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Indigenous-based Mindful Activities for Students with Test Anxiety

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A dissertation

submitted in partial fulfillment of the
requirements for the degree of

Doctorate in Educational Leadership

University of Washington

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Reading Committee:

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Abstract

College life for students can be stressful, with stress and anxiety being one of the biggest impacts on a student's academic performance; with test anxiety being one of the biggest culprits in causing stress and anxiety among college students. One of the ways that students can help ease test anxiety is through mindful practices. As many colleges and universities increase their availability to provide mindfulness resources – there seems to be a lack of mindfulness resources for Black, Indigenous, and People of Color (BIPOC) students. The research study for this dissertation utilized Indigenous-based mindful practices from Indigenous and South Asian mindfulness practitioners. The mixed-methods study involved 12 participants who identified as Indigenous/Native American and Latinx. The participants spent 10 days practicing mindful practices from Indigenous and South Asian practitioners, along with filling out the Beck Anxiety Inventory, Cohen Perceived Stress Scale, Five Facet Mindfulness Questionnaire, which followed with an interviewer with post-guided questions. Findings concluded that participants found the mindful activities beneficial for their test anxiety.

Keywords: Mindfulness, BIPOC, Indigenous, Test Anxiety, College Students

Dedication

To the sunshine of my life – my son, Milo. From when you were a little baby playing on my lap while I finished my master’s degree, to you always being by my side through my doctoral program. You have always been with me on my journey.

To my husband, Chris. Thank you for your support in whatever I want to accomplish, and always pushing me to be my best.

To my parents, thank you for always supporting me and for all the sacrifices you both have made so that I can soar.

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Table of Contents

Abstract..... 2

Dedication and Acknowledgments..... 3

Chapter 1- Introduction..... 5

Chapter 2 – Literature Review..... 12

Chapter 3 Methodology..... 27

Chapter 4 - Findings..... 46

Chapter 5 – Summary..... 63

References..... 71

Appendices

Appendix A..... 78

Appendix B..... 79

Appendix C..... 81

Appendix D..... 82

Appendix E..... 85

Appendix F..... 87

Chapter 1

Introduction

College life can be stressful (Misra & McKean, 2000). Stress and anxiety caused by college can negatively impact a student's academic performance (Misra & McKean, 2000). Given that stress and anxiety is known to impair attention and concentration (Skosnik et al., 2000), when students lack adequate skills for coping with stress, it can negatively impact their capacity for learning in the classroom environment, including test-taking (Stotland, 2001). Test anxiety is not only stressful, but can be associated with reductions in overall GPA for undergraduate students (Chapell et al., 2005). Test anxiety is a situational-specific form of trait anxiety; defined as individual differences in the general tendency to judge performance-evaluative situations, such as tests, as threatening (Spielberger & Vagg, 1995). There is an increasing recognition, however, that test anxiety is associated with poor student wellbeing (Putwain & Pescod, 2018).

Mindfulness-based Stress Reduction (MBSR) programs incorporate mindfulness as a key skill to help individuals manage stress and anxiety by becoming more aware of and less reactive to external events and corresponding thoughts and feelings (Kabat-Zinn, 2013). The MSBR programs involve key concepts such as meditation, breathing exercises, yoga, and explorations of negative thought patterns/behavior (Kabat-Zinn, 2013). Most theorists and practitioners agree that mindful-awareness skills can be cultivated and learned through a variety of trainings and practices (Germer, 2005). However, many mindfulness perspectives, such as Buddhism and Taoism, point to the idea that healing comes with full acceptance of the present moment. In her book on healing through self-discovery, spiritual teacher Gangaji (2011) writes: "As you either

peel the layers off your story, or see through these layers, you stand naked to yourself, in silent awareness” (p. xiii).

What is known so far in this phenomenon is that evaluations of MBSR-based programs with college students have demonstrated positive outcomes such as reduced symptoms of anxiety and stress (Call, Miron & Orcutt, 2014). Undergraduates participating in a mindfulness course (eight 45-min sessions across 2 weeks) have experienced significant improvements in working memory, standardized test performance, and mind wandering (Mrazek et al, 2013). For example, one student found themselves not perspiring before a test due to anxiety after practicing mindfulness for a couple of weeks (Mrazek et al, 2013).

Statement of Problem

Currently, test anxiety is the leading challenge in a student’s education (Zeidner, 1998); along with that, anxiety and a student’s well-being are often a correlation (Yamada & Victor, 2012). With the increase of mindfulness programs available through universities (Yamada & Victor, 2012), it leads to areas of research to examine if these programs will really help students. Most of the current research is limited to investigating the physical health benefits of using mindfulness with college students (Rosenzweig et al, 2003; Shapiro, Schwartz, & Bonner, 1998). With this problem, the research question on how Mindful-based Stress Reduction practices could potentially affect students’ test anxiety. This study will fulfill the gap in this research area, while also furthering the theory that mindfulness can help college students lessen their test anxiety (Yamada & Victor, 2012).

Another factor is that majority of mindful-based programs in mainstream educational institutions are based on Eurocentric methods; such as Mindfulness-based Stress Reduction (MBSR) which is a formal program developed by Professor Jon Kabat-Zinn to cultivate a trait

known as mindfulness, which is an effective program for stress management (Kabat-Zinn, 2003). In general, mindfulness was popularized in Indigenous cultures by religious and spiritual institutions, while in the western regions its popularity can be traced to particular people and secular institutions. One of the key leaders to introducing mindfulness practices to the western world is Dr. Kabat-Zinn (2003). In the 1970's, Dr. Kabat-Zinn began his journey in receiving mindfulness training from Buddhist monks (Kabat-Zinn, 2003). Inspired by what he learned, in 1979, he created the Mindfulness-based Stress Reduction (MSBR) course, which combined mindfulness practices such as meditation, yoga, and positive thinking, for a western audience (Kabat-Zinn, 2003). Kabat-Zinn's work is honorable but lacks ancestral story and spirituality due to it being catered for a western audience; whereas Indigenous cultures from around the world have been using holistic healing practices that teaches that honoring one's ancestors and having consciousness of one's ancestral story is an important aspect of spiritual life (Graydon & Sullivan, 2013). Graydon and Sullivan (2013) write: "In the Western world—unlike in African, Asian, and tribal communities—we have forgotten how to maintain a spiritual link with our deceased family and the vital importance of honoring and celebrating our ancestors" (pp. 8). This is important because in Indigenous-based mindfulness, not only is one's self involved in the practice, but also the involvement of community, family, and our ancestors (Graydon & Sullivan, 2013).

Personal Justification for Project

Mindfulness research studies with college students are limited (Kingery et al., 2019). With the ever-increasing use of mindfulness activities such as meditation and yoga in the general population, it is an area in the field of research that needs further investigation. A common theme emerging from sources is that, despite recent interest and attention, the academic study

of mindfulness, particularly in relation to higher education, is still relatively new and underdeveloped (Yamada & Victor, 2012). Due to this limitation, the proposed research study will focus on this gap of literature, specifically on holistic healing practices and its correlation to test anxiety.

However, many major studies with mindfulness-based programs at educational institutions have been Eurocentric. For example, when I was a special education teacher, we used MindUP curriculum. A lot of the concepts taught were from Indigenous cultures, yet everything in the curriculum was very westernized. The catalogue had mostly white children and the board of directors were dominantly white. I would like more holistic, Indigenous-based, cultural mindfulness methods to be included in further research; in particular to help students of color with mindfulness techniques that helps them on their educational journeys. I strive for mindfulness practices to not just be individualized, but to have family, community, spirituality, and ancestors included.

An article by anthropologist, Dr. Nalika Gajaweera, she talks about the mindfulness community in the United States being dominantly white, with westernized, privileged ideologies being taught within these communities (2022). With having institutionalized racism within these communities, it often creates an unsafe space for people of color to participate in; often with people of color feeling pressure to either conform to set practices or to simply discontinue participation (Gajaweera, 2022). In Dr. Gajaweera's article, she mentions that there must be inclusion of ancestors, inclusivity, accessibility, and a sense of community that must be added to mainstream westernized mindfulness practices in order to create a safe space for Black, Indigenous, and people of Color to feel that they are able to practice mindfulness practices that reflect healing without disassociating from who you are (2022). The disassociation that Dr.

Gajaweera has witnessed has been a lot of white mindful practitioners who often ask students to “disassociate” with their identities to succumb to healing, whereas in Indigenous communities, our identities are a mirror to our ancestors and our historical trauma cannot simply be forgotten; it is a racist way of thinking to say to someone who is BIPOC to just “forget” and dissociate from the past (2022).

Positionality Statement

Value: Disrupt & Dismantle

My experiences growing up have defined me as a researcher. I grew up as an immigrant (family escaped from a military coup), low-income, parents who hadn't graduated high school, female of color. Being of South Asian descent, I often get stereo-typed into the “model minority” group, yet I don't fall into that category at all. I don't come from highly educated parents nor wealth. I also wasn't a good student growing up, I barely passed high school and went on academic probation twice when I attended college. I became empowered when I realized that I could make a change, both within myself and my community. I wasn't going to let stereotypes or imposter syndrome hold me back from accomplishing my goals. A part of my empowerment was my work at Muckleshoot Tribal College. Working within a Tribal community really helped me build on my own empowerment, along with others. I learned that I could create decolonized curriculum and be a part of program development that is Indigenous-based and culturally relevant. I want my journey to continue on the path of positive changes, and empowerment of others.

Value: Ancestral Knowledge

One of my values is ancestral knowledge. I believe that knowing your history and bringing forth that knowledge is so important in research. There seems to be a disassociation

with research and our personal beliefs. I believe it is intertwined, and that is what Indigenous-research is centered around (Wilson, Breen, & Lindsay, 2019). Ancestral knowledge grounds us and lets us go back to our roots of belonging.

Theoretical Framework

The goal for my theoretical framework was to find holistic and Indigenous-based frameworks that reflected the research study of mindfulness. The Life Mission Theory supports my stance on the connectedness of balance of mind, body, and spirituality. Indigenous Standpoint Theory supports my belief in respectfulness and ethics when conducting research that is Indigenous-based; and to stay focused with a decolonized research lens.

Life Mission Theory

A theoretical framework of existential coherence is presented, explaining how health, quality of life, and the ability to function were originally created and developed to rehabilitate human life from an existential perspective (Ventegodt, et al., 2005). The theory is inspired by the work of Aaron Antonovsky and explains our surprising recent empirical findings – that quality of life, health, and ability primarily are determined by our consciousness (Ventegodt, et al., 2005). The theory is a matrix of nine key elements in five layers: (1) coherence; (2) purpose and talent; (3) consciousness, love, and physicality; (4) light and joy; and (5) quality of life/meaning of life (Ventegodt, et al., 2005). The layer above causes the layer below, with the layer of quality of life again feeding the fundamental layer of coherence. It is a nine-ray theory in accordance with Gurjieff's enneagram and the chakra system from India (Ventegodt, et al., 2005). I believe this theory will be useful in my research because it is a holistic based theory, which reflects my research area of holistic-based mindfulness. It is also based on the chakra system from India, which is an ancient practice of balancing out every aspect of our bodies and spirituality. It

reflects my research that Indigenous-based mindfulness techniques create a balance of mind, body, spirituality, and connection to the universe.

Indigenous Standpoint Theory

Dr. Martin Nakata created Indigenous Standpoint Theory to reflect Indigenous research methods from a decolonized perspective (Foley, 2013). The key concepts of his theory include: ‘Cultural interface’—acknowledgement of how Indigenous ways of knowing and understanding are unknowingly constructed within Western knowledge paradigms; ‘Indigenous agency’—permits Indigenous Peoples to see and uphold their position comparative to non-Indigenous people; and ‘Constant tensions’—recognizes the ongoing tensions between Indigenous and non-Indigenous dualities go beyond descriptive analysis and empirical evidence and is in fact experienced in a physical sense (Foley, 2013). I believe these key concepts will help keep me focused on doing Indigenous research from a decolonized perspective.

In conclusion, with the combination of limited and westernized research, my personal justification, positionality statement, and theoretical framework, it is my goal to contribute further to the research in mindfulness from a decolonized perspective.

Chapter Two

Literature Review

While performing research in the topic area, there were three questions that I really wanted to emphasize in my literature findings: to define and state the problem of test anxiety, the cause of lack of Indigenous mindfulness programs in mainstream institutions, and the overall impact of westernized mindfulness.

What is Test Anxiety?

Anxiety is a complex concept, and this complexity is demonstrated by the various definitions of anxiety various literature. Anxiety describes cognitive, affective, and behavioral responses that will result in poor performance and possibly failure in an evaluative situation (Ayres & Bristowe, 2009). Anxiety stems from an individual's feeling of guilty conscience from committing wrongful acts (Ayres & Bristowe, 2009). Anxiety can also be described as an unpleasant state of tension arising from disapproval in interpersonal relations; and it arises due to direct threat to some value considered important to an individual's existence as a personality (Ayres & Bristowe, 2009).

Furthermore, anxiety can be considered as a sense or feeling of discomfort and worry about undefined danger (Ayres & Bristowe, 2009). The threat can be physical or psychological in nature and may involve the expectancy of bodily injury, destruction to self-esteem, or injury to personal welfare (Ayres & Bristowe, 2009). Such anxiety often arises during evaluation situations and/or events. It can be explained as an effect/feeling of hesitation, or fear and discomfort, together with cognitive difficulties (Ayres & Bristowe, 2009). Another factor is that there is little evidence of empirical-based research on the topic of anxiety in Indigenous [Native American] communities (De Coteau, Anderson, & Hope, 2006). This is to keep in mind that

culturally specific differences in communication style and worldview may affect the clinical presentation of anxiety, which may lead to inaccurate representation of anxiety in Native American people (De Coteau, Anderson, & Hope, 2006).

Test anxiety is closely related to negative emotions and feelings (Ayres & Bristowe, 2009). It is because when one's performances are being evaluated, an emotional reaction will appear, often this fear is negative (Ayres & Bristowe, 2009). Therefore, during the evaluation, one may feel uneasiness, distress, or fear if one is not prepared and not confident with his or her abilities to perform well (Ayres & Bristowe, 2009). Empirical research supports the hypothesized student test anxiety felt by students before an upcoming test (Lotz & Sparfeldt, 2017). In a study by Raffety et al., they found that 158 college students reported daily experience of worry, distraction, and tension during the week before an exam, resulting in a substantial increase with test anxiety (1997). Whereas students who feel well prepared and very confident with themselves, the opposite feeling will arise (Ayres & Bristowe, 2009). On the other hand, one can also view that test anxiety is related to time whereby an individual may develop anxiety a long time prior to the examination (Ayres & Bristowe, 2009). This implies that the preparation for the examination can also be affected. Therefore, such fear of tests may contribute to ineffective preparation for the test. Test anxiety also arises when the evaluative situation is interpreted as threatening (Ayres & Bristowe, 2009).

Test anxiety is a major educational problem affecting millions of students in schools and colleges (Ayres & Bristowe, 2009). It is also widely recognized as a significant contributor to academic performance (Ayres & Bristowe, 2009). Many empirical studies have shown that test anxiety is a major debilitating factor on all academic levels, from the elementary level to the university level (Ayres & Bristowe, 2009). This view is also supported by those.

who reported that test anxiety is one of the variables that are most commonly related to poor performance among students. Test anxiety is found to be negatively related to college students' performance (Ayres & Bristowe, 2009). Approximately twenty percent of students consistently suffer from poor performance due to high test anxiety (Ayres & Bristowe, 2009).

Mindfulness Mainstream – White, Wealthy, Educated, Western Women

Currently, the mindfulness mainstream is made up of white, wealthy, educated women whom both attend in mindfulness activities, along with making up most mindfulness instructors (Carlson, 2018). Since there are four sub-sections to mindfulness mainstream, the following sub-areas will be reviewed: why women are more drawn to wellness, wellness catered to white people, factor of wealth, and the westernization of mindfulness.

Women

Culturally in the West, meditation is construed as a more feminine (rather than masculine) undertaking. “Real men don't meditate” (Carlson, 2018). Previous studies have shown that men are less likely to participate in mindfulness practices (Cagas et al., 2021). [Men] have better, more important things to do than sit around ‘navel gazing’; that's for “new-age hippy women” (Carlson, 2018). This stereotype is also bound in generational terms as contemporary men are often less tied to traditional gender roles and may be more open to activities like yoga and meditation which have historically been the view of women (Carlson, 2018). The high-profile men in the mindfulness movement have generally been less traditionally masculine types and more “touchy-feely” personalities to whom women resonate (Carlson, 2018). As western culture becomes more accepting of different gender identities, the acceptability of such traditionally feminine pursuits may increase for men (Carlson, 2018).

Previous studies examining barriers and facilitators for yoga participation generally involve very few male participants and therefore the findings may mostly reflect those endorsed by women (Cagas et al., 2021). The barriers and facilitators reported in these studies generally resembled those found for conventional and non-holistic forms of physical activity, such as lack of time, cost, lack of information, expectations of negative side effects, and perceived benefits and social support (Cagas et al., 2021). For the small number of male respondents in these studies, some common barriers appeared to be negative preconceptions of yoga as a feminine/female-dominated activity, lacking aerobic challenge, requiring flexibility, and being of inappropriate intensity (i.e., too easy or too difficult) (Cagas et al., 2021).

Although this phenomenon is clear, the reasons behind it are unclear. One reason would be due to the demographics of conditions such as depression and anxiety disorders, which occur more frequently in women and are often the targets of mindfulness (Carlson, 2018). According to the Anxiety Disorders Association of America, women are twice as likely as men to suffer from anxiety (Carbera, 2016). Research attributes this to both structural and chemical differences in their brains (Carbera, 2016). A lack of focused attention often can lead to greater anxiety because our thoughts go to worrying about the future (Carbera, 2016).

Women are also more drawn to and comfortable in group settings, in which most mindfulness classes are conducted (Carlson, 2018). Although they are engaged in the workforce and achieving more upper-tier positions in greater numbers than ever before, their responsibilities at home and raising children continue to be, on average, more demanding than for their male counterparts (Carlson, 2018). Research findings indicate that women have higher levels of emotional distress and lower quality of life than men (Generalized Anxiety Disorder, 2018). The higher incidence of GAD in women has been linked to the diffuse yet comprehensive

expectations of women as caregivers (Generalized Anxiety Disorder, 2018). Many women assume responsibility for the well-being and safety of other family members in addition to holding jobs or completing graduate or professional school (Generalized Anxiety Disorder, 2018). Therefore, women are trying to “do it all” with successful and demanding careers and active family lives (Carlson, 2018). Women also largely undertake the “emotional” or mental labor of the family in terms of planning meals, writing grocery lists, keeping track of kids’ schedules, drop-off and pick-up times, homework due dates, birthday parties, summer camps, holidays, cleaning schedules, child care, etc., and this results in a jumble of information that can cause feelings of overwhelm and stress; mindfulness promises a potential antidote to some of this day-to-day chaos (Carlson, 2018).

In a 2017 review which analyzed the sex balance of all peer-reviewed published randomized controlled trials of MBSR (Bodenlos et al., 2017). The research included 117 studies with almost 10,000 participants (Bodenlos et al., 2017). Overall, men comprised less than 29% of the total participants across the 117 studies. (Bodenlos et al., 2017). Which brings up the fact that mindfulness studies seem to attract more females than males. This was also reflected in my study, as all 12 participants were female.

White

Despite the health benefits of mindfulness and the growing interests in these areas, they have been predominantly normed on the lived experiences of white Americans. In addition, despite the near absence of people of color from studies on mindfulness and compassion-based interventions (DeLuca, Kelman, & Waelde, 2018; Waldron et al., 2018), it is assumed that these approaches are universally beneficial and relevant to everybody. These assumptions prevent diverse groups’ ability to reap the full benefits of these interventions. First, by assuming the

universality of treatment content, unique risk factors (e.g., race-related stress) that contribute to negative health among people of color are not accounted for and addressed in treatment (Proulx et al., 2017). Second, prioritizing (albeit unintentionally) white cultural references within mindfulness and compassion training obscures meaningful and valid differences that may arise across groups. Third, disregarding diverse groups' unique experiences dismisses the multifaceted ways they may already use mindfulness and compassion thus, meaningful similarities between these approaches and culturally relevant practices are not highlighted and maximized.

In Carlson's research study, 80% or more of participants are white (Carlson, 2018). This partially reflects the population distribution of the researcher's area, but is still higher than the general population where about 30%–40% are not white (Carlson, 2018). This is a common limitation cited by researchers in this area; while there are some notable exceptions, study participants tend to be disproportionately white (Carlson, 2018). This is confounded with income, as white people also tend to have higher incomes than other ethnic backgrounds, especially compared to Black and Latino people in the United States (Carlson, 2018). Unless specific efforts are made to include other cultural and ethnic groups and link this disparity, or more studies are conducted in community settings targeting these groups, this will likely continue and the conclusions regarding the usefulness of mindfulness research will be based mainly on white people (Carlson, 2018).

In addition to Carlson's study; according to the US Census Bureau, the most common ethnicity among yoga instructors is white, which makes up 71.3% of all yoga instructors (2022). This graph illustrates the stark differences in numbers between white instructors and those instructors of other ethnicities.

Figure 1

Yoga Instructor Race	Percentages
White	71.3%
Hispanic or Latino	10.6%
Black or African American	7.1%
Asian	5.1%
Native American and/or Alaska Native	0.5%
Unknown	5.4%

U.S. Census Bureau. (2022). *Yoga Instructors by Ethnicity*. U.S. Department of Commerce.

Retrieved May 16, 2023.

Wealthy/Educated

Individuals with low socioeconomic status (SES) and members of racial/ethnic minority groups often experience profound disparities in mental health and physical well-being (Spears et al., 2017). Mindfulness-based interventions show promise for improving mood and health behaviors in white populations, but little research has been done with underserved socioeconomic populations (Spears et al., 2017).

In Carlson's study, which consisted of free-of-charge programs, about three quarters of all participants had greater than a high school education (2018). Taking a mindfulness course outside of a research study generally has to be paid for out-of-pocket in the United States and Canada, with the exception of a few hospital-based programs or some that are covered by private insurance, making them less accessible for people of all incomes (Carlson, 2018).

Meditation retreats one may attend are typically quite high-priced, especially if they are residential, and require the ability to travel and take time off work and family (Carlson, 2018). Hence, a higher income is required simply to attend. The issue of expense is also encountered if one wishes to become a certified mindfulness instructor (Carlson, 2018). To take the entire course of recommended training at the Centre for Mindfulness in Worcester, MA, for example, the cost is over \$30,000 USD (Carlson, 2018). While there has been identification of this obstacle, and low-income and minority scholarships are now offered, most practitioners still must pay large sums out-of-pocket to become certified instructors (Carlson, 2018). Once instructors are certified, they have to charge reasonable rates to make back the cost of their training (Carlson, 2018). This makes learning and practicing mindfulness through attending classes or groups unaffordable to many (Carlson, 2018).

Western

The rise of interest in mindfulness has largely occurred in the United States, Canada, and European countries (Carlson, 2018). In less wealthy or developing countries, there may be more emphasis on traditional spirituality and basic tasks of daily living; many people with lower incomes may be struggling just to get by, working long hours and not having the time or liberty to think about mindfulness and meditation (Carlson, 2018). This makes it something of a practice for an elite few who have the time, means, and access to teachers and classes (Carlson, 2018).

Accounting for this, mindfulness programs are often based on our understanding of how wealthy, white, western women respond (Carlson, 2018). This demographic also largely represents those who promote the uptake of mindfulness through their roles in the media, as mindfulness class teachers, as well as program participants (Carlson, 2018). Gwyneth Paltrow and Goldie Hawn are well-known icons of this demographic (Carlson, 2018).

In addition to the socio-economic disparities that exist within cultures, there are 65.5 million forcibly displaced people worldwide (United Nations High Commissioner for Refugees, 2017), thus illustrating the shifting cultural context of community while underscoring the importance of providing access to mindfulness-based practices to support the mental health and well-being of people through the use of self-directed self-regulation skills that can be used anywhere (Proulx & Bergen-Cico, 2022). The need for mindfulness-based self-regulation practices cuts across geographic locations and economic strata (Proulx & Bergen-Cico, 2022). Refugees who are resettled in high-income countries, like the United States and much of Europe, still have mental health challenges and vulnerabilities (Fazel et al., 2012), and can benefit from mindfulness and contemplative practices. The integration of economic, social, cultural, and spiritual factors into mindfulness and contemplative programs are important considerations for future research. Moreover, embodying the traditions that have healed and strengthened Native people for millennia and through the occupation of their lands is a form of decolonization (Proulx & Bergen-Cico, 2022).

Mindfulness Studies with College Students

The area of research for this study will be to examine whether mindfulness practices help lower stress/anxiety. With the increasing trend of mindful-based activities, research studies linking mindfulness and lower stress/anxiety are increasing within the field (Creswell, 2017). Over the last decade, 350 mindfulness randomized controlled trials (RCTs), have been published (Creswell, 2017). One possible reason for this widespread interest is that mindfulness interventions have shown promise for improving a broad range of mental and physical health outcomes (Creswell, 2017). The justification of this area of research is that if consistent with this possibility of a correlation between mindfulness and lower stress/anxiety; mindfulness interventions such as the

Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990) program which has consistently been shown to decrease self-reported anxiety and stress will be beneficial for students and educators. This area of study is important for students as it provides an achievable resource to help them in dealing with stress/anxiety-related issues. This area of research may also provide educators with resources on how to implement mindfulness into their curriculum.

Another literature review was based on Pranayama. Pranayama is a yogic breathing technique, similar to mindfulness practices, used to bring the attention out of the mind and into the body. Nemati (2013) conducted a study with 107 randomly assigned participants to determine if the practice of pranayama would decrease test anxiety. The experimental group practiced pranayama for one academic semester. Both groups were given Sarason's (1980) TAS pre- and post-intervention. The results showed that 33% of the experimental group showed signs of TA post-intervention as opposed to 66.7% of the control group. This was significant at the $p < .05$ level (Sarason, 1980). This concluded that the study in fact helped students with their test anxiety.

In Nelson and Knight's study, (2010) they examined the intervention of targeting positive thought processes in reducing test anxiety (TA). They randomly assigned 118 introductory psychology students to a positive thought experimental group or a control group. The results showed that the positive thought students demonstrated higher quiz scores, greater confidence, less negative affect, and less test anxiety (Nelson & Knight, 2010).

In a newer study by Lothes et al., (2022), they assessed the effects of online mindfulness practices over a five week period on anxiety and test anxiety in college students. Participants included 20 students that were randomly assigned to either a sitting meditation or a wait list control (WLC). A weekly schedule of mindfulness practices was given to participants to

complete on their own for 5 weeks (Lothes et al, 2022). The WLC did not do any mindfulness for the first 5 weeks. Participants in the both conditions showed significant within-group reductions in test anxiety, overall anxiety, and DASS scores during their mindfulness interventions (Lothes et al, 2022). Both groups also showed significant increases in Five Facets of Mindfulness Questionnaire scores (Lothes et al, 2022). These studies concluded that mindfulness may play a role in the reduction of anxiety and test anxiety.

Traditional Indigenous Wellness

If we take the time to examine a broad range of Indigenous cultural traditions, we can find philosophical, spiritual, and physical practices that are similar in their cultivation of self-regulation, compassion, awareness, and knowledge of self (Proulx & Bergen-Cico, 2022). Learning about the ways in which these practices and foundations relate to, and reinforce, Indigenous mindfulness-based practices can expand the reach of life-enhancing practices (Proulx & Bergen-Cico, 2022).

In the article, “Indigenous Native American Healing Traditions” (Koithan & Farrell, 2010), they write about traditional Indigenous systems of care provide a blueprint to model new healing strategies that have the potential to extend health promotion beyond the individual to the collective. In Native American culture there is a saying that “we are all related”; all things live in relationship to one another (Koithan & Farrell, 2010). Living in harmony with the earth and our environs has meaning and purpose, not only for us but the whole --- the earth, its peoples, and all that is. When we engage in health promotion by “walking in beauty”, we all win (Koithan & Farrell, 2010). This was a qualitative study that showed Native American healing practices helped a person’s overall well-being through ceremonies, dance, prayer, plant medicine, and stories (Koithan & Farrell, 2010).

Mindfulness teachings and Indigenous or Native American teachings aim to cultivate deep insight into the nature of our existence, compassion, interdependence, impermanence, and a deep level of connection to the world (Proulx & Bergen-Cico, 2022). These practices are also grounded in inner knowing/self-awareness and the importance of personal peace that comes from understanding our connection with the universe and all other beings (Hausman, 2001; Hölzel et al., 2011; Pember, 2012).

An example of Ute prayer shows how paying attention to the natural environment can teach us about suffering, humility, caring, courage, limits, freedom, acceptance, impermanence/renewal, kindness, and quiet stillness (Proulx & Bergen-Cico, 2022). This is a wonderful example of Native American culture showing how nature, including the example set by nature, gives us everything we need to live peacefully and harmoniously (Proulx & Bergen-Cico, 2022). This prayer is shared in respect and honor to the Ute Tribe.

Ute Prayer:

“Earth teach me quiet - as the grasses are still with new light.

Earth teach me suffering - as old stones suffer with memory.

Earth teach me humility - as blossoms are humble with beginning.

Earth teach me caring - as mothers nurture their young.

Earth teach me courage - as the tree that stands alone.

Earth teach me limitation - as the ant that crawls on the ground.

Earth teach me freedom - as the eagle that soars in the sky.

Earth teach me acceptance - as the leaves that die each fall.

Earth teach me renewal - as the seed that rises in the spring.

Earth teach me to forget myself - as melted snow forgets its life.

Earth teach me to remember kindness - as dry fields weep with rain” (Proulx & Bergen-Cico, 2022). The power of prayer is integrated into Native American mindfulness and spirituality (Proulx & Bergen-Cico, 2022, pp.114-115).

Impact of Western Mindfulness

An article by anthropologist, Dr. Nalika Gajaweera, she talks about the mindfulness community in the United States being dominantly white, with westernized, privileged ideologies being taught within these communities (Gajaweera, 2022). With having institutionalized racism within these communities, it often creates an unsafe space for people of color to participate in; often with people of color feeling pressure to either conform to set practices or to simply discontinue participation (Gajaweera, 2022). In Dr. Gajaweera’s article, she mentions that there must be inclusion of ancestors, inclusivity, accessibility, and a sense of community that must be added to mainstream westernized mindfulness practices in order to create a safe space for Black, Indigenous, and people of Color to feel that they are able to practice mindfulness practices that reflect healing without disassociating from who you are (2022). The disassociation that Dr. Gajaweera has witnessed has been a lot of white mindful practitioners who often ask students to “disassociate” with their identities to succumb to healing, whereas in Indigenous communities, our identities are a mirror to our ancestors and our historical trauma cannot simply be forgotten; it is a racist way of thinking to say to someone who is BIPOC to just “forget” and dissociate from the past (2022).

In Mehta and Talwar’s (2022) article, review of how mindfulness was integrated into mental health reveals a persistent loyalty to the foci of the Eurocentric health field; focusing on symptoms rather than root causes of suffering, deficits more than strengths, on illness more than wellbeing, on individuals more than communities, on hyperspecialization rather than

diversification. Mindfulness has been distilled into a series of techniques that address the same focus; symptom reduction and comfort against suffering (Mehta & Talwar, 2022). Westernized mindfulness has been culturally appropriative in 1) how they are devoid of cultural and spiritual references and 2) how the techniques reduce mindfulness to a series of tools and techniques when mindfulness, are techniques that are a pathway to the larger goal of liberation for all beings (Mehta & Talwar, 2022). Adapting mindfulness to mainstream U.S. culture has made mindfulness research, teaching, and practice another site for the perpetuation of inequities that exist in the broader U.S. society (Mehta & Talwar, 2022). For instance, the mindfulness curricula in the U.S. have been normed in white communities and fail to consider the unique needs of people of color (Black, 2017). Alongside the limited research about the impact of mindfulness based practices on communities of color, there have also been limited efforts to engage with communities of color in the development and deepening of mindfulness based practices (Davidson, 2021).

Westernized mindfulness practice has become the site of perpetuating the difficulties found in the field of mental health (Mehta & Talwar, 2022). The neutral definition of secular mindfulness and its lack of consideration for moral teachings has allowed for a host of dubious uses, also popularly labeled by its critics as McM mindfulness (Hyland, 2016). The therapeutic function of ‘McMindfulness’ is to accommodate the self within a “neoliberal, corporatized, militarized, individualistic society based on private gain” (Forbes, 2016, p.1257). When mindfulness meditation is practiced as a singular coping strategy, devoid of the values that sustain a mindful way of living, it runs the risk of creating harm and straying further and further away from the goal of liberation. For instance, a recent study revealed how secular mindfulness

meditation was associated with not only reduced feelings of guilt but also fewer efforts to repair the harm (Hafenbrack et al., 2021).

All in all, the emerging theme of the literature reviews seems to be a lack of research in the topic area, a heavily westernized topic, and a lack of resources for BIPOC students. The shortage of Indigenous wellness in mainstream research is also limited, yet is so important for students who identify as BIPOC.

Chapter 3

Methodology

The research for this study was an Indigenous-based guide on mindful activities based on various examples from Indigenous/Native mindful practitioners and a South Asian mindful practitioner. Indigenous is defined by “(of people) inhabiting or existing in a land from the earliest times or from before the arrival of colonists” (“Indigenous”, n.d.). There were guided activities which encompassed daily practices, for a total of ten days. It had the following examples: ancestral knowledge, prayer, art, nature, etc. The research question, “Does practicing Indigenous-based mindful practices lower test anxiety levels in college students?” was the focus of this study.

Project Parameters

The hypothesis for the research question, “Does practicing Indigenous-based mindful practices lower test anxiety levels in college students?” was: the mindful exercises done by the participants will lessen their stress and anxiety, which in turn will lessen their test anxiety. The null hypothesis being that the mindful exercises will not lessen participants’ stress and anxiety, which in turn will have no significance on their test anxiety. The study was of mixed methods. The quantitative element was its use of numerical data, and builds upon the existing theory that mindfulness activities promote less stress and anxiety in students (Yamada & Victor, 2012). The qualitative side was post-interviews with participants.

Justification of Parameters

After completing the study, looking at the correlation (if any) of the effects of mindfulness and the lowering of test anxiety. This will be beneficial as it will provide future instructors and students into utilizing mindfulness as a tool to lessen their test anxiety.

Scope of Work

Participants for this research study were recruited online through social media – Facebook, Instagram, and LinkedIn. The target population for the sample were students over age 18, who are BIPOC (Black, Indigenous, Person of Color), attend college, and who experience test anxiety. The method to recruit participants involved posting the recruitment flyers with the researcher’s contact details. The researcher then notified the participants who were chosen (at random) to participate in the study.

Sequence of Activities

This study required a daily activity commitment for ten days, followed by a post-interview. The researcher emphasized that if a student has a special service requirement, such as a disability, to not let that deter them from partaking in the study. The research study was open to all areas of diversity. Students who were interested gave their contact details to the researcher, who then contacted all of them (individually) later in the week for a Zoom meeting to fill out their questionnaires.

Upon arrival to scheduled one-on-one Zoom meetings, the participants filled out their demographic questionnaire which included age, sex, class year, race/ethnicity, and a section where they can list if any special services that are required by the participant. The special services section was provided to accommodate any special requirements, such as disability access, translators, written instructions, etc., this was done in order to allow as many diverse participants as possible. All the tools and methods in this study followed APA’s *Guidelines for Providers of Psychological Services to Ethnic, Linguistic, and Culturally Diverse Populations* (n.d.). Along with APA’s *Ethical Principles of Psychologists and Code of Conduct* (2002).

Participants were randomly chosen by the researcher, with priority given to BIPOC students who experience anxiety. Participants were sent an email with details, surveys, and guided mindful activities to gain insight into the research. Participants were required to sign consent forms that follow American Psychological Association's Code of Ethics.

After participants informed consent for the IRB-approved study, participants were sent a complete packet of questionnaires. The questionnaires were given at the beginning and middle of the study. Participants were both informed orally and in writing that all information will remain confidential and anonymous. The first questionnaire was the demographic questionnaire which included age, sex, class year, race/ethnicity, and a section where they can list if any special services are required by the participant.

The second questionnaire was the Cohen Perceived Stress Scale. Each of the 14 items are rated on a 1 (*never*) to 5 (*very often*) scale, with higher scores indicating higher stress (Kingery et al., 2019). The third questionnaire was the 39 item Five Facet Mindfulness Questionnaire which is used to assess dispositional mindfulness (Kingery et al., 2019). Each item was answered on a 1 (*never or very rarely true*) to 5 (*very often or always true*) scales, with higher scores indicating higher levels of various aspects of mindfulness (e.g., acting with awareness, nonjudging of experience, and nonreactivity to inner experience) (Kingery et al., 2019).

The final questionnaire was the Beck Anxiety Inventory which included 21 items that represent common somatic and cognitive symptoms of anxiety (Kingery et al., 2019). Each item was rated on a 4-point scale from 1 (*not at all*) to 4 (*severely—it bothered me a lot*), with higher total scores indicating higher anxiety (Kingery et al., 2019). The Beck Anxiety Inventory was specifically filled out with participants' experience with test anxiety. The researcher collected all questionnaires, once completed by participants.

The researcher checked-in with students half-way through, to ask if they were completing their activities and/or if there were any issues. Since they were all completing the activities, the researcher followed in with a check-in at the end of the study. At the end of the experiment, students had an interview with the researcher to discuss their feelings of the activities they participated in through a set of guided questions. The questions were recorded via Zoom, transcribed by researcher, and then deleted.

Classes would resume in its typical fashion throughout the semester; this included any tests/quizzes. At the end of the ten days of activities, all participants will filled out their questionnaire packets, again. The researcher collected all questionnaires. The method of data analysis was to compare the participants' scores on all questionnaires from the beginning of the semester to the end of the ten days. Doing a comparison of data analyzation gives a deeper examination of the combined effect of the variables and not just the relationships between any two variables (Guterman & Neuman, 2017). The results showcased the differences of their answers via questionnaires.

Validity Statement

Internal validity is ensuring that the research protocols were done correctly (Carr, 1994). The external validity emphasizes whether the results of the study can be generalized beyond the study itself (Carr, 1994). External validity can be performed if this study is conducted again with a similar demographic and protocols, and in which similar results are achieved.

Institution Review Board Statement

This study was performed upon the approval of the Institutional Review Board (IRB), and following IRB protocols. I received my Certificate in Human Subjects Learners from requirements set by University of Washington (Certificate # 46712329) on Jan. 18th, 2022.

Ethical Considerations

The American Psychological Association (APA) has five main ethical principles researchers must use to attain professional standards (APA, 2002). The first principle is being honest about intellectual property (APA, 2002). This includes giving credit to the originator of an idea/theory on which your research is based upon (APA, 2002). In this research study, previous literature and theories presented are cited from the source and intellectual credit is granted to everyone who plays a significant part in the study.

The second guideline is being mindful of multiple roles (APA, 2002). It's important to be ethical when recruiting or working with others and allowing no harm/exploitation to those involved in the research study (APA, 2002). This research study will have clear guidelines and what is to be expected, which was provided orally and in written form to all those involved with the study.

The third guideline is having clear, informed consent (APA, 2002). It is mandatory that all participants are voluntary, and are provided with information about the risks and benefits of the study (APA, 2002). In this study, all participants were be given a consent form and an outline of what to expect from the study. The participants were told it will be voluntary and that no monetary incentives will be provided. All the risks, benefits, contact information, and procedures were provided to participants prior to the start of the study in both oral and written form.

The fourth guideline is ensuring privacy and confidentiality (APA, 2002). Researchers must let all participants know what information of their data will be used, including any recordings (APA, 2002). In this research study, all participants were informed that all their information will be confidential and anonymous. No names of any participants is written up in the final documentation of the research. All questionnaires were only handled by the researcher.

The fifth guideline is for the researcher to use ethical resources when dealing with any ethical dilemmas (APA, 2002). APA's Ethics Code is a great resource when a researcher is uncertain about ethical policies regarding their study (APA, 2002). Another great resource is The Belmont Report which was created by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research in 1979 (APA, 2002). The Belmont Report has guidelines to ensure that participants are being treated with proper protocol regulations (APA, 2002). In this research study, I followed the ethical guidelines and was aware that there are resources when I was uncertain about protocols.

I also wanted to respect Indigenous teachings, and made sure that all Indigenous mindful activities were available to utilize for public knowledge.

Materials Used for Study

Flyer for Recruitment

The flyer for recruitment included a call for action for volunteers in the study. It included information that it was a two week study, recruitment was for students aged 18 and over, Black, Indigenous, People of Color, and who experience test anxiety. It included researcher's contact details. Please see Appendix A.

Consent Form

The consent form consisted of researcher's name and contact details, benefits of research, questionnaires involved, potential risks and discomforts, and assurance of confidentiality. It was also noted that there is no compensation involved with the study. Please see Appendix B.

Demographic Questionnaire

The demographic questionnaire included age, sex, class year, race/ethnicity, and a section where they can list if any special services were required by the participant. Please see Appendix C.

Beck Anxiety Inventory

The Beck Anxiety Inventory included 21 items that represent common somatic and cognitive symptoms of anxiety. Each item is rated on a 4-point scale from 1 (not at all) to 4 (severely—it bothered me a lot), with higher total scores indicating higher anxiety. Please see Appendix D.

Cohen Perceived Stress Scale

The Cohen Perceived Stress Scale included 14 items on a scale that are rated on a 1 (never) to 5 (very often) scale, with higher scores indicating higher stress. Please see Appendix E.

Five Facet Mindfulness Questionnaire

The Five Facet Questionnaire consisted of 39 questions, and is used to assess dispositional mindfulness. Each item is answered on a 1 (never or very rarely true) to 5 (very often or always true) scales, with higher scores indicating higher levels of various aspects of mindfulness. Please see Appendix F.

Guiding Questions for Mindful Activities

The guided questions/activities will consist of ten mindful activities from Indigenous cultures. This guide will be emailed to all participants in a PDF format.

The mindful guide:

“Every Indigenous culture has individual beliefs. What unites all Indigenous cultures is the core philosophy of living in harmony with the ways of Mother Earth and in alignment with the natural laws of the universe” – Doug Good Feather.

I hope that these guided mindful activities are able to help guide and relax your anxiety; in particular when it comes to test anxiety.

Guided Mindful Activities (as sent to participants)

Mindfulness Practitioners Used in Study

Renda Dionne Madrigal, PhD

“Dr. Madrigal is a Turtle Mountain Chippewa clinical psychologist and UCLA-certified mindfulness facilitator. She teaches mindfulness to families, adults, and youth and has more than twenty years of experience creating and directing evidence-based family and child programs for better health and wellness” (Madrigal, 2021).

Doug Good Feather

“Feather is a full-blooded Native American Lakota, born and raised in the traditional Indigenous ways of his Elders on the Stand Rock Reservation in South Dakota. He is a direct descendent of Grandpa Chief Sitting Bull. He is the Executive Director, and spiritual leader of the Lakota Way in Colorado and the co-founder of Spirit Horse Nation” (Feather, 2021).

Priya Ram

Priya Ram is a yoga and meditation instructor based in Vancouver, BC, Canada, and is of South Asian descent. Her beliefs are creating mindful spaces that decolonize and are true to cultural roots.

Muckleshoot Elder

She chose to stay anonymous, but agreed to share her teachings.

Mindful Activities**Day 1: North Star Breathing**

Dr. Renda Dionne Madrigal (Turtle Mountain Chippewa) uses the terminology “North Star Breathing” as a way to focus on stillness. She uses the term “North Star” as a guide for stillness and direction; such as animals use the North Star for navigation. Dr. Madrigal believes in taking the time to become still and grounded in order to reduce anxiety and stress through her North Star Breathing technique (Madrigal, 2021).

To do this activity:

“Sit in an upright but comfortable position. With eyes softly closed, bring to mind a bright star sitting still in the sky. That’s the North Star. Imagine breathing in from the North Star and bring out to the North Star. From there, narrow your attention to the through of your breath – the sensation of it moving and out of your body at your nostrils. Then focus on the rising and falling of your chest as your breath moves in and out. Then focus on the rising and falling of your belly. Choose one of those areas where you can anchor your attention on your breath, your belly, your or your nose. Follow the breath into that part of your body, feel the breath there, and follow it out.

Now follow you in-breath all the way in until it stops, and notice the stopping, notice the space between the in-breath and out-breath. Then follow your out-breath all the way out until it stops, notice the stopping, notice the space. In the space is stillness. The North Star sits still in the sky, and in between breaths that stillness resides in you. The north Star isn’t perfectly still; it’s almost still, just like your body as you follow your breath in and out to the place you have chosen as

Inchor. Your mind is not perfectly still. This is natural. You might notice that it wanders from your breath to other things like thoughts, emotions, memories, sounds, or other body sensations. When this happens, gently bring your attention back to your breath. The act of noticing your mind wandering elsewhere and gently bring it back increases your capacity for mindfulness. If your mind wanders off every second, just bring it back every second. In this way, you build the stillness in yourself. With stillness, you gain more clarity and find your direction much easier. You can even expand your attention out to your whole body, imagining that it is the North Star, almost still; focus your mind on breathing in and out from this expansive place. Follow the in-breath and out-breath for five minutes” (Madrigal, 2021).

Source: Madrigal, R. D. (2021). *The mindful family guidebook: Reconnect your family to spirit, nature, and Wellness*. Parallax Press.

Day 2: Wake-up Our Instincts Walkabout

“Our instincts are naturally rooted deep inside of our bodies, connected to an ancestral line that was strong enough to survive through insurmountable odds, and launch us into the world that we live in today” (Madrigal, 2021).

To do this activity:

“Find a place outside to go for a walk, preferably a place with nature (trees). For ten to fifteen minutes, walk and follow your instincts, let your body be your guide.

Direct your attention to your senses. Pay attention to the sounds you hear, the smells you take in, the feel of the wind or sunlight on your skin. Notice how you are on your own. Slow down, you’re not trying to get anywhere. Notice your breath-in and out and feel your feet on the ground.

In the morning, you may notice the sunrise or the songs of the birds and feel inclined to follow the sound. At twilight, you might notice the softening of colors or the wind against your skin and feel inclined to walk where the wind guides you. Go in the direction that your instincts take you. Look at the sights around you as if you were seeing them for the first time. Let go of judgements or preconceived notions. If confusion or boredom or restlessness arises, notice it, but don't try to change it, just stay present to whatever you are experiencing with your senses without trying to change anything.

Notice inklings. If you don't feel anything at first, that's okay. You're planting the seeds, inviting nature to awaken your instincts. You can stop and wait until you feel an impulse to go in one direction or another. If your mind goes off to thoughts and planning or analyzing, notice this and bring your attention back to your senses. Focus on what you see, hear, smell, feel, even taste. Focus on each step touching the Earth" (Madrigal, 2021).

Source: Madrigal, R. D. (2021). *The mindful family guidebook: Reconnect your family to spirit, nature, and Wellness*. Parallax Press.

Day 3: Wake-up Our Instincts Walkabout Free Write/Draw

"The things we give attention to grow, and sharing your story is a form of attention; that attention will allow you to grow your instincts and connection to your ancestors" (Madrigal, 2021).

To do activity:

"Take five to ten minutes to write and/or draw something from your walk yesterday. If you can't think of anything to write, write down *I can't think of anything to write* – and continue that way

until your next idea comes. If you are drawing and can't think of what to draw, simply scribble on the paper until an image comes" (Madrigal, 2021).

Source: Madrigal, R. D. (2021). *The mindful family guidebook: Reconnect your family to spirit, nature, and Wellness*. Parallax Press.

Day 4: Ancestral Visualization

"When we ignore our ancestral strength, it contributes to our being out of balance and disconnected. We are all fractals. We are all a continuation of our ancestors" (Madrigal, 2021).

To do activity:

"Stand in an upright position, comfortable position. With your feet firmly rooted to the ground, imagine your head being gently pulled up by a string. Roll your shoulders back and down. We are going to go on a time traveling journey to the past.

Look at your right hand. Say to yourself, "This is my hand, and this is also mother's hand." Look at your left hand. Say to yourself, "This is my hand, and this is also my father's hand." Close your eyes and feel your in-breath and your out-breath, noticing three complete breaths. Imagine yourself as having roots reaching backward, in a branching triangular pattern, one root attaching to your mother, and one root attaching to your father.

Imagine the root going to your mother. Picture her as she is now, or as she was when you were a child. If you do not know your mother, hold a space for her and see what comes up from your imagination or instincts. Bend down and touch the earth. If bending is difficult, you can remain standing or sitting. There are things you want to carry forward from your mother and other things you may want to transform. Notice the things that you want to carry forward. Her strengths.

Thank your mother for the gifts she has given you. When you are ready, stand back up. You will repeat the process with your father's hand, followed by your grandmother, and grandfather. You may also use other family members who mean a lot to you.

At the end of the activity, write down the qualities and strengths you have identified to remind yourself of your ancestral strengths" (Madriral, 2021).

Source: Madrigal, R. D. (2021). *The mindful family guidebook: Reconnect your family to spirit, nature, and Wellness*. Parallax Press.

Day 5: Mantra

Mantra's comes from India meaning, "sacred message or text." An example, "I am calm. I am present in this moment. I am at peace. I am conquering my fears." Creating your own mantra will give you strength as words can manifest to give you strength.

To do this activity:

With this thought, think about creating a mantra that will benefit you in times of stress to give you strength. Repeat it to yourself daily when you are feeling anxiety.

Source: Priya Ram who is of South Asian descent.

Day 6: Pacific Northwest Tribal Plant Medicine

Plant medicine is an integral part of Native Tribes, as using a holistic method to stay healthy and connect to nature. There are many recipes that Tribes utilize. This recipe was shared with me by a Muckleshoot Tribal Elder who gave permission to be shared, but would like to remain anonymous.

To do this activity:

For this activity, we will focus on Pacific Northwest Tribes. Dandelion root tea has been used by PNW Tribes to help with heart issues, provides potassium, and lowers anxiety/stress.

Locate dandelion plants in an area where it is safe to harvest. (i.e., hasn't been sprayed with pesticides and herbicides, doesn't see a lot of pet traffic, etc).

Carefully harvest the roots. You'll quickly learn to gently ease the roots from the earth, otherwise they will readily snap off. (Luckily for us as well as the dandelion, the plant will continue to grow even if it breaks off prematurely).

Gently wash the roots, leaving as much of the root sheath on as possible.

Finely mince the roots and dry them thoroughly.

Once thoroughly dried, roast them in a dry cast iron pan on medium high heat, stirring frequently. You'll know they are done when they turn a darker shade of brown and have a rich aromatic smell. Avoid burning them. You can also roast them in the oven at 350 degrees, checking on them frequently to stir and keep an eye on them to avoid burning.

Once roasted you can store them in a dark, airtight container for up to a year.

If you are unable to harvest root tea, save the recipe for when are able to, or try to find another plant medicine in your area.

Drink the tea when you are feeling anxiety or for relaxation.

Day 7: Spirit Dreaming

“The ancestors tell us that spirit dreaming is one way that ancestors communicated with each other for thousands of years... While spirit dreaming, we can instruct the universe to clear any obstacles and protect us from harm” (Feather, 2021).

To do this activity:

“Tonight when you go to bed, tell yourself that “I will remember what I am dreaming.” Keep focused on this phrase and don’t let other interrupt. Continue to repeat this until your mind falls asleep. As you drift into sleep and become aware of it, do something like pinch yourself, if you do not feel pain, you are asleep. Once you are dreaming, ask for clarity, or for favors for ourselves or our families, and the beings of Mother Earth. You can ask to ease the suffering of those who are abused, diseased, or oppressed. Then with practice, when you are awake, and need a solution, you may just somehow know exactly what to do, as though the answer was handed straight to you” (Feather, 2021).

Source: Feather, G. D. (2021). *Think indigenous: Native American spirituality for a modern world*. Hay House, Inc.

Day 8: Intentional Prayer

“When we pray with intention, we don’t focus on how our prayer will be answered, but instead we stay focused on the what and why of our prayer, because if we’re caught up on how or when our prayer will be answered, then we’re really just getting caught up in the make believe scenario’s of how an when our human desire wants to happen and not when Great Spirit wants it to” (Feather, 2021).

To do this activity:

“Start by connecting your authentic voice. To do this, simply close your eyes and lips, relax quietly into the mind, and be wit yourself, calming and quieting the watery landscape of your landscape of your thoughts for a minute or two. Once the water is calm, simply and intentionally say “hello.” Then do it again, and sit with the thought, “who just said that?” It’s your voice from

another dimension. That is the voice we use to pray intentionally and personally connect with the Creator” (Feather, 2021).

Source: Feather, G. D. (2021). *Think indigenous: Native American spirituality for a modern world*. Hay House, Inc.

Day 9: Yoga

This ancient technique from India helps center your body and soul. Yoga is known to reduce anxiety and stress, especially with daily practice.

To do the activity:

Mountain Pose/Tadasana

- Stand with your toes together and heels slightly apart.
- Spread your toes and place your weight evenly through both feet.
- Inhale and reach your arms overhead, while pressing down into your feet. ...
- Take long, slow, deep breaths in and out of your nose.
- Hold for 3–5 breaths.

Source: Priya Ram who is of South Asian descent.

Day 10: Water Mindful Activity

This ceremony was presented to me by a Muckleshoot Tribal Elder who wishes to remain anonymous, but is willing to let me share the activity with others.

We visited the mountains, and we came across a little waterfall on the side of Mt. Tahoma. I was instructed to wash my hands and visualize any negative thoughts washing away with the water.

Then I was to take a handful of water, face the sun, close my eyes, say a prayer, and take a sip of

water. To be intentional of the water in my body, healing me from any negativity or pain. Feeling the life force that water holds.

To do this activity:

Either find a place in nature with clean water (or take your own) and do the water mindful activity. Write down how you feel afterwards.

Thank you for completing your mindful activities.

Post-Guided Questions

The post-guided interviews were done via Zoom and/or through email correspondence.

The follow questions will be asked:

- How do you feel overall about the activities you participated in?
- What was your favorite one and why?
- Which one was your least favorite and why?
- Do you feel lessened anxiety through practicing the mindfulness activities?
- Will you continue to practice any of the activities? If so, which ones?
- Will you utilize any of the mindful techniques before taking a test?
- Would it be beneficial for you were able to practice similar mindful activities at your college/institution, if it were taught by Indigenous/Person of Color from that particular cultural background? And if so, how would it be beneficial?
- Any other comments/concerns?

The answers will be recorded by the researcher and documented.

Projected Outcomes

The expected findings/results for this research study are that students enrolled in an undergraduate class whom participate in the ten day project, will report greater decreases in perceived stress/anxiety for their test anxiety. This prediction is backed up by a research study

conducted (Yamada & Victor, 2012) in which the study examined the feasibility and potential utility of mindful awareness practices (MAPs) in terms of enhancing student learning in the college classroom, as well as improving psychological well-being. One of two identical undergraduate psychology sections included a 10-minute MAP at the beginning of every class (mindfulness group $n = 37$; control group $n = 23$) (Yamada & Victor, 2012). Primary learning and secondary self-report outcomes were obtained (Yamada & Victor, 2012). Controlling for significant demographic covariates, students in the mindfulness group demonstrated significant increases in mindfulness awareness traits and reductions in rumination and state anxiety compared with controls (Yamada & Victor, 2012). 81% of students self-reported positive effects of MAPs on their learning (Yamada & Victor, 2012). It is concluded that it is feasible to incorporate MAPs into a regular college classroom (Yamada & Victor, 2012). MAPs may help improve student psychological well-being (Yamada & Victor, 2012).

Proposed Evaluation Methods

This study has the prediction that students with a mindfulness component would report decreases in perceived stress and anxiety in relation to test anxiety. The expected results are based on predictions of a study by Dr. Yamada and Dr. Victor (2012) that found psychology students who engaged in mindfulness awareness practices experienced a decrease in stress and anxiety. If the expected results of the research problem of mindfulness practices and the lowering of test anxiety occur, this would highly benefit the stakeholders of this study. The major stakeholders being educators, students, and researchers interested in the mindfulness topic. With scientific evidence, educators may use mindfulness practices within their classroom and/or add it to their curriculum. The risk of the predictions would be that students feel little to no improvement of their test anxiety levels.

This study may also potentially benefit students who may start practicing mindfulness activities to alleviate their stress and anxiety in regards to test anxiety, and/or other areas of their life. In regards to the scientific community, the results potentially provide evidence in the mindfulness topic for further research in this limited field.

In conclusion, the purpose of this research is to see whether Indigenous-based mindfulness activities will help BIPOC students in lowering their test anxiety. My hope is that having a safe space where students feel culturally and psychologically safe will lead to help with their overall anxiety and stress-related issues. As test anxiety is considered a huge barrier for students in achieving academic success, my hope is that having resources that are culturally relevant with a safe space for BIPOC students, that they will be able to feel more confident in their test-taking skills. I would like to see more research done in the area from other BIPOC researchers for BIPOC students in the wellness area as it is currently dominated by white and Eurocentric researchers/institutions.

Chapter 4

Findings

The findings in the study concluded with tallied findings of the Demographic Questionnaire, numerical results (Beck Anxiety Inventory, Cohen Perceived Stress Scale, Five Facet Mindfulness Questionnaire), along with qualitative results from the post-study interviews.

Demographic Questionnaire

The study consisted of 12 female participants, with an average age of 26. Three were in their first year of college, five were in their second year of college, one was in her third year of college, and 3 were in their fourth year of college. All participants were enrolled in either Associate's or Bachelor degree programs.

Ten participants identified as Native American/Indigenous, and two identified as Indigenous to Mexico/Latinx. Tribal affiliations included eight Muckleshoot Tribal members, one Puyallup Tribal member, and one Navajo Tribal member. No special services were requested by any participants.

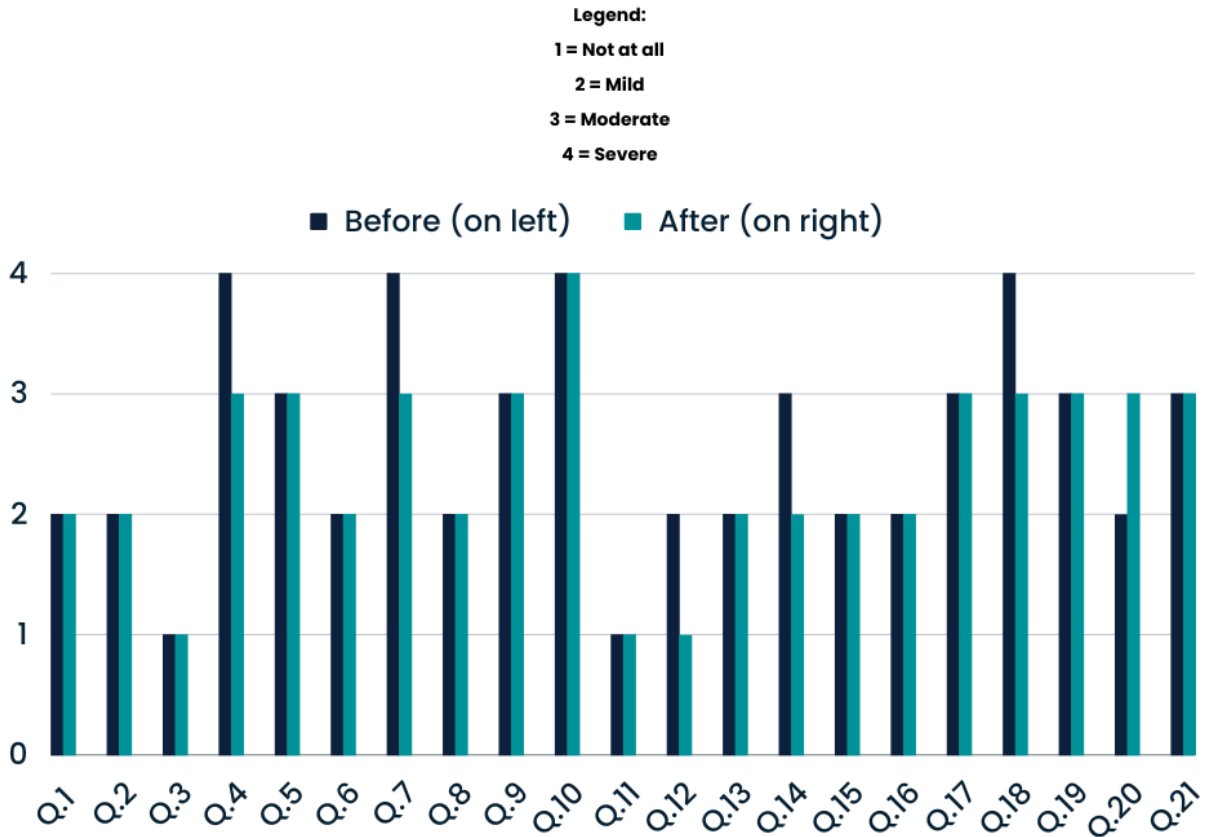
Numerical Data Results

The following graphs will showcase the numerical data obtained from participants; both before and after the research study. This includes results for Beck Anxiety Inventory, Cohen Perceived Stress Scale, and Five Facet Mindfulness Questionnaire.

Beck Anxiety Inventory Results

*To view specific questions for the questionnaire, please see Appendix D.

BECK ANXIETY INVENTORY

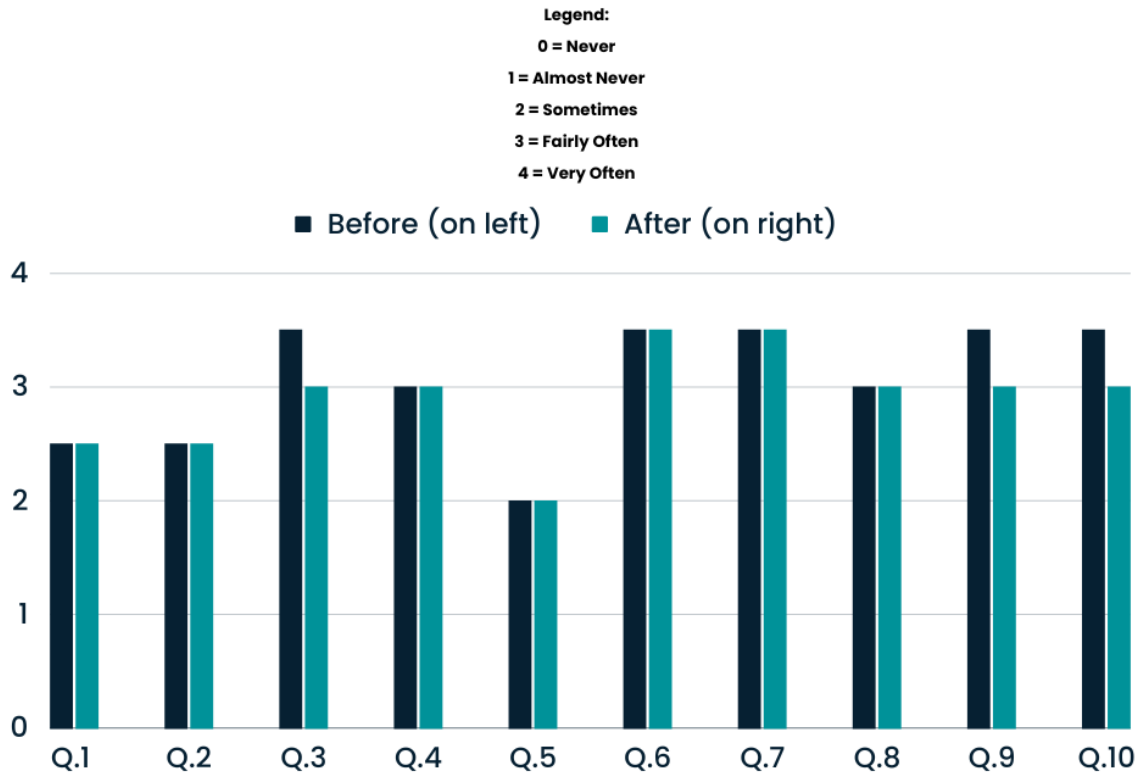


The results of the Beck Anxiety Inventory overall show a slight positive increase in five categories: unable to relax, heart pounding, hands trembling, fear of losing control, and indigestion. This provides insight into the physical aspects of stress being reduced, along with a reduced sense of losing control. This would relate to how the physical characteristics of stress decrease with mental reduction of stress.

Cohen Perceived Stress Scale

*To view specific questions for the questionnaire, please see Appendix E.

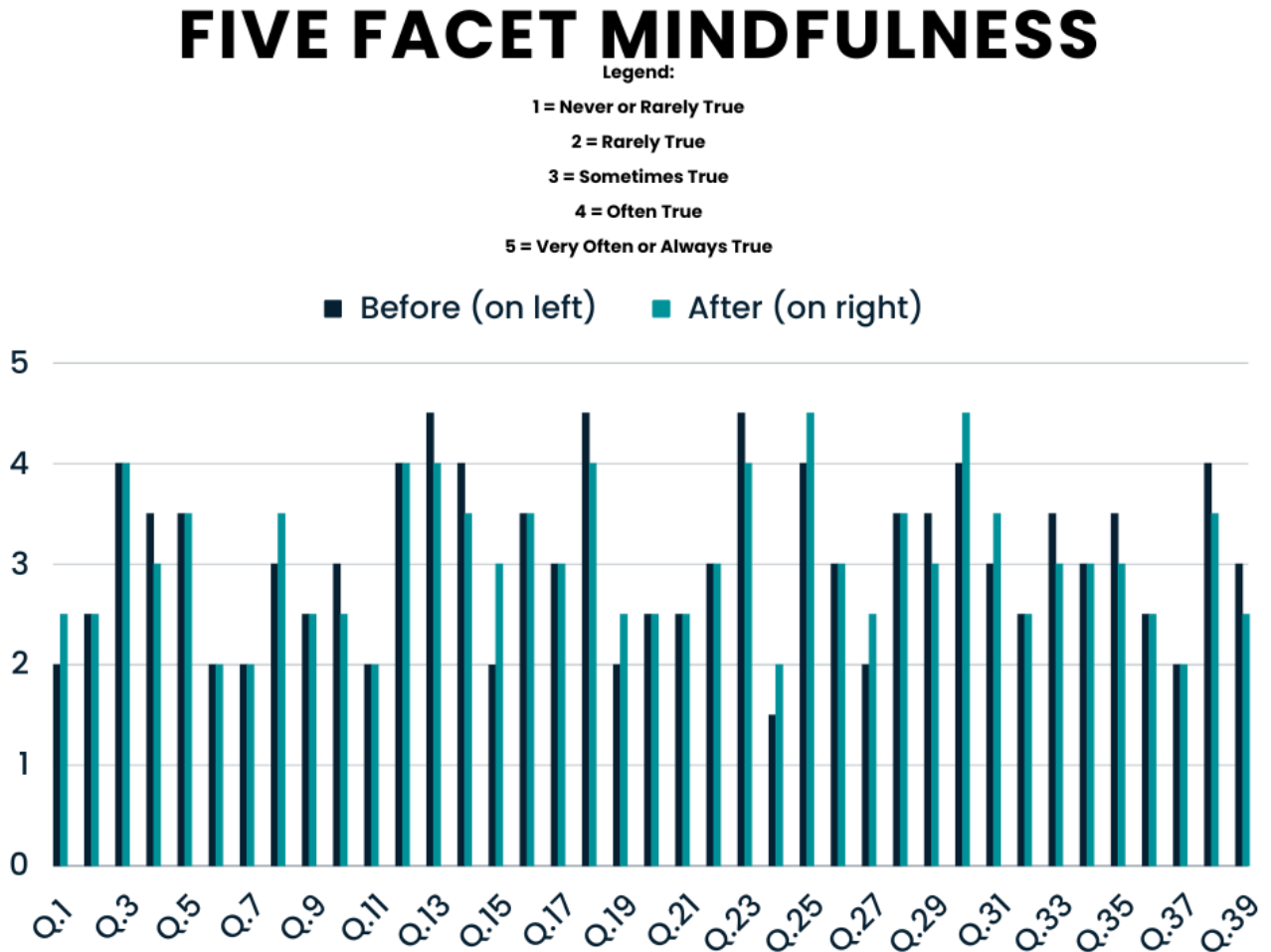
COHEN PERCEIVED STRESS SCALE



The results of the Cohen Perceived Stress Scale overall show a slight positive increase in the following categories: less nervous and stressed, being able to control irritation and anger, and able to overcome difficulties. The findings reveal a correlation between the ability to control negative emotions, along with a positive mindset to overcome difficulties.

5 Facet Mindfulness Questionnaire

*To view specific questions for the questionnaire, please see Appendix F.



The results of the Five Facet Mindfulness Questionnaire showed a positive increase in the following categories: being aware of body’s motions, perceiving feelings without overreacting, less distracted, paying attention to senses, more positive thoughts in general, being more present, and able to express their feelings better. The following categories had a decrease: daydreaming, self-critical thoughts, and distressing thoughts. This illustrates that there is an overall improvement in being more present and aware, however, other variables (such as illness, etc.) can potentially affect one’s thoughts.

Summary of Numerical Data

The numerical results show that there was improvement in more categories than not. This includes a decrease in negative physical associations that results with anxiety, such as heart palpitations, and tenseness. The results also showed an increase in positive thinking and being more aware and present. Overall, the results increased in a positive manner.

There were a couple of questions in the Five Facet Mindfulness Questionnaire that demonstrated a decrease in positivity, however, the answers do not consider personal life challenges that participants may potentially have endured, such as death, divorce, health issues, etc. All in all, there seems to be a positive correlation with mindfulness activities and one's improvement in stress and anxiety.

Participants Voices

Interviews were conducted with questions from the *Post Research Study Guided Questions*, which was emailed to participants in advance of the interview. Participants were also informed that they may add to the discussion if they were inclined to do so.

After the completion of interviews with all 12 participants, I watched the Zoom videos and transcribed their answers. With this, I utilized thematic coding to look at their answers and categorize into themes that were dominant in their answers. Participants answers were woven together to create their stories.

There were four themes that reflected the participants experiences: improvement in anxiety, importance of Indigenous connections, accessibility, and a safe space where participants would feel comfortable to practice mindful activities that expressed their culture and spirituality.

**Participants are numbered anonymously, and their quotes are in Italic font.*

Theme One: Improvement in Anxiety

My hypothesis for the research was that mindful activities would help students with their anxiety, which in turn would help their test anxiety. Upon conclusion of interviews regarding anxiety, it prevailed that there were three important sub-topics: overall lessened anxiety, mindful activities that helped their anxiety, and their favorite activities that participants hope to continue to practice helping with their anxiety.

Lessened Anxiety

Upon completion of the study, participants were asked if they had an overall feeling of lessened anxiety. 10 of the 12 participants responded that they felt an overall feeling of lessened anxiety upon completing the mindful activities; with Participant 10 claiming to be unsure, *Sort of, I believe that if I keep practicing the more I will feel less anxiety*, and Participant 8 who said they probably would feel lessened anxiety if they practiced the activities long-term *I think I do [have lessened anxiety], but I think it will take a while before I really see the benefits.*

For participants that felt less anxiety, they talked about the importance of practicing mindfulness. Participant 6 claimed that they felt less anxiety, and the importance of mindfulness, and the fact that I have felt anxiety as long as they can remember, *I do feel less anxiety. I think it's important to practice mindfulness. I have had challenges with anxiety as long as I can remember.* This illustrated that even 10 days of mindfulness activities showed an effect on their mental state with lessened anxiety. Participant 4 felt nervous about it at first, but once they scheduled it into their day, they felt better about it, *I felt good about it, I was nervous at first because I've never done something like this before, but otherwise, it was nice to do. I just had to make sure I had enough time in the day to work on it, which is probably a good thing since this is about meditation and mindfulness.*

Participant 12 mentioned that not only did they feel lessened anxiety, but it also emphasized that self-care is important in their lives, *I do feel lessened anxiety. It reminded me how important self-care is.* This ties into Participant 4's reiteration of taking time to take care of oneself since so many people have work, school, and personal obligations in their lives, *Yes, I do [feel lessened anxiety]. I think it comes down to having that time to yourself. So many of us are mom's and students, and some work, too. It's hard to find time for ourselves to connect and relax for ourselves since we're always giving to others.* Participant 1 also echoed the importance of focusing daily on themselves, *Yes, I do [feel lessened anxiety]. I feel like just having a focus on doing a daily activity really helped me. This is because I feel like it really helped ground me, and take some time from a busy day to really be mindful.* Participants answers showcased that practicing mindfulness activities daily, helped lessened their anxiety.

Mindful Activities That Helped with Test Anxiety

Popular mindfulness activities were North Star Breathing, meditation, yoga, and nature-themed activities. The most popular being North Star Breathing, which was illustrated by the easiness of it due to the ability to be able to take it right before a test, and/or during a test, or before a situation that may be stressful.

Many participants expressed that North Star Breathing would help them with test anxiety. Participant 5 mentioned the usefulness of the mindfulness activities, along with utilizing the North Star Breathing technique before a test, *I'm a fan of these [mindful activities], and I used it last quarter for one of my tests at [college name removed]. This allowed me to really focus. I used the North Star breathing technique.* Participant 7 mentioned that North Star Breathing would be easiest before a test, in that it forces you to slow down, *before a test, doing the breathing technique would be extremely helpful. Breathing forces you to slow down.*

Some participants echoed that they plan to use the North Star Breathing technique in the future for test anxiety. Participant 12 mentioned the ease of doing the breathing technique right before a test, *I liked the breathing technique because that will be the easiest method before a test.*

The second most popular mindful activity for test anxiety among participants, was meditation. Participant 7 talked about how meditation really helped get them into a relaxed state *meditation... it really helped me relax.* Participant 11 discussed that they planned to use meditation for test anxiety in the future, *the meditation one will really help me with my test anxiety.*

Continuation of Mindful Activities

While collecting the Indigenous-based mindful activities for the research study, it was important to me that I made sure that the activities were accessible, affordable/free, and included a variety of activities so that participants would continue to use the activities that resonated with them. All 12 participants expressed their interest in continuing mindfulness activities.

Participants showed that they are interested in continuing to do mindful activities to see long-term benefits, along with interest in exploring other mindful activities.

Participant 8 mentioned that they wanted to continue to see the long term benefits of mindfulness activities, *I will try to continue because I want to see the long-term benefits.* Participant 4 mentioned that they wanted to continue to gain more practice, *I will practice all of them... I really want to get better at it.* Participant 5 talked about which activities they would like to try again; *I think I will continue [mindful activities]. Most of them were great. I want to do the water one, again, in another location. The one that I did, I went to the river in the woods, and it was just nice to breathe and be in the fresh air. I'd like to go to the mountains for the next one.*

Some participants expressed that they would not only like to continue, but to learn to do more eventually. Participant 2 commented, *I want to continue to practice all of them. I'd like to learn to do even more, actually.* Participant 3 also stated that they plan to continue, and explore more mindful activities, *I want to continue to do all of them, or at least most of them. I want to look more into yoga, as well.* This illustrates that many participants not only want to add mindfulness activities to their daily lives, but also are interested in learning further about the topic and other mindfulness activities.

Theme Two: Importance of Indigenous Connection

For this section, many participants reiterated the importance of Indigenous-based mindful activities, and how they are so important to participants connection with spirituality and roots. The aspects of cultural relevance, along with the positive impact of BIPOC mindfulness instructors was discussed.

Culturally Relevant

Participants reflected the importance of having activities that reflect their cultural background. Participant 2 talked about the importance of their ancestral connections, and how it helped ground them, *My favorite activity was the ancestral one, I really liked having that vision of my ancestors guiding me. I really focused on my grandmother because she raised me and I felt her strength go through me. I'm still holding onto that feeling right now. She passed away four years ago, and I miss her a lot. The activity let me connect my energy with her, and I will keep that with me when I am feeling down, or lost, or have anxiety, or worries, or stress.* Participant 2 stressed the importance of that ancestral connection, and this was reiterated by Participant 11, *ancestral visualization - I think it's so powerful to connect to your relatives.*

Participant 12 mentioned that the importance of mindful exercises being Indigenous-based, *I like that they [mindfulness exercises] were from Indigenous people made for Indigenous people.* This was followed by Participant 11 who stated that, *We need more [cultural] activities like that at college... it would probably have more students of Color who participate.* Having more cultural relevance and cultural activities is something that is needed at educational institutions.

BIPOC Mindfulness Instructors

Many participants reflected on their preference of having BIPOC mindful instructors who would reflect their values.

Participant 9 talked about the importance of mindful activities that come from instructors who have the heart and knowledge behind it, *I think it's important to practice activities that resonate with you. I liked the example you gave, the tree pose, that was simple and something I can do. When I did the activity I imagined myself on the top of a mountain with the sun shining down on me. A lot of mindfulness activities to be successful has to come from instructors who have the heart and knowledge behind it.* Participant 4 echoed this sentiment, along with the need for decolonizing our spaces, *I'd like more cultured instructors because that would make me feel really good at attending those classes... We need to keep decolonizing our spaces.*

Participant 4 brought up the important topic of instructors reflecting the demographics of our colleges, *I believe that we need instructors of Color to represent our demographic at colleges. That's not being done right now, and it needs to change. I would be attending those classes for sure, as it would be beneficial for myself and so many other students of Color out there.* This was reiterated with Participant 1 who added in the sense of belonging if they had a BIPOC instructor, *I would feel more comfortable with a person of Color teaching classes, because then I wouldn't*

have a weird feeling of whether I belonged or not. Participant 8 mentioned the importance of representation and diversity with instructors, I would enjoy something like that [mindfulness classes], someone who was teaching from my background or a similar background. I feel it would be a nice change since we see so many white people who teach those sorts of classes.

Theme Three: Accessibility

Upon suggestions from the participants in the interview process, two important topics came up: campus convenience for mindfulness classes and availability of mindfulness classes. It was important for participants to have easy access to their classes, along with the possibility of having Indigenous-based mindfulness classes at their campus locations.

Campus Convenience

Many participants reflected that having classes available would allow them to attend mindfulness classes due to its convenience. Participant 5 mentioned that it would be convenient because it is where they attend school, *It would be convenient because it's located where I go to school.* This was repeated by Participant 1, *It would be beneficial because it would be convenient, and it would allow me to attend while on campus.* Participant 7 also was enthusiastic about classes that could potentially be offered on campus, *I would love to attend those type of classes, especially if it's where I attend school.*

Availability of Classes/Resources

Participants reflected that having Indigenous-based mindfulness classes at college would be an essential resource for BIPOC students. Participant 4 talked about the importance of having Indigenous-based mindfulness classes as a student resource, with the emphasis on decolonizing the space, *I attend [educational institution hidden] and I'd like to see something like this being taught there as a student resource.*

Participant 6 agreed with this response, along with the need for Indigenous folk speaking out about what they would like to see change in education, *I think it would be a great idea [mindfulness classes] because we need more wonderful resources, especially in the field of education. As an Indigenous person, we need to stick up for what we need in education.*

Theme Four: Safe Space

In this section, participants spoke about the importance of spirituality in their mindfulness classes, along with it being a safe space to do so. They also expressed how these safe spaces created a sense of belonging that was respectful to their cultural values.

Safe to Practice Spirituality

Participants expressed their desire to have mindfulness practices that intertwined with their spirituality. Participant 2 spoke about the importance of spirituality as Indigenous people, *I really liked how your activities from Indigenous people was more spiritual based. I think it's important to keep the aspect of spirituality in what we do as Indigenous people.* Participant 4 also added about having connection to God, *I liked that they were Indigenous [activities]. I think it helped me because some were more spiritual-based, and connected to God.*

Participant 2 mentioned how practicing an ancestral mindful practice allowed her to connect to her grandmother, *I think by doing the ancestral one, I feel that it helped remind me of where I came from, and the strength that my grandmother gave to me.* Participant 6 agreed, along with the suggestion of more spiritual-based mindfulness classes, *We need more mindfulness classes that reflect our values and spirituality, such as prayer.*

Another aspect that participants spoke about was the ability to have a safe space. Participant 3 mentioned, *if I take a class, I want it to feel like a safe space where others understand that I'm Native and that my thoughts may be different.* Participant 2 also mentioned

the significance of safe spaces, *safe spaces for mindfulness for people of Color - I really started thinking about how true that is. We need safe spaces to be able to practice and to have those resources available to us.*

Belonging

Participants reflected how having Indigenous-based mindful activities would create a sense of belonging. Participant 7 talked about how it would create a sense of belonging, *I think that [having Indigenous-based mindfulness classes] would create a sense of belonging and a safe space.*

Participant 12 elaborated on this, and talked about the structural inequity at educational institutions, *I've been thinking about how white-washed [educational] institutions can be, and this could be our own sacred space. I would feel more inclined to attend the mindful classes because it would be taught by someone who looks similar to me, or at least has similar experiences to me.*

Participant 6 spoke about how they need a connection to the instructors and classes, otherwise they feel alone, *I have taken other westernized mindful activities, such as yoga. It was taught by a white person, who I have no idea has the culture to know what it really means because I know it's more than just "exercise" it's supposed to be spiritual as far as I know. It was different because I almost felt alone, I don't know how to explain it. I know you do the exercises on your own, but it was very sterile. It didn't feel welcoming like when I'm doing ceremonies with my people. It was a sense of disconnect. With these activities, I didn't feel disconnect even though we did it on our own. They had soul because it was from Native practitioners, and a South Asian practitioner.*

Summary of Participants Voices

Upon conclusion of the interviews, participants voiced their positives of the study, including lessened anxiety and learned methods of how to cope with test anxiety. It also opened the door for many participants to continue with the mindfulness journey, and to explore even further into the topic.

The common themes echoed from a lot of participants were: they enjoyed the mindfulness activities, they will continue to utilize the activities, they would like to see Indigenous/People of Color as mindfulness instructors, and to have those classes at their educational institutions. Popular mindfulness activities were North Star Breathing, meditation, yoga, and nature-themed activities. Many expressed that North Star Breathing would help them with test anxiety. Some expressed their thoughts on overall effectiveness and convenience of having an Indigenous/Person of Color instructor teaching mindful activities at their institution; which would create an authentic and safe space that reflected their culture and spirituality.

Another key factor in participants voices, was the importance of having representation, and having mindfulness instructors who are from the same background or a similar background to teach classes. By having BIPOC instructors, it gives participants a safe space and a sense of belonging. There was also discussion on having Indigenous-based mindfulness classes available at educational institutions, for both convenience and as a safe space. All in all, participants really helped in furthering the study of Indigenous-based mindfulness activities at educational institutions, gave their insights for further resources, and most participants seemed to have enjoyed the process of the mindful activities and plan to use them in the future with test anxiety, and/or other parts of their lives.

Numerical Data & Participants Voices Correlation

It is important to note the correlations between the numerical data of the questionnaires, and participants voices. Both methods allowed the participant to interact and have their thoughts be documented, however, the numerical data portion did not take into account of any hardships the participant may be enduring, nor the possibility of illness/death or other circumstances going on in their lives. For example, one participant mentioned a death in her family and how this greatly impacted her anxiety and stress.

Another correlation to note is how Participant 7 mentioned how “forcing” yourself to sit down and breathe, really impacts one to be in the present self. This reflects the findings of the Five Facet Mindfulness Questionnaire, as there was an increase in participants’ feeling more present. This would also be connected to participants’ feeling more in control of their feelings, as they have a place to put their stress, as Participant 6 stated that she needed an outlet to deal with stresses that she was facing in her life. In summary, this provides information on the connection of both quantitative and qualitative methods of researching mindfulness, and it also provides information for further research in the field.

Researcher Reflection

Weaving together the voices of participants’ interviews was a therapeutic experience. Unlike quantitative data, when students get to share their personal experiences and needs/wants, it is much more powerful. As a researcher, I really want participants voices to be heard. I learned that majority of the mindfulness activities were appreciated by the participants and that this opened up them up to continue, and explore other mindfulness techniques. It also reflected on the importance of Indigenous connection for BIPOC students to have resources that are culturally relevant and relatable. This is especially true of having BIPOC mindfulness instructors to serve

students that reflect their backgrounds. Considering that many college campuses are so diverse, the need is not surprising.

With accessibility and the ability to provide culturally relevant mindfulness classes for BIPOC students, while being available to take these classes on campus would provide to be convenient. This is especially true for students who have employment, families, and other personal obligations that they cannot commute to other places to attend classes. And finally, providing a safe space for BIPOC students to have a sense of belonging and an openness to spirituality is important because this reflects their needs for ancestral and spiritual connection. All in all, the universal themes that stood out with participants emphasize the need for resources, accessibility, cultural relevance, and safe spaces for BIPOC students to practice mindfulness practices.

When participant 6 said, *I do feel less anxiety. I think it's important to practice mindfulness. I have had challenges with anxiety as long as I can remember.* This was a reminder that even a short-term collection of mindful activities can impact one's mental state to lessened anxiety. Therefore, this pushes me as a researcher to keep looking forward to this research in the future.

Limitations

Even with positive results from a study, there is always the possibility of limitations. Limitations may include: a larger sample needed for more accurate analysis, if the researcher has poor statistical analysis skills it may affect accurate interpretation, and confirmation bias may occur (Denscombe, 2010). When it comes to quantitative research, potential limitations with quantitative data can occur with mindfulness self-report questionnaires some questionnaires have been criticized as being vulnerable to limitations of introspection and social desirability biases,

producing confusing results and not correlating with mindfulness practices (Manuel, Somohano, & Bowen, 2017). Quantitative studies have their strengths, such as the ability to compare and contrast numbers easily to determine correlations; however, unlike qualitative studies, quantitative studies cannot measure individual motivation. When it's simply numerical, it doesn't take into account if the participant is going through a major life change, for example, death in the family. During my qualitative portion of the study, one of the participant's mentioned a death in their family. This can skew results that may have actually been very different simply a week before.

The participants of this study were all female with an average age of 26. Further research that included males and a more diverse age range would be beneficial in order to get more of a range of different perspectives.

Another limitation is that the guided mindfulness activities were limited to ten days. With this, there is a lack of data over the long-term effects of mindfulness techniques and lessening of test anxiety. Studies at longer lengths would be more beneficial in analyzing the long-term implications of Indigenous-based mindfulness and the effects. The longer the research, the more data would be collected on the topic. All in all, every research study has strengths and weaknesses; it is ultimately up to me as a researcher to follow protocols and to conduct the study with the least amount of bias and error as possible.

Chapter 5

In conclusion of the study, there are various topics that need further insight into the topic of mindfulness and test anxiety – both community and research-wise. The following paragraphs entail research implications, further recommendations, and my personal reciprocity statement as to what led to this research topic, and why this research topic is important to myself (and others).

My Reciprocity Statement

Prior to starting my doctoral studies, I had limited awareness of how much I have been colonized, and all the areas that this has infiltrated my life. The classes, literature, research, professors, and sisters in my cohort have really opened my eyes to dig deeper into my ancestral roots and figure out who I am and where I come from. To have the strength to face injustices and to be able to allow myself to heal, as well. For example, in my family we never use the word “slave” to document how my family was forcibly taken from their homes in India during British rule. The term my family uses is “taken for work.” I have realized that this is a coping mechanism of trauma. I have realized that I have pent-up inter-generational trauma from being displaced, trying to find my identity when having a mixed fusion of Indian, Islander, and Westernized upbringing, along with being a refugee. The unspoken trauma when I bring up that one of my earliest memories is getting iron bars put on our doors because there was a military coup, and then having to flee our island to an unknown country was life-changing to say the least. There is a lot of unspoken trauma that many of us internalize.

When Covid-19 started, there was such a sense of panic that many of us had never experienced and hopefully will never again. The world shut down. It was a depressing time for many reasons; being surrounded by death, fear, and so much loss. The camaraderie that I had at my workplace came to a standstill as most of us were sent home. Before we worked from home,

I was running our little writing center, where I had worked with some students and staff on daily journaling practices. When we were sent home, there was a loss of connection. So, I decided one morning to start an online journaling workshop for anyone at the Tribe I worked at. I had 44 students, and for a month I gave writing prompts, in which some chose to share, and others did not.

At the end of the month when I asked for feedback, I had so many people write that this really helped their mental health as it gave a sense of structure in the mornings, along with having a therapeutic release. My saddest story was one of my students (an Elder) shortly passed away from Covid-19 after we had completed the journaling session. He had sent me the poem on Mar. 31st, 2020 and he passed away on May 20th, 2020 (my birthday). It hit me hard. He had written the most beautiful poem about the river and water being our life force. I was able to email the poem to his wife after his passing. This experience taught me that healing is a part of my heart work, and providing mindful practices is essential in our communities.

My action items upon conclusion of my research will be to honor the Tribal members who took part and forward my dissertation in practice to their Tribal communities. I will also open myself to making any presentations, such as visiting Muckleshoot Tribal College (majority of my participants were Muckleshoot Tribal members) and sharing my research and findings. I will open myself to helping create any program initiatives they may be interested in (such as mindfulness classes for students).

I am hoping that this takes on longer effects by implementation of Indigenous-based mindfulness at Tribal Colleges and/or communities; and I plan to provide any services needed (such as presentations, etc.) and to openly share my findings from my research, along with any future research that I do on the topic. This is my goal as a researcher – to persist in creating

research and safe spaces for mindfulness and healing, and to be able to openly share my findings with the communities represented in my research.

Implications

The implications of this study will potentially provide evidence in the scientific community for further research in the field of Indigenous-based mindfulness and test anxiety. This study was built upon Yamada & Victor's research that there is a positive correlation of attending mindfulness classes between college students and test anxiety (2012). This was to theorize that if college students attended mindfulness classes for a projected period of time; they would eventually have lessened test anxiety. Upon conclusion of this study, it showed in the numerical data that there was an overall increase in lessened anxiety, in particular, less nervousness and stress, along with lessened physical characteristics, such as heart pounding. This reflects Yamada and Victor's (2012) research, but it also opens the door for further research.

In the qualitative portion of the study, all participants emphasized that they had lessened anxiety, and majority of participants plan to continue to use Indigenous-based mindfulness activities to lower their test anxiety in the future. This further opens the possibility of research that utilizes participants interviews to create resources that would best suit that population. For example, since participants would like a safe space at educational institutions, how will this be implemented? More research studies are needed in this area, in order to build upon resources that students can utilize at their educational institutions to help them with their test anxiety. To summarize, having a mixed-methods study builds upon both the quantitative and qualitative areas of study in the topic of mindfulness.

Recommendations for Community

Future recommendations for creating an Indigenous and/or BIPOC based mindfulness curriculum would be to have an engaged, mindfulness class facilitator from the population they identify with or person of a minority population who could relate to the experiences of their population and community. Mindfulness-based practices can benefit people physically and psychologically, and they may be particularly beneficial for vulnerable populations who face socio-economic challenges and lack access. A common theme is that this would provide a safe and comfortable environment in which to share personally significant experiences and feelings. As one participant in the mindfulness study noted, “When you’ve talked about safe spaces for mindfulness for people of Color, I really started thinking about how true that is. We need safe spaces to be able to practice and to have those resources available to us.” Finding a facilitator of Color may not always be realistic, but an effort should be made to find someone who can clearly relate to the people in the class.

Also, educational institutions can invest in helping BIPOC students become mindful practitioners, along with providing classes to BIPOC students on campus and/or online. Making the resource free or affordable would help BIPOC students be more favored to attend classes. In conclusion, educational institutions providing BIPOC mindfulness practitioners with BIPOC students as free or reasonable fees, will give a powerful resource for BIPOC students which would create a safe space for all, especially with the mindfulness activities being relevant to their backgrounds.

Physical safe spaces, like cultural centers in educational institutions, in accessible locations would be extremely beneficial for students at these institutions. It gives BIPOC students a space to debrief as well as build a reliable and welcoming community on campus. A

quote by Priya Ram, “Yoga’s appropriation by the white wellness industry is a 21st century form of colonialism. Its whitewashing is why I felt so lonely and out of place when I first started teaching yoga. But having taught yoga to refugees and vulnerable teenagers, those in addiction recovery and people with mental health and mobility issues, I think it’s imperative we understand why yoga has become out of reach for some of those who need it most – and find ways to make it available to more people” (personal communication, 2023).

In 2015, at a fundraiser for the East Bay Meditation Center in Oakland, California, Black feminist activist Angela Davis posed the following question to Jon Kabat-Zinn, the “father” of mindfulness: In a racially unjust world, what good is mindfulness? In response to this question, Mindfulness for the People (MFP) – a Black woman-owned social change agency dedicated to disrupting systemic whiteness in the mindfulness movement – was launched (Black & Switzer, 2022). Greater than the launch of an organization, however, was the impact of naming the highly protected yet invisible paradigm of whiteness within the field of mindfulness, and the resultant benefits and liabilities for two Black women¹ serving as its disruptors (Black & Switzer, 2022). The success of MFP shows that organizations can be created to serve as safe spaces for those who are BIPOC and interested in conducting wellness programs.

Another suggestion is to integrate mindfulness practices into college instructors’ curriculum. Since many mindfulness techniques can be only 5 to 15 minutes, this can be easily implemented into the beginning of class, and/or right before a test.

Recommendations for Further Research

As mindfulness practices become more popular, further research is needed in this field as it will be beneficial for others while also building upon the limited research in this category. Currently, there is a limited amount of empirically-based studies that have specifically

considered the role of mindfulness practices and its effects on stress/anxiety (or other mental well-being topics), particularly in the field specifically for BIPOC students. Additional research is needed to address the impact of mindfulness exercises on college students' mental well-being. Suggested research topics of mindfulness and its relation to mental well-being in college students include: social anxiety, self-compassion, regulation of emotions, anger issues, and self-esteem. Since there is a lack of quantitative studies regarding mindfulness, further research studies will add to the limited knowledge base in that area. The benefit of quantitative research is that it will build upon an existing theory and it will open the door for further research in this field.

Another strength regarding this type of study is that it can be replicated in different areas or over time with the production of comparable findings. This study has the potential to become more reliable over time if it is done at various educational institutions. Another strength is that it potentially filters the external factors eliminating bias since it uses numerical data. If the study is followed correctly, it provides a high potential of unbiased results. Longer-termed studies are also need in this field, for example, students taking questionnaires at the beginning, middle, and end of school year. This will provide a year's worth of data and will showcase all the variables that long-term mindfulness impacts upon students' test anxiety.

Another gap in literature is the qualitative analysis of students' feelings on the topic of mindfulness, especially when it comes to the topic of safe, inclusive, and culturally relevant areas that was expressed in this study. Further studies on this topic can potentially dig deeper into the subject to ask more specific questions, and to have longer-term interviews, such as the beginning, middle, and end of school year (as noted in previous paragraph). This will document students feelings and suggestions on the topic in a more detailed and specific manner. This will give researchers much deeper understanding of the effects of mindfulness from students

themselves, and will also provide more detailed suggestions for educational institutions to implement any changes at their facilities to better accommodate students.

In conclusion, future research regarding mindfulness and its effects on college students' stress/anxiety (and other mental well-being topics) is needed to contribute to educators, students, and to fill the gaps in literature through scientific research.

Conclusion

The goal of this study was to implement Indigenous-based mindfulness anxiety to college students to create a resource that was in line with a familiar background and culture. This was done since currently mainstream mindfulness is catered mostly to a certain demographic: white, privileged women (Carlson, 2018). This also includes mindfulness programs that are catered to a western audience and has changed from its core concepts from the roots of where the mindfulness activities originated from (Carlson, 2018). The results from this study concluded that even with a ten day curriculum of Indigenous-based activities had an overall positive impact on participants in alleviating their test anxiety, and overall stress and anxiety in general. Further research in this area would be recommended with a specific focus on mindfulness and Indigenous mindful activities, specifically created for BIPOC students, in which reflects their cultural backgrounds.

In summary, research in mindfulness and its correlation with stress/anxiety is starting to grow within the research field, but still needs much needed research in order for the knowledge gaps to be filled. Majority of literature found in the field has shown positive correlations between mindfulness and increased well-being among participants, but there have also been some criticism of previous works. As a researcher, it is important to know the history, best practices, knowledge base, and the importance of diversity and respect within the field. As the knowledge

base grows, researchers will be gaining more insight into this relatively new topic of mindfulness and its effects on stress and anxiety.

In summary, we showed older adults' positive perceptions of mindfulness and physical training on the aging mind. Most participants reported mental, physical, and social improvements as a result of their intervention. This study is unique in that most investigations of MBSR and exercise in older adults do not collect qualitative data, and to date none have collected such data from a sample of individuals who have participated in both interventions, separately and combined, to compare perceptions across interventions.

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Appendices

Appendix A

Flyer for Recruitment

LOOKING FOR PARTICIPANTS IN VOLUNTEER STUDY

This is a two week study based on
Indigenous-based mindfulness
activities:

- Must be aged 18+
- Full-time college student
- Black, Indigenous, People of Color
- Experience test anxiety

For more information, please
contact Amy Maharaj :
amymahar@uw.edu

Appendix B

Consent Form

INFORMATION SHEET

INDIGENOUS CENTERED MINDFUL ACTIVITIES FOR STUDENTS WITH TEST ANXIETY

Principal Researcher: **Amy Maharaj, MS. Student in the Muckleshoot Educational Leadership Doctoral Program.**

Faculty Advisors: **Dr. Michelle Montgomery and Dr. Robin Minthorn**

You are invited to participate in a research study about **Indigenous centered mindful activities for students with test anxiety.**

If you agree to be part of the research study, you will be asked to **fill out a demographic questionnaire, three surveys (at the beginning and end of study, weekly check with principal researcher via Zoom or email, and a final interview via Zoom).**

Benefits of the research **To see whether mindful activities lower test anxiety.**

Risks and discomforts **This research requires self-reflection, where to some may be difficult or uncomfortable.**

Compensation **None.**

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time.

Confidentiality: I/We will protect the confidentiality of your research records by keeping everything anonymous and in securely protected databases.

Information collected in this project may be shared with other researchers, but we will not share any information that could identify you.

If you have questions about this research study, please contact **Amy Maharaj at [phone number removed] or email at [email details removed].**

By signing this document, you have agreed to participate in the study and have read all the information listed above.

Printed name: _____

Signature: _____

Date: _____

Appendix C

Demographic Questionnaire

Name: _____

Age: _____

Sex (please circle): M F Other:

First or second year of college (please circle): First Second Third Fourth

Race(s)/Ethnicit(ies) you identify

as: _____

If you identify as Native American, please list your tribal

affiliation: _____

Will you require any special services? (Such as mobility restrictions which may impact some activities). Please write below.

Appendix D

Beck Anxiety Inventory

About: This scale is a self-report measure of anxiety.

Items: 21

Reliability:

Internal consistency for the BAI = (Cronbach's $\alpha=0.92$)

Test-retest reliability (1 week) for the BAI = 0.75 (Beck, Epstein, Brown, & Steer, 1988).

Validity:

The BAI was moderately correlated with the revised Hamilton Anxiety Rating Scale (.51), and mildly correlated with the Hamilton Depression Rating Scale (.25) (Beck et al., 1988)

Scoring:

	Not At All	Mildly but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
All questions	0	1	2	3

The total score is calculated by finding the sum of the 21 items. Score of 0 – 21 = low anxiety

Score of 22 – 35 = moderate anxiety

Score of 36 and above = potentially concerning levels of anxiety

Below is a list of common symptoms of anxiety. Please carefully read each item in the list.

Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling hot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wobbliness in legs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unable to relax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of worst happening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dizzy or lightheaded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heart pounding/racing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unsteady	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrified or afraid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling of choking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hands trembling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shaky / unsteady	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of losing control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Difficulty in breathing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of dying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indigestion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faint / lightheaded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Face flushed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hot/cold sweats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix E

Cohen Perceived Stress Scale:

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 by circling how often you felt or thought a certain way.

Name _____

Date _____

Age _____ Gender (Circle): M F Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

5. In the last month, how often have you been upset

because of something that happened unexpectedly?..... 0 1 2 3 4

2. In the last month, how often have you felt that you were unable

to control the important things in your life? 0 1 2 3 4

3. In the last month, how often have you felt nervous and “stressed”? 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability

to handle your personal problems? 0 1 2 3 4

5. In the last month, how often have you felt that things

were going your way?..... 0 1 2 3 4

B. In the last month, how often have you found that you could not cope

with all the things that you had to do? 0 1 2 3 4

B. In the last month, how often have you been able
to control irritations in your life?..... 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things?.. 0 1 2 3 4

9. In the last month, how often have you been angered
because of things that were outside of your control?..... 0 1 2 3 4

10. In the last month, how often have you felt difficulties
were piling up so high that you could not overcome them? 0 1 2 3 4

Appendix F**Five Facet Mindfulness Questionnaire**

Please rate each of the following statements using the scale provided. Write the number in the blank

that best describes your own opinion of what is generally true for you.

Scale:

1 – never or very rarely true

2 – rarely true

3 – sometimes true

4 – often true

5 – very often or always true

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.

_____ 2. I'm good at finding words to describe my feelings.

_____ 3. I criticize myself for having irrational or inappropriate emotions.

_____ 4. I perceive my feelings and emotions without having to react to them.

_____ 5. When I do things, my mind wanders off and I'm easily distracted.

_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____ 7. I can easily put my beliefs, opinions, and expectations into words.

_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or

otherwise

distracted.

_____ 9. I watch my feelings without getting lost in them.

_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.

- _____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____ 12. It's hard for me to find the words to describe what I'm thinking.
- _____ 13. I am easily distracted.
- _____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
- _____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 16. I have trouble thinking of the right words to express how I feel about things
- _____ 17. I make judgments about whether my thoughts are good or bad.
- _____ 18. I find it difficult to stay focused on what's happening in the present.
- _____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- _____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- _____ 21. In difficult situations, I can pause without immediately reacting.
- _____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
- _____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.
- _____ 24. When I have distressing thoughts or images, I feel calm soon after.
- _____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.
- _____ 26. I notice the smells and aromas of things.
- _____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.
- _____ 28. I rush through activities without being really attentive to them.
- _____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____ 32. My natural tendency is to put my experiences into words.

_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.

_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 36. I pay attention to how my emotions affect my thoughts and behavior.

_____ 37. I can usually describe how I feel at the moment in considerable detail.

_____ 38. I find myself doing things without paying attention.

_____ 39. I disapprove of myself when I have irrational ideas.