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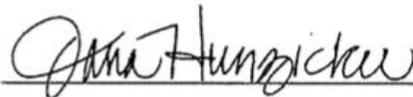
MINDFULNESS MEDITATION FOR STUDENT SUCCESS: THE IMPACT OF A VIRTUAL
MEDITATION GROUP ON COMMUNITY COLLEGE STUDENT STRESS COPING,
RESILIENCE, AND PERSISTENCE

A Scholarly Research Project

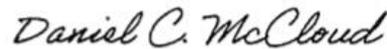
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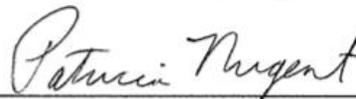
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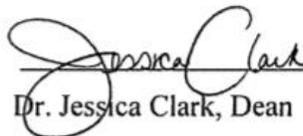
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ABSTRACT

This scholarly research project details the creation of a virtual 8-week mindfulness meditation workshop for community college students. The purpose of this action research convergent parallel mixed methods study was to examine the effects and impacts of an online mindfulness meditation college student group on student stress coping, resilience, and college persistence.

This study examined three research questions. The impacts of the virtual Mindfulness Meditation group on college students' stress coping, mindfulness, and resilience were increased meditation sessions, stress coping or of tools for stress coping benefits, and a positive impact on resilience.

Participation in a Mindfulness Meditation group appears to have a positive effect on college students' academic persistence, demonstrated by a high persistence rate and self-reported positive influence on academic performance. The experience of the students in the Mindfulness

Meditation group as it relates to the areas of stress coping, resilience, and college persistence was primarily positive, with three key themes emerging: positive feelings or sensations, increased mindfulness, and a feeling of community in the workshop. Limitations of the study and suggestions for further research are discussed. Finally, implications for practice, including expanding meditation and mindfulness opportunities for students are discussed as a way to increase student's stress coping, resilience, and college persistence.

DEDICATION

To my sons - Ki, Breckin, and Boden - my greatest teachers, my greatest motivators, my greatest accomplishments, and my greatest loves.

ACKNOWLEDGEMENTS

There are many people who made my goal of earning my doctorate a reality. None of this would be possible without the support, guidance, help, and love of my amazing parents, Mike and Wanda McKenzie. There is no possible way I could ever fully repay or thank them for those gifts, or for the gift of instilling in me from a young age the value of education and hard work. Thank you and I love you. To Charley, for his continual support, whether with kid or dog wrangling, encouragement, or giving me permission to rest, and my dear friends - Mari, Kristy, and Deb, for their constant pep talks, laughter, support, and love. I could not have done this without you. Thank you also to my meditation teacher and mentor, Ethan Nichtern, for your friendship on the spiritual path, connecting me to Susan Piver and Jenna Hollenstein's Meditation Instructor Training, and helping brainstorm early ideas about this project. To my fellow classmates Nancy Sweet and Laurel Bretz for your commiseration, support, and suggestions. To our Bradley faculty, particularly Dr. Jana Hunzicker, who provided immeasurable guidance and assistance in the creation of this project. Sending my appreciation and gratitude to you all.

TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER 1: INTRODUCTION.....	1
Mindfulness Meditation	3
Research on the Benefits of Mindfulness Meditation	4
Deficiencies of the Research.....	6
Significance of the Study	7
Research Problem, Purpose, and Question	8
Summary and Organization of the Report	8
CHAPTER 2: LITERATURE REVIEW	10
The Problem: Stress and Persistence	10
Meditation’s Effect on Well-being, Mindfulness, and Stress	11
Meditation Studies of College Students.....	13
Meditation and Well-being	18
Resilience.....	19
Resilience and Meditation.....	19
Resilience and Academic Success	20
Meditation and Academic Success	21
Retention and Persistence	22
Theoretical Models of Student Retention	22
Summary	23
CHAPTER 3: RESEARCH METHODS AND METHODOLOGY	25

Research Problem, Purpose, and Questions.....	25
Terminology.....	26
Meditation.....	26
Mindfulness.....	26
Stress Coping.....	27
Resilience.....	27
Persistence.....	28
Research Methodology.....	28
Convergent Parallel Mixed Methods.....	28
Action Research.....	29
Survey Research.....	30
Data Triangulation.....	31
Research Methods.....	31
Research Setting.....	31
Research Participants.....	32
Weekly Meditation Workshop.....	32
Week 1.....	33
Week 2.....	33
Week 3.....	34
Week 4.....	34
Week 5.....	34
Week 6.....	35
Week 7.....	35

Week 8	35
Data Collection Timeline and Sources	36
Qualtrics Survey.....	37
Perceived Stress Scale.....	37
Connor-Davidson Resilience Scale.....	38
Five Facet Mindfulness Questionnaire	38
Short Answer Questions	39
Weekly Journal Prompt.....	39
Persistence Data	39
Data Analysis	40
Analysis Procedures.....	40
Qualitative Data Analysis	40
Quantitative Data Analysis	41
Triangulation.....	41
Data Analysis Timeline.....	41
Researcher Positionality.....	42
Summary	42
CHAPTER 4: RESULTS	44
Findings and Results.....	44
Qualitative Data	44
Survey 1	45
Weekly Journal Entries	47
Survey 2	53

Survey 3	57
Quantitative Data	60
Attendance	60
Meditation Frequency	61
Perceived Stress Scale.....	63
Five Facet Mindfulness Questionnaire	65
Connor-Davidson Resilience Scale.....	67
Academic Persistence	69
Discussion.....	71
Impacts of Mindfulness Meditation Group.....	71
Increased Meditation Sessions	71
Stress Coping Benefits	72
Positive Impact on Resilience	72
Academic Persistence	73
Experience in the Meditation Group.....	74
Positive Feelings or Sensations.....	74
Increased Mindful Awareness.....	75
Community	76
Conclusion	77
CHAPTER 5: CONCLUSION	78
Synthesis of Findings, Results, and Discussion.....	78
Research Questions	80
Implications for Practice	80

Suggestions for Future Research	81
Limitations	82
Sample.....	82
Incomplete Participant Data.....	83
Research Design and Execution.....	83
COVID-19 Pandemic.....	84
Researcher Positionality.....	85
Conclusion	86
REFERENCES	87
APPENDIX A: Sample Recruiting Email	96
APPENDIX B: Informed Consent for Exempt Studies with Minimum Risk.....	98
APPENDIX C: Participant Survey 1, 2, and 3.....	100
APPENDIX D: Permission to Use the CD-RISC.....	103
APPENDIX E: Weekly Journal Prompt	104
APPENDIX F: Email for Student Enrollment Self-Report	105

LIST OF TABLES

TABLE	PAGE
1 Weekly Journal Prompt Completions	47
2 Weekly Journal Prompt Responses Coded Positive, Negative, or Mixed	52
3 Student Weekly Attendance at Meditation Group	61
4 Students Self-Reported Meditation Sessions Per Week	62
5 Persistence Rates Compared	70

LIST OF FIGURES

FIGURES	PAGE
1 Data Collection Timeline	36
2 Average Meditation Sessions Per Week of All Students	62
3 Student Scores on the Perceived Stress Scale (PSS) on Survey 1, 2, and 3	63
4 Mean Scores on the Perceived Stress Scale (PSS) on Survey 1, 2, and 3	64
5 Student Scores on the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF) on Survey 1, 2, and 3	66
6 Mean Scores on the Five Facet Mindfulness-Short Form (FFMQ-SF) on Survey 1, 2, and 3	67
7 Student Scores on the Connor-Davidson Resilience Scale-10 (CD-RISC 10) on Survey 1, 2, and 3.....	68
8 Mean Scores on the Connor-Davidson Resilience Scale-10 (CD-RISC 10) on Survey 1, 2, and 3.....	68

CHAPTER 1

INTRODUCTION

Modern life often leaves us feeling stressed and anxious, as we run through our to-do list on auto-pilot, worrying about the future, or lamenting the past. College students across the country are experiencing the same, while also balancing academics, learning new skills, and adjusting to adult life. College students report extremely high levels of stress, anxiety, and depression (American College Health Association, 2018). Stress coping skills are taught far less often than academic skills, leaving students struggling to achieve personal well-being, academic achievements, and persistence through college. While these may be modern day issues, could a solution be found in a 2,500-year-old practice? That is what many in the modern mindfulness meditation movement believe, and the research is growing to show that they may be right.

According to the American College Health Association's National College Health Assessment (2018), which surveyed 73,912 undergraduate students from 140 different colleges, only 1.6% of students reported feeling no stress in the past 12 months, compared to 44.4% who felt more than average stress or the 12.4% who felt tremendous stress. Additionally, this assessment showed that 35% of students felt that stress had impacted their academics, while 19.8% reported depression as an impact, and 28.1% cited anxiety. This health assessment shows that not only stress, but also anxiety and depression, are huge issues for college students, as 42.9% "felt so depressed that it was difficult to function," 64.4% "felt very lonely," and 64.3% "felt overwhelming anxiety," in the past 12 months (pp. 12-13).

This nationwide trend can also be seen at the local college level, including Midwest Community College (MCC) (a pseudonym), where I am employed. MCC is a community college in the suburbs of a large midwestern city, with approximately 7,000 credit students and 45,000

total credit and non-credit students. In the fall 2019 semester, an MCC professor coordinated a written survey of 497 students. One question of the survey was, do you feel you have any difficulty handling stress or emotions/depression? In response, 20.9% of students said yes, and 41.4% of students said sometimes, bringing the total to 63.3% of students that reported they had at least some difficulty handling stress.

While stress is an issue for students, persistence and retention rates are issues for college administrators, and there is research to show a correlation between higher student stress and lower student persistence (Saunders-Scott et al., 2017; Zajacova et al., 2005). Low retention and persistence rates are critical issues on community college campuses, and MCC is no exception. Nationwide, only 40% of public community college students receive a degree within six years (Shapiro et al., 2019). While research citations are not provided to maintain the confidentiality of the research site and the identities of the student research participants at MCC, only 20% of students complete a degree or certificate within three years, and the fall-to-fall enrollment persistence rate in 2020 was 49.7%, down from the peak persistence rate of 51.4% in 2019. In MCC's current Strategic Enrollment Management Plan, one strategy to increase persistence and completion is expanding high-touch personal interactions with student service personnel. However, funding and resources continue to be limited. As MCC looks to expand student retention, it will be imperative to find thoughtful new programs that can provide high support to students at a very low cost.

Could teaching students mindfulness meditation be an inexpensive and low-resource way for colleges to help students cope with stress, improve student well-being, enhance student success, and increase student persistence and retention? The purpose of this action research convergent parallel mixed methods study is to examine the effects and impacts of an online

Mindfulness Meditation college student group on student stress coping, resilience, and college persistence.

Mindfulness Meditation

Mindfulness is being aware in the present moment in a non-reactionary way, and mindfulness meditation is an umbrella meditation technique used to practice and cultivate mindfulness (Kabat-Zinn, 2013). Mindfulness meditation instruction often includes a focus on concentrating on the breath and body, in the present moment. While thoughts or emotions may arise, the focus of the meditation is only on the breath. When thoughts or emotions appear, they are not explored but rather, gently and consciously acknowledged and then dismissed in order to return the focus to the breath. “The goal is not to clear your mind but to *focus* your mind” (Harris, 2017, p. 7). Mindfulness meditation can increase a person’s ability to be mindful, in a kind and compassionate way, in one’s own life and in interactions with others (Crowley & Munk, 2017; Kabat-Zinn, 2013; Ko, 2018; Neff, 2013). Contradictory states to mindfulness include rumination, worry, being lost in thought, and being on auto-pilot, such as when we drive our car on a familiar route and realize when we arrive that we do not remember any part of our drive or reply to our partner reflexively without actually hearing the question they asked. Mindfulness meditation is a key factor in the exceptionally popular, beneficial, research-based Mindfulness-Based Stress Reduction (MBSR) program (Kabat-Zinn, 2013), and has also gained traction in modern psychology in use by Mindfulness Based Cognitive Therapy (MBCT) and Cognitive Behavioral Therapy (CBT). These programs and related research have brought mindfulness meditation into the mainstream, and continue to show expanded benefits for participants. Mindfulness meditation is now moving into education, and the related literature has grown over the past twenty years to show great potential for the benefits of mindfulness

meditation as it relates to student well-being, resilience, and success (Bamber & Kraenzle Schneider, 2015; Crowley & Munk, 2017; Dvořáková, 2017; Greeson et al., 2014; Hall, 1999; Huberty et al., 2019; Kabat-Zinn, 2013; Ko, 2018; Neff & Germer, 2013; Ramasubramanian, 2016; Rogers, 2013; Zahra & Riaz, 2017).

Research on the Benefits of Mindfulness Meditation

The goal of mindfulness meditation is to increase the state or trait of mindfulness in an individual. To begin, we must ensure that mindfulness meditation actually does what it is intended to do. Researchers have examined the connection and have found that the trait of mindfulness can be increased through meditation (Bamber & Kraenzle Schneider, 2015; Crowley & Munk, 2017; Huberty et al., 2019; Ko, 2018; Neff & Germer, 2013). One study of undergraduate students who completed a course on meditation showed that all participants “reported an increase in mindfulness, primarily in being in the present moment and being more reflective,” 89% “reported being more focused on the present moment,” and 86% “reported an increase in reflective thinking,” all of which are relate to the trait of mindfulness (Crowley & Munk, 2017, p. 94).

The most often cited benefit of meditation and mindfulness is lowered stress. A large body of research exists to show the benefit of meditation and mindfulness on reducing stress, anxiety, and depression (Bamber & Kraenzle Schneider, 2015; Crowley & Munk, 2017; Dvořáková, 2017; Greeson et al., 2014; Huberty et al., 2019; Kabat-Zinn, 2013; Neff & Germer, 2013; Ramasubramanian, 2016; Zahra & Riaz, 2017). The majority of these studies looked specifically at college students and used quantitative methods to show that meditation and mindfulness training reduced stress and/or increased stress coping.

In addition to helping people reduce stress, anxiety, and depression, mindfulness can also help increase well-being. Mindfulness meditation, as well as related loving-kindness meditation and compassion meditation, have been shown to increase positive emotions, well-being, and happiness (Crowley & Munk, 2017; Fredrickson et al., 2008; Dvořáková, 2017; Hofman et al., 2011; Kabat-Zinn, 2013; Ko, 2018; Neff & Germer, 2013). Fredrickson et al. (2008) showed that loving-kindness meditation increases the amount of positive emotions, which in turn increases important personal resources to success, such as purpose in life, social support, and mindfulness. These personal resources are directly correlated to increased life satisfaction and reduced depressive symptoms (Fredrickson et al., 2008). Newer research has also shown a connection between meditation and mindfulness on self-compassion and compassion/empathy. Meditation has been shown to increase self-compassion (Greeson et al., 2014; Huberty et al., 2019; Ko, 2018; Neff & Germer, 2013; Neff & Germer, 2017; Rudaz et al., 2019). Self-compassion is important as research is emerging to show a connection between self-compassion and resilience (Cohn, et al., 2016).

Meditation and mindfulness have also been linked to increased rates of compassion for others (Crowley & Munk, 2017; Fredrickson et al., 2008; Ko, 2018; Neff & Germer, 2013). Due to this linkage, a few studies have tested the hypothesis that meditation may also increase social connectedness. Fredrickson et al. (2009) found a connection between compassion and increased social connectedness in their research, but two other studies found no increase in the rate of social connectedness after meditation training (Dvořáková, 2017; Neff & Germer, 2013). However, meditation was shown to reduce isolation (Greeson et al., 2014).

Social connectedness becomes an important element as we examine student persistence and retention rates. Tinto's Institutional Departure Model (also referred to as the Student

Integration Model) and Astin's Student Involvement Theory both show that students who are more connected to the institution, whether in terms of community connections, social integration, or involvement, are more likely to stay at an institution and persist toward degree completion (Aljohani, 2016). Further research has shown that social connectedness to peers and the institution is positively correlated to college students' persistence and retention rates (Hartley, 2011; Wilson, 2013). It is important for colleges to find as many ways as possible to assist students in becoming connected to peers, groups, and employees of the college, in order to increase student persistence. Meditation groups offer a unique way to increase social connectedness to peers, staff, and the institution as a whole. This increase in institutional and peer connectedness may lead to increased retention and persistence.

Meditation has also been correlated with increased resilience (Ramasubramanian, 2016; Rogers, 2013; Zahra & Riaz, 2017). Research shows that students who possess higher resilience, sometimes referred to as "grit," have greater success and achievement as well as persistence and retention rates in higher education (Duckworth, 2016; Hartley, 2011). Even though improved academics is not the goal of meditation, there are a few studies that connect meditation directly to an increase in grade point average (GPA) and academic achievement (Hall, 1999; Ko, 2018). This may be due to the increased focus and concentration that meditation and mindfulness promote.

Deficiencies of the Research

Despite the growing body of research related to meditation and mindfulness, there are a few deficiencies in the literature. While there is significant research regarding the impact of meditation on students' stress levels, much less has been studied about the link between mindfulness and resilience. Moreover, no studies were found that examined meditation's impact

on institutional connectedness, and studies about meditation and mindfulness in college students have not explored the connection between mindfulness, student retention, and persistence.

Another deficiency of the data is that the majority of the research about the benefits of meditation for students use only a quantitative lens. While quantitative data is helpful at building a case for the benefits of meditation, mindfulness and meditation are extremely personal and subjective experiences. Therefore, qualitative data adds an important dimension and allows a more holistic understanding of a student's experience. A mixed methods research method would be an excellent research approach for the effects of meditation as it would allow for personal, subjective qualitative data to be triangulated with quantitative data.

There is also a deficiency in the research related to diversity. The majority of the research has been done at 4-year universities. Additionally, the majority of studies on college students and meditation have been heavily predominated by white females. There is a need for additional research looking primarily at community college students, and with a more diverse student body.

Significance of the Study

Researching the connection between mindfulness meditation and student stress, well-being, success, and retention has importance for my institution. MCC is increasingly concerned about the mental health resources available for our students, as well as our persistence and retention rates. We set a strategic enrollment management goal of increasing our fall-to-fall enrollment persistence rate from 51% in 2019 to 54% by 2023, before the COVID-19 pandemic which negatively impacted enrollment and persistence. The campus is exploring a number of traditional and nontraditional ways to increase student success and well-being, and mindfulness meditation may be one inexpensive method that could be used.

This study also has significance for other institutions and educators. Many educators are aware of the growing research of the benefits of mindfulness meditation, MBSR, and MBCT for the general public, and many are looking for ways to teach these skills to students. Additional research is needed to describe how these benefits translate directly to college students. Research is also needed on how these benefits translate directly to student academic success, persistence, and retention. This research has significance to other community college student services personnel or counseling services staff who are interested in bringing a similar program to their institution.

Research Problem, Purpose, and Questions

My research addressed many of the deficiencies listed above. The purpose of my action research convergent parallel mixed methods study was to examine the effects and impacts of an online Mindfulness Meditation college student group on student stress coping, resilience, and college persistence.

The research questions were:

1. What impacts does a virtual Mindfulness Meditation group have on college students' stress coping, mindfulness, and resilience?
2. How does participation in a Mindfulness Meditation group affect college students' academic persistence?
3. What is the experience of students in the Mindfulness Meditation group as it related to the areas of stress coping, resilience, and college persistence?

Summary and Organization of the Report

The current research shows a potential benefit of mindfulness meditation for increasing personal well-being, stress coping, and mindfulness. The purpose of this action research

convergent parallel mixed methods study was to examine the effects and impacts of an online Mindfulness Meditation college student group on student stress coping, resilience, and college persistence. In chapter 2, I will provide a more detailed look at the related literature and theoretical framework related to mindfulness meditation, including research that indicates mindfulness meditation can increase resilience, which can subsequently increase student persistence and retention. In chapter 3, the study's research methodology and methods will be discussed. The data analysis, results, and findings will be discussed in Chapter 4. In Chapter 5, I will synthesize the research, address limitations, and provide potential implications for practice that will be helpful for Midwest Community College as we develop low-cost options for high-touch student support that will increase student resilience and retention.

CHAPTER 2

LITERATURE REVIEW

As discussed in chapter 1, college students are under a high amount of stress and report trouble coping with this stress, which can manifest into chronic anxiety and depression. These difficulties can compound the issue of enrollment persistence and retention in college. This chapter explores the related literature in the areas of mindfulness meditation, stress coping, resilience, and persistence. The review of literature will open with a brief overview on the nationwide trends of stress and retention, followed by an overview of the research regarding mindfulness meditation, particularly related to stress coping, well-being, and resilience. Finally, literature relating to persistence and retention in college will be reviewed.

The Problem: Stress and Persistence

The American College Health Association's National College Health Assessment research (2018), which surveyed 73,912 undergraduate students from 140 different colleges, provided helpful information related to college students and stress, anxiety, and depression. According to the assessment results, only 1.6% of students reported feeling no stress in the past 12 months, compared to 44.4% who felt more than average stress and 12.4% who felt tremendous stress. Additionally, this assessment showed that 35% of students felt that stress had impacted their academics, while 19.8% reported depression as an impact, and 28.1% cited anxiety. This health assessment shows that not only stress, but also anxiety and depression, are huge issues for college students, as 42.9% felt so depressed that it was difficult to function, 64.4% felt very lonely, and 64.3% felt overwhelming anxiety in the past 12 months.

Unfortunately, stress can negatively impact students academically (Hartley, 2011; Saunders-Scott et al., 2017; Zajacova et al., 2005). "High levels of stress adversely impact how

students perform academically, which may consequently affect retention” (Saunders-Scott et al., 2017, p. 460). Zajacova et al. (2005) noted that stress impacted persistence for college students, particularly first year students, older nontraditional students, and nontraditional immigrant and minority students. Within community colleges, fall-to-fall persistence rates are lower than 50%, with completion rates within six years only 40%, according to the National Student Clearinghouse Research Center’s *Completing College 2019 National Report* (National Student Clearinghouse Research Center, 2019; Shaprio et al., 2019). As colleges look to improve retention and persistence rates, addressing student stress as a potential root cause may be beneficial.

Meditation’s Effect on Well-being, Mindfulness, and Stress

There is a growing body of research on the impacts and effects of meditation on stress. Jon Kabat-Zin (2013), the creator of the increasingly popular Mindfulness-Based Stress Reduction (MBSR) program, is often credited with secularizing Buddhist meditation and helping it enter mainstream America. His groundbreaking book, *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*, gives detailed information on the how’s and why’s of meditation and mindfulness, and examples of how people can improve their well-being. The updated edition also cites newer research being done in conjunction with neuroscience, psychology, education, and neurobiology to show the science behind what makes the MBSR program so successful at helping improve people’s lives. Kabat-Zin’s (2013) definitions of mindfulness are the most often cited in other research and studies, and the foundations of his MBSR program are used in nearly all mindfulness workshops. The MBSR program has been shown to lower stress and has been shown to have many other positive impacts on the lives of participants (Kabat-Zin, 2013). The positive results of the MBSR program and

meditation have been shown in numerous other studies as well, cited by Kabat-Zin, and with varying populations and demographics. For example, Kabat-Zin (2013) mentions research done by Massachusetts General Hospital and Harvard University that utilized brain scanning technology to show that MBSR participants had a thinning of the amygdala “related to the degree of improvement on a perceived stress scale” (p. xli). Kabat-Zin’s (2013) work highlights the many benefits of meditation and mindfulness, including lowered stress.

Another program similar to MBSR is the Mindful Self-Compassion (MSC) program. Neff and Germer (2013) wrote about the findings of two related quantitative studies they conducted on the effectiveness of the MSC program on various well-being outcomes, including mindfulness, life satisfaction, happiness, social connectedness, and self-compassion. The first study was a pilot group that gave participants of the program surveys to complete two weeks pre and post program, and also six months following, using various established inventories, such as the Perceived Stress Scale. Participants showed higher levels of mindfulness, self-compassion, life satisfaction, and happiness, as well as decreased anxiety, depression, and stress. The second study implemented an experimental group and a waitlist control group to enable a between-groups comparison. In the second study, the researchers utilized slightly different inventories, adding an additional inventory to examine compassion for others and an additional one to research avoidance of difficult thoughts and feelings. They also utilized a different mindfulness inventory. Additionally, participants in the second study were asked to estimate how often they engaged in meditation. The intervention group demonstrated improvements in all outcomes, except for social connectedness and happiness, which were not statistically different. The researchers also examined the levels of reported self-compassion on other well-being areas and found that increased self-compassion was significantly associated with improvements in all well-

being areas. This study shows the direct connection from meditation to self-compassion to increased well-being and lowered stress.

Other related meditation techniques have been studied as well, with similar results. In a meta-analysis of many studies related to Loving-Kindness Meditation (LKM) and Compassion Meditation (CM), Hofman et al. (2011) concluded, after reviewing 39 studies with over 1140 participants, that these meditation techniques are associated with an “increase in positive affect, and a decrease in negative affect” (p.1126). Many of the studies reviewed did not simply use a self-reporting mechanism as is more typical in the research, but also used more intensive research methods looking at neuroendocrine effects, neurobiological correlates, and neuroimaging studies. These biological measures reduce the limitations that self-reporting inventories may have, such as bias or inaccurate self-assessment, increasing the validity and reliability of these studies.

Meditation Studies of College Students

Due in large part to the success of the MBSR program, mindfulness and meditation techniques are becoming increasingly utilized in education. As previously mentioned, college students are particularly under a large amount of stress and numerous studies have looked specifically at the benefits of mindfulness meditation in college students. For example, a large meta-analysis done by Bamber and Kraenzle Schneider (2015) analyzed 57 studies published between 2007-2015 on mindfulness meditation and MBSR (Mindfulness Based Stress Reduction) and their effects on college students’ levels of stress, anxiety, and mindfulness, making it the largest and most comprehensive study on the topic to date. Nearly all of the studies showed that meditation and MBSR programs lowered stress and anxiety for college students and

increased the trait of mindfulness. Further, the analysis revealed that the trait of mindfulness could be improved through meditation and was itself a predictor of lower stress and anxiety.

Numerous other studies relating to mindfulness, stress, and well-being for college students were reviewed. Greeson et al. (2014) researched the effects of a four-week long meditation/mindfulness course for college students. The research showed that participants self-reported improvements in the areas of perceived stress, mindfulness, self-compassion, and gratitude, compared to a wait-listed control group, using a survey metric that included numerous psychological scales, including the Perceived Stress Scale, that have proven reliability and validity.

Dvořáková et al. (2017) conducted research that focused on only first-year college students and the effects of participation in a mindfulness program. One hundred nine freshmen were randomly assigned to either the intervention or the control group and completed a baseline and post-test assessment, based on a variety of screening instruments to examine depression, anxiety, satisfaction with life, mindfulness, self-compassion, social connectedness, compassion, sleep, and alcohol use and consequences. The intervention group reported less depression and anxiety and greater life satisfaction compared to the control group. However, many items were not significantly different between the two groups and between the pre and posttests, staying relatively consistent or even slightly higher with the control group; specifically, mindfulness, self-compassion, compassion, and social connectedness. The authors explained that “previous studies have discussed the difficulties with measuring mindfulness and compassion because of the numerous conceptual and methodological ambiguities” (p. 6). Additionally, the authors posited that learning about mindfulness could lead the intervention group to be more aware of times they were not being mindful, causing them to self-report a lower score than had they never

learned to identify times when they were not being mindful. Regardless, the participants did report that they found the program “beneficial and meaningful” (Dvořáková et al., 2017, p. 7), and the authors suggest colleges consider the potential benefits of mindfulness programs for incoming college students as they adjust to college life.

Huberty et al. (2019) tested the effects of college students using the mindfulness meditation mobile app, Calm, on their levels of stress, mindfulness, self-compassion, and related health and behavior aspects. It showed through quantitative analysis that the majority of the students found the app helpful, and also the students experienced less perceived stress and greater mindfulness and self-compassion. This source is helpful because it shows the positive correlation between meditation and greater self-compassion. It is also one of the only studies conducted to examine the efficacy of meditation apps, which has helpful implications for college students who may only meditate on their own with the use of their smartphone.

Ko et al. (2018) also researched mindfulness-based interventions and psychological benefits in college students. Specifically, this study examined a semester-long college course on compassion that included meditation. Using quantitative analysis of self-reported measures, including the Five Facet Mindfulness Questionnaire and the Perceived Stress Scale, the authors determined that the course was effective in increasing mindfulness, self-compassion, and compassion. This study also used a biological component, using salivary analysis to show that self-compassion was negatively correlated to stress reactivity. The authors also cited their previous qualitative research on the course, which showed that “students who meditate and study compassion become more resilient to stress, have improved academic achievement, and achieve an increased sense of well-being” (p. 2).

The purpose of the research conducted by Rudaz et al. (2019) was to study the effect of a nine-week mindfulness training program, which included Mindfulness Based Stress Reduction (MBSR) and Mindful Self-Compassion (MSC) elements, on qualities the researchers termed “heartfulness” (p. 3), a combination of self-compassion, gratitude, and general feelings of happiness. This quantitative study was conducted at Utah State University with 18 college students, and found that the meditation class increased in these areas according to students’ self-reported surveys, which were conducted pre-training, post-training, and four weeks post training. One part of the survey was the Five Facet Mindfulness Questionnaire. While the sample size was small, the information and results appear reliable and rigorous statistical analysis was utilized.

Crowley and Munk (2017) conducted a qualitative study of 28 undergraduate university students who were enrolled in a semester-long, three credit hour, elective course called Meditation for Health and Wellness. The students were introduced to a variety of mindfulness and meditation topics and led in multiple meditation sessions weekly. At the completion of the semester, the students were asked to complete a written response to an open-ended question asking for the student to process how meditation impacted their outlook on life and their relationships with others. The data were coded and examined and showed the students reported significant increases in mindfulness, psychological well-being, and compassion, with a decrease in stress levels. Limitations of the study were that participants were primarily white females and may have been influenced by the fact that the study took place as part of an academic class. The study indicates that meditation improves students’ outlook on life and their relationships with others. The research also indicated that developing mindfulness and self-compassion was positively correlated to an increase in compassion and empathy for others.

Ramasubramanian (2016) conducted a mixed-methods research study of 20 college freshmen enrolled in a semester long seminar on mindful communication, examining the effect of the course on students' academic buoyancy, positive emotions, stress coping, and everyday resilience. The researcher used quantitative measures to compare these students to a similar control group using pre and posttest questionnaires that included items from the Perceived Stress Scale and Coping Inventory for Stressful Situations inventories. The researcher also used qualitative measures that included participant journals. The quantitative measures showed improvements in post-test stress levels for the studied group compared to higher levels of stress for the control group, and the qualitative journals showed benefits that included increased positive emotions, better sleep, less feelings of overwhelm, and greater focus. However, the author cautioned that the sample size was small, and many of the quantitative measures were not significant.

And finally, Lemay et al. (2019) studied the impact of a six-week yoga and meditation intervention on college students, although the student participants were doctoral candidates in a pharmacy program. This study used three self-reporting questionnaires, the Beck Anxiety Inventory, the Perceived Stress Scale, and the Five Facet Mindfulness Questionnaire, to examine the impact of the intervention on students' anxiety, perceived stress, and mindfulness. The research found significant decreased mean scores on the Beck Anxiety Inventory and the Perceived Stress Scale, indicating lower anxiety and stress, and an increase in mean scores on the Five Facet Mindfulness Questionnaire, indicating increased mindfulness in participants. According to the researchers, "These results suggest that adopting a mindfulness practice for as little as once per week for six weeks may reduce stress and anxiety in college students" (Lemay et al., 2019, p. 751). The authors do caution that the sample size was small with only 17

participants, and 13 of these being female, and thus, more research with a larger, more diverse sample size is needed.

Meditation and Well-being

As many of these studies show, meditation not only helps to increase stress coping, but also increases general well-being. This is important because these factors tend to build upon one another. As one decreases stress, their well-being improves, and their ability to handle stress increases, which improves their well-being even more. This is the foundation of Fredrickson's broaden-and-build theory of positive emotions. This theory outlines that daily "positive emotions compound over time to build a variety of consequential personal resources" to increase overall well-being and life satisfaction (Fredrickson et al., 2008, p. 1045). In a foundational study to test this theory, Fredrickson et al. (2008) analyzed the impact of a seven-week long Loving Kindness meditation training and individual meditation practice on participants' number of daily positive and negative emotions, cognitive resources, psychological resources, social resources, life satisfaction, and depression. This theory and subsequent research are important to consider when working with students as it indicates that meditation increases the amount of positive emotions one feels. The rise in positive emotions increases important personal resources related to success, such as feeling purpose in life, stronger social support, and mindfulness. These resources are directly correlated to increased life satisfaction and reduced depressive symptoms. Fredrickson's work shows the interconnectedness of these traits and features.

Cohn et al. (2009) also looked closely at Fredrickson's broaden-and-build theory of positive emotions. Again, this theory proposed that positive emotions and happiness are directly related to higher degrees of life satisfaction, well-being, and resilience, and Cohn's research examined the positive correlation of positive daily emotions to what the researchers call "ego-

resilience” (p.362), or the ability to adapt to changing environments and bounce back from misfortune. It also examined the impact of negative emotions on long-term ego resilience. The study, which used quantitative analysis, further proved Fredrickson’s theory and showed that the more moments of daily positive emotion, the higher degree of overall life satisfaction and ego resilience, and that experiencing negative emotions did not negate these improvements. This research is impactful as it shows the importance of resilience in overall life satisfaction and the positive role of happiness on resilience.

Resilience

As is evident from this literature review, there is quite a lot of overlap in the research in the areas of stress coping and resilience. While the two concepts share commonalities, they can be defined differently. As Campbell-Sills et al. (2006) explain, “Resilience and coping are related constructs, but coping refers to the set of cognitive and behavioral strategies used by an individual to manage the demands of stressful situations, whereas resilience refers to adaptive outcomes in the face of adversity” (p. 588). Researchers have begun examining resilience more closely to investigate the impact meditation may have on resilience, and the impact of resilience on academic performance and success.

Resilience and Meditation

Given the importance of resilience in stress coping and overall life satisfaction, many researchers are examining what methods can be used to help increase resilience. Meditation may be one such helpful tool for increasing resilience. Rogers (2013) specifically studied stress and resilience in emerging adults, outlining the neuroscience of meditation’s impact on resilience and stress as meditation has been shown to increase positive emotions and activation of the left prefrontal cortex, which diminishes the stress response of the amygdala. This study highlights

the benefits of offering mindfulness meditation programs to emerging adults to increase their resilience.

Zahra and Riaz (2017) also examined the connection between mindfulness and resilience and perceived stress utilizing the Five Facet Mindfulness Questionnaire, Connor-Davidson Resilience Scale, and the Perceived Stress Scale. From a sample of nearly 400 students split relatively equally between female and male, they determined, using quantitative methods, that mindfulness serves as a mediator, and an increase in mindfulness assists students in being more resilient to the effects of stress. This research is important, as it studied students from Pakistan rather than the United States. It adds an important element of diversity to the previously mentioned studies. The authors concluded that “mindfulness training of students may help them to experience low level of stress and bolster their resilience in reaction to stress and eventually enhance their psychological well-being” (Zahra & Riaz, 2017, p. 28).

Resilience and Academic Success

While we have examined the impact of resilience on well-being, resilience has also been linked to increased academic success. In her pivotal book *Grit: The Power of Passion and Perseverance*, Duckworth (2016) explored the traits of perseverance and passion, a combination that the author refers to as “grit,” (p. 8), and showed how individuals who test with higher levels of grit demonstrate more resilience and overall success. Duckworth supports the theory that grit and resilience are directly related to student persistence and retention, believes that grit is a trait that can be learned and improved, and gives suggestions for building this trait.

Lee (2017) conducted a quantitative study that researched associate degree students from Hong Kong to examine their grit, academic performance, perceived academic failures, and stress levels. The study showed that increased psychological resources such as grit helped students to

be less prone to the negative effects of stress, and thus, suggested that colleges should provide training that would help increase students' resilience and grit.

Saunders-Scott et al. (2017) conducted a study of undergraduate student retention and “based on a review of the literature... found relevant evidence to support potential connections among grit, stress, and academic performance” (p. 459). This study concluded that “perceived stress and grit were poor predictors of college students' GPA, but were statistically significant predictors of retention” (p. 459). The authors discussed strategies, such as mindfulness techniques, that have been shown to help students with stress and anxiety and stated, “For universities struggling with retention, campus-wide efforts to support positive coping and mindfulness practices may prove to be a critical compliment to their formal counseling centers” (p. 464).

Another study, led by Hartley (2011), examined resilience, stress, and academic persistence in undergraduate college students and stated that “this study adds evidence that inter- and intrapersonal resilience factors are important to academic persistence and health promotion in higher education” (p. 602). Hartley (2011) referenced Tinto's theory of student departure, and found that “interpersonal factors contributed to explaining variance in the response variables of university cumulative grade point average and university sense of belonging” (p. 596). The study also indicated a correlation between resilience and better mental health. While this study showed a relationship between these factors, Hartley (2011) stated that more research was needed to look at stress and resilience intervention programs in higher education.

Meditation and Academic Success

Grade point average (GPA) can be one way in which academic success is measured. Hall (1999) also looked at cumulative grade point average of college students by conducting a

quantitative study to analyze the effects of meditation on GPA for African-American students enrolled in a psychology course. Half of the 56 participants were led through brief meditation sessions before and after study groups while the others were not. At the completion of the semester, students in the meditation group showed higher semester and cumulative GPAs compared to the control group. While research is limited on this specific topic, this study shows an interesting and important connection between meditation and increasing student academic success. This may be due to increased stress coping and resilience. The positive impact may also be from the related benefits of meditation in increasing focus and calm.

Retention and Persistence

Theoretical Models of Student Retention

Several theoretical frameworks and studies examine college student retention and persistence. A quantitative study by Wilson and Gore (2013) examined the established research of student persistence and institutional connectedness from an attachment theory perspective. In addition to examining parental and peer attachment as predictors of social connectedness, the study also showed that student perceptions of peer support, support services, and faculty support were directly tied to feelings of institutional connectedness. Implications for college administrators to use social connectedness opportunities to increase persistence were discussed. This study outlined many ways in which connectedness to a college and peers is tied to persistence and retention for college students. It also highlights how connectedness leads to more positive perceptions of students, and how strong social support systems for students lead to persistence. These are important factors for colleges to consider as they look for ways to offer students an opportunity to connect with one another, and to the institution, that can directly correlate to increased persistence.

The findings from the Wilson and Gore (2013) study are consistent with several key theoretical models of retention in higher education, which are explored in Aljohani's (2016) comprehensive literature review on the topic. This study includes important information outlining Tinto's Institutional Departure Model. Tinto's model outlines the importance of a student's social integration for retention, which can be "measured by student's interaction with college society (peers and faculty)" (Aljohani, 2016, p. 6). Tinto's theory highlights the importance of ensuring that students are fully integrated into the campus community. Aljohani (2016) also examined other retention theories, such as the Integrated Model of Student Retention and Astin's Student Involvement Theory. The Integrated Model of Student Retention recommends that colleges "focus on the variables that strongly encourage students to persist" (Aljohani, 2016, p. 11). Astin's Student Involvement Theory theorizes that "the amount of students' involvement in college is positively related to the amount of their learning and personal development" and that "the greater the students' involvement in their academic institutions, the greater is the rate of their persistence" (Aljohani, 2016, p. 12). A mindfulness meditation group is one potential strategy that could combine these three theories, as it would allow students to become involved in the college community, connect to one another and a staff member, and learn strategies such as stress coping and resilience known to help students persist through college.

Summary

Many colleges, including Midwest Community College, are searching for ways to increase their student success, retention, and persistence rates. Assisting students in finding ways to cope better with the stress of college may be beneficial for many reasons. As reviewed in this chapter, a large body of research shows that mindfulness meditation can be very effective at

reducing stress and increasing stress coping. Additionally, the literature indicates that meditation has been shown to improve resilience, and resilience is an important trait to cultivate as it is related to higher student persistence through stressful situations, such as college. This chapter also examined literature regarding student retention and persistence theories, which highlight the importance for colleges to create programs that offer students ways to connect deeply to their peers and to the institution. Mindfulness meditation groups may be one way in which institutions can offer students ways to connect with their peers and the institution while also providing tools that can help students improve their stress coping and resilience, which in turn may increase their persistence and retention at the college.

CHAPTER 3

RESEARCH METHODS AND METHODOLOGY

While meditation has been practiced for over 2,500 years, meditation and mindfulness have grown in popularity in recent years, and the research continues to build on the benefits regarding stress coping and well-being (Kabat-Zinn, 2013). Educators, who may have seen the benefits of meditation and mindfulness in their own lives, have been eager to bring these techniques to their students. Not only have meditation and mindfulness been shown to benefit students in regard to stress coping (Bamber & Kraenzle Schneider, 2015; Crowley & Munk, 2017; Dvořáková, 2017; Greeson et al., 2014; Huberty et al., 2019; Kabat-Zinn, 2013; Neff & Germer, 2013; Ramasubramanian, 2016; Zahra & Riaz, 2017), meditation and mindfulness can also be helpful in building resilience and grit (Ramasubramanian, 2016; Rogers, 2013; Zahra & Riaz, 2017). As Midwest Community College continues to look for low-cost ways to provide high touch support for student to increase persistence and retention rates, assisting students in building resilience skills may be beneficial and impactful (Duckworth, 2016).

Research Problem, Purpose, and Questions

The purpose of this action research convergent parallel mixed methods study was to examine the effects and impacts of an online Mindfulness Meditation college student group on student stress coping, resilience, and college persistence. The research questions were:

1. What impacts does a virtual Mindfulness Meditation group have on college students' stress coping, mindfulness, and resilience?
2. How does participation in a Mindfulness Meditation group affect college students' academic persistence?

3. What is the experience of students in the Mindfulness Meditation group as it relates to the areas of stress coping, resilience, and college persistence?

This chapter describes the study's key terminology, research methodology and justification, and research methods, including data collection and data analysis. My positionality as the researcher of the study is also described.

Terminology

Key terms that guided the study were meditation, mindfulness, stress coping, resilience, and persistence. A definition of each term used in this research is provided.

Meditation

Meditation is a contemplative practice that encourages relaxation and focus in the present moment. Meditation has been found to activate the parasympathetic nervous system, which in turn relaxes the body and mind and decreases stress-related cortisol in the body (Hanson & Mendius, 2009). There are many popular types of meditation, such as progressive muscle relaxations, body scans, Loving-Kindness Meditation, and Vipassana Meditation; and there are many ways in which to meditate. For this study, *meditation* was defined as an intentional practice of bringing awareness to the breath and body. The style of meditation used was mindfulness meditation, which typically lasts between 10-15 minutes and focuses on the breath while sitting in an upright and dignified, but relaxed posture.

Mindfulness

Mindfulness is being aware in the present moment in a non-reactionary way (Kabat-Zinn, 2013). Kabat-Zinn (2013) further states, "To cultivate mindfulness, requires that we pay attention and inhabit the present moment, and make good use of what we see and feel and know and learn in the process" (pp. xxxiv-xxxv). In their book about meditation and neuroscience,

Hanson and Mendius (2009) state that “mindfulness involves the skillful use of attention to both your inner and outer worlds” (p. 13). In this study, *mindfulness* is defined as demonstrating present moment awareness of your body, mind, and/or emotions.

Stress Coping

Stress coping is the ability to relate to stressful events in a healthy, adaptive way (Cohen, 2016, Compas et al., 2001; Ramasubramanian, 2017). Cohen et al. (2016) stated that stress can be defined “as an experience that occurs when individuals simultaneously appraise events as threatening or otherwise harmful and their coping resources as inadequate” (p. 4).

Compas et al. (2001), who view coping as requiring self-regulatory processes, defined coping as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (p. 89). By “assessing the degree to which people feel that the demands in their lives exceed their abilities to cope effectively” (Cohen et al., 2016, p. 3), a person’s perception of stress and their stress coping can be evaluated. For this study, *stress coping* was defined as the ability to use resourceful tools to manage daily stressors.

Resilience

Resilience is the ability of a person to bounce back or recover from stress or set-backs (Connor & Davidson, 2003; Smith et al., 2008). “Resilience refers to positive adaptation in the face of stress or trauma” and “the ability to maintain good functioning after stress exposure” (Campbell-Stills & Stein, 2007, p. 1019). According to Connor and Davidson (2003), “resilience embodies the personal qualities that enable one to thrive in the face of adversity” (p. 76). In this research, *resilience* is showing the ability to not only cope with stress and adversity, but to move beyond it and recover in a healthy way.

Persistence

Specific to this study, *persistence* is defined as the percentage of student participants enrolled at MCC from fall semester 2020 who re-enrolled at the college in the subsequent fall semester of fall 2021, or student participants who completed an associate degree or certificate within that time frame.

Research Methodology

Key methodology used in this study was convergent parallel mixed methods and action research, which are both described below. This chapter will also discuss survey research methods and data triangulation.

Convergent Parallel Mixed Methods

This study utilized an action research convergent parallel mixed methods research design. In a convergent parallel mixed methods design, data collection simultaneously collects and integrates both quantitative and qualitative data (Creswell, 2018; Mertler, 2020). This design type, also known as concurrent triangulation, “involves the collection of different but complementary data on the same phenomena” and “is used for the converging and subsequent interpretation of quantitative and qualitative data” (Edmonds & Kennedy, 2017, p. 181). Castro et al. (2010) explains that “the purpose of concurrent triangulation designs is to use both qualitative and quantitative data to more accurately define relationships among variables of interest” (p. 344). In this research study, qualitative and quantitative data were collected throughout the study, and then both data sets were compared and analyzed in order to triangulate the data to understand it more fully.

A mixed methods methodology was chosen because it “yields additional insight beyond the information provided by either the quantitative or qualitative data alone” (Creswell, 2018, p.

4). As Mertler (2020) states, “Quantitative data collection techniques are more efficient ... however, the depth of those data does not begin to compare to that resulting from the use of qualitative techniques” (p. 144). Miles et al. (2014) tells us that qualitative data has the strength of adding “richness and holism” (p. 11) to a study, which can allow for a more complex understanding of the quantitative data and reveal greater depth such as causation and meaning. In this study, mixed-methods allowed for both the efficiency of quantitative data and the depth of qualitative data.

Action Research

For this study, I used an action research framework. Action research is ideal for educators who wish to more closely examine their own classrooms or educational programs in an effort to improve and make changes that may then be shared with other educators (Mertler, 2020; Herr & Anderson, 2015). According to Herr and Anderson (2015), “Action research has enjoyed widespread success, both as an individual route to professional development and as a collaborative route to professional and institutional change” (p. 20). Mertler (2020) tells us that action research “brings about results that are more informative and have immediate and direct application” (p. 5).

Because the findings of this study could be immediately used at MCC, the general action research approach was practical action research, which “focuses on addressing a specific problem or need in a ... school” (Mertler, 2020, p. 19). “Proponents of practical action research argue that inquiry can illuminate important issues of teachers and their students and, through reflection on practice, generate new knowledge about teaching and learning” (Manfra, 2009, p. 37). Additionally, Stringer (2007) tells us that, unlike traditional experimental research, action research serves as “interpretative research” in which the researcher can provide “richly detailed,

thickly described accounts that enable readers to empathetically understand the lived reality of research participants” (p. 258). Often, research is generalized and aggregated, but in doing so, as Stringer (2007) points out, “report writers risk losing those significant events or features of experience that really makes a difference in participant’s lives” (p. 260). By providing an opportunity for student participants to share their own stories and experiences, and including many of their experiences in this report, this study provided an opportunity to examine how mindfulness meditation may impact and affect the lived experience of college students.

Survey Research

This study utilized survey research. “Survey research is a useful and legitimate approach to research that has clear benefits in helping to describe and explore variables and constructs of interest” (Ponto, 2015, p. 171). A survey design was used because it allowed me to obtain a large amount of various data quickly and easily, a benefit cited by Mertler (2020). According to Ponto (2015), “Survey research has developed into a rigorous approach to research, with scientifically tested strategies ... in order to ensure a high-quality research process and outcome” (p. 169). Additionally, surveys “are very effective at gathering data concerning student’ attitudes, perceptions, or opinions,” (Mertler, 2020, p. 149) which was necessary given my research questions and topic. The use of surveys also made it possible for me to use pre-existing reliable and valid scales that have widely been used in the research to measure items such as mindfulness, stress coping, and resilience. The use of a survey also allowed me to collect both quantitative and qualitative data by using a combination of quantitative questions from pre-existing questionnaires and qualitative open-ended questions. This provided an opportunity for data triangulation and was helpful for understanding and discussing the findings.

Data Triangulation

Several sources of data were collected in order to better triangulate the research findings. Triangulation is “the use of multiple methods to study one research question” (Check & Schutt, 2012, p. 11). Triangulation can help researchers develop a broader picture of what is being examined and can strengthen the validity of the research (Check & Schutt, 2012). Stringer (2007) agrees, stating that “the credibility of a study is enhanced when multiple sources of information are incorporated” and also the “inclusion of perspectives from diverse sources enables the inquirer to clarify meaning by identifying different ways the phenomena are being perceived” (p. 58). In this study, both quantitative and qualitative data were collected “to see if they have yielded similar results,” in order to lead to “greater credibility in the overall findings” (Mertler, 2020, p. 108). As I will report in the next section, I compared the results obtained from the quantitative data with the findings from the qualitative data to better answer the research questions.

Research Methods

The research methods, including setting, participants, data collection methods, information on survey research and data triangulation, are explained below. This section includes details about the weekly meditation workshop series, as well as the various data sources and collection methods used.

Research Setting

The setting for the study was a community college in the Midwest with approximately 8,000 students, which is being referred to, using a pseudonym, as Midwest Community College (MCC). At the time the study began, the college’s overall fall-to-fall persistence rate was 50% for all first-year students, and ranked in the 66th percentile nationally. Black and African-

American students, however, had a persistence rate of only 35%. In 2019, MCC set a goal to raise the overall persistence rate to 54% by 2023, especially for underrepresented students of color, first generation students, and low-income students. The study was originally planned to be held on campus during the fall 2020 semester. However, due to the worldwide COVID-19 pandemic, MCC moved to remote operations in March 2020, which was extended through the summer and fall semesters. Therefore, the meditation sessions were held virtually, via internet-based Zoom meeting technology.

Research Participants

Participants were recruited from Midwest Community College via an email message (see Appendix A) that was sent to the entire student body in September 2020. Also, staff and faculty members who attended Midwest's bi-weekly meditation group, as well as staff of the college's Wellness Center, Office of Student Life, the Office of Student Affairs, and members of the Midwest faculty were asked to identify potentially interested students and forward the email to those students. Interested students then contacted me via email and I replied with additional information and the Informed Consent Agreement (see Appendix B). Those who completed the Informed Consent Agreement were then emailed the first survey and detailed information about the workshop series. Eleven students signed up for the study by the start of the workshop series in October 2020. All participants were current MCC students aged 18 or older.

Weekly Meditation Workshop

As part of the research, participants were asked to attend an eight-week virtual meditation workshop once a week for 40 minutes in duration. Due to challenges in scheduling, two time and day options were offered each week, and the student participants could choose one to attend. The workshops were held online via Zoom virtual meeting technology. In the workshop series, which

I created, the participants learned and practiced the foundations of mindfulness meditation. Each session, I led the students in a 5-minute grounding meditation, then discussed a weekly theme, such as mindfulness, resilience, or self-compassion. The student participants then listened to a 15- to 20-minute guided mindfulness meditation, typically borrowed from YouTube or the popular meditation app Insight Timer. A typical mindfulness meditation session during the weekly meditation workshop included sitting quietly in a comfortable position with eyes open or closed while observing the breath or natural sensations in the body in a non-reactionary way. When thoughts or emotions arose, they were not explored but rather, gently and consciously, acknowledged and then let go of in order to return the focus to the breath or the anchor of the meditation. Participants were reminded that they could discontinue the meditations at any time if they became uncomfortable. In addition to the weekly meditation workshops, the student participants were encouraged but not required to practice meditation daily on their own in between sessions. A brief overview of the syllabus for each week is listed below.

Week 1

The theme of the first week of the meditation workshop was “Introduction to Mindfulness.” We reviewed the Informed Consent form and I introduced myself and the research study to the students. The students watched two brief videos by Happify and Dan Harris on YouTube: “Why Mindfulness is a Superpower” and “Meditation for Beginners”. I led the students in a 5-minute grounding and breathing meditation and then we had a brief check-in and discussion. We concluded with a 10-minute guided meditation from Insight Timer called “Rewiring for Resilience” by Christopher Willard.

Week 2

Week 2's theme was "Mindfulness of Emotions and RAIN." RAIN is an acronym popularized by meditation teacher Tara Brach that stands for recognize, allow, investigate, and nurture. In this workshop session, I led students in a 5-minute grounding and breathing meditation following brief welcomes. We watched the first 4 minutes of a video on YouTube called "R.A.I.N. Mindfulness Practice: Meeting Strong Emotions with Kindness and Curiosity" by Heidi O'Donoghue. After a brief discussion, we concluded the session with a guided mindfulness meditation provided via YouTube called "RAIN Meditation with Tara Brach" by Baba Ram Dass.

Week 3

The theme of Week 3 was "Mindfulness of Body." After brief welcomes, I led the students in a 5-minute grounding and breathing meditation. We then had a longer check in time for the students to talk about their experiences and feelings about meditation. I then read the students some potential benefits of body scan meditations, provided by the Mindfulness Based Stress Reduction Program (Clark, n.d.). The students then did a 14-minute guided meditation found on Insight Timer called the "Body Scan Meditation" by Kate James.

Week 4

"Gratitude" was the theme of Week 4. After I led the students in welcomes, a 5-minute breathing meditation, and check ins, I read an excerpt from Gregorie's (2014) *Jack Kornfield on Gratitude and Mindfulness*. The students then were invited to share things they were grateful for before concluding with a 15-minute guided meditation called "Reset and Refocus with Gratitude" by Lama Rod Owens, found on Insight Timer.

Week 5

The Week 5 theme was “Stress Coping.” After welcomes, we did a 5-minute mindfulness and breathing meditation that I led. We then had weekly check ins and a brief discussion about this week’s topic while I read excerpts from two articles about mindfulness and stress (Corliss, 2014; Mineo, 2018). The final meditation of the week was a 14-minute guided meditation on Insight Timer by Fleur Chambers called “From Stressed Out to Spaciousness.”

Week 6

“Resiliency” was the theme of Week 6. The session consisted of welcomes, a 5-minute mindfulness and breathing meditation led by me, and a group check in. After the students had an opportunity to share and discuss, I read excerpts from three articles about the impact of mindfulness on resilience (Bialylew, n.d.; Hauck, 2016; Jacobs, 2015). We ended with a 10-minute guided meditation called “Resiliency During the Storm” by Vanessa Michele via Insight Timer.

Week 7

In Week 7, “Self-Compassion” was the theme. This week, after welcomes, the students did their longer meditation with a 15-minute meditation called “Building Resilience and Inner Strength” by Samantha Touchais, found on Insight Timer. Then we completed check ins and discussions. I read excerpts from *The Mindful Self-Compassion Workbook* by Kristen Neff and Chris Germer (2018). The session was concluded with a 5-minute guided meditation on Insight Timer by Kristen Neff entitled “Self-Compassion Break.”

Week 8

The theme of the final week of the 8-week meditation group was “Self-Care and Self-Love.” After brief welcomes, I led the students in a brief mindfulness meditation. Students then discussed their experiences with the group and meditation. I read an excerpt from Tara Brach’s

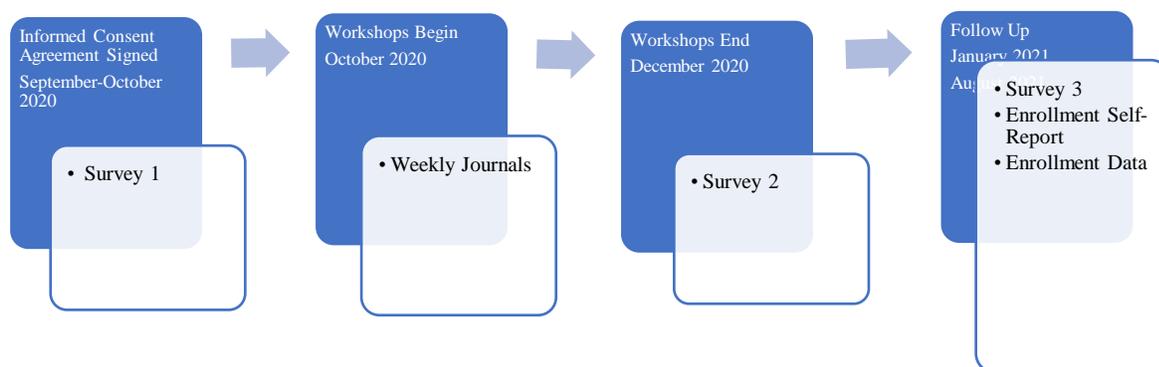
(2012) book *True Refuge* entitled “Happy for No Reason.” The workshop series concluded with a 13-minute guided meditation via Insight Timer called “Loving and Listening to Yourself” by Sarah Blondin.

Data Collection Timeline and Data Sources

Data collection for the study took place between August 2020 and August 2021. Participants were recruited in September and October 2020. The meditation workshops began October 12, 2020 and continued for 8 weeks. Both qualitative and quantitative data were collected. The quantitative data sources collected were three surveys, participant self-reported enrollment data, and disaggregated fall enrollment data from the institution. The surveys, which also included several short answer questions, also provided qualitative data. Additionally, qualitative data was collected through student responses to weekly journal prompts. Participants completed the first survey in September and October 2020, the second survey in mid-December, 2020, and the final survey in mid-January, 2021. Fall 2021 enrollment was collected via student self-report and Midwest Community College records in August 2021. The six data sources collected are described in greater detail below. These, as well as the timing and sequence, are represented in Figure 1.

Figure 1

Data Collection Timeline



Qualtrics Survey

Participants were required to complete a survey, created and administered through Qualtrics Survey Software (Qualtrics, 2020), before the first workshop, following the completion of the last workshop, and one month following the last workshop (see Appendix C). The surveys took participants approximately 20-25 minutes to complete. The survey consisted of five short answer questions and 44 questions compiled from three valid and reliable measures: the Perceived Stress Scale (Cohen et al., 1983), the Connor-Davidson Resilience Scale-10 (Campbell-Sills & Stein, 2007), and the Five Facet Mindfulness Questionnaire Short Form (Bohlmeijer et al., 2011). Students were asked to select a pseudonym, based on an assigned letter, which they used on all surveys and weekly responses.

Perceived Stress Scale. The Perceived Stress Scale is a widely used survey instrument to access “the degree to which situations in one’s life are appraised as stressful” (Cohen et al., 1983, p. 385). This scale has been used in many meditation studies (Greeson et al., 2014; Ko et al., 2018; Neff & Germer, 2013; Ramasubramanian, 2017; Zahara, & Riaz 2017). On the PSS, respondents rate their feelings or thoughts from the past month as it relates to their perception of stress and stress coping on a Likert-type scale (Ramasubramanian, 2017). The original scale was 14 questions, but a shortened 10-question version, the PSS-10, was created and is “recommended by the scale developers for use in future research, as it demonstrate[s] psychometric properties comparable to the original, 14-item version” (Baik et al., p. 628). Cohen and Williamson (1988) “reported that scores on the PSS-10 demonstrated adequate internal consistency reliability ($\alpha = .78$); moderate concurrent criterion validity with the amount of stress experienced during an average week ($r = .39, p < .001$); the frequency of stressful life events within the past year ($r = .32, p < .001$); adequate convergent validity as evidenced by expected

negative associations with perceived health status ($r = -.22, p < .001$); and positive associations with psychosomatic symptoms ($r_s = .28$ to $.34, p < .001$)” (Baik et al., p. 628). The PSS-10 is permitted for students to use freely for research.

Connor-Davidson Resilience Scale. The Connor-Davidson Resilience Scale (CD-RISC) was designed as a 25-item self-inventory to measure resilience (Connor & Davidson, 2003). This scale has been used in other meditation studies to assess participant’s resilience (Zahara & Riaz, 2017). According to Campbell-Sills and Stein (2007), analyses of the CD-RISC “support its internal consistency, test–retest reliability, and convergent and divergent validity” (p. 1020). The CD-RISC-10 is a shortened 10-question scale constructed by Campbell-Sills and Stein (2007), who “believe that the 10-item CD-RISC captures the core features of resilience” and produces results that are “very highly correlated with scores on the original instrument ($r = .92$)” (p. 1027). Permission to use the Connor-Davidson Resilience scale (Campbell-Sills & Stein, 2007) was explicitly granted for this study (see Appendix D).

Five Facet Mindfulness Questionnaire. The Five Facet Mindfulness Questionnaire (FFMQ) was developed by Baer et al. (2006) to assess an individual’s level of mindfulness in five related areas: observing/noticing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. The Five Facet Mindfulness Questionnaire has been used in many meditation studies (Ko et al., 2018; Rudaz et al, 2019; Zahara, & Riaz 2017). Research by Baer et al. (2006) “suggests that self-report mindfulness questionnaires have good psycho-metric properties and that exploration of the facets of mindfulness may be useful in understanding the nature of the construct and its relationships with other variables” (p. 43). “The 39-item Five Facet Mindfulness Questionnaire (FFMQ) has been developed as a reliable and valid comprehensive instrument for assessing different aspects of mindfulness in community and

student samples” (Bohlmeijer et al., 2011, p. 308). A short form of the FFMQ was developed by Bohlmeijer et al. (2011) and “the statistical and content-related considerations in the development of the short form of the FFMQ resulted in the deletion of 15 items with low item–total correlations and/or standardized factor loadings and high content redundancy” (p. 314). The research by Bohlmeijer et al. (2011) showed that the short form maintained “high correlations” and “internal consistency” to that of the longer form and that the convergent and divergent validity was similar for both forms (p. 317). The Five Facet Mindfulness Questionnaire Short Form, the FFMQ-SF, is available online without license or copyright (Bohlmeijer et al., 2011).

Short Answer Questions. Additionally, I created five short answer questions at the end of the three Qualtrics surveys. The questions gave participants an opportunity to share their experiences with and the impact of the workshop group in more detail and in their own words. This produced qualitative data that was used to triangulate findings (see Appendix C).

Weekly Journal Entries

Each week of the workshop series, the participants were emailed a link to the weekly journal prompt, administered via Qualtrics. The prompt asked the students to answer two questions related to their meditation practice and the impact of the practice on their stress coping and resilience (see Appendix E). Students used their self-selected pseudonyms on each entry. The weekly journal entries provided qualitative data that was coded and used to triangulate the research findings.

Persistence Data

Fall 2020 to fall 2021 persistence data were collected in two ways. First, the student participants were asked to self-report via email in August 2021 whether they were or were not enrolled at MCC or another educational institution for the fall 2021 semester (see Appendix F).

Second, de-identified, disaggregated data on whether the participants were actually enrolled at MCC in fall 2021 was collected by me from MCC's Office of Research and Planning. In this way, student self-reports were compared to the overall percentage of participants actually enrolled at Midwest for the fall 2021 semester.

Data Analysis

After data were collected, the qualitative and quantitative data were analyzed following the procedures listed below. Additionally, information regarding how the data were triangulated and the timeline for analysis are provided.

Analysis Procedures

Qualitative Data Analysis. The qualitative data, which consisted of the short answer questions on the three surveys and the weekly journal entries, were downloaded from Qualtrics, printed, then compiled and organized. A visual data display was created to ease analysis. The responses were read multiple times to become familiar with the data and to determine key themes. After several reviews, each answer was first generalized and coded based on the impact of how the student felt at the time: positive, negative, neutral, or did not answer. A deeper analysis was then completed utilizing in vivo coding. This type of coding uses "words or short phrases from the participant's own language in the data record as codes," which is ideal for an action research study in which the lived experiences of the students are being examined as it "prioritize[s] and honor[s] the participant's voice" (Miles et al., 2014, p. 74). In vivo codes were created based on commonly reported words or themes from the participants, such as helped, calm, peace, and positive feelings or sensations. "The data were analyzed for meaning in relation to the study's three research questions.

Quantitative Data Analysis. The quantitative data from the three surveys was downloaded from Qualtrics and compiled into a Microsoft Excel document. Each survey was entered into an individual Excel worksheet. Then, each individual instrument of each of the participants was separated and scored based on the instructions for each specific instrument's scoring. Next, the individual scores of each participant for each instrument were recorded in three separate worksheets, one for each instrument. The mean score of all research participants for each survey's instrument was also calculated. A visual data display was created to examine the changes in scores for each individual student over the course of the three surveys. Finally, a one-way analysis of variance (ANOVA) was run via Excel to compare the mean scores of each of the three instruments from Survey 1 and Survey 3 to see if changes were statistically significant from Survey 1 to Survey 3.

Triangulation. The various qualitative and quantitative data sources created the triangulation needed to thoroughly create meaning in relation to the study's three research questions. For example, students' open-ended survey responses and weekly journal entries were compared against their self-reported fall 2021 enrollment status to identify consistencies and inconsistencies; and disaggregated enrollment data were analyzed to confirm the percentage of participants who persisted or completed a degree at MCC or matriculated at another college or university from fall 2020 to fall 2021.

Data Analysis Timeline

The data analysis timeline for this study took place between February and October 2021. The survey analyses comparing the results from pre-test, post-test, and follow up were completed in February 2021. The analyses of the weekly journal entries were completed in August 2021.

Enrollment data was obtained and analyzed in September 2021, and the final data analysis was completed in October 2021.

Researcher Positionality

According to Herr and Anderson (2015), “Researcher positionality is important in all research” (p. 37). Researcher positionality is the relationship between the researcher, the setting, and the participants, and is important for the researcher to implicitly state due to issues of research validity, trustworthiness, and ethics (Herr & Anderson, 2015). I have been employed by Midwest Community College for over a decade in a capacity unrelated to this study. I am also a Certified Meditation Teacher and have been leading an informal meditation group at the campus and providing informational workshops about meditation for four years. I served as the workshop series creator and meditation instructor for this study. As I was also the lead researcher, it was important to keep the two roles separate to reduce potential bias (Herr & Anderson, 2015). As Herr and Anderson (2015) point out, insider researchers have a unique challenge as “they can’t be in two places at once” (p. 44). For this reason, I did not read or analyze any data the students submitted until after the workshop series was complete, choosing to only operate as the meditation teacher during the workshop, and the researcher once the workshop was complete. This ensured that I was not unduly influenced by their responses in my interactions with the students in the group during the study. Additionally, students used a self-selected pseudonym on their surveys and short answer responses, which helped to create participant anonymity during the data analysis stage. Information shared in the sessions and in the identifiable data sources were either kept secure by the researcher or reported confidentially.

Summary

This chapter highlighted the key terminology, research methodology, and methods of this action research convergent parallel mixed methods study. Additionally, it provided details about the workshop series, the participants, and how data was collected and analyzed. Chapter 4 will report the findings and results of the study. Chapter 5 will conclude with a synthesis and discussion of the study's findings and results; address the study's limitations, and offer implications for further research and practice.

CHAPTER 4

RESULTS

This chapter reports the findings and results of this action research convergent parallel mixed methods study, which examined the effects and impacts of an online Mindfulness Meditation college student group on student stress coping, resilience, and college persistence. The study's research questions were:

1. What impacts does a virtual Mindfulness Meditation group have on college students' stress coping, mindfulness, and resilience?
2. How does participation in a Mindfulness Meditation group affect college students' academic persistence?
3. What is the experience of students in the Mindfulness Meditation group as it relates to the areas of stress coping, resilience, and college persistence?

This chapter will first outline the qualitative data findings, followed by the quantitative data results. Then, each research question will be examined using both forms of data.

Findings and Results

Qualitative Data

There were several key findings from analyzing the quantitative data sources of the open-ended survey responses and the weekly journal entries. Through the open-ended survey responses and the weekly journal entries, common phrases and themes emerged from student responses, such as “positive emotions or sensations” (positive, positivity, and productivity, or assisting with physical discomforts), “helped” (help, helping), “calm” or “relaxing” (calming, peaceful, relaxed, etc.), life stressors, indications of increased mindfulness, and indications of using mindfulness or meditation as a stress coping tool to increase stress coping or resilience.

Survey 1: September 2020

Survey 1 was administered before the intervention began. There were three open-ended questions on Survey 1, and the answers from the eight participants were coded and analyzed for themes. First, students were asked what impacts meditation or mindfulness had on stress coping during the past month. Three students reported meditation and mindfulness had no impact (Cassie, Earl, and Kevin). Three students indicated it had impacted them, two (Angel and Josie) in positive ways and one (Bre) in a negative way. Reporting a positive impact, Josie stated:

Mindfulness has had a big impact on my stress coping as I'm going through a lot of things right now and thinking a lot about the past and future. Bringing myself back to the present and compartmentalizing those thoughts has helped me be able to do what I need to do even in a distressing time.

In contrast, Bre noticed a negative impact: "I was mindful of my negative thoughts but hard on myself for having those negative thoughts." Two participants indicated that meditation or mindfulness increased their stress coping or ability to deal with their stress (Demi and Josie). One student (Demi) cited meditation as "relaxing."

Second, participants were asked what impacts meditation or mindfulness had on their resilience during the past month. Three students indicated it had no impact (Cassie, Earl, and Kevin), and one indicated it had only momentary positive calming impact (Bre). Three students indicated a positive influence by meditation or mindfulness on their resilience (Angel, Demi, and Josie). Participant Josie explained the connection this way:

Mindfulness has helped increase my resilience because it has made me realize that I can't control the past or the future as of right now and has made that out of control feeling not feel as bad or as big.

Two students (Bre and Demi) described meditation as having a calming or peaceful impact, with Bre describing it as “calming in the moment” and Demi describing stating, “Meditation music gives me a sense of renewed peace and hope.”

Third, participants were asked what impacts meditation or mindfulness had on their academic performance during the past month. Three students indicated no impact (Cassie, Earl, and Kevin). One student (Bre) indicated a negative impact: “I was not able to ask my questions because I was too anxious of being on the spot.” Four students (Angel, Demi, Gloria, and Josie) indicated increased mindfulness had positive impacts on their grades and completing assignments. Josie explained, “By being mindful, I can do my homework without having wandering thoughts. It’s difficult to force myself to bring myself back but helpful when I do.” Demi explained the challenge and opportunity further:

When I feel nervous or tense I cannot successfully work on an assignment. Sometimes when I am stressed I am able to but my brain feels like it’s on autopilot. When I listen to meditation music even for a few minutes I am able to fervently complete my assignments and stay focused. It’s great mental clarity.

While a few students, such as Josie and Angel, were familiar with the concept and benefits of mindfulness, Survey 1 revealed that the majority of students were not very familiar with meditation, were not regular meditators or had never meditated, and had not experienced many impacts of meditation in terms of stress coping, resilience, or academic performance. However, four students indicated that they had positive experience with using meditation as it related to college performance. These experiences could positively impact their college persistence. In terms of stress-coping, one student expressed a negative experience and two

reported positive experiences. In terms of resilience, three expressed positive experiences, and one indicated a momentary positive experience.

Weekly Journal Entries: October 2020 to December 2020

In addition to the open-ended survey questions, students were asked to respond to a weekly journal prompt via Qualtrics, that was emailed after the weekly meditation workshop. The prompt asked the students to describe one experience they had in the past week in which meditation or mindfulness had an impact (positive or negative) on their well-being, stress coping, and/or resilience. The students rarely described a specific experience, but rather generalized their experiences with meditation or mindfulness in the previous week. Not all students completed a journal entry each week, and Table 1 shows the students' weekly journal prompt completions.

Table 1

Weekly Journal Prompt Completions

Name	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Angel	X	X	X	X	X	X	X
Bre	X	X	X	X	X	X	X
Cassie	X	X	X	X		X	X
Demi	X	X	X	X	X		X
Earl	X	X	X	X	X	X	X
Gloria		X	X	X	X		X
Josie	X	X	X	X	X	X	X
Kevin				X			

X – completed

In Week 1, seven of the eight participants completed the journal entry (all but Kevin). All seven students reported an overall positive impact of meditation or mindfulness. Four students (Angel, Demi, Earl, and Josie) described impacts of increased calm or relaxation, using terms like “refreshed,” “peace,” “destress and unwind,” “calm and relaxed,” “chill, and “calm and

okay.” One student (Bre) described “positive” emotions or sensations, citing increased positivity and productivity. One student (Gloria) indicated mindfulness and meditation “helped” her. Two students (Cassie and Josie) indicated increases in their mindfulness. Four students (Demi, Earl, Gloria, and Josie) indicated that meditation or mindfulness was used successfully to cope with stress. As Josie shared, “I was really stressed out and couldn’t do homework so I just took 3 minutes to breathe and notice how I was feeling. I felt much more calm [sic] and okay to move on after.”

In Week 2, the same seven students responded to the prompt. Five students (Angel, Demi, Earl, Gloria, and Josie) indicated increased calm or relaxation. One student (Josie) reported “positive” emotions or sensations and stated meditation or mindfulness increased her productivity. Two students (Bre and Cassie) indicated meditation or mindfulness “helped” them, and two students (Demi and Josie) reported increased mindfulness. Three participants (Cassie, Gloria, and Josie) described using meditation or mindfulness to successfully cope with stress.

The same seven students also responded to the Week 3 journal. Six participants (Angel, Bre, Demi, Earl, Gloria, and Josie) indicated a positive impact from meditation or mindfulness. One student (Cassie) indicated a negative impact related to the mindfulness experienced after a meditation, describing, “I think one meditation I did made me too mindful of everything I was doing and it made me very anxious.” This is actually a very common experience in meditation, often related to emotions and sensations that have been suppressed or numbed, but have an opportunity to arise when we become more still (Neff & Germer, 2018; Piver, 2015; Salzberg, 2011). In subsequent workshop sessions, we discussed Cassie’s experience and this very common phenomenon to normalize the experience, and I shared potential techniques meditators utilize, such as bringing self-compassion to the experience and allowing it to remain, finding the

breath or another item to serve as a grounding anchor, or discontinuing the meditation entirely if the sensation is too overwhelming or unpleasant. Three students (Angel, Demi, and Hayley) described feelings of increased calm or relaxation. Two students (Angel and Josie), described “positive” emotions or sensations, such as Josie citing the physical benefit of meditation assisting with falling asleep and Angel mentioning it improving a headache. Three students (Angel, Earl, and Gloria) indicated meditation or mindfulness “helped” them. Four students (Angel, Bre, Cassie, and Earl) described increased mindfulness. Three participants (Angel, Bre, and Earl) described using meditation or mindfulness to cope with stress. Angel described the impact of meditation this week as follows:

I always look forward to meditating, I just don’t have enough time to do it as much as I like. This one time I had a headache and it helped to concentrate on what I was feeling and I always feel a sense of relief. Therefore, it was a positive impact. It also helps reduce my anxiety of my list of things to do that never end.

All eight students completed the weekly journal for Week 4, including Kevin. This was the only weekly journal that Kevin completed. Kevin indicated he had meditated once but “couldn’t concentrate.” Six students (Angel, Bre, Cassie, Demi, Earl, and Gloria) indicated that mindfulness or meditation had a positive impact, at least some of the time. Three students (Earl, Josie, and Kevin) indicated a neutral experience, where they felt they were not able to properly meditate. Josie described it this way:

I tried to meditate when I was very stressed and anxious and it didn’t help because I just felt too out of control and upset for it to. I don’t think the meditation itself had a negative impact but it also didn’t have a positive one.

Earl indicated feelings of “calm,” but noticed that sometimes after meditation he felt more focused and other times he felt “sort of sleepy and unmotivated.” Another student also described feelings of “calm” after meditating, with Angel writing, “I always feel less stress and like a weight has been lifted.” Three students (Angel, Bre, and Gloria) described “positive” emotions or sensations, such as enjoying meditating, and three students (Cassie, Demi, and Gloria) indicated that meditation or mindfulness “helped” them. Four students (Angel, Bre, Demi, and Earl) described increased mindfulness. One student (Demi) indicated she had used mindfulness and meditation as a stress coping tool. She wrote, “Meditation enabled me to have more self-awareness and helped me to take a step back to become more aware about what is triggering my stress and anxiety and finding coping techniques.”

In Week 5, six students responded to the journal prompt. Five participants (Angel, Bre, Demi, Earl, and Gloria) reported an overall positive impact and one student (Josie) indicated no impact as she had not meditated that week. Two students (Angel and Gloria) described “positive” emotions or sensations, with Angel citing that meditation and mindfulness positively impacted her headaches and Gloria sharing that she always feels better after meditating. Three students (Angel, Earl, and Gloria) indicated that meditation “helped” them. Four participants (Angel, Bre, Demi, and Earl) described increased mindfulness, with two positively describing being more connected with their body or themselves.

Five students (Angel, Bre, Cassie, Early, and Josie) responded to the Week 6 journal prompt. Four students (Angel, Bre, Cassie, and Josie) cited an overall positive impact of meditation and mindfulness. One student (Josie) described a “positive” sensation in that meditation improved her ability to fall asleep. Two participants (Angel and Earl) described increased mindfulness. One student (Cassie) described how meditation increased her feelings of

resilience by stating, “I felt like I had the ability to recognize my existing resilience, and remind myself that I have proven to be resilient before, and no matter what I face I know I can get through it.” One student (Angel) indicated she had used mindfulness and meditation as a stress coping tool. Angel’s reply from this week indicates the additional stress many of the student participants were under this week, as the first Thanksgiving holiday during the COVID pandemic was nearing:

I turn to meditation when I am feeling overwhelmed and I am tired of my brain working. I was stressed about what to do for the holiday weekend, and how to please everyone: but in the end I just decided that some me time alone would be better. I was able to come to that conclusion by taking a break to meditate and turn off my brain for a little. Meditating made me realize that not seeing anyone due to health safety would be better, and being alone with my thoughts would not be bad. A different year this year, but easier to manage with a couple breaks to meditate. It was definitely a positive impact.

The final weekly journal entry was completed following the Week 7 session, and seven students (all but Kevin) responded to the journal prompt. All seven students indicated that meditation or mindfulness had a positive impact on them that week. Two students indicated meditation had aided in relaxation (Angel and Demi), and four students (Angel, Bre, Early and Gloria) described “positive” emotions or sensations. In Earl’s experience:

I had a doctor’s appointment that I was a little anxious about (I’m fine) and the yoga both required a kind of attention that allowed me to redirect away from the anxiety and helped me feel at least a little physically better as well.

Three students (Demi, Earl, and Josie) indicated that meditation or mindfulness had “helped” them. Two participants (Earl and Josie) described increased mindfulness, with Josie writing,

“Mindfulness has made a positive impact on me this week since it’s helped me be a lot more present which reduced stress.” Five students (Angel, Cassie, Demi, Earl, and Josie) indicated they had used mindfulness and meditation effectively as a stress coping tool.

To summarize the weekly journals more simply, students were asked if meditation or mindfulness had an impact (positive or negative) on their well-being, stress coping, and/or resilience in the past week. After reviewing the data carefully, each answer was coded as positive, neutral (or mixed), or negative. The significant majority of entries cited that meditation or mindfulness had a positive impact. One student, Cassie, indicated a negative impact in Week 3, as previously mentioned. However, the student reported positive impacts on all other weeks. Another student, Earl, reported having mixed results from meditation or mindfulness in two entries, and positive results the remaining five entries. The results from all students can be seen in Table 2, with the outliers in bold italics.

Table 2

Weekly Journal Prompt Responses Coded Positive, Negative, or Mixed

Name	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Angel	positive	positive	positive	positive	positive	positive	positive
Bre	positive	positive	positive	positive	positive		positive
Cassie	positive	positive	<i>negative</i>	positive		positive	positive
Demi	positive	positive	positive	positive	positive		positive
Earl	positive	positive	positive	<i>mixed</i>	positive	<i>mixed</i>	positive
Gloria	positive	positive	positive	positive			positive
Josie	positive	positive	positive		positive	positive	positive
Kevin							

A synthesis of the weekly journal entries shows that meditation or mindfulness, overall, had a positive weekly impact on the students in the areas of well-being, stress coping, and/or

resilience. Common themes emerged including positive feelings, that it was helpful, increased mindfulness, feelings of calm or relaxation, and reported stress coping and resilience skills.

Survey 2: December 2020

Survey 2 was made available to the students one week after the Week 8 workshop, at the completion of the intervention. All but one student (Kevin) completed Survey 2. First, students were asked to describe their meditation experience. While the question was intended to reveal what kind of meditation each student practiced, five students described ways that their meditation made them feel. Three students (Cassie, Demi, and Gloria), mentioned “calm” or “calm down” to describe their experience, and one student (Angel) indicated positive feelings toward meditation. “I love meditation,” she wrote. Three students (Angel, Bre, and Cassie) described increased mindfulness.

Second, students were asked what impacts meditation or mindfulness had on stress coping during the past month. All seven students indicated that it had a positive impact. Four students (Bre, Cassie, Demi, and Earl) labeled these positive impacts in terms of feeling more “relaxed,” “at peace,” or “calm”. Four students (Angel, Bre, Cassie, and Earl) described positive sensations or emotions related to meditation, such as helping them with sleep, physical discomforts, and being generally good and positive. Four students (Bre, Earl, Gloria, and Josie) described meditation as “helpful.” Four students (Angel, Bre, Cassie, and Josie) described increased mindfulness. Four of the students (Cassie, Demi, Gloria, and Josie) indicated they had used mindfulness and meditation effectively as a stress coping tool. Demi described the impacts of meditation/mindfulness on stress coping like this:

During the past month, meditation was an outlet for myself. Normally, I go outside and run, but meditation was an alternative method of unwinding and bringing myself to the

present moment. I became more at peace through meditation when I was going through overwhelming thoughts of my to-do list.

Third, participants were asked what impacts meditation or mindfulness had on their resilience during the past month. Five students (Angel, Cassie, Demi, Earl, and Josie) reported it had a positive impact. Two students (Earl and Josie) indicated that meditation had “helped.” One student (Cassie) described how meditation had increased her mindfulness, and how that was beneficial to her resilience:

Meditation has made me more aware of my body and my signs of stress, and now I can recognize my symptoms before I get overwhelmed, and I am able to take a step back and handle the situation instead of shutting down.

One student (Josie) indicated she had used mindfulness and meditation effectively as a stress coping tool. Two students (Angel and Demi) indicated that meditation increased their resilience by helping them feel stronger. As Angel described, “It has made me stronger...I know now that I have more control than I think.” Similarly, Demi stated, “Meditation has positively impacted my resilience because I feel more strengthened to face my challenges.”

Fourth, participants were asked what impacts meditation or mindfulness had on their academic performance during the past month. Five students (Angel, Bre, Cassie, Demi, and Josie) indicated it had a positive impact. Two students (Bre and Josie) indicated that meditation had “helped.” Three students (Bre, Cassie, and Josie) referenced increased mindfulness. Cassie explained, “I am slowly becoming more mindful of my actions, like when I breeze through an assignment or I'm not ‘present’ in class, and I am slowly working toward being more mindful with my academic work.” Bre stated that mindfulness and meditation “helped [her] stay focused and avoid burn out.” Three students (Angel, Demi, and Josie) indicated they had used

mindfulness and meditation effectively as a stress coping tool. Angel summed up the experience this way:

There were times that I thought that I couldn't get pass, but then I remember to breathe and to just keep going. Deep breaths really help put things in perspective. Sometimes things aren't as bad as we imagine them to be.

Demi explained:

Meditation has allowed myself to destress and "fill my cup" so I can then work hard on my assignments for my classes. While I was doing my assignments, I didn't feel stressed out about them the way I was before.

Finally, students were asked to describe their experience in the mindfulness meditation group. All six students respondents stated the experience was positive. Common explanations given for the positive experience were the benefits of having a group or community to share with, the benefit of having the time commitment set aside, and the positive feelings invoked from meditation. Student comments from the final question in Survey 2 are included in their entirety:

Angel replied:

It was positive. I really enjoyed learning meditation. It feels like it takes me to another location. I had read about meditation in a philosophy: and I never understood how they could reach such a state of consciousness and tranquility. Now I understand.

Bre stated, "It was very positive. I loved the support and encouragement though [sic] the group and meditation together." Cassie's reply was

My experience was positive, making time each week to focus on myself and meditate was a struggle but It was so important for me to recognize that I am human, not a robot, and I needed to check in with myself and I was forced to do that by attending the group.

Demi explained that her experience in the group was:

Positive because before coming into the group, I gave up on meditation because I wasn't witnessing the results and I was getting distracted. The group was positive because it felt more like a community and I had a meditation instructor to guide me through.

Earl said that his group experience was “generally, quite positive. It was helpful to have the weekly meeting in my schedule as time set aside for mindfulness/conversation/reflection. The guided group discussions were also helpful in bringing attention to some of the ideas behind the practice.” Gloria stated, “It’s always positive since the beginning meaning being there for each other and doing meditation together and it was amazing.” Josie explained:

I think it was overall positive because it was a commitment that I felt I needed to upkeep so I had time for myself planned out every week. the group was really helpful in feeling like people were experiencing similar things to me and I wasn’t as alone.

In summary, the qualitative data obtained from Survey 2 was very informative. A common theme was that rather than answering what type of meditation the student participated in, students often responded with how meditation made them feel, which was described as positive. Students reported feeling calm and more mindful. All students reported that meditation or mindfulness had a positive impact on their stress coping, with common themes cited that it was helpful, allowed them to unwind or relax, and they experienced increased mindfulness. In terms of resilience, five students reported meditation or mindfulness had a positive impact on their resilience with common themes cited that it was helpful, increased their feelings of strength, and that they experienced increased mindfulness. The remaining two students did not provide enough information to code. Five student participants reported that meditation or mindfulness had a positive impact on their academic performance, citing increased mindfulness, increased

focus, combatted stress, and that it was helpful. One of the remaining students indicated it did not have a negative impact, and the other indicated they had used meditation or mindfulness as a transition back to school work with mixed results. Therefore, those students were coded as noting a neutral impact. Overall, the students reported a positive impact of meditation on mindfulness on their stress coping, resilience, and academic performance and demonstrated a heightened sense of mindfulness.

Survey 3: January 2021

Survey 3 was sent to students one month following the Week 8 workshop. All eight students completed Survey 3. First, students were asked to describe their meditation experience. While the question was intended to reveal what kind of meditation each student had practiced on their own since the conclusion of the Mindfulness Meditation workshops, six students instead described ways that their meditation made them feel. Meditation and mindfulness can often lead to a greater awareness of feeling as it can uncover ways in which people numb to their experiences (Nichtern, 2017). Two students (Gloria and Kevin) stated it was “peaceful” and “relaxed” and four students (Angel, Demi, Gloria, and Kevin) described positive emotions and sensations. Kevin stated, “[My] experience can be described as I feel a baker’s dozen of positive emotional feelings in my heart that gets me relaxed.” One student (Josie) described increased mindfulness and stress coping, stating, “I’ve meditated a couple of times when I’ve found myself getting upset to stop my train of thought and this just included closing my eyes and breathing.”

Second, students were asked what impacts meditation or mindfulness had on stress coping during the past month. Seven students described the impact as positive, while one student (Earl) indicated it had mixed results by stating, “The sitting meditations were somewhat helpful in relieving momentary stress. The relaxation exercises had sort of mixed results.” Two students

(Angel and Kevin) indicated that meditation had increased their feelings of “calm.” One student (Gloria) described general positive emotions or sensations: “It’s always positive to be honest and it’s just great way to start my day with full of energy.” One student (Earl) indicated meditation was “somewhat helpful,” and five students (Angel, Bre, Demi, Josie, and Kevin) described increased mindfulness. Angel described her experience as “a positive experience.” She elaborated, “I am usually calm now and not under a lot of stress. I can feel my emotions before I react. I choose how I want to react.” Bre stated, “Meditation gave me the space to be mindful of my thoughts,” and “now I can notice my thoughts without meditation.” Three students (Cassie, Earl, and Josie) indicated using meditation effectively for stress coping. Cassie explained, “I feel like I am able to handle some stress better and I know that I am able to use the meditation app when I need it.”

Third, participants were asked what impacts meditation or mindfulness had on their resilience during the past month. Seven students (all but Earl) indicated it had a positive impact, while Earl was unclear of the overall impact. Two students (Cassie and Kevin) indicated meditation created a feeling of “calm,” and Kevin also indicated a positive emotion or sensation after stating that his experience was “absolutely positive. If I could describe the changes that meditation reflected into my life, my life mindset have [sic] gotten calmer, stronger, and enthusiastic.” Four students (Angel, Bre, Cassie, and Josie) described increased mindfulness. Cassie stated, “I feel like I am able to notice the wind in my hair and the feeling of the cold on my face and it calms me.” Five students (Bre, Demi, Earl, Gloria, and Josie) indicated using meditation as a tool for stress coping or building resilience. Demi stated:

Practicing meditation had enabled my resilience to grow. One of my meditation sessions was on the Headspace App and I meditated to a session focused on self-forgiveness

which renewed my strength and helped me to not be so burdened by my regrets and mistakes.

Josie stated, “I think I’ve definitely been more resilient due to mindfulness because I’m able to realize that I can get through difficult moments when I reflect on difficulty.”

Survey 3 also offered one of the only opportunities to hear from Kevin. While Kevin did not complete very many weekly prompts or Survey 2, his positive responses in Survey 3 show he found meditation to be a positive impact on his life and mindset.

In summary, on Survey 3, all students indicated meditating at least a few times in the past month, and described their experiences as positive, with common themes being positive emotions or feelings. Seven students indicated that meditation or mindfulness had positive impacts on their stress coping in the past month, with one student, Earl, describing mixed results. Common themes were the feelings of calm, increased stress coping tools, and increased mindfulness. Seven students indicated that meditation or mindfulness had positive impacts on their stress coping in the past month, with Earl indicating he was unsure of the impact. Again, common themes were a feeling of calm, increased stress coping benefits and tools, and increased mindfulness. From the data, it appears that the experience of the students was positive, and that they experienced benefits in terms of stress coping and mindfulness.

Based on the qualitative data, several key themes emerged. All students described that meditation or mindfulness always, or sometimes had positive impacts on their stress coping and resilience. While a small number of mixed or negative impacts were reported, those students also experienced positive impacts. By reviewing common themes, it appeared that students often experienced positive emotions such as calmness and relaxation through meditation or mindfulness. Other positive sensations and benefits noted were feelings of peace, being able to

Earl	X	X	X	X	X	X	X	X
Gloria	X	X	X	X	X	X		X
Josie	X	X	X	X	X	X	X	X
Kevin		X	X		X			X

X – attended

As the table displays, attendance at the weekly meditation sessions was quite high, particularly for a voluntary workshop. Even though one session was held on the Thanksgiving holiday, attendance remained high. The strong attendance throughout the eight-week duration of the study demonstrates students' interest and positivity regarding the workshop series.

Meditation Frequency

Students were asked to report how often they had meditated in the past week in each weekly journal entry, and how many times per week they had engaged in meditation in the past month during Surveys 1, 2, and 3. Students reported the lowest number of weekly meditation sessions at Survey 1. In Survey 1, the majority, five students, reported that they had not meditated at all in the past week or ever. On average, the students indicated they meditated 0.4 times a week. Following Survey 1, the number of weekly meditation sessions the students completed increased immediately. Students reported the highest number of meditation sessions in the final weekly journal entry, averaging 3.6 meditation sessions in the previous week. In Survey 3, one month later, the students still meditated 2.3 times a week on average. Comparing Survey 1 and Survey 3, students reported meditating, on average, 1.9 additional times per week, which was statistically significant based on the one-way ANOVA t-test at the $p < .05$. level (p -value = 0.0144). Figure 2 displays the average number of sessions the students reported completing weekly.

Figure 2

Average Meditation Sessions per Week of all Students

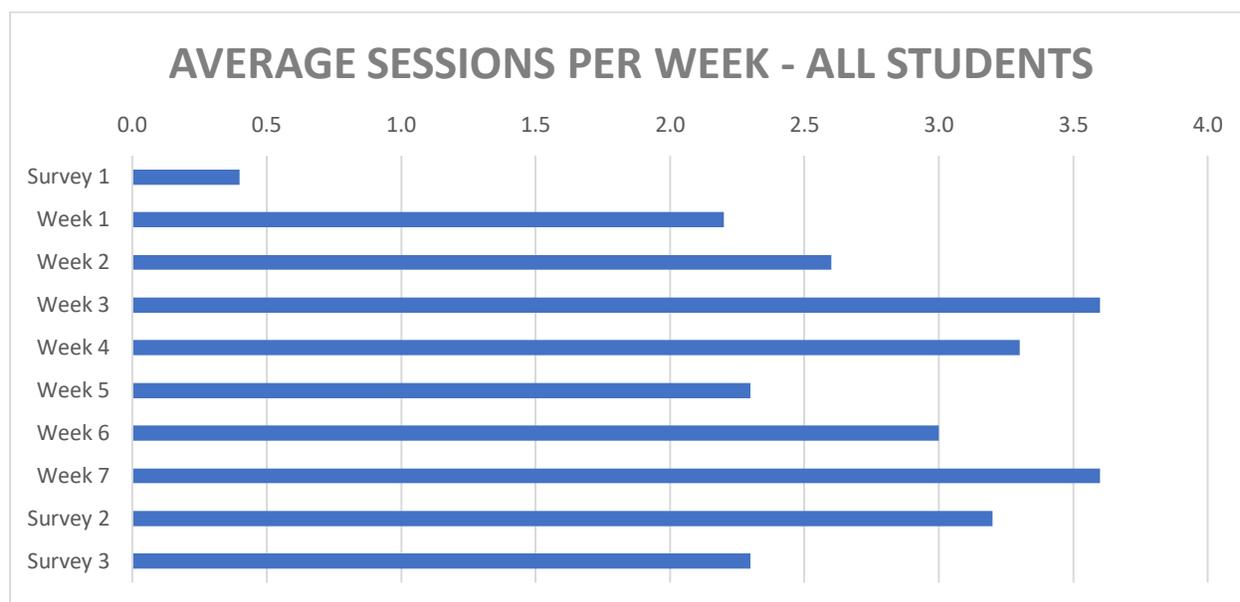


Table 4 displays students' self-reported meditation sessions per week, disaggregated by individual student. This display shows that some students, such as Bre and Earl, meditated quite often, while others meditated less frequently. However, all students showed a significant increase in number of weekly meditation sessions from Survey 1 to Survey 3. This increase continued for all but one student (Earl).

Table 4

Students Self-Reported Meditation Sessions per Week

Name	Survey 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Survey 2	Survey 3
Angel	0	3	1	1	3	1	2	3	2.5	1.5
Bre	1	2	5	7	7	7	7	7	6	7
Cassie	0	2	3	4	3		3	4	3	1.5
Demi	1	1	0	5	4	1		3	4	2
Earl	1.5	3	4	4.5	4	4	2	5.5	3.5	1
Gloria	0	2.5	2.5	2	1	1		1	2	2
Josie	0	2	2.5	2	3	0	1	2	1.5	2
Kevin	0				1					1
Average	0.4	2.2	2.6	3.6	3.3	2.3	3	3.6	3.2	2.3

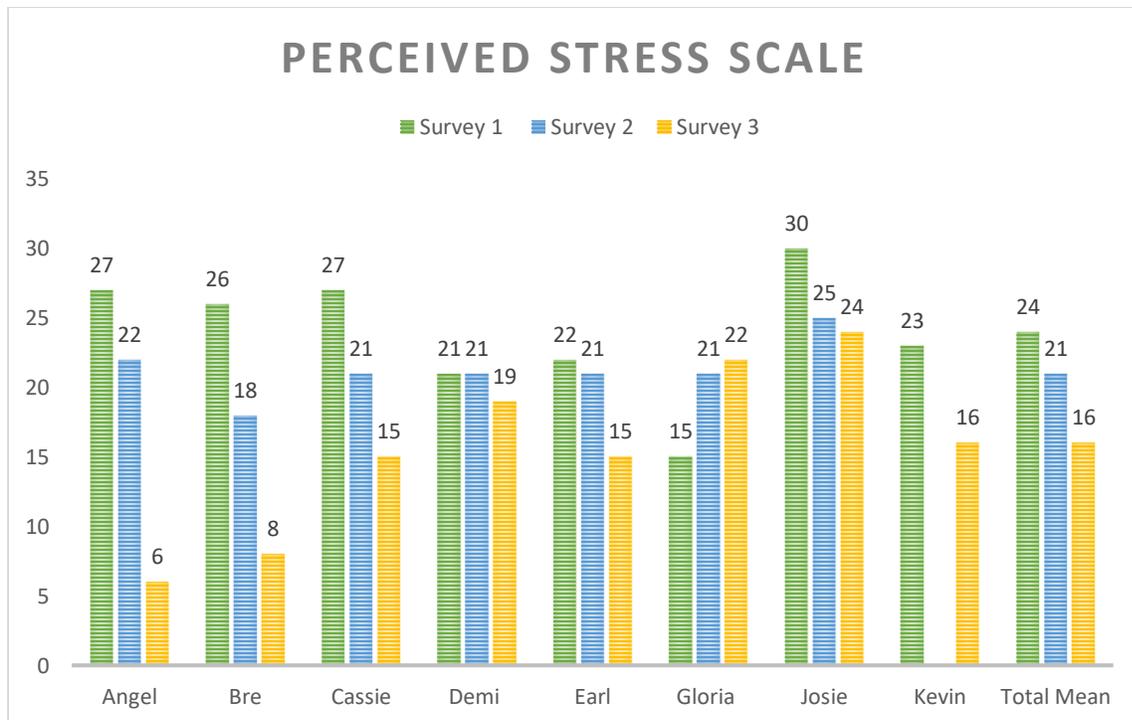
In summary, students were meditating significantly more often by the completion of the meditation workshop than they were at the beginning, and while the amount decreased slightly at the time of the one-month follow-up survey, the number of weekly meditation sessions completed by the students still showed a significant increase.

Perceived Stress Scale

Students completed the Perceived Stress Scale (PSS-10) during Survey 1, 2, and 3, which examined their perceived stress levels. All but one student (Gloria) self-reported perceiving lower levels of stress on Survey 3 compared to Survey 1. Gloria's score increased by six points from Survey 1 and 2, and by one additional point by Survey 3, indicating higher perceived stress levels. Results from all students on all three surveys can be found on Figure 3.

Figure 3

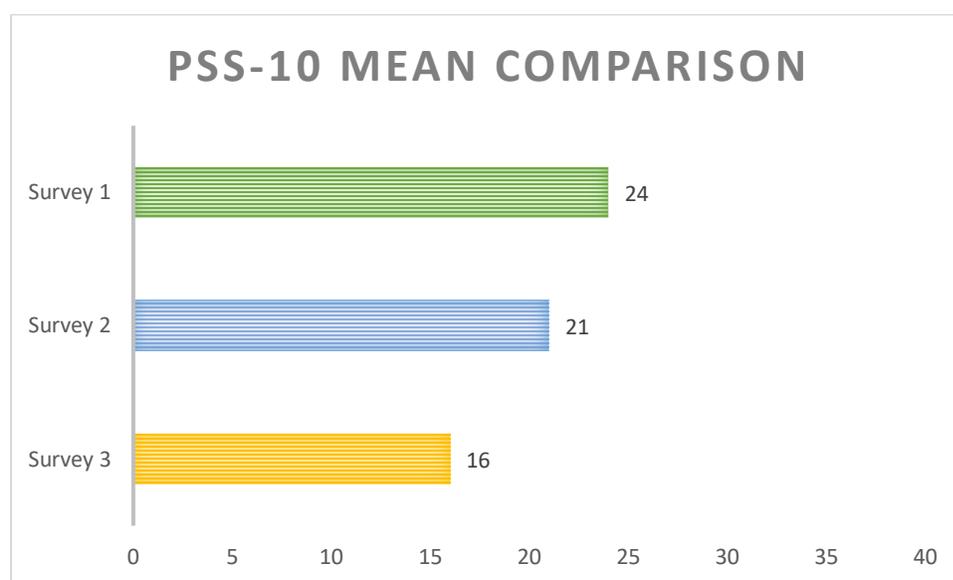
Student Scores on the Perceived Stress Scale (PSS-10) on Survey 1, 2, and 3



The mean scores of participants were compared, indicating a perceived lowered stress level on each subsequent survey. The mean score of all participants dropped from 24 to 16 from Survey 1 and Survey 3, which was statistically significant based on the ANOVA t-test at the $p < .05$ level (p -value = 0.0169). This indicates that on average, the student participants perceived less stress from the time the study began to one month following completion of the meditation workshops. A display comparing mean scores can be found in Figure 4.

Figure 4

Mean Scores on the Perceived Stress Scale (PSS-10) on Survey 1, 2, and 3



From these results, it can be noted that on average, the student participants reported significantly less perceived stress from Survey 1 and 3, which can indicate an increase in coping resources or processes (Cohen et al., 1983). The results of this survey show that the majority of students may have displayed increased stress coping after the workshop series. However, one student was an outlier, with Gloria's score increasing on each of the three surveys. This could be related to a

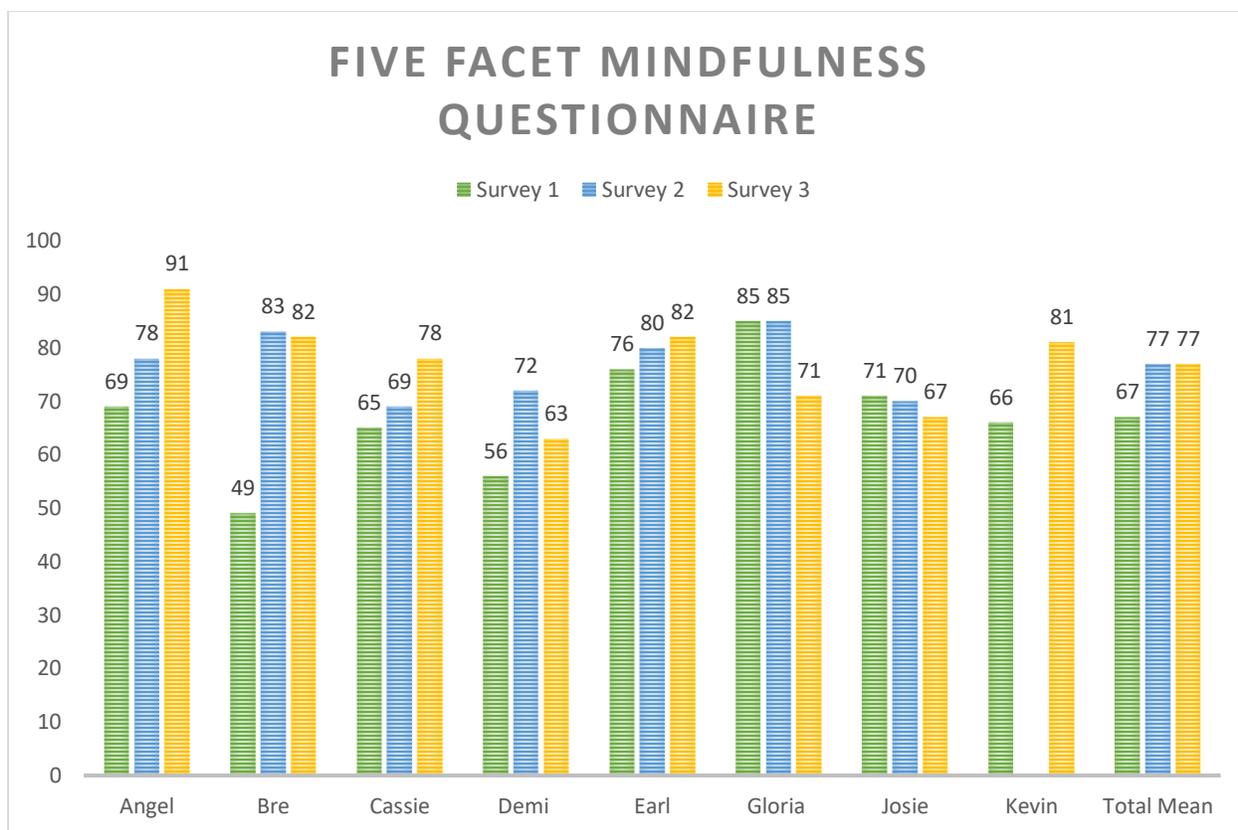
change in the student's life circumstances, which can increase perceived stress, and/or an indication that the workshop series did not positively impact the student (Cohen et al., 1983).

Five Facet Mindfulness Questionnaire

Participants completed the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF) as part of Survey 1, Survey 2, and Survey 3. The first question of the FFMQ-SF, which states "I'm good at finding the words to describe my feelings," was inadvertently omitted all three surveys, so the scores that were calculated do not reflect this question. With this exception, the mean scores of all student participants who completed each survey were compared. Eight students completed Surveys 1 and 3, with one student not returning Survey 2. Six students experienced an increased score on the Five Facet Mindfulness Questionnaire between the first and third survey. However, two students reported a decreased score. Josie's score lowered one point between Survey 1 and 2, and an additional three points by Survey 3. Gloria's score was consistent between Survey 1 and 2, but dropped by 14 points for Survey 3. Results from all students can be found on Figure 5.

Figure 5

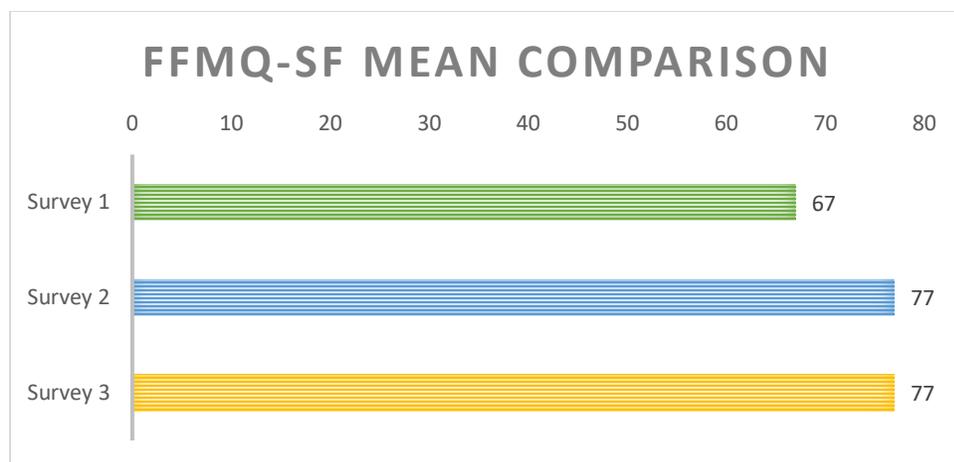
Student Scores on the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF) on Survey 1, 2, and 3



The mean score of Survey 1 was 67, which increased to 77 in Surveys 2 and 3. The mean score changes in the Five Facet Mindfulness Questionnaire from Survey 1 to Survey 3 were only marginally significant based on the analysis of a t-test with a pre-selected significance at the $p < .05$ level ($p\text{-value}=0.0509$). However, based on the small sample size, the increase was still meaningful. It is also worth noting that the increase in mindfulness from Survey 1 to Survey 2 remained in Survey 3, possibly indicating the intervention was effective in creating a lasting increase in mindfulness in the majority of student participants. A display comparing mean scores can be found in Figure 6.

Figure 6

Mean Scores on the Five Facet Mindfulness-Short Form (FFMQ-SF) on Survey 1, 2, and 3



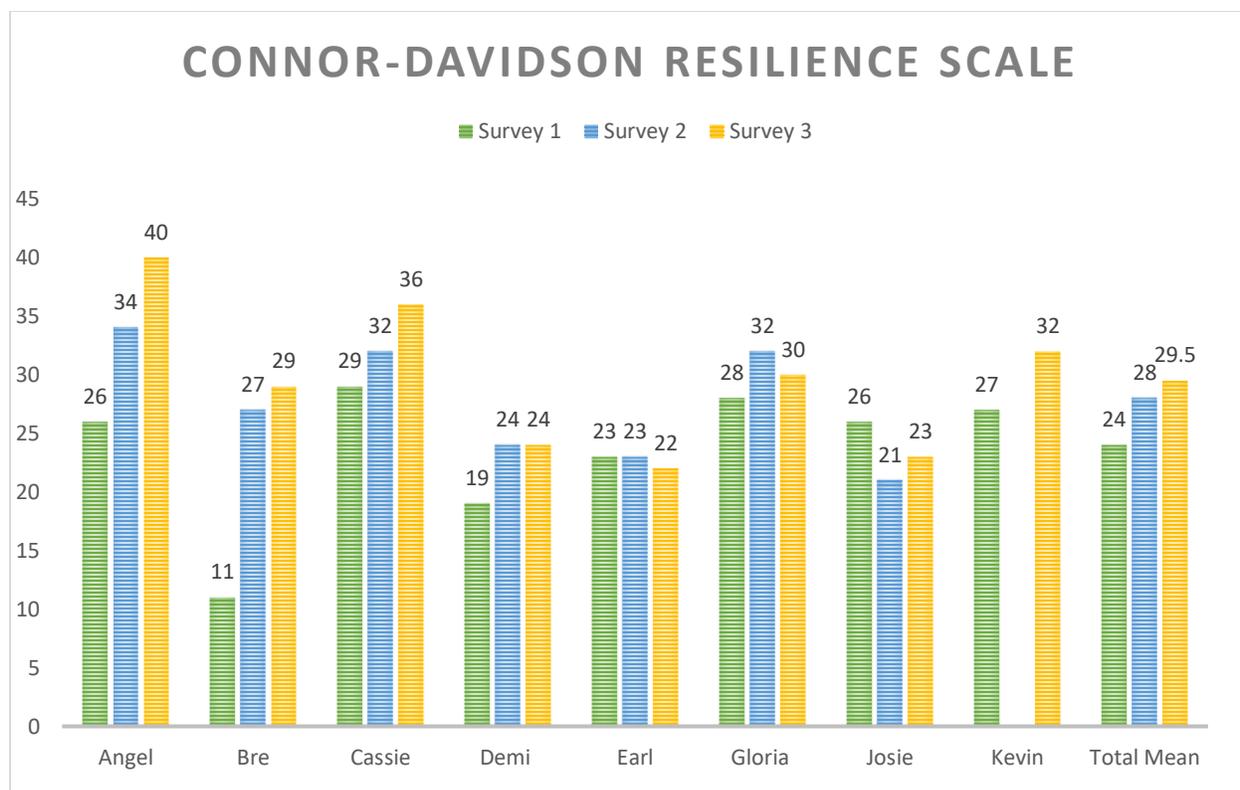
As noted, the mean scores of the student participants increased Survey 1 to Survey 2, staying consistent in Survey 3. Additionally, six individual students noted an increase from their Survey 1 results. These results indicate that for the majority of students, their self-reported mindfulness increased after the completion of the workshop series. Two students were outliers, portraying a different result, with Josie's score just minimally decreasing between the three surveys, and Gloria's score, which remained consistent between Survey 1 and 2, decreasing by 14 points in Survey 3. This could perhaps show that the workshop did not provide lasting improvement for this student in the area of mindfulness.

Connor-Davidson Resilience Scale

Participants completed the Connor-Davidson Resilience Scale (CD-RISC 10) as part of Survey 1, Survey 2, and Survey 3. Of the eight students, six showed an increased score from Survey 1 to Survey 3, but two students' scores, (Earl and Josie) decreased by one point and three points, respectively. Results from all students can be found on Figure 7.

Figure 7

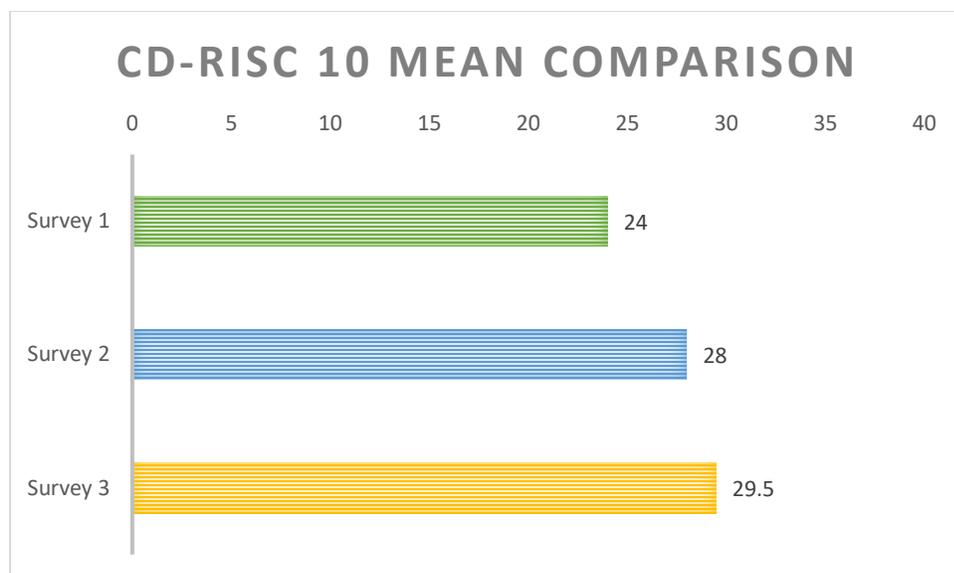
Student Scores on the Connor-Davidson Resilience Scale-10 (CD-RISC 10) on Survey 1, 2, and 3



The mean scores of all student participants who completed each survey were compared. Eight students completed Surveys 1 and 3, with one student not returning Survey 2. The mean score for the three surveys increased from 24 (Survey 1) to 27.57 (Survey 2) to 29.5 (Survey 3). Comparing the mean scores from Survey 1 and Survey 3, the eight participants showed an increase mean score from 24 to 29.5, an increase of 5.5 points, which was considered statistically significant based on the analysis of a t-test at the $p < .05$ level ($p\text{-value} = 0.0264$). A display comparing mean scores can be found in Figure 8.

Figure 8

Mean Scores on the Connor-Davidson Resilience Scale (CD-RISC 10) on Survey 1, 2, and 3



On average, participants showed an increase in self-reported resilience at the completion of the workshop series, seen by comparing the mean scores of Survey 1 and Survey 2. The mean scores continued to rise for Survey 3, possibly indicating that the meditation workshop had a lasting positive impact on the student's resilience. There were two outliers, one being Earl, whose score stayed nearly consistent for all 3 surveys, dropping one point in Survey 3 from identical scores on Survey 1 and 2. The second was Josie, whose score dropped several points from Survey 1 to Survey 2, but did rebound somewhat for Survey 3. Even so, while two students demonstrated a minimal decrease, the majority of students self-reported an increase of resilience based on their CDRS-10 questionnaire at the completion the workshop series, which continued to increase at the one-month follow-up survey.

Academic Persistence

This study examined how participation in the meditation workshop affected college students' academic persistence. Enrollment data of participants was tracked from fall 2020 to fall 2021 to examine the persistence rates of participants. Persistence in this study was defined as students who re-enroll or complete a credential from fall semester to the following fall semester.

The data available for the eight participants showed a 75% persistence rate, which is significant, particularly as the study took place during the worldwide COVID-19 pandemic. Four of the students (Angel, Bre, Cassie, and Kevin) were enrolled in fall 2021 at MCC. Two of the students (Demi and Gloria) completed their Associate's Degree between fall 2020 and fall 2021. One student (Josie) indicated throughout the study that she would only be at MCC for one year to collect courses to transfer to her current four-year university and did not enroll at MCC in fall 2021, as expected. Only one student who indicated they would be re-enrolling at MCC on Survey 1 did not persist. Earl, did not re-enroll in fall 2021, although he was enrolled at MCC for Spring 2021 and Summer 2021, and indicated that he intended to re-enroll at MCC in Spring 2022. Additionally, Earl did indicate in Surveys 2 and 3 that he likely would not be enrolling at MCC in fall 2021. Overall, students who participated in the meditation group showed higher fall-to-fall persistence rates than historical data available from general Midwest Community College students. MCC's peak persistence rate in recent history was 51.4%, in fall 2019. The persistence rate from fall 2019-fall 2020 was 49.7%, and dropped slightly in fall 2021 to 49.1%. A comparison of the persistence rates from the meditation group participants compared to MCC students as a whole can be found in Table 5.

Table 5

Persistence Rates Compared

Meditation Group (Fall 2021)	MCC Fall 2021	MCC Fall 2020	MCC Fall 2019
75%	49.1%	49.7%	51.4%

The research indicated that students in the meditation workshop demonstrated significantly better persistence rates than MCC students who did not participate.

Discussion

This section will review the study's three research questions and discuss what the study's results and findings tell us.

Impacts of Mindfulness Meditation Group

The first research question asked, what impacts does a virtual Mindfulness Meditation group have on college students' stress coping, mindfulness, and resilience? Three impacts were revealed that may be attributed to the meditation group: 1) increased meditation sessions, 2) stress coping benefits or increased tools for stress coping, and 3) a positive impact on resilience.

Increased Meditation Sessions

Based on self-reported data, students increased the number of times they meditated per week by participating in the meditation group. Most students had not meditated in the past month, or ever before, when beginning the meditation group. Students were not required or asked to meditate on their own during the workshop, but the majority did, on average three times per week. At the completion of the workshop, students reported on Survey 2 that they had meditated on average 3.2 times, an increase from 0.4 at Survey 1. At Survey 3, one-month post workshop, all students reported meditating weekly, and all but one showed an increase in number of mediation sessions. The mean number of sessions reported was 2.3 meditation sessions per week. It appears that attendance in the meditation workshop increased the amount students meditated, both during and after the workshop. This is consistent with research conducted by Strait et al. (2020), which found marginal increases in meditation frequency after a meditation intervention with college students.

Stress Coping Benefits

Based on the quantitative data gleaned from the Perceived Stress Scale (PSS-10), in addition to the qualitative data collected from the weekly journal prompts and three surveys, the majority of the students in the study found benefits from the meditation group in terms of stress coping and building stress coping tools. This is similar to other studies that utilized the Perceived Stress Scale and found lower scores after a meditation intervention (Greeson et al., 2014; Ko et al., 2018; Lemay et al., 2019; Neff & Germer, 2013; Ramasubramanian, 2016), as well as the research synthesis done by Bamber and Kraenzle Schneider (2015) that reported the majority of studies on meditation and MBSR indicated lowering the stress levels of participants. Seven of the eight students scored lower on the PSS, indicating lower perceived stress. Even the student who indicated higher perceived stress mentioned using meditation successfully as a stress coping tool twice in the qualitative data. One possible explanation is that while the student found benefits from the meditation group, it was not enough to help cope with specific or situational stressors that changed over the three months in the student's life. Cohen et al. (1983) reminds us that life factors or events can influence stress levels.

Positive Impact on Resilience

The findings of this study show that the majority of students felt that meditation had a positive influence on their resilience, and the majority displayed increased resilience by their increase in CD-RISC 10 scores. Two students, Earl and Josie, had decreasing scores on the CD-RISC 10, although the decreases were minimal. Earl, whose score remained consistent between Surveys 1 and 2 and then dropped one point in Survey 3, mentioned having "mixed results" with meditation and indicated he was unsure if meditation had impacted his resilience in any way in both Survey 2 and 3. Therefore, the quantitative and qualitative data were consistent that the

meditation group had little effect on this particular student's resilience, which has been found in some studies (Lin et al., 2019).

By contrast, Josie indicated twice that meditation had a positive influence on her resilience and displayed other indications of meditation being used as a resilience building tool in the qualitative data. Her decline on the CD-RISC 10 was exceptionally small, likely indicating that her self-perception that it helped was more important than her questionnaire score. Of particularly interesting note was that the mean scores and the scores of four of the student participants from the CD-RISC 10 continued to rise at the one-month follow up survey. This could be an indication of a phenomena cited by researchers Kwak et al. (2019), who found that "our results suggest that improved resilience *via* short-term meditation is maintained for up to 3 months" likely attributable to the change in neural and brain functioning created through meditation interventions, that enhance increased and sustained resilience (p. 6). While this study did not utilize brain imagining like that study, the majority of students self-reported that their resilience increased due to the intervention.

In summary, increased meditation sessions, stress coping benefits, and a positive impact on resilience were impacts the virtual Mindfulness Meditation group had on the college students' stress coping, mindfulness, and resilience in this study.

Academic Persistence

The second research question asked, how does participation in a Mindfulness Meditation group affect college students' academic persistence? Based on the qualitative data indicating that students in the meditation group had higher persistence rates than general MCC students, participation in the meditation group may have had a positive impact. The majority of the students self-reported that meditation had a positive impact on their academic performance.

Additionally, the majority of students indicated increased stress coping tools, improved stress coping, and increased resilience, all which are positive contributors to academic persistence (Duckworth, 2016; Hartley, 2011).

Experience in the Meditation Group

The third and final research question posed the question, what is the experience of students in the Mindfulness Meditation group as it relates to the areas of stress coping, resilience, and college persistence? Three key themes emerged relating to common experiences shared and expressed by student themes: 1) positive feelings or sensations, 2) increased mindfulness, and 3) a feeling of community in the workshop.

Positive Feelings or Sensations

Positive feelings or sensations were mentioned by the student participants related to meditation or mindfulness. Students regularly reported experiencing positive feelings or sensations after meditation. The most commonly mentioned experiences were related to a feeling of calm, relaxation, or peace. These themes are consistent with the findings of other studies (Crowley & Munk, 2017; Ramasubramanian, 2017). Several students also reported feeling more positive or productive after meditating. One student, Earl, regularly mentioned his attempt to use meditation as a focusing activity, with reported mixed results on Survey 3 and the Week 4 journal entry. While Earl reported having mixed-results in two instances, he also indicated that meditation was at least somewhat helpful overall. For example, he reported positive feelings or results from meditation in Survey 2 and in six weekly journal entries, indicating an overall positive impact. Additionally, physical sensation benefits were mentioned by students, such as improved sleep and/or the ability to fall asleep easier and decrease of physical discomforts, such as headaches. While not the focus of this study, the benefits of meditation and mindfulness on

pain, discomfort, and insomnia have been widely studied and mentioned in the literature (Dvorakova et al., 2017, Greeson et al., 2014, Kabat-Zinn, 2013).

Increased Mindful Awareness

Throughout the seven weekly journal entries and two final surveys, many student participants described experiences that indicated an increase in mindfulness or awareness of the present moment. Six of the eight students demonstrated increased mindfulness via the quantitative data provided from the FFMQ-SF. One of those students, Gloria, did not indicate an increase in mindfulness via quantitative data. However, another student, Josie, was an outlier in that she reported six indications of increased mindfulness within Survey 2 and 3 qualitative data, while her FFMQ-SF score lowered 1-point between Survey 1 and 2, and an additional three points by Survey 3. In this instance, one possible explanation is that the student's ability to articulate and notice moments of increased mindfulness are likely more impactful than the small decrease indicated from her scores. As Slonim-Nevo and Nevo (2009) state "inconsistency between different sets of findings may provide information that might otherwise be lost" (p. 110) and thus divergent data must be explored further.

A challenge of self-reported questionnaires is the inherent subjective bias, which can skew results based on how the respondent interprets the questions on a given day based on their current circumstances (Demetriou et al., 2015; Kwak et al., 2019; Rosenman et al., 2011). In Moeller et al. (2015), the researchers found that qualitative data from a mixed-methods study allowed the participants to demonstrate personal agency and a more accurate portrayal of their lived experience than the quantitative surveys alone. Slonim-Nevo and Nevo (2009) state that "standardized scales measure performance and functioning objectively, whereas interviews

reflect personal and subjective views” (p. 124). In this case of analyzing conflicting data, the student’s personal and subjective response of noting increased mindfulness will be honored.

In summary, based on the triangulation of data, the mindfulness meditation workshop seemed to have an overall positive impact on student’s self-reported mindfulness. While one student, Cassie, did report that in one instance a meditation and subsequent increased mindfulness made her momentarily more anxious, as she became more aware of all that was going on beyond the surface of her life, she did not report any lingering discomfort or negative associations, and reported positive impacts in other weeks. Additionally, Cassie demonstrated a significant increase in her FFMQ-SF score, indicating significantly higher mindfulness at the completion of the meditation workshop and one-month follow up. Meditation is often referred to as the time to practice and cultivate mindfulness, and the findings of this study show that the meditation workshop did increase the student participants mindful awareness.

Community

While increased stress coping, resilience, positive feelings/sensations, and mindfulness are positive benefits for college students, one additional impact of the study was found, which appeared to be significant. The students not only unanimously described their experience in the meditation group as positive, but the similar theme of “community” was mentioned multiple times. The students truly came together as a group, providing one another with support, guidance, and accountability. Given that this strong sense of connection came after only eight weeks, in a virtual setting, was significant. Wilson and Gore (2018) found that “providing students with the perception that peer support is available, regardless of whether that support is actually used” is a method to promote a feeling of connectedness to the university (p. 193). It

may have been this sense of peer support which aided the students' feelings of community and connectedness.

As mentioned earlier, Tinto's Institutional Departure Model (or Student Integration Model) and Astin's Student Involvement Theory indicate that students who feel a sense of community are more likely to show academic persistence (Aljohani, 2016). Research by Jacobs and Archie (2008) also found that a sense of community increases student retention, and that a sense of community can be enhanced through membership in campus groups. The students in this study indicated the workshop group contributed to positive feelings of community, which may have positively impacted their persistence rates.

Conclusion

Quantitative and qualitative data was collected, analyzed, and triangulated from a variety of data. The data provided insight into the three research questions. The first research question, related to the impacts of the meditation group, showed that the group likely positively impacted student's amount they meditated, their stress coping ability or tools for stress coping, and their resilience. The second question asked if the meditation group affected college student's persistence, and based on the participants' higher than average persistence rates, it is possible the workshop positively impacted students' persistence rates, although, more research with greater numbers of participants is needed before further conclusions can be reached. Finally, the research questioned what the experience was of the student participants, which revealed common themes relating to positive feelings and sensations, increased mindful awareness, and a feeling of community from the workshop group. Based on these findings and results, implications for practice and recommendations for future research will be provided in the following chapter, along with an overview of the limitations of this study.

CHAPTER 5

CONCLUSION

This scholarly research project detailed the creation of a virtual 8-week mindfulness meditation workshop for eight Midwest Community College (MCC) students and the subsequent research on the effects and impacts the experience had on student stress coping, resilience, and mindfulness.

The purpose of this action research convergent parallel mixed methods study was to examine the effects and impacts of an online Mindfulness Meditation college student group on student stress coping, resilience, and college persistence. The research questions were:

1. What impacts does a virtual Mindfulness Meditation group have on college students' stress coping, mindfulness, and resilience?
2. How does participation in a Mindfulness Meditation group affect college students' academic persistence?
3. What is the experience of students in the Mindfulness Meditation group as it related to the areas of stress coping, resilience, and college persistence?

This final chapter of the report will provide a synthesis of the findings and results, answers to the research questions, implications for practice, suggestions for future research, and limitations of the study.

Synthesis of Findings, Results, and Discussion

Chapter 4 reported the findings and results of the research project in detail. Based on the findings and results of the study, the majority of the students appeared to show an increase in their stress coping and resilience, both from their self-reported qualitative responses, and also from the quantitative results obtained from the Perceived Stress Scale (PSS) and the Connor-

Davidson Resilience Scale (CD-RISC 10), which both showed a statistically significant positive impact. Additionally, the majority of students showed an increase in mindfulness on the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF), though the increase was borderline statistically significant. Overall, the meditation group appears to have increased students' stress coping, resilience, and mindfulness.

Importantly, the students in the meditation group had higher persistence and completion rates than the MCC average, with only one student not re-enrolling in college for the fall 2021 semester. However, it is unknown to what extent the meditation group or the subsequent skills acquired in stress coping, mindfulness, and resilience may have had on the student's persistence or completion.

In their weekly journal entries and in the short answer questions in the three surveys, nearly all of the comments the student participants shared described positive feelings about mindfulness meditation. A few students noted common challenges experienced in meditation, such as a temporary feeling of overwhelm when they became very aware of all that was under the surface, or feeling only a temporary calming effect of a meditation, or that meditation cannot reliably be used as a tool to help increase focus before studying. However, even the students who indicated mixed or possibly negative experiences noted many positive experiences and impacts. Common themes emerged such as an increased feeling of calm or relaxation, feeling that meditation was a helpful tool in stress coping or resilience, and increased mindfulness. Several students also noted positive physical sensations, like meditation helping with insomnia or headaches. Students also indicated positive feelings about the meditation group in general, appreciating the accountability and the community it provided. Even though the group met online, and due to scheduling difficulties, students did not always attend the weekly session with

the same group of students, yet the students still felt a positive connection to other group members.

Research Questions

This study examined three research questions. I conclude my research with a succinct answer to each question. First, the impacts of the virtual Mindfulness Meditation group on college students' stress coping, mindfulness, and resilience were 1) increased meditation sessions, 2) stress coping benefits or increased tools for stress coping, and 3) a positive impact on resilience. Second, participation in a Mindfulness Meditation group appears to have a positive effect on college students' academic persistence, demonstrated by a high persistence rate and self-reported positive influence on academic performance. Third, the experience of the students in the Mindfulness Meditation group as it relates to the areas of stress coping, resilience, and college persistence was primarily positive, with three key themes emerging: 1) positive feelings or sensations, 2) increased mindfulness, and 3) a feeling of community in the workshop.

Implications for Practice

Action research is a useful framework for a researcher who wants “to study their own contexts because they want the research to make a difference in their own setting” (Herr & Anderson, 2015, p. 2). The findings and results of this action research study offer several implications for practice at my institution. First, the students’ feelings of connectedness to the other student participants and to me as the workshop leader is something that can be built upon. MCC has identified the importance of high impact practices that create personal connections to students as one important strategy in increasing persistence and retention rates. During the COVID-19 pandemic, when the campus was forced to move all classes and activities online for 18 months, many faculty and staff were unsure how to replicate these types of practices in online

formats. The success of the virtual mindfulness mediation workshops piloted in this study indicate that students can develop strong personal connections with other students and with campus professionals in virtual settings, and more importantly, that students can build strong sense of community in a meditation group.

Additionally, as MCC looks for new ways to address their enrollment persistence goals from year to year, it appears that more investment in helping students learn stress coping and resilience skills may be very impactful. This could come in the form of a continued meditation workshop series such as the one piloted in this study, or perhaps through finding other modalities that positively impact students' stress coping and resilience, such as self-care education, yoga, or support groups. Elements of mindfulness meditation could also be taught to college students in different formats, such as wellness classes, or more faculty could integrate meditation into their classes. The literature cites several colleges who have added mindfulness courses to their curriculum with this aim (Crowley & Munk, 2017; Ko et al., 2018).

Suggestions for Future Research

While this study was able to examine and answer three key research questions relating to the impacts of a student meditation group, the effect on academic persistence, and the experience of students, there are several areas that could be researched further. To my knowledge, very few, if any, studies have explored the effects and impacts of a virtual student meditation group on academic persistence. Because it is difficult to find comparable measures of persistence, one possibility would be a quasi-experimental study that compares the persistence rates of a control group of mixed-year college students that do not receive a meditation intervention with an experimental group of students that does.

In addition, more research is needed about best ways to foster community within virtual settings, as both the continued COVID-19 pandemic and cultural norms are shifting, pushing more activities and communities online. Specifically, it would be interesting to collect qualitative and quantitative data about the level of community and connection students feel within a virtual community, and why. Further research could also examine how increased community and connection created from a meditation group impacts student persistence and retention. Finally, the meditation workshop series used in this study could be replicated in a face-to-face setting to see if similar findings and results are achieved. This study could also be replicated at other institutions with different populations to determine if similar findings and results are achieved. It is important to acknowledge the differences between institutions and student populations and not overly generalize research findings from one setting to another (DeBerard et al., 2004).

Limitations

This study contained several limitations worth noting. These limitations were related to the study's participant sample, incomplete data from participants, research design and execution, the COVID-19 pandemic, and my positionality as researcher and meditation instructor.

Participant Sample

The major limitation of this study was the limited participant sample. While originally eleven students were recruited, one student only completed Survey 1 and attended no meditation sessions. Thus, her data was not included in the study's analysis. Similarly, data were not included in the analysis for two additional students as they attended fewer than three meditation sessions. As a result, only eight students' data sources were included in the study's data analysis, resulting in a smaller than planned sample size. As stated by Faber and Fonseca (2014), "Too small a sample may prevent the findings from being extrapolated." Additionally, six of the eight

students were female. With only two male students in the sample size, the mindfulness meditation group was fairly homogenous, adding limitations to broad applicability. Other studies related to meditation have also found more female students choosing to be in the study than males (Crowley & Munk, 2017; Lemay et al., 2019), perhaps indicating that male students find less interest or value in meditation than female students. One advantage of the small sample size was that it rendered a manageable amount of data for me as the researcher.

Incomplete Participant Data

As noted earlier, the meditation workshops and all subsequent surveys and weekly journal entries were voluntary. While the majority of the eight student participants attended and completed most workshops and response tasks, not all student participants completed all weekly journal entries or surveys, which left gaps in the data collected. One student in particular, Kevin, only attended four workshop sessions, completed one weekly journal entry, and completed only two of the three surveys. Other student participants also occasionally did not complete the weekly journal entries. This lack of participation limited my ability to fully analyze the data and extrapolate findings and results. Even so, the diversity and number of different data sources collected helped to alleviate this limitation and allowed for triangulation (Check & Schutt, 2012; Mertler, 2020).

Research Design and Execution

There were also limitations in terms of the study's research design and execution. In terms of research design, this study did not have a control group. Therefore, comparisons could not be made between the research group and the MCC student body as a whole. Another limitation of the research design was that the majority of the study's data were self-reported. As stated in Rosenman et al. (2011), self-reported data can lead to bias and inaccuracies:

There are many reasons individuals might offer biased estimates of self-assessed behaviour, ranging from a misunderstanding of what a proper measurement is to social-desirability bias, where the respondent wants to ‘look good’ in the survey, even if the survey is anonymous (p. 320).

However, self-report questionnaires are generally accepted as a valid and reliable form of data collection, are the most commonly-used assessment strategies in psychology, and can elicit more accurate information since participants are more aware of their inner lives than an outside observer may be (Demetriou et al., 2015). Kwak et al. (2019) also reminds us that while the results of a study may be subjective, self-report questionnaires are widely used because there are few valid, reliable, and objective instruments to measure participants’ feelings and perceptions.

Additionally, as mentioned earlier, one question in the Five Facet of Mindfulness Questionnaire was inadvertently omitted from all three of the study’s surveys, demonstrating researcher error. While omitting one question of the Five Facets of Mindfulness Questionnaire occurred in error, I believe it did not significantly impact the findings and results of the study as the question was omitted equally on all three surveys, and for all study participants. Additionally, because this study was not comparing mean scores to externally collected mean scores of the FFMQ-SF, the study’s data analysis was not negatively impacted by the omission.

COVID-19 Pandemic

It must be noted that this study took place during the global pandemic of COVID-19, an unprecedented crisis for Americans that led to month-long quarantines, remote education and work, economic downturns, and a general increase of stress. Due to the pandemic, the study’s workshops were held virtually, rather than in-person, which may have impacted the findings and results. This possibility is evidenced by the fact that COVID-19 was mentioned frequently by the

student participants as they described stressful elements of their lives, particularly when one student was directly impacted by the virus. Even so, a positive outcome of the study was the fact that mindfulness meditation had an overall positive impact on the student participants, even though the meditation workshops were delivered virtually. In this way, what some may view as a limitation may be viewed by others as a serendipity.

Researcher Positionality

As mentioned in Chapter 3, I served as both the researcher and leader of the weekly meditation group, as well as continuing in my job as a staff member at the study's research setting. As Holmes (2020) reminds us, a researcher's positionality "influences both how research is conducted, its outcomes, and results" (p. 2). My dual positionality could have led to less open and honest responses from the student participants, who may have been more likely to report positive influences due to their wish to please me as their meditation instructor.

Also, as a meditation instructor and regular meditator myself, a potential bias during the data analysis phase of the study could be suspected. My positionality as an insider action researcher carried both unique dilemmas, such as not being able to research and lead at the same time, as well as opportunities, such as insider knowledge and a commitment to generating important knowledge that can enhance one's own environment. To limit bias and challenge, I acknowledged my dual roles as a staff person, the meditation instructor, and the researcher to the student participants at the beginning of the study. Also, in order to be objective and unbiased, I chose not to take and analyze field notes during the meditation sessions, nor did I review the data collected while leading the meditation sessions until the last meditation workshop concluded.

Despite these limitations, I believe this study provides important information and evidence about the impacts and experiences of students in a virtual meditation group as it relates to stress-coping, resilience, mindfulness, and academic persistence.

Conclusion

My personal meditation teacher, Ethan Nichtern (2017) once wrote, “Nobody comes to meditation looking to find their breath,” instead they are seeking “a way to be more present, less stressed, and more effective in life” (p. 9). Susan Piver (2007), who lead my meditation teacher training, stated, “How can meditation – which may look like sitting around doing nothing – lead to all these wonderful things? It does so because as it quiets the mind, your deep wisdom and unchanging basic goodness are naturally revealed” (p. 7). Each year, research continues to emerge, verifying the wonderful results of meditation on health and well-being. This study indicated that mindfulness meditation can have a positive impact on community college students’ stress coping, resilience, and mindfulness. Additionally, mindfulness meditation appears to have a positive impact on enrollment persistence in college and ultimately, on college completion. The findings and results of this study suggest that mindfulness meditation groups – virtual or in-person – could be used by colleges and universities as a high touch, high value health and wellness program that provides students with a sense of community while also teaching strategies for stress coping and naturally creating positive feelings and sensations. Perhaps the solution to many colleges’ and universities’ modern issues of high student stress and poor enrollment persistence could be the 2,500-year-old practice of mindfulness meditation.

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APPENDIX A

Sample Recruiting Email

Dear student name,

I am Shannon McKenzie, the Internship Specialist here at Oakton Community College. I am also a student in Bradley University's Higher Education Administration doctoral program, and I am conducting a research study. The purpose of the study is to examine the effects and impacts of an online Mindfulness Meditation college student group on stress coping, resilience, and college persistence.

If you agree to participate in this study you will be asked to:

1. Participate in an 8-week workshop that meets once a week for 40 minutes. It will be hosted online via Zoom meeting technology. In the workshop, you will learn and practice the foundations of mindfulness meditation
2. Complete a survey before starting the workshop, at the completion of the workshop, and one month following the workshop. The survey will take about 25 minutes each time.
3. Write a journal entry once a week for eight weeks. Each journal entry is expected to take 5 to 10 minutes, depending on how much you write.
4. Reply to an email in August 2021 regarding your college enrollment in fall 2021.

You must be currently enrolled at Oakton Community College and at least 18 years old to participate in this study. Your student status and age will be verified with your student ID and/or driver's license.

You will not be required to provide your real name on any of the surveys or journal entries. Instead, you will pick a pseudonym (fake first name) that starts with the letter the researcher assigns you that you will use each time you complete the survey or make a journal entry. I will use the pseudonym to compare your survey responses and journal entries and only I will know which letter you were assigned.

There are no monetary rewards for choosing to participate. However, you may benefit from learning meditation and mindfulness techniques, which may be helpful in coping with stress, anxiety, and depression, and may increase well-being.

The potential risks of participating in this study are minimal. You may feel a loss of privacy or notice the inconvenience of completing the surveys, attending the mindfulness meditation sessions, and writing weekly journal entries. The potential risks of participating in the meditation sessions are also minimal. Mindfulness meditation is simply focusing the mind on the breath. While thoughts or emotions may arise, the focus of the meditation is only on the breath. When thoughts or emotions appear, they are not explored but rather, gently and consciously acknowledged and then dismissed in order to return the focus to the breath. If you become uncomfortable, you may discontinue the meditations at any time. You may also withdraw from the study completely at any time if you change your mind.

The study will begin on October 12, 2020. If you are interested in participating in the study or have any questions about the study, please contact me at mckenzie@oakton.edu or 847-400-7595 on or before October 1, 2020. Thank you in advance for your consideration!

Sincerely,

Shannon McKenzie

APPENDIX B

Informed Consent for Exempt Studies with Minimum Risk

Title: Mindfulness Meditation for College Student Success: The Impact of Meditation on Stress Coping, Resilience, and Persistence

The purpose of this study is to examine the effects and impacts of an online Mindfulness Meditation college student group on stress coping, resilience, and college persistence.

You must be currently enrolled at Oakton Community College and at least 18 years old to participate in this study. Your student status and age will be verified with your student ID and/or driver's license.

Participants will be required to participate in an 8-week workshop series (once a week, 40 minutes) where they will learn and practice the foundations of mindfulness meditation.

Participants will be required to complete a survey (administered online through Qualtrics.com) before the 8-week series begins, at the completion of the 8-week series, and one-month following the series. The survey will take approximately 25 minutes to complete. Participants will also be required to keep and return a weekly journal answering two prompts and reply to an email regarding fall 2021 enrollment.

Participants may benefit from learning meditation and mindfulness techniques, which may be helpful in coping with stress, anxiety, and depression, and may increase well-being. Adverse

reactions are not anticipated during this study. However, should you experience an adverse reaction or decide to no longer participate in the study, you may leave the study or discontinue the survey or journal at any time without penalty.

All information collected during this study will be anonymous, and confidentiality will be maintained at all times (except in the event that a student discloses that they pose a risk of harm to self or others, in which case, the researcher is obligated to report to the RADAR team). All records of the data collected will be stored electronically in Qualtrics Survey Software and protected by the researcher's Qualtrics login and password. IP addresses will be deleted from Qualtrics immediately upon completion of data collection, the study's findings will be reported in aggregate (e.g., groups and percentages), and direct quotations will not include identifying information.

If you have questions about your rights as a human subject in research please contact the Committee on the Use of Human Subjects in Research (CUHSR), Bradley University's 6 Institutional Review Board, at 309-677-3877. Questions about this study may be directed to the lead researcher, Shannon McKenzie, at mckenzie@oakton.edu or 847-376-7165 in charge of this study, or the faculty advisor Dr. Jana Hunzicker at jhunzicker@bradley.edu or (309) 677-3171.

Your decision to participate in this study is completely voluntary. Your participation in the meditation workshops and your submission of the surveys and journal entries means that you have read and understand the information presented and have decided to participate. If you think of any additional questions, you may contact the researcher at any time.

APPENDIX C

Participant Survey via Qualtrics (Pre-workshop, post-workshop, and follow up)

Thank you for agreeing to participate in this study. By clicking on the survey link, you have given informed consent to participate. The information that you provide will be used to help others better understand the effects and impacts of an online Mindfulness Meditation student group on student stress coping, resilience, and college persistence. The survey will take about 15-25 minutes.

Please write your pseudonym (or fake name) for the study here: _____

Part 1: Perceived Stress Scale (Full scale not included here for copyright reasons)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Please use the following scale to respond to each question:

0 = Never

1 = Almost Never

2 = Sometimes

3 = Fairly Often

4 = Very Often

Part 2: Connor-Davidson Resilience Scale (Full scale not included here for copyright reasons)

For each item, please select the option below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt. Possible responses range from:

0 – Not at all true

1 – Rarely true

2 – Sometimes true

3 – Often true

4 – True nearly all the time

Part 3: Five Facet Mindfulness Questionnaire (Full scale not included here for copyright reasons)

Below is a collection of statements about your everyday experience. Using the 1–5 scale below, please indicate how frequently or infrequently you have had each experience in the last month.

Please answer according to what really reflects your experience rather than what you think your experience should be.

1 = Never

2 = Not often true

3 = Sometimes true/sometimes not true

4 = Often true

5 = Very Often or always true

Part 4: Short-Answer Questions

Finally, please take a few minutes to answer each of the following questions.

- 1) In the past month, how many times per week have you engaged in meditation practice? During a typical meditation, approximately how many minutes do you meditate? Please describe your meditation experience.

- 2) What impacts (positive or negative) have meditation or mindfulness had on your stress coping, during the past month? Please provide a specific example.
- 3) What impacts (positive or negative) have meditation or mindfulness had on your resilience during the past month? Please provide a specific example.
- 4) What impacts (positive or negative) have meditation or mindfulness had on your academic performance during the past month? Please provide a specific example.
- 5) Are you planning on enrolling at Oakton in Fall 2021? Why or why not?
- 6) Please provide any additional information you wish to share regarding this topic.

APPENDIX D

Permission to Use the CD-RISC

Dear Shannon:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree (i) not to use the CD-RISC for any commercial purpose unless permission has been granted, or (ii) in research or other work performed for a third party, or (iii) provide the scale to a third party without permission. If other colleagues or off-site collaborators are involved with your project, their use of the scale is restricted to the project described, and the signatory of this agreement is responsible for ensuring that all other parties adhere to the terms of this agreement.
2. You may use the CD-RISC in written form, by telephone, or in secure electronic format whereby the scale is protected from unauthorized distribution or the possibility of modification. **In all presentations of the CD-RISC, including electronic versions, the full copyright and terms of use statement must appear with the scale. The scale should not appear in any form where it is accessible to the public and should be removed from electronic and other sites once the project has been completed.**
3. Further information on the CD-RISC can be found at the www.cd-risc.com website. The scale's content may not be modified, although in some circumstances the formatting may be adapted with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.
4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When using the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.
5. A **student-rate** fee of \$ 30 US is payable to Jonathan Davidson at 2434 Racquet Club Drive, Seabrook Island, SC 29455, USA either by PayPal (www.paypal.com, account mail@cd-risc.com), cheque, bank wire transfer (in US \$\$) or international money order.
6. Complete and return this form via email to mail@cd-risc.com.
7. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce items from the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at mail@cd-risc.com. We wish you well in pursuing your goals.

Sincerely yours,

Jonathan R. T. Davidson, M.D.

Agreed to by:

Signature (printed)

Shannon McKenzie

Date

3/31/20

Title

Student

Organization

Bradley University

APPENDIX E

Weekly Journal Prompt

Directions: Once each week, please take a few minutes to respond in writing to the following question and prompt. You can write whatever you want and as much or as little as you want, but please be sure to write something each week. At the end of the study, you will be asked to send what you've written to the researcher via email attachment.

Please write your pseudonym (or fake name) for the study here: _____

Today's date:

How often did you meditate in the past week?

Describe one experience you had this week in which meditation or mindfulness had an impact (positive or negative) on your well-being, stress coping, and/or resilience?

APPENDIX F

Email for Student Enrollment Self-Report

Thank you again for participating in the Mindfulness Meditation research study. Are you planning on enrolling at Oakton in Fall 2021? Why or why not?