly relevant for diverse teens with stress and trauma support needs. Lessons were designed for weekly engagement and include formative and summative assessments in the form of exit slip journals, informal surveys, and summative checkpoints. Drafts of the first three chapters were written and revised during Hamline

University's 2020 fall semester. The project was designed and revised and chapter four will be written during Hamline's 2021 spring semester. The following chapter reflects on the author's learning throughout the research process, revisits the literature review, addresses limitations of the project, and suggests future directions for project-related policy and further research.

CHAPTER FOUR

Conclusion

This capstone project analyzed academic research concerning mindfulness strategies in educational settings to inform the creation of a lesson plan set for high school students. During the research, writing, and lesson design process, I addressed the following question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* Repeatedly during project design, I reconsidered how to address benefits and limitations of different approaches in the literature review, and adapted my approach to lesson design. Changes during the process included revisiting literature review subtopics as I found new critiques and benefits to the approaches, adjusting lesson plan formatting, and trying new strategies to balance scheduling needs while working on the project while also working full-time from home.

New Learnings

When I dove into writing mini-mindfulness activities, the amount of detail needed to adequately address research context and responsive teaching strategies in the educator guide sections quickly ballooned beyond a size that would work well for my original intent to use Quizlet for the lessons. Initially I wanted to use Quizlet because it is free, easily accessible, and would allow teachers to randomize the activities. I decided to change to a traditional lesson plan format based on feedback I heard from teachers at the start of the capstone process: many were excited about the idea of teaching mindfulness, but said they lacked confidence to lead lessons since they don't have expertise in the topic. To best prepare educators, help them feel more comfortable facilitating the lessons,

and therefore facilitate the activities more effectively, I opted for a more thorough approach that walks through each activity in depth (Hattie, 2009).

During the capstone project, I also learned that it is more motivating and enjoyable for me to research in preparation of creating an artifact that can be applied in a real-life setting after completing a literature review. Past research experience I have had was theory-based, and I struggled to stay focused. This capstone project, on the other hand, was easier to engage in through the research and writing timeline because I remembered that youth I work with and other high school students may ultimately engage in and benefit from the activities.

Finally, I learned new strategies for approaching a large project. There were periods of the capstone process when I did not engage in writing or lesson planning for several days, and pausing made me less efficient when I attempted to get back in the flow of the research routine. I had not anticipated the stamina challenge I faced working on the project after a full day working from home on the computer. Experimenting with short writing sessions just before and after work was highly successful. It surprised me to learn that I could effectively research and write in 20 minute spurts. This approach was extremely helpful, and I will keep it in mind for future large projects that need to be broken down into manageable parts.

Literature Review Reflection

Revisiting the literature review in Chapter Two, mindfulness is first and foremost an important topic for this capstone. In particular, it was beneficial to explore ways to honor the origins of mindfulness while maintaining a culturally-appropriate, secular

approach in public settings (Wisner & Starzec, Gethin, 2015). The diverse settings for mindfulness intervention implementations considered in the literature review were also essential for designing a project also meant for use in diverse settings.

Thankfully there were many examples of research that analyzed mindfulness lessons in educational settings with students from diverse cultural, socioeconomic, racial, and ethnic backgrounds (Eva & Thayer, 2017; Himmelstein et al., 2011; Luong et al., 2019; Wisner & Starzec, 2016; Worthern & Luiselli, 2017). This was important in order to better create a culturally-responsive, trauma-informed capstone project appropriate for diverse educational settings. Considering these settings also addressed the question of promoting equity in school by prioritizing lesson design with unique populations and diverse student needs in mind.

The more I worked with youth struggling with traumatic experiences during the capstone, the more evident it became that due diligence to the research behind trauma-informed teaching was crucial for my capstone. Though short in duration, these activities have to be designed thoughtfully in order to allow all students to fully and safely engage in them. Reading *The Body Keeps the Score*, by Bessel van der Kolk, M.D. and PTSD specialist, especially informed this shift for me (2014). The book was an excellent opportunity to learn in depth about people's diverse experiences with trauma and PTSD, and made me think critically about each step of the lesson design process.

Stress management was also a key topic in the literature review, because it is the link to mindfulness in the research question: *How can engaging in mindfulness lessons impact high school student and educator stress levels?* Stress is a reality for everyone,

and pressing concern for American high schoolers and teachers. It was important to clearly articulate what stress is, factors behind it, and how mindfulness strategies can impact stress levels. The research addressing stress as measured after mindfulness interventions were helpful because they pointed out stress-related correlations such as statistically significant decreases in stress (Eva & Thayer, 2017; Himelstein et al., 2011; Luong et al., 2019; Wisner & Starzec, 2016) and statistically significant improvements in stress management (Wisner & Starzec, 2016; Worthern & Luiselli, 2017).

Experiences I had listening to students who have engaged in mindfulness activities further shaped the capstone research and design. For example, a teen who mentioned that yoga is a triggering experience for her made me think about the safest and most welcoming ways to incorporate movement into the curriculum. This meant changing activities to those based on sitting upright in a classroom chair, as students are used to doing, and looking more carefully for additional trauma-informed strategies, such as encouraging students to keep their eyes open if they prefer.

Focusing on critiques for each subtopic's literature review helped me develop a more complete understanding of each concept. This was especially relevant for social-emotional learning, which in my earlier professional experiences was mainly presented as an excellent approach to implement for children's mental health and development. However, reading critical analysis of SEL approaches reminded me that, like all other aspects of teaching, it is highly subject to social power dynamics and can privilege white, middle-class viewpoints (Simmons, 2019; CJSF, 2020).

Reflecting on these critiques helped me frame the project in a more responsive direction that is attuned to students' needs. For example, the first responsive teaching tip I wrote reminds teachers that each student's perception of stress varies due to cultural backgrounds and that their perceptions of stress, trauma, and mental health may impact how they interact with these lessons (Ellis et al., 2020; Gollub et al., 2019; Katz & Lamoreux, 2018).

Implications

Funding and time are always concerns with new policies or initiatives in school settings, from my experiences in education. Since mindfulness research repeatedly suggests mental and physical health benefits and limited to no harm from engaging, future policy could certainly consider the research and funding pilot trials in school settings (Hirshberg, 2020).

It is crucial to properly train teachers for new programming in order for their teaching to be effective and for them to take a culturally-informed approach (Hattie, 2009). Educators wishing to use this mini-mindfulness curriculum are advised to set aside sufficient time to preview each lesson, research concepts further as needed, and preview materials to best prepare for student engagement.

Given the documented benefits of incorporating mindfulness programs in educational settings, future policies may focus on additional training and funding for mindfulness practice. It may also be beneficial for schools to train counselors and mental health professionals in mindfulness, given the benefits of mindfulness and U.S. schools' severe underfunding for mental health resources (Anderson & Cardoza, 2016).

Limitations

One limitation of the project is that the ten week duration of the curriculum, while based on average interventions in the literature lasting six to ten weeks, was brief in overall time spent in activities. I intentionally wrote short lessons ranging from about five to twenty minutes in length with the understanding from experience that they would be more accessible for pressed-for-time teachers responsible for other content. However, further research is needed to determine whether these short-duration interventions are as beneficial as longer activities.

The project is intended as an introduction to mindfulness, but could grow with further expert input and development. While I consulted expert advice and academic research to carefully develop the lesson set, I acknowledge that my role in this process is as a professional educator, not a psychology professional or a mindfulness expert. Therefore, the content depth is limited to my current level of understanding based on personal experiences and research from this past year and could grow with additional input.

While the responsive teaching tips and design are meant to create as inclusive an experience as possible for students and educators, this project will not be the right fit for every student or classroom. Even with alternative engagement options, some students may not wish to engage with the material for reasons that may stem from personal views, experiences with anxiety or trauma, or cultural beliefs. Further development of plans could incorporate more extensive accommodations and alternate options for engagement.

Future Research and Applications

Based on findings from the literature review and my experience designing the mini-mindfulness lesson set, I have several recommendations for directions for further research and application of these findings. One opportunity for research addresses a limitation of the project described earlier: studies examining the impacts of short-duration (less than half hour) mindfulness interventions in classroom settings. Developing a robust analysis that tracks student self-reported stress levels throughout an intervention would be beneficial. This research could explore the efficacy of short mindfulness activities compared to longer duration interventions that may be more difficult for public school teachers to implement due to time constraints.

Additionally, future mindfulness curricula could include student-led initiatives to develop or lead mindfulness activities. Studies addressing student engagement, behaviors, and self-reported stress levels during these interventions would be informative as well. Given current, high stress levels for high schoolers, it would be appropriate to consider the impacts of implementing mindfulness teachings throughout the school day, in multiple classes.

Future mindfulness curricula should continue to expand offerings that are representative of diverse populations by, for example, thoughtfully selecting video and audio clips that are narrated by people of different racial, ethnic, cultural identities. Lessons can be made more culturally-responsive by offering students opportunities to reflect on cross-cultural perceptions of stress and mindfulness.

Sharing Results

Based on teacher feedback at the start of this process, I understand that there is a strong interest in mindfulness programming for high school students. Hearing colleagues express enthusiasm and interest in mindfulness lessons encourages me to share what I learned with current and former work connections. I am happy to email the project to any interested educators and understand that the lessons will be accessible to anyone through the Hamline website. I can also share findings with my current team of county caseworkers and offer to share lessons or a condensed set of strategies to try with their cases. Using some of these mini-lessons during regular check-ins with students to help them center and to enrich our usual goal-setting and progress-check routines could be beneficial.

One way the project can benefit educational practice is by adding to discussions of trauma-informed practices in education. Depending on teachers' specific experiences, this is a growth area in education. For example, my past experience as a teacher rarely included professional development that targeted trauma-informed strategies and discussion. Increased trauma-informed training for my new role has proved extremely helpful for better understanding students' unique needs. Any given student in a classroom could have a history of adverse events, so a trauma-informed approach with intentional discussion and responsive teaching tips could help build awareness and inform educators who work in a variety of settings.

Considering the numerous benefits of mindfulness programming detailed in the literature, it would be advantageous for youth to share accessible programming with

educators. I plan to submit these materials for inclusion in the publicly-accessible Hamline website, to summarize findings and offer activities and context for current coworkers, and to share the mini-mindfulness lesson set with any educators who are interested.

Summary

The capstone project involved frequent reflection and redirection. I learned a significant amount about how to design trauma-informed lessons that introduce mindfulness in an approachable manner for beginning teachers and students. At several points along the way, I revised the mental framework I was using to guide lesson design (e.g., by increasing the focus on trauma-informed teaching and adding more responsive teaching tips addressing trauma) and the approach I took to time management (e.g., finding success writing for brief amounts of time directly before and after work). These lessons have the opportunity to benefit the educational profession by increasing opportunities for highly stressed students and staff to engage in interventions empirically shown to correlate with stress reduction.

If these activities yield results similar to those discussed in the literature, this project's potential benefits to the profession could include decreased student and teacher stress (Eva & Thayer, 2017; Feldman et al., 2006), improved emotion regulation (Feldman et al., 2006), improved perceptions of social relationships (Hirshberg et al., 2020), and decreased loneliness (Creswell, 2017). If teacher stress is reduced, job satisfaction may increase and teacher self-efficacy may increase, which can lead to more effective teaching (Hattie, 2009; Collie et al., 2012). The many benefits of mindfulness

practice, as documented in the literature, may contribute to a less stressful, more collaborative, and effective learning environment. The lesson set is accessible on the Hamline website or by request in order to share this learning and offer an introduction to mindfulness at the high school level.

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APPENDIX A

