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MINDFULNESS-BASED INTERVENTIONS:
THE IMPLICATIONS FOR STRESS MANAGEMENT AND ACADEMIC
PERFORMANCE IN UNDERGRADUATE STUDENTS

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

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December 2019

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CHAPTER ONE

Introduction

College is typically a time of major transition and transformation in a person's life. It is often the first time that students are making independent decisions while being exposed to new ideas, values, and beliefs. This is particularly true for those of traditional college age; those who go to college or university directly after high school. However, the average age of a community college student is twenty-nine. For both populations, the learning environment of a college campus affords a transitional and transformational opportunity. How students adjust, cope, or thrive can have a large impact on their success in college, as well as their later career and life. With the opportunity for transformation comes the reality that college life can be challenging and stressful. Of increasing concern is the mental health of college students. According to a 2014 National Survey of College Counseling Centers, 94% of the centers reported the continuing trend of a growing number of college students with severe psychological problems. The top concern, at 89%, is anxiety disorders (Gallagher, 2015).

Recognizing this critical stage and transformative opportunity in students' lives, colleges and universities are increasingly exploring and offering mindfulness opportunities as a means for coping with stress, developing awareness of choices and reactions, and promoting a greater sense of well-being. This has led me to the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* The ultimate goal of this project is to help

educators understand if mindfulness programs would be beneficial to students in managing their stress and anxiety, impacting their academic achievement, and overall personal well-being. The project has taken the format of a website for post-secondary educators in which I cover why a mindfulness program can be beneficial and offer best practices for implementing such a program. In this chapter, I discuss the rationale and context of my capstone question including information on stress management, academics, and mindfulness related to college students. This is followed by a description of my personal background and interests and what has led me to pursue this topic.

In Chapter Two, I review the literature as it relates to studies that have examined mindfulness-based interventions with college students and how this may impact stress management and academic performance. Chapter Three provides a description of my project and Chapter Four provides my reflection, conclusions, limitations of my project, and areas for future research.

Rationale for Project

The rationale for this research topic is based on emerging research which suggests mindfulness-based interventions with college students can be helpful, especially in regards to stress management and coping mechanisms. Additionally, there is a growing interest at the college at which I work in introducing mindfulness activities, in and outside of the classroom. While there is interest and isolated implementation of mindfulness elements, such as sessions on mindfulness during Welcome Day for new students, short meditation practice within first-year seminar courses, guided meditation incorporated into yoga in the fitness center, and a dedicated room for prayer or meditation, there is not a strategic or formal implementation of best practices.

Studies have demonstrated that mindfulness can be an effective strategy for reducing anxiety and stress, controlling attentional distractions, and improving overall psychological well-being in college students (Byrne, Bond, & London, 2013; Conley, Durlak, & Dickson, 2013; di Pierdomenico, Kadziolka, Miller, & Carlin, 2017; Greeson, Juberg, Maytan, James, & Rogers, 2014; Leland, 2015; Morrison, Goolsarran, Rogers, & Jha, 2014; Oman, Shapiro, Thoreson, Plante, & Flinders, 2008; Renner & Foley, 2013). These studies show that incorporating a mindfulness program at a college or university could offer students the means for learning how to successfully transition to college and manage the inevitable stress that comes with college life. While there is limited research, a few studies specifically address the benefit of incorporating mindfulness-based interventions with first year students (Baqutayan & Mai, 2012; Dvořáková et al., 2017; Mahfouz et al., 2018). First-year seminars are used by colleges to help students transition to college, integrate into the college community, and persist toward their degree. There is ongoing research as to the best strategies for these courses.

Additionally, a search for mindfulness-based interventions with at-risk college students yielded few results; although, the results from these studies thus far are promising (Rangoonaden, 2017; Sandoz, Kellum, & Wilson, 2017; Sandoz & Mullen, 2016). Institutions of higher education are increasingly interested in supporting students considered at-risk, those who are first generation (neither parent/guardian with a college degree), underprepared academically (placement scores below college readiness) and students of color and/or from low socioeconomic backgrounds. These groups are considered at-risk because they are less likely to complete a college degree than those who do not have one of these risk factors (Sandoz & Mullen, 2016). Having increased

numbers of students with one or more of these factors can be especially true for community colleges, with their open enrollment policies. Open enrollment allows a student with a high school diploma to enroll in the institution. Considerations for acceptance to a higher education institution with an open enrollment policy, such as high school grade point average, ACT scores, or completion of core high school courses are not taken into account. This increases the likelihood that the student enters college academically underprepared. Further, with tuition typically lower at a community college, they become a gateway for students from low socioeconomic backgrounds. Additionally, with an average age of twenty-nine, community college students often have the additional responsibilities of juggling academics, work, and personal responsibilities.

With mindfulness-based interventions in college students an emerging trend, it is a topic of interest for my colleagues as well as myself. With this interest comes the need to understand the best methods of implementation and with which students. This is the impetus for my research topic. Having discussed the rationale, I next discuss the context of my topic.

Project Context

With the growing interest in mindfulness programs for students across the nation in institutions of higher education, the college at which I work, a mid-sized public community college in the upper Midwest, is no different and is increasingly implementing elements of mindfulness interventions with our students. Thus far, there has not been a consistent or structured process of looking at what is being done, what might be of greatest benefit, and with which students. Additionally, there are specific student populations at the college that engender further attention due to their risk of not

persisting toward a degree. As a member of the First Year Experience (FYE) Committee at the college, this topic is important to me, as well as my colleagues, as we look to redesign the FYE courses at the college in order to better serve students. Moreover, I am working with one of the campus counselors in offering a pilot FYE course to female students going into STEM (science, technology, engineering, mathematics) fields. From the students' journaling, I have witnessed a recurring theme of stress that often includes the elements of self-confidence and time management. These, in turn, may affect the students' sense of well-being and academic performance. The FYE course currently addresses time management, study skills, life skills, and creating a growth mindset. When short mindful meditation sessions were added to the course, students expressed an interest in learning more about mindfulness and meditation as a means to reduce their feelings of anxiety and stress. The short sessions included briefly learning about the benefits of mindfulness, practicing a five-minute mindful meditation exercise as a group during class followed by a short discussion, and time for reflection in their journals. These sessions occurred twice during a semester. There was no outside work or practice that was required. After this experience, students not only asked for more sessions but also asked for strategies for incorporating this practice outside the few short sessions offered during class.

Personal Relevance

Personally, I am interested in this topic because I find mindfulness and meditation practices to be especially helpful to me during stressful periods and as a means to tap into a deeper sense of self and purpose. In reviewing the research, it has become apparent that there is a lack of information on how to best establish a mindfulness program at a college

or university where none exist. Presenting a template on how to develop a formal mindfulness program is what my project ultimately provides.

My personal journey with mindfulness and meditation began on an academic level as a college student when I took an Eastern religions and philosophy course. Later, I delved more deeply into the subject on my own through books on Eastern thought, philosophy, and spirituality such as the writings of Thich Nhat Hanh, a Zen Buddhist master, known for helping to introduce the West to the concept of mindfulness, and the current Dalai Lama, the spiritual leader of Tibet, who was awarded the Nobel Peace Prize for his non-violent struggle to liberate Tibet. My actual practice of meditation and mindfulness was sporadic but deepened considerably when I attended a two-week meditation retreat at a Buddhist monastery in Nepal. In addition to Eastern writers, my readings included Christian mystics who wrote of an internal and experiential experience of spirituality, such as Teresa of Avila and John of the Cross, a nun and priest from the 16th century, both later canonized as saints by the Catholic Church. Finally, I read and grew interested in a more secular, and perhaps more widely accessible, approach to mindfulness through the works of Jon Kabat-Zinn, the founding director of the Stress Reduction Clinic and the Center for Mindfulness at the University of Massachusetts Medical School. Kabat-Zinn's evidence-based work on the body-mind connection in health and wellness prompted me to participate in the 8-week program he created, Mindfulness-Based Stress Reduction. This not only provided me with a stronger foundation for a daily practice but also led me to look further into the scientific research concerning mindfulness and meditation. While this interest and practice has proved useful to me, I realize that it is not for everyone. Hence, a question I have in mind as I

pursue this subject is which students might benefit most and which settings might be most effective for a mindfulness-based approach. This has led me to the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?*

Chapter Summary

College is a critical time in students' lives and offers an opportunity for students to gain insight and skills that can help improve their academic success and personal well-being. Mindfulness-based programs are becoming increasingly popular in college and university settings and there is interest at the college at which I work to implement mindfulness-based interventions in a more systematic way. To that end, this project explores mindfulness-based interventions and their impact on students' stress management, adjustment, and integration into college, with the ultimate goal of helping educators understand if mindfulness programs would be beneficial to students and best practices for implementing a structured mindfulness program.

This chapter has laid a foundation for the need for studying the impact of mindfulness-based interventions with college students, along with the context and my professional and personal interest in this topic. In Chapter Two, I review the scholarly literature regarding mindfulness-based interventions and the role of stress in college students to better understand how these interact and when and how mindfulness-based interventions could prove beneficial. Chapter Three discusses the project description for my research question, including the format and framework, setting and audience, and assessment. Chapter Four includes reflections, limitations, suggestions for future research and a conclusion.

CHAPTER TWO

Literature Review

Chapter One introduced the rationale and context for examining mindfulness programs in institutions of higher learning, along with my professional and personal interest in the topic. Scholarly literature regarding mindfulness-based interventions in post-secondary settings, as well as stress and college students, is reviewed in this chapter to better understand how these interact and when and how mindfulness-based interventions could prove beneficial. This has led to the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* The ultimate goal of this project is to help educators understand if mindfulness programs would be beneficial to students in managing their stress and anxiety, which could impact their academic achievement and overall personal well-being.

Various mindfulness-based interventions are increasingly being used on college campuses. Therefore, this chapter first defines and reviews types of mindfulness programs currently in use, including varying modalities of implementation. As a means to potentially aid in stress management, the next section discusses literature regarding the mental health trends of college students, paying particular attention to stress and anxiety. Additionally, the use and benefits of mindfulness-based interventions in helping college students manage stress is reviewed. Finally, a review of the literature as it pertains to mindfulness-based interventions, academic performance, and first-year and at-risk

students is discussed, as well as a summary that includes an analysis and synthesis of the findings.

Mindfulness

In the Oxford English dictionary online, mindfulness is defined as “a mental state or attitude in which one focuses one’s awareness on the present moment while also being conscious of, and attentive to, this awareness” (“Mindfulness,” 2002). Furthermore, mindfulness has been defined as “...paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 2005, p. 4). The addition of nonjudgment in Kabat-Zinn’s definition is an important element as it relates to opening oneself to acceptance of the present reality. Without first the awareness and then acceptance of the present reality, one cannot take action in an informed and conscious way. Teaching mindfulness and acceptance methods to aid students in their adjustments to college as well as promote positive mental health is becoming increasingly common (Hayes, Pistorello, & Levin 2013). To train someone in mindfulness involves engaging individuals in exercises to “cultivate attentive, present-centered, and non-reactive mental mode” (Morrison et al., 2014, p. 1). Mindfulness promotes a focus on the present rather than dwelling on the past or worrying about the future with a nonjudgmental approach that encourages dealing with one’s current situation without exaggeration, rumination, or anxiousness. With continual technological advances, an ever constant news stream and presence of social media, it is becoming increasingly difficult to “unplug”. This can lead to scattered and fragmented lives, the antithesis of mindfulness, which focuses on a single point of attention and awareness of the present moment, thus allowing the practitioner to make sound decisions based on one’s current situation. It can be understood why

mindfulness training could be beneficial to college students who often employ poor coping habits such as avoidance behaviors.

Increasingly, studies are showing a connection between mindfulness training and improved mental health and/or academic persistence in college students. There are various methods used in teaching mindfulness. Interventions with college students found in a review of the literature include Mindfulness-Based Cognitive Therapy, Mindfulness-Based Stress Reduction, Acceptance and Commitment Therapy, as well as Koru and Learning to Breathe.

Mindfulness-Based Cognitive Therapy

Mindfulness-Based Cognitive Therapy (MBCT) combines elements of cognitive therapy with mindfulness practices and was developed for those with recurrent depression and chronic unhappiness (MBCT, n.d.). MBCT was developed by Zindel Segal, Mark Williams and John Teasdale, and is based on Mindfulness-Based Stress Reduction, developed by Jon Kabat-Zinn. Participants in an MBCT program meet weekly for two hours across eight weeks with an all-day session between weeks five and seven. Homework, including guided meditation, supports participants in developing a personal practice (MBCT, n.d.). Specific themes of the program include mindfulness of the breath, staying present, allowing and letting be, and recognizing that thoughts are not facts (MBCT, n.d.). These themes help participants learn to accept themselves without judgment, notice their thoughts, explore ways of letting go of old habits, and be kind to themselves (MBCT, n.d.). MBCT can help participants see the patterns of their thinking, halt negative thinking, and develop awareness so that one is experiencing the world more directly, with compassion, and non-judgment (MBCT, n.d.).

Mindfulness-Based Stress Reduction

Mindfulness-Based Stress Reduction (MBSR) is a formal eight-week program with a daylong intensive that teaches the concept of mindfulness through meditation, yoga, body scans, mindful breathing, mindful eating, mindful walking, and paying attention to thoughts and reactions (MBSR, 2016). Developed by Jon Kabat-Zinn, the MBSR program aims to help participants learn to fully engage in the present moment and examine their perceptions and assumptions. Further, the program helps participants learn to perceive and respond to difficulties and stressful situations in positive and proactive ways (MBSR, 2016).

Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT) is a type of psychotherapy using mindfulness techniques that teach how to accept the difficulties that come with life (Contextual Science, n.d.). The aim of ACT is to teach psychological flexibility, which means being fully present and aware of the current situation so as to choose whether to continue or change behavior based on chosen values. ACT accomplishes this through techniques including acceptance, mindfulness, cognitive fusion (seeing thoughts as thoughts, versus reality), and a commitment to action (Contextual Science, n.d.).

Koru

The Koru mindfulness-based program was developed by two Duke University psychiatrists (Rogers & Maytan, 2012). It began as a pilot program for Duke University students and is now taught in post-secondary institutions across the country. The curriculum structure consists of four, 75-minute classes taught over four weeks. Classes include an opening and closing meditation, a check-in, and skill training in the areas of

belly breathing, dynamic breathing, walking meditation, guided imagery, mindful eating, and labeling thoughts and feelings. The program was designed specifically for teaching mindfulness, meditation, and stress management to college students and other emerging adults, ages 18-29 (Rogers & Maytan, 2012).

Learning to Breathe

Learning to Breathe (L2B) is a mindfulness-based curriculum that aims to help students increase attention, understand their thoughts, find emotional balance, strengthen their stress management skills, and incorporate mindfulness into everyday life (Learning to BREATHE, n.d.). First developed for adolescents, a modified version is now available for young adults. The BREATHE acronym stands for body, reflections, emotions, attention, tenderness, habits, and empowerment (Learning to BREATHE, n.d.). Two studies reviewed later in this chapter used modified versions of L2B targeted at the developmental needs of college freshmen.

The discussion and definitions of various mindfulness-based interventions used with college students found in the literature provides background information to help answer the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* The next section describes the ways mindfulness-based interventions have been implemented in college settings. While two of the mindfulness-based interventions discussed above (Koru and L2B) were specifically designed for young adults, traditional forms of mindfulness-based interventions are not always the most feasible for college students; therefore, alternative formats for implementation are examined first.

Modalities of Implementation

The mindfulness-based programs and therapies defined above are fully encompassing ways to teach mindfulness in various settings including colleges. However, because of the growing interest in mindfulness, individual colleges, campus counseling centers, faculty, and staff are implementing elements of mindfulness that might include beginning a class with a five-minute breathing exercise, offering sitting meditation in residence halls or wellness centers, and informing students of the multitude of mindfulness apps available. Much of mindfulness-based interventions in higher education is offered through campus counseling centers. However, as noted by Renner and Foley (2013), counseling centers are often stretched thin by ever increasing needs. Therefore, researchers have suggested a multitude of ways that mindfulness-based interventions could be implemented on college campuses, which include stand-alone credit courses, non-credit workshops, peer-run programming, meditation centers, wellness center classes, and embedding mindfulness interventions in existing courses (Benson-Tilsen & Cheskis-Gold, 2017; di Pierdomenico et al., 2017; Morse, 2013). Furthermore, to address the time constraints that college students often face, alternative formats such as online mindfulness classes and shortened versions have also been examined (Marks, Block-Lerner, Barrasso-Catanzaro, & Kowarz, 2016; Renner & Foley, 2013; Rogers & Maytan, 2012). Several mindfulness programs for college students used the template of MBSR, but were covered in six weeks or less and without the full-day retreat that is typically part of the MBSR program. These programs were found to be effective and participants showed significant pre and post differences in stress, anxiety and worry (Marks et al., 2016). However, as noted by Marks et al., (2016), while alternative formats were shown

to be effective, there is a need for more research due to issues, such as attrition, for online courses. Students in the online formats were more likely to drop out before completing the program than those in face-to-face settings.

The aim of another study was to compare formal meditation and informal mindfulness practice to brief mindfulness exercises and informal practice in managing stress in university students (Hindman, Glass, Arnkoff, & Maron, 2014). Both groups met for one hour each week over five weeks and received the same psychoeducational content focused on various elements of mindfulness. However, the students in the formal mindfulness group participated in meditation during group sessions and were prescribed daily meditation time beginning with 10-15 minutes and increasing to 30 minutes by week five. The meditation practiced by those in the formal group used concepts from MBSR, MBCT and ACT. Conversely, participants in the brief mindfulness program practiced mindfulness and acceptance activities, lasting no more than five minutes, which were based primarily on ACT and Metacognitive Therapy, and were asked to incorporate concepts of mindfulness in their day-to-day activities. Both groups showed a reduction in stress, but the formal meditation group demonstrated a larger effect. Moreover, while both groups showed a significant difference in mindfulness and self-compassion compared to a wait-list control, the formal meditation group showed significant within-group changes on all measures. Results suggest that mindfulness-based interventions that incorporate formal meditation and informal practice may show more promise for students in managing stress than those with brief mindfulness activities (Hindman et al., 2014).

Mindfulness has its roots in Eastern spirituality and thought. However, the growing secular therapies and programs are becoming increasingly of interest to

researchers, therapists, institutions and individuals. Therefore, a variety of definitions and ways to use mindfulness as an intervention abound. Different types of intervention may be more beneficial to certain audiences and how these interventions have been used and recommended are reviewed in a later section of this chapter. Mindfulness-based interventions for undergraduate students are becoming more common as a means to help students manage stressors and make a successful transition to college. The next section reviews the literature regarding the mental health challenges faced by students and why many colleges and universities might be interested in implementing mindfulness-based interventions as a means of promoting a healthier student population.

Stress and Students in Higher Education

As noted in Chapter One, a 2014 National Survey of College Counseling Centers reported 94% of the centers indicating a continuing trend of a growing number of college students with severe psychological problems, with anxiety disorders being the top concern (Gallagher, 2015). In their study evaluating the mental health trends and utilization of college counseling centers, Xiao et al. (2017), reported that the average center experienced an increase of nearly 30% of students seeking services from 2009 to 2014. However, with this apparent national trend of an increasing prevalence of students reporting concerns in areas such as anxiety and depression, Xiao et al. (2017) also noted that further research that focuses on local demand rather than generalization is also warranted. Mental health issues that arise during this transitional time can linger for years; whereas, learning coping and other life skills can help improve the students' college years and later in life (Hayes et al., 2013).

The examination of stress experienced by college students goes beyond simply helping students cope or creating a sense of well-being. Resilience is critical in the demanding college environment. When it comes to mental health in college students, stress is consistently reported as the number one factor affecting students' academic performance. As noted by Hartley (2011), stress impairs the academic achievement of about a third of college students, causing physical problems, anxiety, and depression.

As a means for promoting academic and personal wellness, mindfulness and meditation are increasingly offered in university wellness centers "and can be a life-changing experience, improving sleep and focus and reducing stress" (Benson-Tilsen & Cheskis-Gold, 2017, p. 141). The interest in stress-management has a long history in higher education institutions and coping with stress has been identified as a high-priority by college communities (Oman et al., 2008).

College is a time of transition and transformation for students where they are often dealing with academic, social, and other stressors. Additionally, they are confronted with major decisions, such as choosing a field of study, which can have a lasting impact. Financial stressors, work demands, and feelings of isolation can also add stress to students' lives. School-based health promotion programs are well established in the K-12 system; however, the impact of such programs in institutions of higher education is less clear and needs more research (Conley et al., 2013). Due to the transitional and developmental context of college, as well as the transformative opportunity of lifelong learning, institutions of higher education are prime settings for promoting mental health programs and interventions (Conley et al., 2013; Hayes et al., 2013). While it may be impossible to eliminate the stressors of college life, it is important to examine how

students can learn better ways to manage that stress. The question remains how these can best be implemented for greatest effect and in a manner that fits within the mission and values of institutions of higher education, which has led to the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* The next section reviews the literature as it pertains to mindfulness-based interventions and how these interventions can benefit students.

Benefits of Mindfulness-Based Intervention for College Students

While mindfulness has received significant attention in the past decade, fewer studies have focused on mindfulness in university students and what influence it may have with challenges these students face (di Pierdomenico et al., 2017). Although there is not an abundance of research regarding mindfulness and undergraduate students, it is an emerging trend and what is available on this topic shows promise. Renner and Foley (2013) argued there is growing evidence that supports the use of mindfulness-based interventions in promoting the well-being of college students.

Mindfulness, Stress, and Well-Being in College Students

As noted in an earlier section, stress is a top concern for college students and can impair academic performance and success. With growing mental health concerns at institutions of higher education, researchers are looking at ways that mindfulness might benefit students in reducing stress and improving their well-being.

In their evaluative review of research on mental health promotion and prevention in higher education, Conley et al. (2013) found that mindfulness interventions, followed by cognitive-behavioral strategies, were most effective for reducing emotional distress (stress, anxiety and depression), and improving social skills and self-

perception. Additionally, they found that supervised skills practice improved the efficacy of these interventions. It is not enough that students have information regarding mindfulness; it is better for students to have the opportunity to practice mindfulness in a setting with a skilled practitioner.

Students participating in Koru— mindfulness training developed for emerging adults— reported an improvement in perceived stress, quality of sleep, mindfulness, and self-compassion (Greeson et al., 2014). Oman et al. (2008) compared the benefits of training using the principles of MBSR and Eswaran's 8-Point program in undergraduate students. Both groups showed a significant reduction of stress and enhanced forgiveness compared to the control group, with the benefits remaining intact at a two-month follow-up. Key to this training, as many others, is the element of practice and support for students to incorporate the training outside of the sessions and into daily life. If students are not taught how to use or apply their new found skills outside of training, or if they are simply given the information on the benefits of mindfulness, it is not likely to have lasting benefits.

Many of the studies reviewed here examined a mindfulness-intervention experimental group with a control group with no intervention. However, in a study that sought to answer how college counseling centers could best address the needs of their students, researchers compared the effects of mindfulness training (using MBSR) and the more traditional method offered at college counseling centers, Interpersonal Process Group Intervention (IP), with a control group. Both the MBSR and IP groups showed a significant reduction in anxiety, depression, and interpersonal problems compared to the control group. However, at a six-month follow-up, only the mindfulness group

maintained the reduction of anxiety and depression; whereas, only the IP group maintained a reduction in interpersonal problems. Notably, only the mindfulness group showed a reduction in academic problems at the time of the study and at the six-month follow-up (Byrne, Bond, & London, 2013).

Additionally, a case study comparing MBCT and ACT with college students found a significant decrease in psychological concerns and an increase in mindfulness and acceptance (Renner & Foley, 2013). Although there was not a significant difference, the authors observed a trend for greater reduction of anxiety with the MBCT group. Additionally, they noted that ACT seemed to be a better fit for students less motivated to do the mindfulness work. As such, they suggested that ACT might be more suited for traditional-aged students due to their developmental stage; whereas, MBCT might be better suited for more motivated or non-traditional aged students with chronic challenges (Renner & Foley, 2013).

In their meta-analysis of twenty-four studies involving 1,431 college students reviewing interventions aimed at reducing stress, Regehr, Glancy, & Pitts (2013) found mindfulness, as well as cognitive and behavioral interventions, to be effective at reducing stress and anxiety. The authors suggested that these interventions, including mindfulness programs, should be widely available to students at institutions of higher education.

In addition to examining how mindfulness-based interventions may benefit college students, researchers have looked at the implications for those students with a natural disposition to mindfulness. Di Pierdomenico et al. (2017) found a correlation between trait mindfulness, stress, and coping in undergraduate students. The authors described trait mindfulness as those students who were more naturally inclined to

mindfulness. They argued that mindfulness occurs on a continuum, and those who scored higher on a mindfulness scale had healthier coping strategies and were able to calm themselves faster in distressing situations. Because of this, the authors suggested that mindfulness-based interventions may help distressed students by helping them develop healthier coping mechanisms (di Pierdomenico et al., 2017). Another study examining trait mindfulness in college students found that acting with awareness and non-judgment was positively associated with emotional well-being (Bodenlos, Wells, Noonan, & Mayrsohn, 2015). The study used the Five Facets Mindfulness Questionnaire (FFMQ) to measure trait or dispositional mindfulness. The authors suggested that college counselors may want to emphasize acting with awareness and non-judgment but also suggested that further research is needed in how to best tailor mindfulness interventions with college students.

Mindfulness and Academic Performance

Mindfulness training may not always directly address stress management, but the benefit of attentiveness, objectivity, better sleep quality, and operating from a proactive rather than reactive mode can provide habits and behaviors that assist in making better choices and cope with the inevitability of stress in college. Additionally, mindfulness can play a role in academic performance and success.

In his review of the literature regarding mindfulness and student success, Leland (2015) found that mindfulness training can help students be more successful and more connected to their college community. Moreover, he noted that the benefits of mindfulness can help in other areas of students' lives including stress reduction, focus, problem-solving, and relationship building. Because mindfulness teaches students to be

attentive and calmer in the present moment, it can help improve study habits, planning, and organization (Broderick & Metz, 2009). In a study conducted to examine the effect of mindfulness training and wandering attention, the results showed a reduction of mind-wandering. The mindfulness training was based on the core concepts of MBSR, and was offered over a period of seven weeks. The authors suggest that although the findings are preliminary, it warrants further study on the interrelatedness of mindfulness training, mind wandering, and academic achievement (Morrison et al., 2014). Leland (2015) argued that mindfulness training can help improve academic performance by helping students gain organizational and planning skills, perform better on exams, and use critical thinking skills. Having introduced mindfulness and academic performance in college students, the literature as it relates to mindfulness-based interventions and academic performance in specific college populations will be explored; namely, first year and at-risk students.

Mindfulness and Academic Performance in Specific Populations

The first year of college can be critical in terms of students adapting and learning strategies for successful academic performance and completing their degree. In a study of 120 first-year undergraduate students, participants were randomly assigned to either a control or experimental group with the experimental group participating in a sixteen-week meditation-based stress management program that taught participants how to cope with academic stress. There was a significant difference between the groups, with the mindfulness-intervention demonstrating lower stress and better coping mechanisms (Baqtayan et al., 2012). Notably, the authors also indicated that at a four-year follow-up, 28 of the 60 students from the control group had withdrawn from college; whereas, only

9 of the 60 from the experimental group had withdrawn. Of those who had remained in college, the students in the experimental group showed better academic achievement. With retention and persistence toward a degree being key elements that colleges hope to achieve through first-year success courses, the difference in withdrawal rate warrants further investigation.

Similarly, in their pilot trial of promoting healthy transitions to first-year college students, Dvořáková et al. (2017) found an increase in students' life satisfaction and decrease in depression and anxiety through mindfulness training. The researchers used an adapted version of L2B as their training method. L2B was first developed for use with adolescents and was adapted for this study to correspond with the developmental needs of those transitioning to college (Dvořáková et al., 2017).

Another study with college freshmen also used an adaptation of L2B. In this case, Mahfouz et al. (2018) used a mixed method approach in studying the effects of modified L2B training incorporated into required first-year seminars. They were interested in looking at a sample of qualitative interviews after a larger quantitative sampling because they argued the literature lacks evidence on how students experience and perceive mindfulness programs. They found L2B to promote healthy stress management through helping students learn coping strategies and addressing underlying stressors. Additionally, students reported "improvement in organization and time management, a commitment to a healthy lifestyle, improved emotional awareness and relationships, and self-compassion" (Mahfouz et al., 2018, p.10). Both studies stressed the importance of helping students make healthy transitions to college by teaching skills

related to stress management, healthy relationships, regulation of emotion and thoughts, and a sense of well-being.

Universities and colleges have identified factors that place students at-risk for not completing their degree. At-risk students, as outlined in Chapter One, are those who are first-generation, students of color, from a low socio-economic background, and/or those who are academically underprepared. A small qualitative study conducted with Indigenous students at the University of British Columbia's Okanagan campus incorporated mindfulness practices within a culturally responsive framework in a first year access course (Ragoonaden, 2017). The study included seven students between the ages of 18 and 53 who had not met the minimum admission requirements to the university. Weekly mindfulness activities included breath awareness, being present, and mindful eating and movement. Through interviews, the students self-reported a perceived reduction of stress; an increase in focus, attention, and general well-being; and a recognition of similarity between breath exercises and traditional practices related to smudging and prayer. Essential elements from this study include the benefits of mindfulness, as well as the importance of a holistic framework that honors cultural traditions.

Due to an increased number of students seeking one to one support from the counseling service at the University of South Australia, a three-week group program incorporating elements from various mindfulness programs (MBSR, MBCT and ACT) was piloted. The program's aims were to improve academic performance, manage study stress, and improve overall well-being. The qualitative study used completed surveys from workshop participants and consistently found that students self-reported improved

concentration, learning how to manage stress, the ability to stay more present, and improved sleep (Goretzki & Zysk, 2017).

Bean and Eaton (2000) proposed in their psychological model of student persistence that students are able to integrate into their social and academic communities, thus having greater ability to persist toward their degree, when they learn how to cope with rather than avoid the challenges of college adjustment (as cited in Sandoz & Mullen, 2016). Sandoz and Mullen (2016) suggested that mindfulness and acceptance based interventions can help students successfully persist at college by replacing avoidance behaviors with coping skills learned through the interventions. This can be especially relevant to at-risk students who often feel isolated or alienated and may avoid seeking help. In two pilot studies using mindfulness-based and acceptance interventions with at-risk students, results indicated that such interventions can help students decrease procrastination, increase behaviors such as seeking tutoring when needed, and increase academic performance (Sandoz & Mullen, 2016). This section of the literature review discussed mindfulness-based interventions and how they impact academic performance, including for first-year and at-risk college students, to answer the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?*

Summary

When considering whether and how to implement mindfulness into the college environment, the research summarized above supports a consistent and committed practice. The majority of empirical research on mindfulness in higher education settings used training programs that lasted over a period of weeks. Students not only practiced

mindfulness techniques, such as meditation, yoga or breathe work, with a skilled practitioner, but they were often given outside work and assignments to strengthen that which was learned in training. Nonetheless, some studies used shortened versions of mindfulness programs in order to accommodate the time constraints for college students with positive results (Goretzki & Zysk, 2017; Greeson et al., 2014; Renner & Foley, 2013). Less clear, due to lack of empirical evidence, are the implications of taking elements of mindfulness and teaching them outside of a structured training or alternative formats, such as drop-in meditation sessions and online training. Additionally, a majority of studies had facilitators or educators with years of their own personal mindfulness or meditation practice (Byrne et al., 2013; Greeson et al., 2014; Hindman et al., 2014; Renner & Foley, 2013; Rogers & Maytan, 2012). While it is true that an educator should understand the subject at hand, the question follows whether training would be as effective if counselors, faculty, or staff interested in incorporating mindfulness interventions with their students had fewer years of experience on which to draw.

Another note for consideration pertains to the large number of empirical studies reviewed here that had a majority of female students as their subjects (Byrne et al., 2013; di Pierdomenico et al., 2017; Hindman et al., 2014; Oman et al., 2008; Regehr et al., 2013; Renner & Foley, 2013). Regehar et al. (2013), in particular, encouraged universities to develop ways to address stress management for male students. It is not so much that mindfulness-based interventions are not effective for male students, but more so that they may be generally less inclined to participate in voluntary programs. However, participating in mindfulness-based programs may be seen as less stigmatizing than traditional forms of counseling, and authors suggested that adding

mindfulness programs could broaden the reach for students because of this (Byrne et al., 2013; Renner & Foley, 2013). Furthermore, with many of the programs offered in group settings, there is an opportunity to increase the number of students participating in these interventions, particularly when limited resources is an issue for an institution.

Another area with limited research is the impact of mindfulness and specific student populations, such as first-year students or those considered at-risk. Whereas these populations may be most in need of interventions to support their transition to college and persistence toward a degree, more research is needed to see how effective mindfulness-based interventions might be and how they would be best implemented. A final note of consideration is the need for a commitment to all training sessions, with some authors stating that students were prescreened out of training programs offered through counseling centers if they could not adhere to all sessions (Renner & Foley, 2013; Rogers & Maytan, 2012). This presents questions regarding feasibility of generalization to a university community.

While not yet abundant, the research thus far demonstrates the effectiveness of mindfulness-based interventions to help college students manage their stress, develop healthy coping strategies, and persist toward their degree.

Conclusion

The developmental and transformative nature of college can be a challenging time for students but also offers an opportunity for growth and learning life skills that can be helpful during a student's college years and beyond. As mindfulness-based interventions become increasingly popular throughout our society, they are making their way into college and university settings. It is important to understand what works and how it is

best implemented within the structure of higher education. This chapter reviewed the literature and the interplay of mindfulness, stress management, college students, and academic performance in an attempt to answer the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* In the next chapter, I describe my project, a website for post-secondary educators. The chapter provides a project overview and rationale, the audience and setting, website description, assessment, and timeline.

CHAPTER THREE

Project Description

After reviewing the literature on mindfulness-based interventions and college students in Chapter Two, this chapter offers a detailed discussion of my project (See Appendix A). The project is a website for post-secondary educators and answers the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* In my review of the literature regarding implementing mindfulness-based interventions in higher education, I found numerous websites devoted to mindfulness programs for K-12 settings; however, this was not the case for mindfulness programs in higher education.

In this chapter, I provide an overview and rationale for this project, a website for post-secondary educators. I describe the audience, setting, and content for the website, which is based on literature reviewed in Chapter Two. Finally, this chapter discusses the outcomes for this project, assessment, and timeline for the project.

Project Overview and Rationale

Format and Framework

The purpose of this project is to provide information and resources to student affairs professionals, faculty, and administrators at post-secondary institutions interested in understanding the potential benefits of mindfulness-based interventions with college students. Additionally, information and resources found in the literature on the types of evidence-based mindfulness-based interventions used with college students are shared. Because I have not found a website aimed at post-secondary educators with this

information in one location, this is the goal of this project. Although the effect of mindfulness-based interventions in college students is an emerging area of interest in need of further research, a review of the literature shows promise in using mindfulness as an intervention with college students (Byrne et al., 2013; Conley et al., 2013; di Pierdomenico et al., 2017; Greeson et al., 2014; Leland, 2015; Morrison et al., 2014; Renner & Foley, 2013). Originally, I planned to create a professional development opportunity for student affairs staff, but when I saw the lack of website results when searching for information on mindfulness programs for college students, I saw an opportunity to fill a need, especially for those who work in institutions, such as my own, where an interest to implement mindfulness exists but the institution lacks the structure of a research university or departments where mindfulness centers may more naturally develop. Working at a two-year, public community college, there are limited resources for developing and implementing a mindfulness program; however, as with all institutions of higher learning, there is an interest in services that support students in their persistence toward a degree. This website provides a one-stop site for those interested in implementing mindfulness-based interventions at their institution. Additionally, it provides research and resources for professionals at institutions where mindfulness activities are offered but lack a structured format or grounding in evidence. Theories and therapeutic applications of mindfulness are in a period of growth and development. As such, a website can be readily updated to include emerging trends and practices. Furthermore, a website can reach a large audience, create a community of learners, and provide information regarding mindfulness benefits, research, resources, and best practices at one site.

The web design framework I used to guide the development of the website is *The Research-Based Web Design & Usability Guidelines* published by the United States Department of Health and Human Services (2006). These guidelines provided direction to ensure the website is created to provide content that maximizes engagement, relevancy, and appropriateness to the audience (HHS, 2000). Studies have shown content is the most important aspect of a website and “is more important than navigation, visual design, functionality, and interactivity” (HSS, 2006, p. 2). Additionally, goals of the website should be determined before beginning the site’s design and should drive the content and function of the website (HHS, 2006). With these guidelines in mind, I used my research question to inform the goals of the website, keeping the content relevant, usable, and focused on evidence-based content with accurate citations. Additionally, as recommended by HHS (2006), important items, such as the navigation bar and a link to the homepage, were placed consistently on every webpage, and the most important information are at the top and center of each webpage.

Audience and Setting

The intended audience for this website is any post-secondary educator interested in learning more about mindfulness-based interventions with college students. However, it is often through campus counseling centers that mindfulness-based interventions are offered. Therefore, this project is a resource for student affairs professionals, those who would be interested in implementing mindfulness programs, as well as those interested in better recognizing when to recommend students for such programs. This includes staff from counseling centers, social workers, professional academic advisers, and professional

tutors. It is intended for those student affairs professionals most likely to encounter students struggling and in a position to incorporate mindfulness-based interventions.

I currently work at public, two-year community college where we have seen an increase in students seeking assistance through the counseling center; however, the overall relative flat enrollment rates and constrictive budgets have resulted in layoffs in the Student Affairs department. Therefore, these student affairs professionals are asked to do more with fewer resources. With an enrollment of nearly 8000 students, there are two full-time and one part-time counselors on staff. Furthermore, the demographics of the college consist of almost half that are considered high financial need (based on federal Pell grant eligibility), almost twenty percent are first-generation, and approximately thirty percent are students of color. Over thirty percent place into developmental English courses and fifteen percent place into developmental math courses. Having discussed the project overview and rationale, the next section describes in detail the contents for this website.

Website Description

Homepage

According to HHS (2006), the homepage should “clearly and prominently communicate the purpose and value of the Web site...” (p. 38). With this in mind, the purpose of the website is provided: information for educators interested in mindfulness-based interventions with college students. And, the value of the website is provided: stress is consistently reported as the number one mental health factor affecting students’ academic performance. While there is no way to eliminate those stressors, learning stress management, awareness, and flexibility through mindfulness can set the stage for greater

success in college and beyond. Based on recommendations from HHS (2006) to keep web pages free of clutter, provide adequate white space, and designed so that a user does not need to keep scrolling for information, prose is limited on the homepage to the purpose and value of the website. Other elements users expect from a homepage, such as an index and links, are also included (HHS, 2000).

About

This section explains how the website came about and provides a look at the impetus of the website based on my professional and personal journey with mindfulness.

Mindfulness Programs

Using information covered in Chapter Two, this section of the website provides definitions and details of various mindfulness programs commonly used in research studies based in university settings. These include Mindfulness Based Cognitive Therapy (MBCT), Mindfulness Based Stress Reduction (MBSR), Acceptance and Commitment Therapy (ACT), Learning to Breathe (L2B), and Koru. HHS (2006) advised web designers to include links to related content; therefore, links to the official websites for each of these programs are provided. Moreover, a definition of mindfulness is included on this page.

Research

Several webpages are dedicated to outlining the research discussed in Chapter Two as it relates to college students and mindfulness. One webpage covers the research concerning mindfulness and stress in college students. Another details the research regarding mindfulness and academic performance in college students. Finally, the research as it pertains to mindfulness and first-year and at-risk students is discussed.

Various studies and findings are shared so as to demonstrate how mindfulness has shown to be effective and used for stress management, academic performance, and with first-year or at-risk student populations.

Implementation

This section of the website describes ways that mindfulness programs have been modified to fit the post-secondary environment. Specific considerations, including needs of the students, available resources at the institution, and mindfulness experience of the facilitators/educators is discussed. There are traditional approaches to using mindfulness-based interventions in the clinical and health settings, the research shows that modifying these approaches may benefit students. These include adapting them to the developmental stage of college students, shortening the length of meditation and training sessions, and offering them in modified and non-traditional ways such as with peers, online formats, or in wellness centers (Benson-Tilsen & Cheskis-Gold, 2017; Mahfouz et al., 2018; Marks et al., 2015; Morse, 2013; Rogers & Maytan, 2012).

The literature review revealed the importance of educators having their own mindfulness experience if they hope to implement mindfulness activities with their students. This section of the website provides information and resources for educators to establish or deepen any existing mindfulness practice. Additionally, several mindfulness programs, such as Koru and MBSR, offer certification for trainers. The certification process requires a certain level and amount of experience with mindfulness before it can be pursued. From previous discussions with colleagues, I am aware of an interest to implement a more formalized mindfulness program at the college where I am employed. Along with ongoing discussions with colleagues, at a previous professional

development day, an hour-long session on mindfulness was offered where faculty and staff learned the basics about mindfulness and participated in a brief session of meditation. This session was widely attended and participants asked for future sessions. This section of the website provides resources for educators to learn more about establishing a practice of mindfulness or become a certified in mindfulness training through live and online courses.

Best Practices

This section of the website offers information on the necessary components of a mindfulness program for college students based on the research from Chapter Two. It aims to show that a formal mindfulness program is more than offering a yoga class in a wellness center or offering psychoeducational information on the benefits of mindfulness. While those can be elements of a mindfulness approach, this project is concerned with a systematic way of offering mindfulness-based interventions that can help students learn to look at themselves and the world in a new way. This new way of looking allows for observation of thought in an objective way where there is more choice in action rather than a mindless reaction that may incorporate unhealthy coping mechanisms commonly seen in the college student population such as avoidance behavior, procrastination, rumination, worry, doubt, or substance abuse.

Best practices include facilitators with their own mindfulness experience, offering guided practice sessions for students as well as encouraging independent practice, offering regular sessions to establish a consistent practice, offering alternative forms for various developmental stages, and offering mindfulness within culturally responsive frameworks. Additional information is provided so users can determine which

interventions would work best for their purposes. For example, college counseling centers may be familiar with and desire to use MBCT and ACT with their emphasis on therapy. Alternatively, the Koru website has evidence-based curriculum designed specifically for college students and other emerging adults, ages 18 to 29 (About Koru, n.d.).

References

This page provides a bibliography of sources cited on the website to ensure proper credit. Moreover, visitors are provided the information necessary to conduct further reading of the articles as desired.

Resources

According to HHS (2006), a website should repeat important links. The resources page houses in one place all of the links and resources included in other sections of the website. Additionally, it includes links to guided meditations and activities.

Assessment

The effectiveness of the website is continually assessed by those for whom it is intended. Feedback regarding the quality of content, usefulness of the information, and ease of navigation has been and continues to be gleaned from a group of colleagues at my institution who have an interest or background in mindfulness programs and implementing them with college students. According to HHS (2006), the iterative design process, where a website is tested and changed, can substantially improve the usability of a website. Therefore, revision and improvement of the website results from user feedback to increase the usability for the intended audience.

Timeline

This project will be further developed during the fall semester of 2019 with the intent of publishing the website at the conclusion of my capstone course. With feedback from the content reviewer and capstone advisor, revisions of Chapters 1-3 were concluded by the end of September. I used Wix.com to develop the website, and all content has been added. A review by the peer and content reviewer of Chapter Four and the website were completed by mid-November, and I completed the final draft of Chapters 1-4 and the website in mid-November.

Conclusion

With the benefits of mindfulness programs for college students demonstrated in Chapter Two, this chapter described the content of a website that provides information and resources for student affairs professionals, faculty, and others interested in using mindfulness with college students. The aim of the website is to provide education and resources to post-secondary educators and to answer the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* The next chapter provides reflection on my learning, a revisit of the literature, limitations of my study, areas for future research, and a concluding summary.

CHAPTER FOUR

Reflection

Introduction

The purpose of this project is to provide education and resources to post-secondary educators that answers the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?* To that end, I created a website using Wix.com that provides research, resources, and information on how to implement mindfulness-based interventions with college students, particularly at institutions where a structure for formal mindfulness-based programs does not exist. This is a topic of interest to me personally and professionally due to my own mindfulness practice and the growing interest at the college at which I work to implement mindfulness as another option to provide support for student success.

This chapter begins with a discussion of what I learned as a researcher, writer, and learner. Next, I revisit the literature and how that impacted my project. Finally, the implications and limitations of my project are discussed, as well as the plan for sharing the research and my project.

Major Learnings

This project came about because of my personal interest in mindfulness research along with an interest of colleagues at the college at which I work, a mid-sized, public community college in the upper Midwest, to explore implementing mindfulness in a more systematic way. As a researcher, I discovered the topic of mindfulness with

undergraduate students to be an emerging field, but one that is rapidly expanding. There have been numerous articles added to the literature since I first started my research, so I found myself continuing to look at the newest research even as I completed my project. I also discovered there is more research and resources available for implementing mindfulness in the K-12 setting. While I found numerous websites devoted to implementing mindfulness programs in K-12 settings, including Mindful Schools, Association of Mindfulness in Education, Mind Up, Mindfulness in Schools Project, and Learning to Breathe, I did not find the same resources for post-secondary settings. All of these websites provide information, curriculum, activities, resources, and training for educators for implementing mindfulness in K-12 settings. While there are websites for post-secondary settings, they typically do not include a review of various mindfulness programs, best practices, research, and resources at one site.

I discovered that as a researcher and educator, I wanted to provide a website that would include elements for implementing a mindfulness program for college students that provided research, information, and resources that covered the broad spectrum of how mindfulness has been used with college students and what the research indicates regarding those interventions, particularly as it pertains to stress and academic performance. Originally, I planned to create a professional development opportunity for my colleagues, but I determined that if this is a topic of interest to my colleagues and myself, it is likely a topic others would find useful. So while the website was created with my work setting in mind, it could easily be used at similar college settings or by individual post-secondary staff or faculty interested in learning more about the research

regarding mindfulness and college students and implementing mindfulness with their students.

Additionally, as a learner and student, I had a history of allowing perfectionism to create unnecessary stress. While I first learned about mindfulness and meditation during my undergraduate years, it was more of a theoretical rather than practical understanding. Since that time, I have learned from personal mindfulness practice the benefits of creating space for awareness, focus, and observing thoughts and emotions. This awareness allows for greater insight so as to make decisions from a place of clarity. The research I reviewed gave evidence to support my personal experience of mindfulness and provides direction in understanding how mindfulness can be offered to students so they have the opportunity to learn the skills that took me a while to discover for myself.

Moreover, through the research and development of my project, I found my confidence growing in taking an initiative within my college community in introducing mindfulness-based interventions with our students. I had not seen myself as an expert in mindfulness but more of someone with a personal interest and practice. However, having done the research, writing, and development of my project, I now believe I have the tools to work collaboratively with others to implement a program that is not only beneficial but potentially life-changing for those who participate. Additionally, the website provides information for educators at other post-secondary settings who have an interest, such as myself, to develop mindfulness-based interventions based on evidence. In this way, I see myself in a new light in that I could potentially have an impact on not only the students with whom I work but also on those I have not met.

Literature Revisited

As noted by several authors, college is a prime time for learning strategies for cultivating the awareness and non-judgment that mindfulness promotes as a means of dealing with the inevitable stress that comes with this transitional period (Conley et al, 2013; Hayes, 2013; Sandoz & Mullen, 2016). Additionally, the research indicates that mental health concerns from stress and anxiety is prevalent in college students (Gallagher, 2015; Hartley, 2011). From reviewing the literature, I learned that mindfulness does have a beneficial effect on college students' stress and anxiety, attentional distractions, and overall psychological well-being (Byrne et al., 2013; Conley et al., 2013; di Pierdomenico et al., 2017; Greeson et al., 2014; Leland, 2015; Morrison et al., 2014; Oman et al., 2008; Regehr et al., 2013; Renner & Foley, 2013). Furthermore, the research shows the benefit of mindfulness on college students' academic performance (Baqtayen et al., 2012; Broderick & Metz; Leland, 2015). This was an important finding for me, because while I was concerned with having a predisposed bias with believing that mindfulness would prove beneficial due to my own experience, I strived to maintain a neutral stance while reviewing the literature. With limited resources, and with persistence and student success being major concerns at post-secondary institutions, it is important to me and my colleagues to understand what might be helpful to students in supporting their well-being and academic performance.

A discovery I made from reviewing the literature was the numerous studies that used elements of Mindfulness Based Stress Reduction (MBSR) for the mindfulness program used in their research. This was important because MBSR, with its roots in medical and health settings, was shown to be effective in an educational setting.

Moreover, other types of mindfulness interventions, such as Mindfulness Based Cognitive Therapy (MBCT) and Acceptance and Commitment Therapy (ACT), with their roots in psychology and counseling, were also prevalent but often modified for the educational setting. Much of the research I reviewed that used these programs modified the format so as to better meet the time constraints and developmental stage of college students. Namely, the sessions themselves were typically shorter and offered over fewer weeks. Additionally, the amount of time spent on outside of training practice was also shortened. Even with these modifications, a significant effect for participants was demonstrated (Goretzki & Zysk, 2017; Hindman et al., 2014; Marks et al., 2016; Morrison et al., 2014; Renner & Foley, 2013; Rogers & Maytan, 2012).

Another discovery in reviewing the literature was the importance of guided practice, commitment to practice, and practice outside the training sessions (Conley et al., 2013; Oman et al., 2008; Rogers & Maytan, 2012). At my current place of work there is a small room set aside for meditation or prayer and drop-in guided meditation is offered through the fitness center. During Welcome Day events, a session on meditation with a short guided practice has also been offered. While these may be a place to start, it is clear from the research that it is not enough if there is to be a significant impact for students. This, of course, calls for additional resources; however, with mindfulness programs frequently offered through campus counseling centers, the group format of mindfulness-based interventions could prove to be more time efficient and cost effective than individual counseling. Additionally, attending a mindfulness program can be seen as less stigmatizing than visiting a campus counseling center, and authors suggested that adding mindfulness programs could broaden the reach for students because of this (Byrne et al.,

2013; Renner & Foley, 2013). Furthermore, mindfulness training does not need to be conducted by a college counselor; however, a standard practice in the research was for facilitators to have their own mindfulness practice. On one hand, this is good news in that offering a mindfulness program could be a collaborative effort across disciplines and departments. On the other hand, the research is not clear on the impact of facilitators/educators with fewer years of their own practice leading mindfulness training for students.

One impetus for my research was exploring whether mindfulness-based interventions would be an effective element in a first-year success course. As a member of the First Year Experience (FYE) Committee at the college at which I currently work, I am interested in the potential benefits of adding elements of mindfulness training into these courses. Additionally, in my position as Director of Academic Support Services, I see the impact on academic performance when students are dealing with the challenges of being a student considered at-risk for not persisting toward a degree. As defined in Chapter One, students are considered at-risk if they are first generation, students of color, from low socio-economic backgrounds, and/or academically underprepared. As a first-generation student and coming from a low socio-economic background, I remember having a sense of not truly belonging to the college community when I first started my undergraduate studies. I felt out of place and somewhat isolated, erroneously believing I was alone in not completely understanding the culture and processes of higher education. I believe a first year success course would have been helpful to me in transitioning to higher education. Additionally, I believe learning the practice of

mindfulness at that point in my life would have increased my self-awareness and helped me to better understand and thus address my doubts and fears.

While limited, the research with first-year and at-risk students demonstrates that mindfulness training can help students learn skills related to stress management, healthy relationships, regulations of emotions and thoughts, and a sense of well-being (Baqtayan et al., 2012, Dvořáková et al., 2017; Mahfouz et al., 2018). Moreover, when mindfulness training is taught within a culturally responsive framework, students were found to not only report a reduction in stress and an increase in focus, attention, and well-being, but they also recognized a similarity between mindfulness and traditional practices (Ragoonaden, 2017).

Limitations

One goal I had in mind while beginning this research was to understand how mindfulness might be beneficial in a first-year success course and with students considered at-risk. There is limited research regarding mindfulness and these specific populations. The research that has been conducted in this area is promising; however, questions remain as to whether a strong argument could be made to devote time and resources to mindfulness-based interventions in a mandatory first-year success course versus offering mindfulness to students on a voluntary basis. Additionally, I found a standard practice in the literature of facilitators having years of their own mindfulness practice. It is not clear whether training led by someone without as much personal experience would have the same impact. One final consideration is the majority of research subjects in the literature who were female (Byrne et al., 2013; di Pierdomenico et al., 2017; Hindman et al., 2014; Oman et al., 2008; Regehar et al., 2013; Renner &

Foley, 2013). Regehar et al. (2013), in particular, encouraged universities to develop ways to address stress management for male students, as they may be generally less inclined to participate in voluntary mindfulness programs.

Future Research

The limitations discussed in this chapter offer insight into future research areas. With the first year of college being a time ripe with potential for setting the stage for establishing skills that would benefit students during college and in their later lives, as well as often being fraught with challenges, the support services offered during this time can have a monumental impact. Whether mindfulness programs should be voluntary or embedded in mandatory courses cannot yet be fully answered. Furthermore, at-risk students are defined as such due to their risk of not persisting toward a degree. While supporting students is a multifaceted undertaking, a better understanding of how mindfulness-based intervention programs could play a part in assisting students in their academic persistence is needed.

Sharing Results

In communicating the results of my research and the culmination of that research, a website regarding mindfulness and college students, my first aim is to collaborate with colleagues within my own college community. Additionally, I believe this information would be useful to similar colleges, and I plan to share the information and website with other community colleges within the region. A place to begin with these similar colleges is with college counseling centers and student affairs professionals, such as myself.

Concluding Remarks

In this chapter I reflected on what I have learned through the research of mindfulness programs with college students and the creation of a website for post-secondary educators that answers the research question: *how do mindfulness-based intervention programs impact students' stress management and academic performance?*

The review of literature showed there is good reason to believe incorporating mindfulness into services offered at institutions of higher education is beneficial to students in terms of helping them learn ways to manage their stress. Additionally, the research demonstrates that the skills learned through mindfulness training can support academic performance. Key elements of a mindfulness program include offering training over a period of time, offering guided practice, and encouraging practice outside of training. Furthermore, evidence supports the use of the various secular mindfulness programs developed outside an educational context; however, modifying them to the time constraints and developmental needs of students was also shown to be effective.

While more research is needed, the research indicates that mindfulness embedded in first-year success courses and with at-risk students can support these students in managing their stress, increasing their sense of well-being, and supporting their academic performance.

Mindfulness is becoming increasingly popular in college and university settings. Through this capstone, I wanted to explore not only whether the interest at my workplace to offer mindfulness to students was warranted but also the best means to go about offering mindfulness-based interventions in a more systematic fashion. The research, writing, and project I have conducted not only provided the resources needed to

implement mindfulness programs at my worksite, but my hope is the website will inform other educators on how and why mindfulness-based interventions are beneficial for college students in managing their stress and improving their academic performance.

APPENDIX A

Website Link: <https://katejohnson67.wixsite.com/mindfulness>

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