Spring 5-21-2019

A HEARTFULNESS MEDITATION INTERVENTION IN UNIVERSITY STUDENTS USING MIXED METHODOLOGY

Dipta Amatya
University of Texas at Tyler

A HEARTFULNESS MEDITATION INTERVENTION IN UNIVERSITY STUDENTS USING MIXED METHODOLOGY

by

DIPTA AMATYA

A thesis submitted in partial fulfillment
Of the requirements for the degree of
Master of Sciences in Health Sciences
Department of Health and Kinesiology

William Sorensen, Ph.D. Committee Chair

College of Nursing and Health Sciences

The University of Texas at Tyler
May 2019

The University of Texas at Tyler
Tyler, Texas

This is to certify that the Master's Thesis of

DIPTA AMATYA

has been approved for the thesis/dissertation requirement on
April 12, 2019
for the Master of Sciences in Health Sciences degree

Approvals:

Thesis Chair: William Sorensen, Ph.D.

Member: Cheryl Cooper, Ph.D.

Member: Sarah Sass, Ph.D.

Member: Jimi Francis, Ph.D.

Chair, Department of Health and Kinesiology: David Criswell, Ph. D.

Dean, College of Health Science and Nursing: Yong Wang, Ph.D.

Acknowledgements

Behind the successful completion of this dissertation lie the kindness and assistance of different people. I owe my credit to all the helping hands whose invaluable support has made the completion of this dissertation report possible. I would like to express my profound gratitude to my thesis committee chair, Dr. Sorensen for his guidance and encouragement in all the steps. It is my privilege to express my deepest thanks to his tireless effort and guidance. I am grateful to Ms. Gayatri Kambhampati, for her continuous support and invaluable assistance by instructing Heartfulness intervention to the students. I would like to thank Dr. Cooper and Ms. Rebecca for their invaluable insights for the qualitative part of the research. My sincere thanks also go to all my thesis committee members Dr. Jimi Francis, Dr. Sarah Sass, and Dr. Cheryl Cooper for their advice in the preparation of this thesis report. Last but not the least, I am grateful to all the participants of the study who provided their valuable time for the intervention.

Table of Contents

List of Tables

List of Figures

Abstract

A HEARTFULNESS MEDITATION INTERVENTION IN UNIVERSITY STUDENTS USING MIXED METHODOLOGY
Dipta Amatya

Thesis Chair: William Sorensen Ph.D.

The University of Texas at Tyler
May 2019

Objective: This is a mixed methods study in which Heartfulness meditation was introduced to university students. The objective of this study was to demonstrate a link between Heartfulness meditation and mental health as well as a link between Heartfulness meditation and Emotional Intelligence. The study also explored the experiences of the students after the meditation practice.

Background: College students have greater levels of stress and psychopathology now than any other time in the nation's history. Increases in mental distress can lead to serious mental health disorders in the future so there is need of self-care skills for students to help combat their mental health distress (Henriques, 2014). Evidence from studies have shown that various kinds of meditation (Mindfulness, Transcendental, Heartfulness) can be used as a self-care tool which, if practiced well, improves people's mental health.

Methods: Pharmacy and nursing students at UT Tyler were recruited as participants for the study. A mixed method design was used i.e. both quantitative and qualitative data was collected and analyzed. A series of Heartfulness meditation sessions were provided to the students for an entire semester (Fall, 2018). The students were given pre-post structured questionnaires on socio demographics, depression, anxiety, and stress as well as the Schutte

Self Report Emotional Intelligence Test. Differences between pre-and post-scores were analyzed, controlling for meditation frequency. For the qualitative component, a focus group discussion was conducted. The conversation was tape recorded, transcribed and results were content analyzed.

Findings: The study showed that frequency of meditation played a significant role in stress level i.e. the post stress score of students decreased significantly in those who meditated most frequency. Similarly, for anxiety, meditation frequency was found to be significant when controlling for demographic variables (sex, ethnicity, college and occupation). However, no factors had a significant association with depression. The Emotional Intelligence range which was low before the intervention shifted to a medium level after the intervention. The quantitative findings were not able to show a correlation of Emotional Intelligence with stress, anxiety and depression. Students' experiences during focus group discussion clarifies how meditation has brought change into their lives, helping them to improve their mental health.

Conclusion: The most prominent finding is that Heartfulness meditation is a useful tool in decreasing stress and anxiety levels of university students. Emotional Intelligence was a key part of the Later Benefits theme.

Chapter 1
Introduction

Background

This proposed research deals with three concepts: Emotional intelligence (EI), Heartfulness meditation and Mental health. According to the Oxford English Dictionary, EI is: "The capacity to be aware of, control and express one's emotions, and to handle interpersonal relationships judiciously and empathetically; emotional intelligence is the key to both personal and professional success" (Sasanpour, Khodabakhshi & Nooryan, 2012). Heartfulness meditation is a form of raja yoga that teaches one how to connect to his/her heart, creating inner peace and tranquility in one's life. It is about what we feel in our heart and connects feelings to mind; thus, the label Heartfulness meditation (Kamlesh Patel, 2018). Mental health implies cognitive well-being and stability from which one is prepared to meet life's challenges. I propose that Heartfulness meditation impacts mental well-being in a positive way and that EI mediates this process.

Problem Statement

College is a stressful environment for most people. Therefore, it's important for parents, friends, faculty and counselors to get involved if they suspect a student is suffering from mental health problems. Many factors of college life contribute to risk factors for mental health issues. Many students are unprepared for university life. Today's students face high debt if they borrow funds to attend. They also have fewer job prospects after graduation than previous generations if their degree is not in a high-demand field. These added concerns can lead to depressive, stressful episodes in college students (Kerr, 2017).

Concerning employment**,** Emotional Quotient (EQ) was ranked sixth in the World Economic Forum's list of the top 10 skills that employees will need to possess to thrive in the workplace of the future (Chignell, 2018). More about EQ is found in Chapter2.

Evidence suggests that college students have greater levels of stress and psychopathology now than any other time in the nation's history (Henriques, 2014). Directors of counselling centers have one of the best perspectives to observe their state of mental health. Ninety-five percent of college counseling center directors surveyed said that the number of students with significant psychological problems is a growing concern in their center or on campus. Seventy percent of directors believed that the number of students with severe psychological problems on their campus has increased every year (Reetz, 2013).

EI offers a window into mental health, since the ability of individuals to understand their own emotional states or emotional problems is considered an important indicator of healthy mental functioning (Abdellatif, 2017). Recent studies suggest that higher levels of EI lead to greater feelings of emotional well-being, reduced psychological stress, increased positive mood, better self-esteem, decreased depression, increased optimism, and greater life satisfaction. One study indicated that the ability to manage and control emotions was inversely related to the severity of depression. This supports the notion that the lack of emotional control and the inability to regulate emotions are important factors associated with depression (Downey, 2008).

Meditation is a healthy practice and can be effective if used well**.** Meditation can help those feeling stressed or depressed by offering scope as one can practice deep

breathing and body movement to provide energy. Indeed, a lack of energy is a common factor associated with mental disturbance. Positive self-talk is an ability to replace negative thoughts and may relieve stress and depression and promote energy. Deep breathing enables people to stay in the present and provide more control to regain balance in mind and body (Gill, 2004).

General Objectives:

The purpose of this study is:

1. To demonstrate a link between Heartfulness meditation and Mental Health.
2. To demonstrate a link between Heartfulness meditation and Emotional Intelligence.

Specific Objectives:

1. To determine if the frequency of meditation affects mental health.
2. To define any relationship between EI and Mental Health.
3. To describe the students' perceptions regarding their experiences after the meditation.

Research Hypothesis:

4. Heartfulness meditation results in decreasing mental health problems.
5. Heartfulness meditation results in an increase in EI of students.

The following chapter describes in more detail the three main components of this study.

Chapter 2

Literature Review

The core part of this research deals with three concepts: EI, Heartfulness meditation and mental health.

Emotional Intelligence

The art of mastering our feelings, managing them and understanding other peoples' feelings is Emotional Intelligence (EI). But to understand EI we need to have a deeper understanding about the potential, emotional roller coaster ride that we may go through every day.

Emotion is simply human psychic energy in motion. Some neurologists say that emotions are the responses of a person's perception occurring in the subcortical regions of the brain, the amygdala and the ventromedial prefrontal cortices. The amygdala plays an important role in emotional stimulation and neurotransmitter regulation which is essential for emotional memory; the amygdala is the tissue where emotional memories are stored (Hampton, 2015)**.** Some psychologists mention that emotion is the body's primary motivational system, while others say that human beings are essentially rational beings, i.e. our reason for being is essentially cognitive/intellectual (Goleman, 2012).

Feelings are the responses that originate in the neocortical regions of the brain. They are mental associations and reactions to emotions. Our emotions and feelings play a powerful role in how we experience and interact with the world because they are the driving force behind our behaviors. We know little about our reactions to feelings which are lodged in our sub-consciousness, living solely by habits, unaware

of habitual consequences that may lead to unhappiness. Chronic bad habits may create mental disturbances and may lead to more severe mental health problems. Human minds are prone to react per their feelings, and feelings can be sometimes wrong, so when one cannot correct his or her own reaction it can lead to unhelpful behaviors, which again may create mental disturbances and lead to more severe mental health problems (Hampton, 2015). Emotional and social learning skills that help to improve EI are needed in today's world.

The concept of EI began in the late 1930s, when researchers began describing a non-intellectual intelligence as "social intelligence." EI itself was first defined in the early 1990s by Salvoy and Meyers as "a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's thinking and actions." Salvoy and Meyers expanded their definition of EI to include "the verbal and non-verbal appraisal and expression of emotion, the regulation of emotion in the self and others, and the utilization of emotional content in problem-solving" (Goleman, 2011).

According to the Oxford English Dictionary, EI is "The capacity to be aware of, control and express one's emotions, and to handle interpersonal relationships judiciously and empathetically; emotional intelligence is the key to both personal and professional success.*"* EI thus is termed as the set of skills people use to read, understand, and react effectively to emotional indications sent by others and oneself (Nooryan, 2012).

In one study, Schutte and Malouff (2011) observed the relationship between EI, mindfulness, and subjective well-being. They concluded that higher level mindfulness

was positively associated with attributes of EI. EI mediates the relationship between mindfulness and subjective well-being. Similarly, with greater EI abilities, one is less negative and has greater life satisfaction (Wang, 2014).

What are some specific features in EI? Chu mentioned that "Mindfulness and EI both emphasize people's abilities to observe, comprehend and manage their thoughts and emotions"(Chu, 2014). Kabat-Zinn and Welwood claimed that mindfulness plays an important role in connection and closeness in relationships (Barnes, 2007). Brown showed that the foundations of EI, which are social skills, self-awareness skills, and empathy, are significantly related to mindfulness meditation or any other kinds of meditation (Brown, 2007).

Furthermore, research by Snowden was carried out on nursing students and midwives. He found that mindfulness training was linked with higher EI. They concluded that meditation is one of the ways of enhancing emotional and cognitive abilities (Snowden, 2017). However, he concluded that more research in the field of linking meditation with specific features in EI is required.

Meditation

According to the Collaborative for Academic, Social, and Emotional Learning (CASEL), an organization that works toward integrated social-emotional learning for children, "social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions"

(Gunn, 2018). There are various emotional, social learning skills which are taught through various games like Anger catcher, Kindness bingo, Emotions Scavenger Hunt, Peace makers, Quirkle etc. that help to funnel emotions in the right way. Another effective and useful skill is meditation (Apperson, 2016).

One study about meditation was done with 351 adults working full time in Taiwan. Those adults were provided with different levels of meditation experience. Those participants with greater meditation experience displayed higher EI, less perceived stress and better mental health than those who had lower levels of meditation experience (Chu, 2010).

Another study was done in which researchers compared effectiveness of physical exercise or meditation in subjects' anxiety. As predicted, subjects of the study practicing physical exercise reported relatively less somatic and more cognitive anxiety than meditators. The data suggested that meditation is very helpful in improving mental health of individuals (Sharma, 2012).

Additionally, Davidson and Harrington (2012) have suggested that the meditation, like mindfulness, strengthens the emotional characteristics of an individual in compassion, empathy, self-awareness, and self-management in individuals.

Benefits from various types of meditation practices have been studied by researchers. In one study, a group of undergraduate Chinese students were randomly assigned to five days of meditation practice with the integrative body–mind training method and compared with a control group which was given relaxation training. The meditation group showed greater improvement in conflict scores on the Attention

Network Test, as well as lower anxiety, depression, anger, and fatigue, and higher vigor on the Profile of Mood States scale. Furthermore, the meditation group showed a significant decrease in stress-related cortisol and an increase in immune reactivity. (Tang, 2007)

Transcendental meditation (TM) is another type of meditation, which refers to a specific form of silent mantra meditation that involves the use of a sound or mantra and is practiced for 15–20 minutes twice per day. One study described the effectiveness of TM in changing hormone levels and responses to stress after 4 months of practice. In that study, four stress hormones: cortisol, growth hormone, thyroid-stimulating hormone and testosterone were examined. In the TM group, but not in the controls, basal cortisol level and average cortisol decreased from pre- to post-test (MacLean CR1, 1997).

In another study, the authors examined whether Jyoti Meditation (JM) influenced student counselors' level of stress and EI, or not. JM is a spiritually based meditation that is practiced with the help of candle or any form of light (Hayati, 2018). Results from a randomized controlled trial provided a multilevel model in which JM reduced stress and EI moderated the effect (Daniel Gutierrez, 2016).

Heartfulness meditation is a form of raja yoga that teaches one how to connect with one's heart and helps to create inner peace and tranquility in one's life. A person explores what he/she feels in one's heart and tries to connect the heart to the mind. This simple type of meditation has been prevalent for more than 100 years and today it is followed by over a million people across 120 countries, with different religious backgrounds and of various social and economic backgrounds. Daaji is the individual

who initiated Heartfulness meditation. According to him, meditation (Heartfulness) creates naturalness and nurtures wisdom. Meditation is the vehicle that takes us on an infinite journey, it makes us move from selfishness to selflessness, reactive mind to responsive heart, restlessness to peacefulness, imbalance to balance and from darkness to light. Daaji explained that heartfulness meditation is not a religion, it is spirituality and experience instead. Heartfulness meditation is defined as thinking about one thing continuously, which is different than concentration, but can be termed as an effortless focus. Heart is the organ of feeling, it is through the heart that we feel emotions. The heart is where we must seek emotions, and therefore we meditate upon the heart. Thus, the name heartfulness is relevant to its meaning (Patel, 2018).

Heartfulness is about being natural. It doesn't mean we don't use our heads, it only means that we don't use our heads unnecessarily or that we don't solely use our heads. Our human bodies are not only evidence of, but are vehicles for, transformation. Heartfulness meditation also aids in relieving stress and healing our bodies (McClenon, 2016).

Mental Health

Disorder that causes mild to severe disturbances in thought process or behavior, resulting as a failure to cope with life's ordinary demands or routines, is mental illness (NIMH, 2016). There are more than 200 classified forms of diagnosable mental illness. In this study, I assume that minor mental disturbances, if not controlled, may lead to some AMI's like depression or anxiety. Mental disturbances can be caused due to various reasons like experiencing failure or trauma, environmental stresses, genetic factors, biochemical

imbalances, or a combination of these. Mental illness has created a huge burden in health of people globally (Swanson, 2015).

Research shows that mental illnesses are common in the United States; tens of millions of people are affected by mental illness each year. In addition, according to one source, only half of people with mental illness receive treatment. Nearly one in five U.S. adults live with a mental illness (44.7 million people in 2016). Mental illnesses can be divided by degree of severity, ranging from mild to moderate to severe. There are two broad categories that can be used to describe these conditions: Any Mental Illness (AMI) and Serious Mental Illness (SMI). AMI encompasses all recognized emotional, behavioral, or mental illness like depression, stress, anxiety, bipolar disorder, dementia, schizophrenia, etc. SMI is a smaller and more severe subset of AMI (NIMH, 2017).

Again, AMI is defined as a mental, behavioral, or emotional disorder. AMI can vary in impact, ranging from no impairment to mild or moderate impairment. The prevalence of AMI is higher among women (21.7%) than men (14.5%). Young adults aged 18-25 years have the highest prevalence of AMI (22.1%) compared to adults aged 26-49 years (21.1%) and aged 50 and older (14.5%). Figure 1 below shows other prevalence figures by race, age and sex (NIMH, 2017).

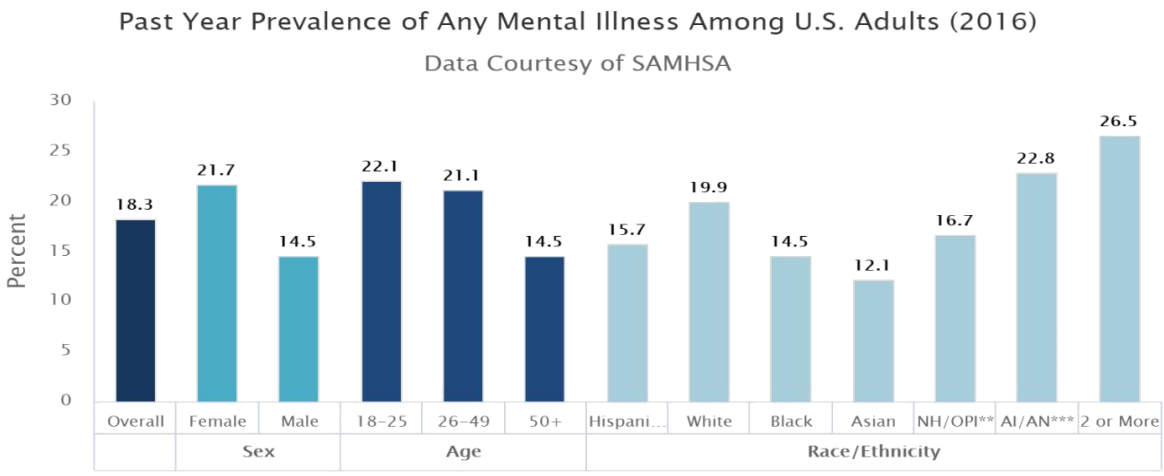


Figure 1. Prevalance of AMI

Here are additional statistics that support the rationale of this study:

- One in every 12 U.S. college students makes a suicide plan.
- 6.9% of American adults live with major depression; 18.1% of American adults live with anxiety disorders.
- 50% of all lifetime cases of mental illness begin by age 14 and 75% by age 24.
- The average delay between onset of symptoms and intervention is 8 to 10 years.
- 37% of students with a mental health condition age 14 and older drop out of school- the highest dropout rate of any disability group.
- 90% of those who died by suicide had an underlying mental illness (NAMI, 2018).

The next chapter will the methods used to study Heartfulness meditation on EI, and then also to mental disturbances, in students on the University of Texas at Tyler campus.

Chapter 3

Materials and Methods

Study design

Both qualitative and quantitative methods were used for this research. The quantitative design was pre-post interventional, giving two sources of information through time, and a third component was a qualitative evaluation of the intervention.

Study setting and Participants

The research setting is the University of Texas at Tyler (UTT) with undergraduate university students. UTT is a public university that was founded in 1971 and is a component institution of the University of Texas system. UTT consists of five professional colleges and one traditional college of Arts and sciences. It offers over 90 academic degree programs at the bachelor, master, and doctoral levels. UTT is accredited by the Southern Association of Colleges and Schools. The university had a Fall 2017 semester student body enrollment of 10,527. The student faculty ratio is 18:1. It has greenery, lakes, and a peaceful environment for study (Tyler, n.d.).

Two groups of students (ages 18+), one from the College of Nursing and the other from the College of Pharmacy, were assessed. The School of Nursing prepares graduates to meet health care needs, as nurse generalists, educators, researchers, administrators and advanced practitioners, whereas the Ben and Maytee Fisch College of Pharmacy offers the first Doctor of Pharmacy program in East Texas. It is a student-centered department, providing team-based learning (Tyler, n.d.).

Intervention

Heartfulness meditation was the intervention chosen for this study. The meditation sessions were about 20 minutes long, composed of 5 minutes of relaxation and 15 minutes of meditation. Half of these students were given the intervention once a week (Nursing) while for the other half, the intervention was provided two times a week (Pharmacy). The intervention duration lasted nine weeks, from August 28 to October 27, 2018. Other students, who were controls (nursing), were provided quotations to read and discuss while others were doing the meditation intervention.

Sampling and sample size

For the quantitative component, the students were selected by convenience sampling. All student's involvement depended upon the willingness of instructors to get involved. Eighty-seven students (35 pharmacy, 52 nursing) were in these classes. Sample size was calculated by using an online sample size calculator provided by Casagrande, Pike and Smith (2018). From the pilot study, the proportion of students with moderate or high EI was found to be 75% (P1=0.75) and I expected P2 to be 100% (P2=1).

The sample size resulted in 80 participants. The variables assumed in the calculations are provided below:

α = Significance level (Input 0.05)

$1-\beta$ = Power of the test (Input β=0.2)

P1 =Success proportion in arm 1 (Input 0.75)

P2 =Success proportion in arm 2 (Input 1)

r = Ratio of arm 2 to arm 1 (Input 0.5)

m = Sample size for arm 1 (Result 53)

N = Total sample size for arm 1 and 2 (Result 80)

For the qualitative component, research methods claim that sample size is a moot point, and that the researcher only needs to consider reaching saturation, when themes begin to repeat. I gave 1 focus group discussion with seven students (pharmacy). The focus group should be no more than ten persons and no fewer than four (Mayhew, 2018). Recruiting for the focus group was also convenience based; volunteers from the quantitative cases were sought after their post surveys were conducted.

Data collection

This study collected data using quantitative as well as qualitative tools. For the quantitative component, a structured questionnaire (closed questions) was used to collect information on socio demographics while incorporating reliable testing tools like the Depression, Anxiety, Stress score (DASS-21) and The Schutte Self Report Emotional Intelligence Test (SSEIT) (Appendix 2).

DASS 21

DASS is a set of three self-report scales designed to measure the negative emotional states of depression, anxiety, and stress. Each of the three DASS scales contained 14 items, divided into subscales of 2-5 items with similar content. Dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement, anhedonia, and inertia were the states that the depression scale assessed. Similarly, autonomic arousal, skeletal muscle effects, situational anxiety, and the subjective experience of anxiety were the characteristics that were measured by the anxiety scale. The

Stress scale assessed difficulty relaxing, nervous arousal, and being easily upset and irritated. Scores for depression, anxiety and stress were calculated by summing the relevant items. A short version of DASS was available with "seven" items per disorder (DASS-21). This short version was used for the study. (Psychology Foundation of Australia, 2018). For DASS-21, the internal consistency (Cronbach's alpha) of each sub-scale and the overall scale were high, ranging from 0.70 for the Stress subscale to 0.88 for the overall scale (Thach Duc Tran, 2013).

SSEIT

SSEIT is a tool for measuring general EI, using four sub-scales: emotion perception, utilizing emotions, managing self-relevant emotions, and managing others' emotions. The SSEIT is structured based on the EI model by Salovey and Mayer. The SSEIT was closely patterned after the EQ-I model of EI. The SSEIT included a 33-item self-report using a 1 (strongly agree) to 5 (strongly disagree) Likert-type scale for responses. Each sub-test score was graded and then added together to give the total score for the subject (Schutte, 1998).

Schutte and her colleagues reported a reliability rating of 0.90 for their EI scale when they used it with athletes. Content validity was assessed by a panel of experts. Items present in the tool were evaluated in terms of whether they assessed EI related to oneself or EI focused on others. It further examined items in terms of awareness, regulation, and utilization of emotions. The EI score, overall, is reliable for adults and adolescents; however, the utilizing emotions sub-scale has shown poor reliability (Ciarrochi, 2000).

For the qualitative component, a key informant interview with semi-structured questions was prepared. A focus group with seven pharmacy students was used for this component after the post test of the quantitative study. (Appendix 5) Number tags were used for identification. The conversation was based on six open-end questions. (Appendix 5) It was tape recorded and the results transcribed. (Appendix 6) In addition, a note keeper produced notes and another person was the facilitator.

Data Analysis

Quantitative Component

For the quantitative component, the data was entered an Excel spreadsheet then analyzed using the SPSS version 20 software package. Descriptive and chi square analysis were used to assess sociodemographic information. ANOVA was used for analyzing the two major mental assessments (SSEIT and DASS-21). The indexes were also correlated. Lastly, a logistic regression model was used for all the significant demographic variables together with meditation frequency to find the most important predictor of stress, anxiety, and depression.

Qualitative Component

An article about qualitative analysis mentioned four key steps which help to achieve high-quality analysis of data and they are 1. immersion in the data, 2. coding, 3. creating categories, and 4. the identification of theme. The authors also mentioned that knowledge, skills, vision, and reliability of researchers play a significant role in achieving high-quality analysis of data (Green, 2007).

Qualitative Data Method

I used the thematic analysis/content analysis for the qualitative data. The goal of a thematic analysis is to identify themes, i.e. patterns in the data that are important or interesting, and to use these themes to address the research. It is termed as a method rather than a methodology (Braun, 2013)**.** This means that it is not tied to a theoretical perspective which makes it a very flexible method that is unlikely with other methodologies. The audiotaped focus group discussion was transcribed and all the notes as well as transcript was analyzed by the help of two more reviewers. The details of analysis process are listed in following points:

Became familiar with the data:

After the transcript was ready, I started to read and re-read the transcript. I also provided the copies of it to Dr.Cooper and Ms. Swindall who helped me throughout analyzing the qualitative data. The rough notes from the focus group discussion were skimmed before starting any kinds of analysis.

Generated initial codes:

In this phase, we started to organize our data in a meaningful and systematic way. We used open coding, meaning that there were no pre-set codes. We developed and modified the codes as we worked through the coding process. We read the transcript, reviewed research questions, and the semi-structured questions. Then the sections were separated for those relevant to our research question. We discussed these and developed preliminary ideas about codes. Then each of us set about coding a transcript separately. We worked through each transcript coding for every segment of

text that seemed to be relevant to. We did number coding by hand initially. This coding process made the transcript more comprehensive, organized, and easy to read for identifying categories. We then picked the relevant words and coded/numbered them as categories.

Searched for themes:

A theme is characterized by its significance, i.e. we decided to select themes according to its relevancy. We looked over the listed categories and then organized them into broader themes that explained something specific about this research question. The themes that were identified, were the preliminary themes which were then reviewed.

Reviewed and Finalized the themes:

After working separately with the transcripts while listing categories and preliminary themes. Then we shared our lists with each other and reviewed them together. At last we came up with the final lists of themes and categories. We read the data (quotes from transcription) associated with each theme and discussed whether the data supported the identified themes.

Ethical considerations

Informed consent was given to all participants in quantitative data collection as well as focus group discussion. Verbal consent was taken with focus group participants and they had already given their informed consent for focus group discussion in the informed consent they had signed in the first place while providing quantitative data. IRB permission through UTT's review board was sought and granted**.** (Appendix: 7)

Chapter 4

Results

This chapter deals with an in-depth analysis and interpretation of quantitative as well as qualitative data findings.

Quantitative

A total of 87 students, 52 students from the Nursing Department and 35 students from the Pharmacy Department participated in the study. Eleven of these students did not complete a pre-survey or a post survey (5 Nursing and 6 Pharmacy). They are excluded from any further results.

Sociodemographic variables included sex, race, gender, marital status, and living condition. Table 1 provides the detailed socio demographic characteristics of participants. Most students were female (89.5%), white (51%), and single (82.9%). A majority of the students lived in apartments (59.2%). Half of the students were employed, and half unemployed. Table 1 shows other demographic data.

Table 1. Socio Demographic Characteristics

	Any Meditation	**Non-Meditation**	**Total**
Sex			
Male	4 (8.0%)	4 (15.3%)	8 (10.5%)
Female	46 (92.0%)	22 (84.7)	68 (89.5%)
Race			
Asian	4 (8.0%)	2 (7.7%)	6 (7.8%)
White	35 (70.0%)	16 (61.5%)	51 (85.5%)
Hispanic	9 (45.0%)	6 (23.1%)	15 (19.0%)
African American	2 (4.0%)	2 (7.7%)	4 (5.3%)
Marital Status			
Married	5 (10.0%)	6 (23.1%)	11 (14.5%)

Single	44 (88.0%)	19 (73.0%)	63 (82.9%)
Widow	0 (0.0%)	1 (3.8%)	1 (1.3%)
Divorced	1 (2.0%)	0 (0.0%)	1 (1.3%)
Living Condition			
Apartment	31 (62.0%)	14 (53.8%)	45 (59.2%)
House with other renters	7 (14.0%)	7 (26.9%)	14 (18.4%)
Parent's House	12 (24.0%)	4 (15.4%)	16 (21.0%)
Occupation			
Not Currently Working	19 (38.0%)	12 (46.0%)	31 (40.0%)
Employed Full time	3 (6.0%)	1 (3.8.0%)	4 (5.3%)
Employed Part time	28 (56.0%)	13 (50.0%)	41 (53.9%)

At the time of the data collection, 2.6% of the students reported that they used tobacco products, 47.0% of them consumed alcohol, 48.0% consumed soda and 68.0% were involved in any form of exercise. Other behavioral information is shown in Table 2.

Table 2: Lifestyle Related Characteristics

	Any Meditation	**Non-Meditation**	**Total**
Tobacco Use			
Yes	1 (10.9%)	1 (4.0%)	2 (2.6%)
No	49 (89.1%)	25 (95.2%)	74 (97.4%)
Alcohol Consumption			
Yes	21 (42.0%)	15 (57.7%)	36 (51.3%)
No	29 (58.0%)	11 (42.3%)	40 (48.7%)
Soda Intake			
Yes	28 (57.1%)	8 (30.7)	36 (48.0%)
No	21 (43.0%)	18 (69.3%)	39 (52.0%)
Exercise			
Yes	34 (68.0%)	17 (68.0%)	51 (68.0%)
No	16 (42.0%)	8 (32.0%)	24 (32.0%)

To see the relationships between post mood constructs scales, I analyzed their correlations (Table 3). The highest positive correlation is between EI and anxiety, but it is a weak relationship. The lowest negative correlation is between depression and stress (as one increases, the other decreases), but again this is a weak relationship. In fact, all possible relations are weak.

In an effort to see the relationships between post mood constructs scales, I analyzed their correlations (Table 3). The highest positive correlation is between EI and anxiety, but it is a weak relationship. The lowest negative correlation is between depression and stress (as one increases, the other decreases), but again this is a weak relationship. In fact, all possible relations are week.

The following series of paired tables represent the cognition scales, for EI (Tables 4 and 5), Stress (Tables 6 and 7), Anxiety (Tables 8 and 9) and Depression (Tables 10 and 11). The statistical analysis strategy was to examine the demographic variables on the difference between pre-and post-scores (EI, Stress, Anxiety, Depression) while always controlling for meditation and control group, including meditation frequency.

Table 3: Bivariate Correlations with major measures

	Post Stress	Post-Depression	Post Anxiety	Post Emotional Intelligence
Post Stress	1	-0.171	0.059	-0.133
Post-Depression		1	0.046	0.040
Post-Anxiety			1	0.088

Post Emotional Intelligence				1

Emotional Intelligence

Tables 4 and 5 show the intervention results of any meditation on EI. Meditation (frequency) was found to be significant (P=0.000) when controlling for occupation and shows a marginally significant result (P=0.102) when controlling for Ethnicity.

Table 4: Average Emotional Intelligence scores by Meditation frequency, and demographic factors

Variables	**Control**			**Low Meditation**			**High Meditation**		
	n	**pre**	**post**	**N**	**pre**	**post**	**n**	**pre**	**post**
Sex									
Male	4	110.2	109.5	2	120.5	123.0	2	107.5	119.5
Female	22	101.2	100.6	21	110.1	114.3	25	107.0	117.4
Ethnicity									
Whites	16	123.5	122.9	15	116.5	117.6	20	117.4	119.8
Non-Whites	10	118.2	114.8	8	116.4	116.4	7	109.4	126.1
Marital Status									
Married	6	119.8	118.0	2	119.5	118.0	3	109.6	124.0
Single	20	122.0	120.0	21	117.8	121.0	24	107.6	121.8
Living Conditions									
Parent's House	4	132.2	133.8	3	133.6	119.0	9	109.5	126.5
Without parents	21	119.0	117.0	20	116.9	117.6	18	107.0	119.9
Occupation									
Employed	6	123.1	126.8	2	118.0	107.0	3	112.3	18.7
Unemployed	20	120.3	125.3	21	129.7	119.9	24	127.5	13.2
Department									
Nursing	24	102.5	101.0	11	112.2	102.0	12	106.5	115
Pharmacy	2	127.7	102.5	12	119.7	110	15	107.5	119.5

Table 5: Two Way ANOVA results on Emotional Intelligence

Variables	**n**	**F**	**P-value**
Sex	1	0.257	0.614
Meditation Freq	2	0.037	0.964
Sex*Med Freq		0.869	0.424
Ethnicity	1	0.559	0.457
Meditation Freq	2	2.363	0.102
Sex*Med Freq		0.316	0.730
Marital Status	1	0.756	0.388
Meditation Freq	2	0.071	0.931
Marital* Med Freq		1.358	0.264
Living Situation	1	0.746	0.391
Meditation Freq	2	1.014	0.368
Living*Med Freq		0.187	0.830
College	1	0.105	0.747
Meditation Freq	2	1.938	0.152
College*Med Freq		0.106	0.900
Occupation	1	0.038	0.847
Meditation Freq	2	15.383	0.000**
Occupation*Med Freq		0.566	0.570

**0.05<P<0.10 **P<=0.05*

In Figure 1, it is clearly shown that the post EI score of students increased significantly with any frequency of meditation practice, but especially with high meditation frequency. The mean EI high frequency score for the students' pretest was 107, which increased to 118. This also shows that the EI range which was low level before intervention shifted to medium level after the intervention (See Appendix 4).

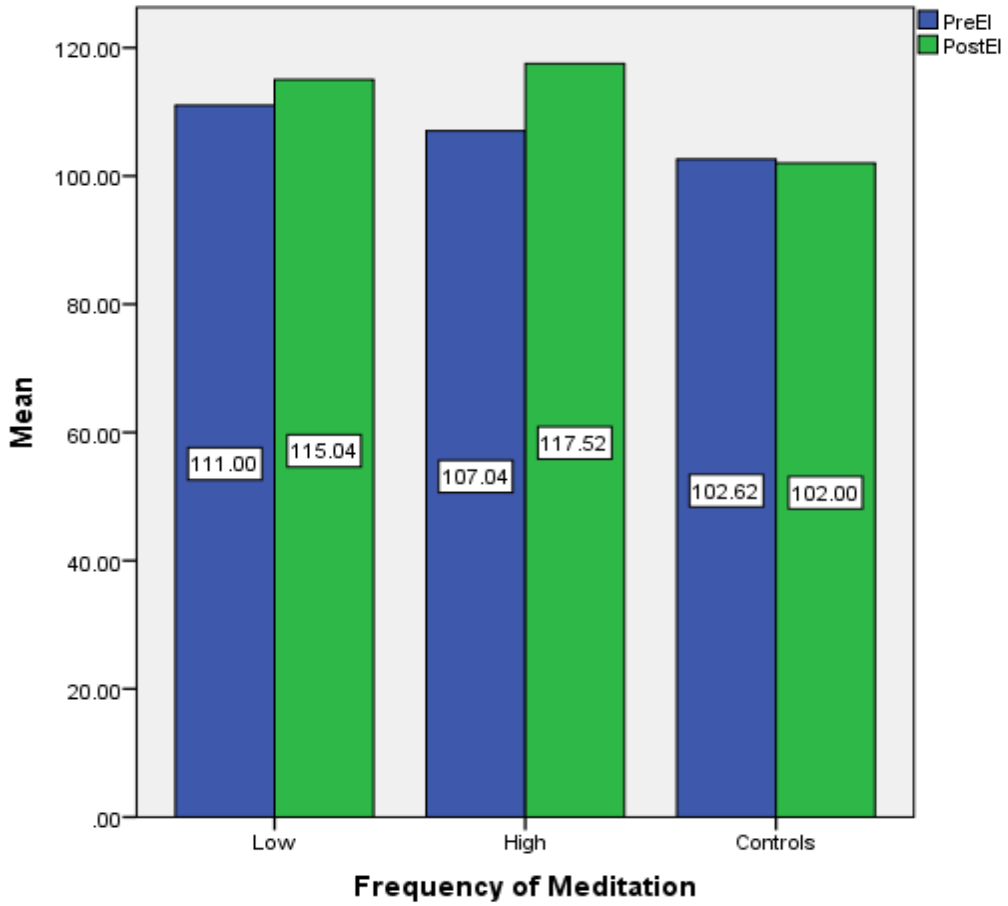


Figure 2: Relationship between EI Score and Frequency of Meditation

Stress:

Tables 6 and 7 show the intervention results of meditation on stress. Meditation (frequency) was found to be significant when controlling for each of the demographic variables (Sex, Ethnicity, Marital Status, Living Situation). Furthermore, the stress outcome was affected marginally (P=.051) by College of the student (controlling for meditation frequency). And similarly, living condition (P=0.099) was marginally significant controlling for Meditation Frequency.

Table 6. Average Stress Scores by Meditation frequency and Demographic factors

	Control			**Low Meditation**			**High Meditation**		
	N	**pre**	**post**	**n**	**pre**	**post**	**n**	**pre**	**post**
Sex									
Male	4	22.0	17.5	2	22.0	18.0	2	14.0	4.0
Female	22	17.0	20.0	21	16.4	16.4	25	18.6	10.1
Ethnicity									
Whites	16	17.6	18.7	15	17.2	17.1	20	10.4	7.8
Non-Whites	10	18.0	21.2	8	6.3	15.5	7	5.1	14.9
Marital Status									
Married	6	16.7	20.6	2	20.0	19.0	3	10.7	6.0
Single	20	18.1	19.4	21	16.6	16.3	24	19.2	10.1
Living Conditions									
Parent's House	4	23.5	27.0	3	24.0	19.3	9	20	10.0
Without parents	21	10.9	18.7	20	15.8	16.1	18	17.3	9.4
Occupation									
Employed	14	17.3	18.4	14	18.3	16.7	17	18.5	9.6
Unemployed	12	18.3	21.2	9	14.6	16.2	10	17.8	9.6
Department									
Nursing	24	17.6	20.1	11	17.2	17.1	12	17.2	9.5
Pharmacy	2	20.0	15.0	12	16.5	16.0	15	19.1	9.7

Table 7: Two Way ANOVA results on Stress

Variables	**df**	**F**	**P-value**
Sex	1	5.509	0.119
Meditation Freq	2	26.960	0 .036**
Sex*Med Freq		0.292	0.748
Ethnicity	1	0.943	0.335
Meditation Freq	2	28.663	0.000**
Sex*Med Freq		1.328	0.272
Marital Status	1	1.001	0.320
Meditation Freq	2	10.501	0.000**
Marital* Med Freq		0.519	0.272
Living Situation	1	2.802	0.099*
Meditation Freq	2	18.676	0.000**
Living*Med Freq		0.455	0.636
College	1	3.938	0.051*
Meditation Freq	2	16.071	0.000**
College*Med Freq		1.242	0.295
Occupation	1	0.411	0.665
Meditation Freq	2	18.375	0.000**
Occupation*Med Freq		1.105	0.362

***P<=0.05 *0.05<P<0.10*

Stress data are demonstrated in bar-diagrams below. In the first bar diagram (Figure 2), it is clearly shown that the post stress score of students decreased significantly with high frequency of meditation practice, i.e. frequency of meditation plays a significant role in stress level. Mean stress score for posttest in students was 18 which decreased to 10.

This shows that the stress range which was moderate level before intervention shifted to normal stress level after the intervention.

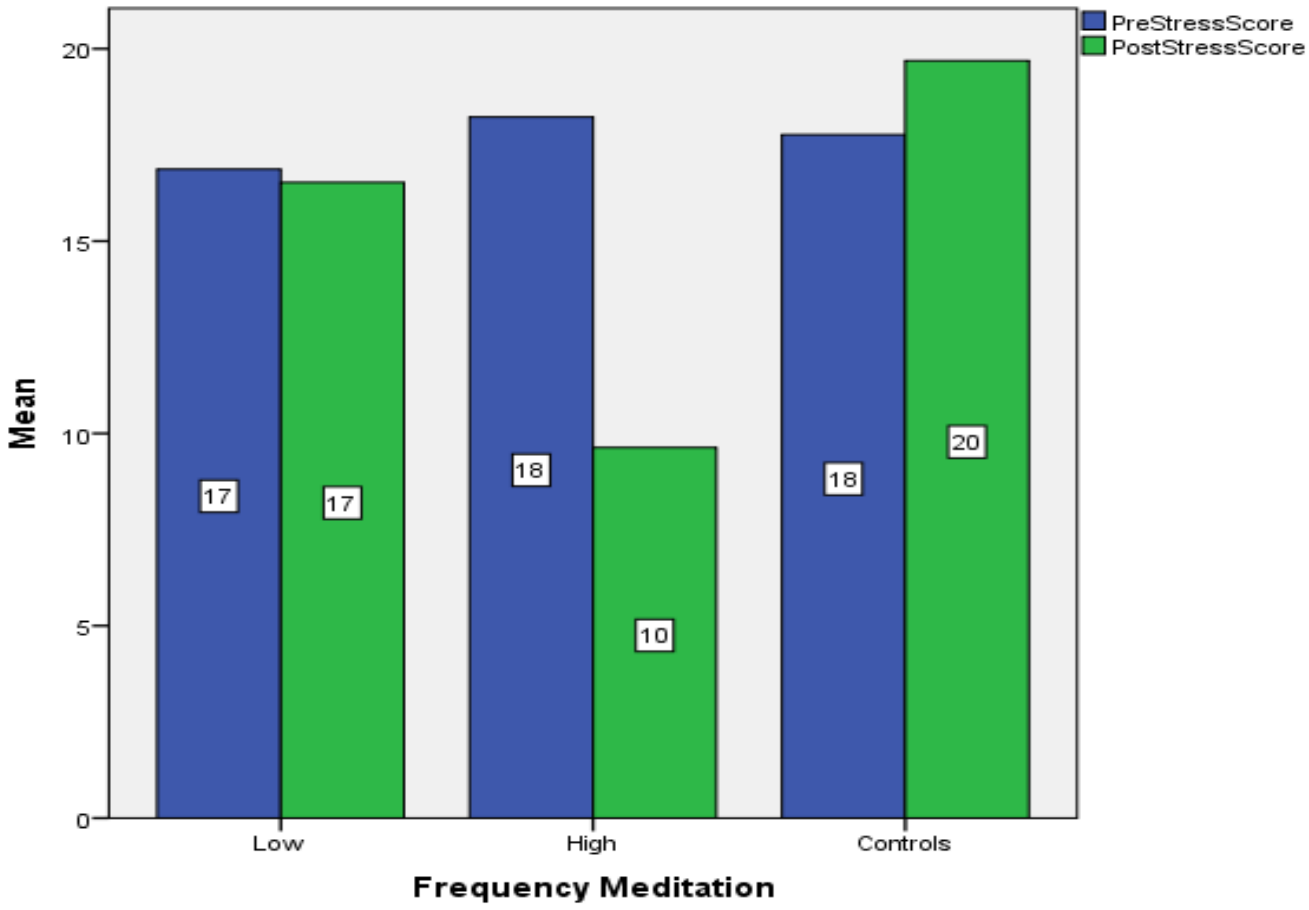


Figure 3. Relationship between Meditation Frequency and Stress

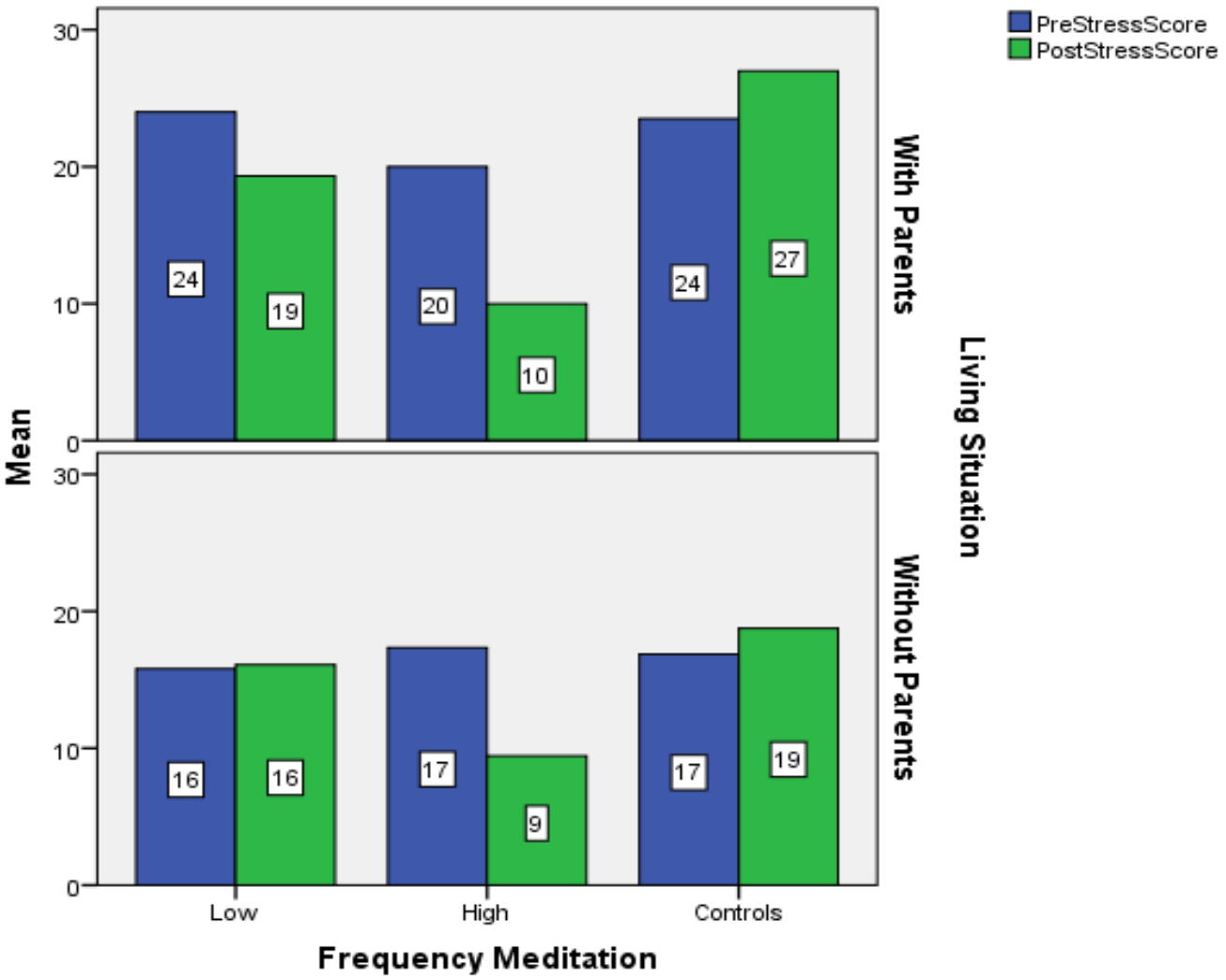


Figure 4. Relationship among Stress, Meditation Frequency and Living Situation

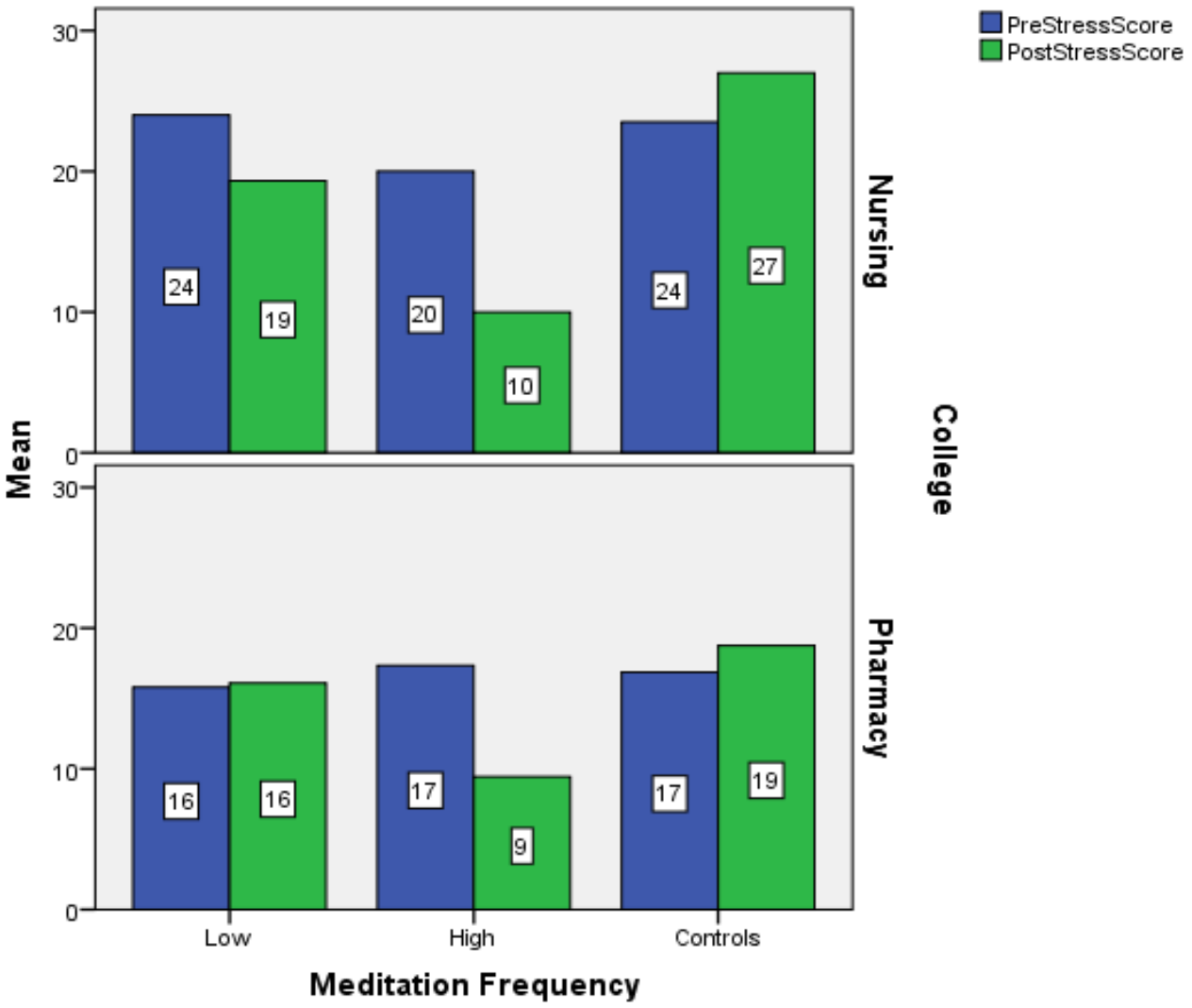


Figure 5. Relationship among Stress, Meditation Frequency and College

Anxiety

Tables 8 and 9 show the intervention results of meditation on anxiety. Meditation (frequency) was found to be significant when controlling for each of the demographic variables and shows a significant (P=0.027) difference by sex of the student (controlling for meditation frequency). Similarly, ethnicity (P=.024) and college (P=0.000) show

significance controlling for meditation. Furthermore, occupation (P=0.060) was marginally significant.

Table 8: Average Anxiety Scores by Meditation frequency and Demographic factors

Variables	**Control**			**Low Meditation**			**High Meditation**		
	n	**pre**	**post**	**N**	**Pre**	**post**	**n**	**pre**	**post**
Sex									
Male	4	13.0	15.0	2	20.0	19.0	2	13.0	13.0
Female	22	15.6	16.7	21	18.5	16.6	25	20.6	11.1
Ethnicity									
Whites	16	15.4	17.0	15	19.6	18.8	20	19.3	11.7
Non-Whites	10	15.0	15.2	8	16.8	13.0	7	21.7	10.0
Marital Status									
Married	6	11.3	14.3	2	24.0	20.0	3	23.3	14.6
Single	20	16.4	17.1	21	18.0	16.5	24	19.5	10.8
Living Conditions									
Parent's House	4	13.5	14.0	3	17.3	16.6	9	20.0	12.2
Without parents	21	15.4	16.7	20	18.0	16.8	18	19.8	10.8
Occupation									
Employed	16	13.1	13.8	15	16.0	17.0	20	14.8	14.4
Unemployed	10	15.6	16.2	8	13.7	13.3	7	12.3	12.0
Department									
Nursing	24	14.2	16.1	11	20.5	22.5	12	11.0	21.5
Pharmacy	2	19.0	21.0	12	13.3	15.0	15	12.0	18.7

Table 9: Two Way ANOVA results on Anxiety

Variables	**n**	**F**	**P-value**
Sex	1	5.074	0.027**
Meditation Freq	2	3.998	0.023**
Sex*Med Freq		2.595	0.082*
Ethnicity	1	5.346	0.024**
Meditation Freq	2	28.269	0.000**
Sex*Med Freq		0.314	0.732
Marital Status	1	0.000	0.983
Meditation Freq	2	14.925	0.000**
Marital* Med Freq		0.520	0.597
Living Situation	1	0.180	0.836
Meditation Freq	2	17.319	0.000**
Living*Med Freq		0.180	0.836
College	1	20.610	0.000**
Meditation Freq	2	1.620	0.207
College*Med Freq		1.431	0.246
Occupation	1	3.654	0.060*
Meditation Freq	2	32.630	0.000**
Occupation*Med Freq		1.883	0.160

***P<=0.05 *0.05<P<0.10*

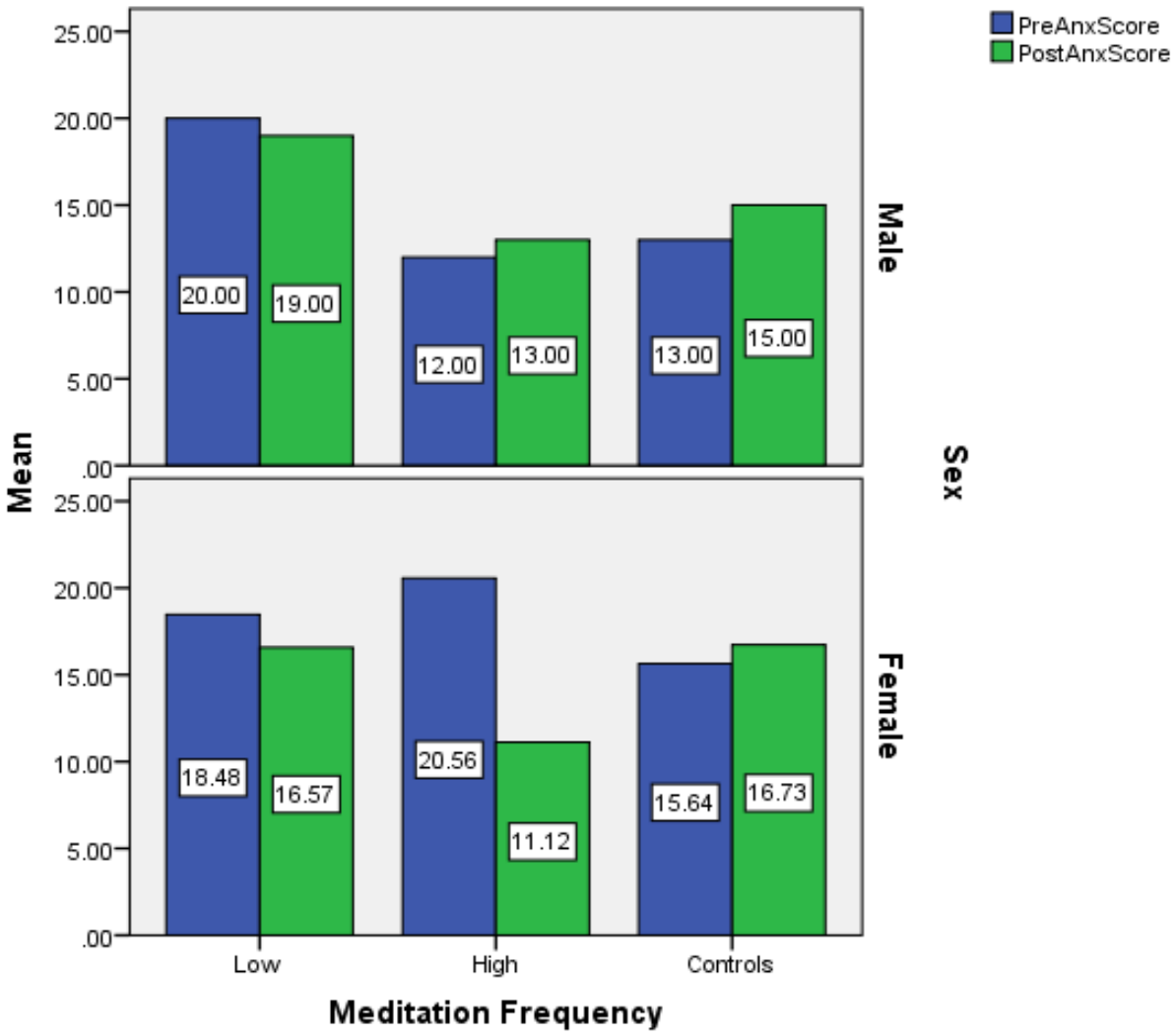


Figure 6. Relationship among Anxiety, meditation frequency and Sex

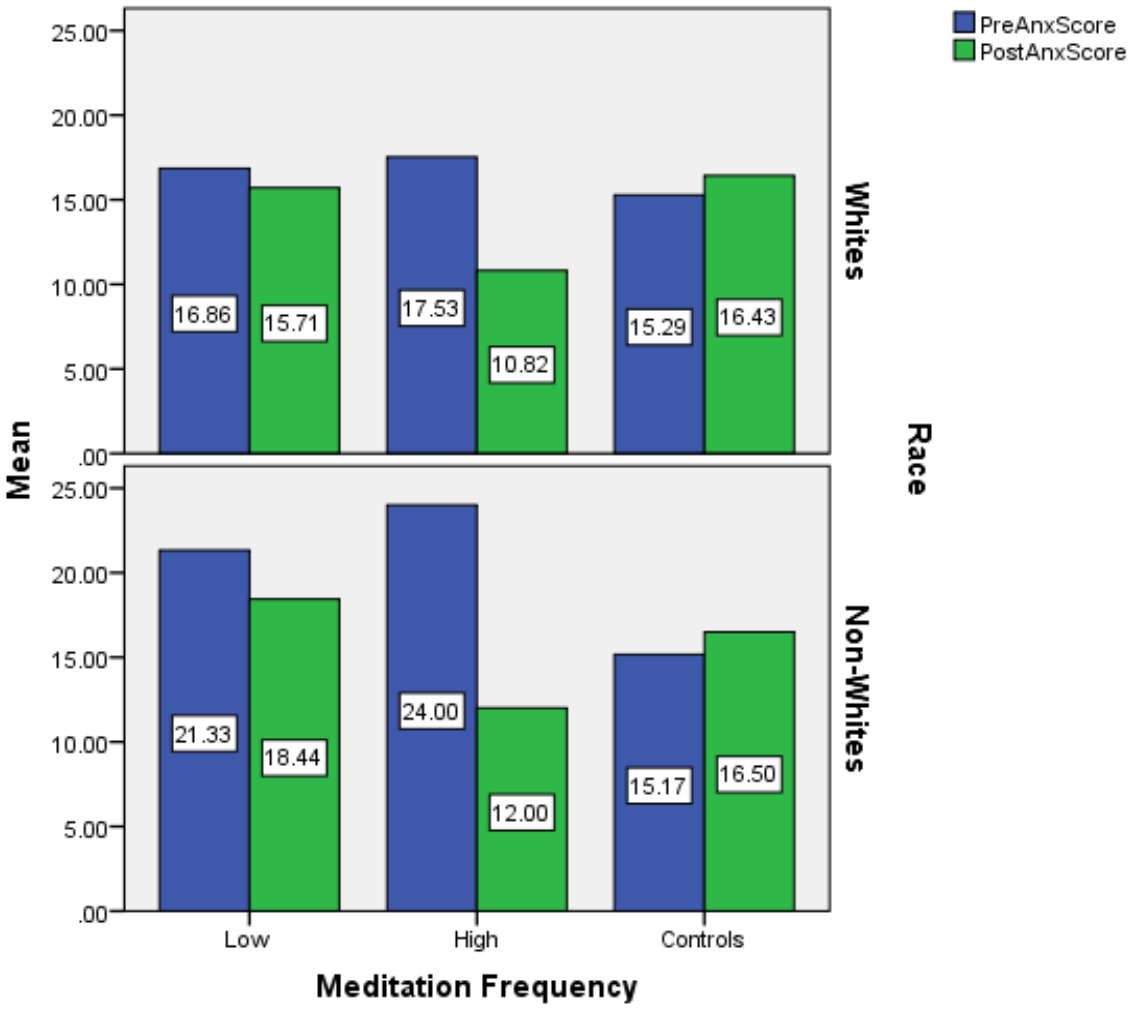


Figure 7: Relationship among Anxiety, meditation frequency and Race

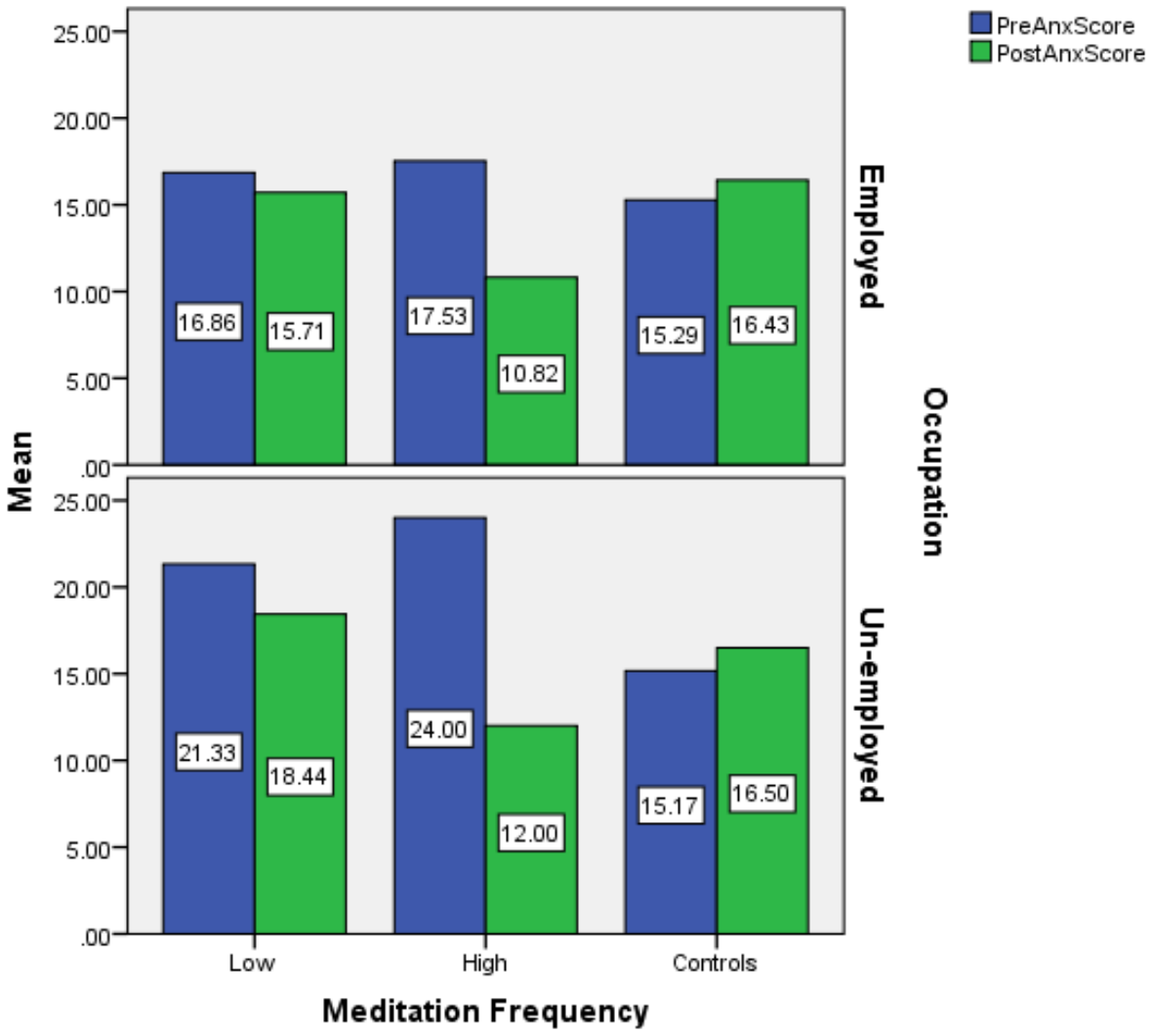


Figure 8. Relationship among Anxiety, meditation frequency and Occupation

Depression

Table 10. Average Depression scores by Meditation frequency, and demographic factors

Variables	**Control**			**Low Meditation**			**High Meditation**		
	n	**pre**	**post**	**N**	**pre**	**post**	**n**	**pre**	**post**
Sex									
Male	4	14.5	14.0	2	16.0	15.0	2	19.0	21.0
Female	22	14	14.8	21	15.6	15.7	25	13.8	13.20
Ethnicity									
Whites	16	13.1	13.9	15	16.0	17.0	20	14.8	14.4
Non-Whites	10	15.6	16.2	8	13.7	13.25	7	12.3	12.0
Marital Status									
Married	6	12.0	12.3	2	25.0	24.0	3	19.3	18.7
Single	20	14.7	15.5	21	14.7	15	24	13.5	13.2
Living Conditions									
Parent's House	4	12.5	12.1	3	15.0	13.6	9	16.7	16.2
Without parents	21	15.1	16.0	20	15.7	16.0	18	12.9	12.5
Occupation									
Employed	6	11.0	12.3	2	12.0	12.0	3	11.3	11.7
Unemployed	20	12.7	11.5	21	14.7	14.2	24	13.5	13.2
Department									
Nursing	24	13.7	14.3	11	17.5	17.6	12	14.0	13.2
Pharmacy	2	19.0	20.0	12	14.0	14.0	15	14.3	14.3

Table 11. Two Way ANOVA results on Depression

Variables	**n**	**F**	**P-value**
Sex	1	0.257	0.614
Meditation Freq	2	0.037	0.964
Sex*Med Freq		0.869	0.424
Ethnicity	1	0.559	0.457
Meditation Freq	2	2.363	0.102
Sex*Med Freq		0.316	0.730
Marital Status	1	0.756	0.388
Meditation Freq	2	0.071	0.931
Marital* Med Freq		1.358	0.264
Living Situation	1	0.746	0.391
Meditation Freq	2	1.014	0.368
Living*Med Freq		0.187	0.830
College	1	0.105	0.747
Meditation Freq	2	1.938	0.152
College*Med Freq		0.106	0.900
Occupation	1	1.121	0.399
Meditation Freq	2	7.916	0.112
Occupation*Med Freq		0.317	0.730

***P<=0.05 *0.05<P<0.10*

From the above ANOVA table, no variables have resulted in significance on depression.

I then placed the bivariate significant variables from the ANOVA tables together in a logistic regression model. (Table 14 and Table 15). The result is that only meditation frequency predicted anxiety changes, Anxiety (P=0.037) and Stress (P=0.000) The more meditation that a student practices, the lower the anxiety and stress scores.

Table 12. Logistic Regression Factors Associated with Post Anxiety Categories

	Beta	df	P value	Odds ratio
Meditation Frequency	-1.54	1	0.037	0.48
College	0.927	1	0.124	2.53
Race	0.560	1	0.328	1.75
Occupation	-0.805	1	0.128	0.45
Sex	-0.336	1	0.704	0.71

Table: 13 Logistic Regression Factors Associated with Post Stress Categories

	Beta	df	P value	Odds ratio
Meditation Frequency	-1.541	1	0.000**	0.214
College	0.313	1	0.651	1.367
Race	0.614	1	0.423	1.848

***P<=0.05 *0.05<P<0.1*

Qualitative findings

I have used a mixed design in my research, combining quantitative and qualitative research methods. The qualitative research team analyzed the qualitative data by following a series of steps: being familiar with the transcript of focus group discussion; generating categories; classifying categories into broader themes; and finalizing the themes. The finalized themes with its categories and examples of quotes addressing those themes are listed in the Table 14.

Table 14. Highlights of qualitative data

Themes and Categories	Examples (Quotations)	Outcome Type
Initial Thoughts About Meditation		
• Destressing	❖ *Destressing, Taking Time to destress yourself.* ❖ *Getting your mind right.*	Positive Mental Outcome
• Quiet Time	❖ *Taking Time for yourself, it's like a me time in silence and peace*	Positive Mental Outcome
• Mind Clarity	❖ *Calm yourself and clear your mind's clutters*	Positive Mental Outcome
• Religious Association	❖ *First time I heard about meditation, I thought about religions like Hinduism.*	Negative Neutral
Meditation Related Challenges		

Physical Challenges ▪ Back Hurt ▪ Numbness ▪ Headache ▪ Tiredness ▪ Discomfort of being still	❖ *For the first time when I did meditation, maybe it was due to the sitting position for a long time made my back hurt.* ❖ *I felt numbness in my legs as well.* ❖ *The first time, I got bad headache, because I was like concentrating, I was trying to avoid thoughts in my mind, trying to calm myself down and focusing on my body parts.* ❖ *After I did meditation, I just felt tired* ❖ *I felt hard time sitting completely still, because I usually move my hands or my legs and here it was nothing then I like start swallowing*	Negative Physical Outcome
Thought Intrusion	❖ *It was very hard for me to give up my thoughts, but I remembered someone telling that the thoughts are like a leaf, flying and lands in river and it flows down that's how our thoughts need to be.* ❖ *So just like they flow away, you can acknowledge them but then gently look them float away and I felt the Heartfulness meditation basically talks about it.* ❖ *So, it was hard for me to just let go my thoughts but slowly it became better.* ❖ *I don't think I got my thoughts down even after all the sessions, if I go in mind I start thinking a lot about everything. It was like a natural thing.*	Negative Mental Outcome
Confusion	❖ *Whenever she says about mind and heart, I got completely lost in my thoughts.*	Negative Mental Outcome
Immediate Benefits		
• Calmness	❖ *I would say I got better at being calm in stressful situations like testing situations*	Positive Mental Outcome

• Stress Reduction	❖ *It didn't exactly affect how often or how easily I get stressed, it did effect how severely to which I get stressed. So, when I feel stressed, my heartbeat would speed up, palpitation, chest tightness, but after some time of doing meditation, my heartbeats didn't jump like that, it was like normal*	Positive Mental Outcome
• Improvement in sleep quality	❖ *I have noticed that I fell asleep a lot faster. It used to take like 30 to 40 minutes for me to fall asleep but now I can fall asleep like within 10 minutes so that's nice.*	Positive Physical Outcome
• Relaxation	❖ *I felt more relaxed, less stressful, I now wouldn't feel I have fifty things of to do in my head, I now split my tasks, and deal with them one at a time without getting disturbed by ongoing thoughts that I used to get before.*	Positive Mental Outcome
Later Benefits		
• Increased Self-Awareness	❖ *I do a lot of talking to myself, self-talking has been my thing now. By doing so, I then know what is going on with me, how am I feeling every moment.* ❖ *I am analyzing everything and ask myself how I feel.*	Positive Emotional Outcome
• Increased self-control	❖ *I realized how uncontrolled I was I am absolutely in control of how my brain works. And how much I think about something and meditation helped on perceiving things differently.*	Positive Mental Outcome
• Increased Sensitivity to physical and social environment.	❖ *I get irritated easily and when I am stressed I don't want people bothering me in that case I sometimes snap on people. I don't do that much now with people around me.* ❖ *I have cried like every single day, it's crazy like good cries, like I feel relax, it feels like I should have been doing this a long time ago. One good cry can help a bad day.*	Positive Mental Outcome

• Reduced Mattering (Big Things to Small Things)	❖ *I am just reminding myself hey it's not a big deal, you might get in a lot bigger things.*	Positive Mental Outcome
• Increased Optimism	❖ *I have a stress A personality like I keep getting anxious about petty things. But after the meditation, I somehow could control my emotions.* ❖ *I feel more positive towards life and feel that everything will be good at the end.*	Positive Emotional Outcome
• Increased Connectivity and Acceptance	❖ *Meditation made me more human.* ❖ *I have a very bad habit, if somebody says something stupid I have a sarcastic response for that. But nowadays I believe if anybody says something they might carry meaning to them and its ok to accept it besides passing sarcastic comments.* ❖ *I feel I have become less sassy and quick, I am now thinking before I speak little bit more, and just having more patience.* ❖ *I feel my relationships have gotten better. It's because I am more aware about other people's emotions. And what's coming out from my mind.*	Positive Emotional and Mental Outcomes

The first theme "Initial thoughts about meditation" was created by discussing the responses to the first question which is, "What first thing/image comes in your mind when you first hear the word meditation?" This was a good icebreaking question; It helped me figure out their initial perception on meditation. Most of the participants shared common thoughts like Destressing, Quiet Time, and Mind Clarity. One of the participants shared her different thought on meditation, she shared that her initial thought about meditation was "Religion". She illustrated it by saying:

"*First time I heard about meditation, I thought about religions like Hinduism, Buddhism. I had an image of monks praying and I thought meditation was a form of praying." (R7)*

The second theme "Meditation Related Challenges" was identified from the participant's responses on the question that asked about their negative experiences during meditation practice. Five out of seven participants shared physical challenges and two of them shared mental challenges that hindered them during meditation practice. The physical challenges that were pain in their back, numbness, and discomfort of being still.

One of the participants shared that her thoughts that were creating hindrance during meditation and she counselled herself, managing to make the process easier with time. Her exact statement was:

"It was very hard for me to give up my thoughts, but I remembered someone telling that the thoughts are like a leaf, flying, and lands in river and it flows down that's how our thoughts need to be… So just like they flow away, you can acknowledge them but then gently look at them floating away and I felt the Heartfulness meditation basically talks about it…. So, it was hard for me to just let go my thoughts but slowly it became better." (R4)

Most of the participants agreed with her point regarding thoughts interrupting the meditation process. Only one of the participant didn't feel this way and stated:

"I did not have trouble with any of them. I just went in my mind and just cleared everything out easily." (R5)

Another mental barrier that most of the participants shared was Confusion. Almost all the participants admitted that they could easily follow the relaxation instruction, until

the instructor mentioned the outer body parts. But whenever the instructor guided participants to take their consciousness from body parts to mind and then to heart, they reported that they were completely lost. Examples of what the participants shared regarding the confusion category was:

"I could go over the flow when she mentions about our outer body parts, I can imagine them but whenever she says about mind and heart… I got completely lost in my thoughts." (R2)

I could not imagine going to my heart. I didn't know what it was like so I had to stay in my mind." (R3)

However, one of the participants related that she could follow her instruction by the help of her imagination and said it beautifully+1:

"I am a very visual and imaginative person in general so it took a lot of imagination for me to do this, when she says go to your mind, I imagine going to a huge dark room, full of like crossing all mixed and mingled of wires, coils that's what I think my mind is., No boxes, not any organizations, everything just touches everything. And it never really got calm, never really stopped. And whenever she says to go deep in heart in the source of light, I visualized the light and concentrate, I know we are not supposed to concentrate so I was like half way concentrating, half way imagining, I was imagining that I was walking all way through light of heart, this was very visual for me." (R7)

The third theme "Immediate Benefits" addressed the positive outcomes that participants felt after the meditation intervention. In this theme, categories were selected which showed instant positive results like Calmness, Stress Reduction, Improvement in

sleep quality and Relaxation. Almost every student in the focus group expressed their improvement in sleep quality. Examples of their responses regarding sleep were:

"I have noticed that I fell sleep a lot faster. It used to take like 30 to 40 minutes for me to fall asleep but now I can fall asleep like within 10 minutes so that's nice. (R1)

I can sleep so fast now, I am feeling more refreshed, sleeplessness was giving me a hard time for very long time and I am grateful I have not had to deal with it any longer." (R3)

The fourth dimension was "Later benefits" that dealt with the long term positive outcomes experienced by the participants. The categories that were selected for this theme touched different dimensions of EI. Participants shared that they started to love to spend their time with themselves and were becoming more self-aware of their feelings and emotions. They shared that they felt good about themselves as well as people around them. They even added that their relationships became stronger when they tried to understand other people's perspectives. Participants shared their experiences on their changed behavior by stating:

"I have a very bad habit, if somebody says something stupid I have a sarcastic response for that, it's usually pretty funny but not to the person whom I am saying... But nowadays I believe if anybody says something that might carry meaning to them and its ok to accept it besides passing sarcastic comments. So, I feel I have become less sassy and quick (laughter), I am now thinking before I speak little bit more, and just having more patience." (R5)

"Sometimes in class if I already know about the contents and somebody doesn't understand it I feel like come on, it's not that hard; why you cannot get it but then I remember, hey,

how did you feel when you took that class the first time, how long did it take me to get that concept in; to learn, so I just feel that I am more sympathetic than before." (R6)

The students were enthusiastic to share those changes they could experience in their life after meditation. One of the participants even shared her small incident where she felt more emotional and sensitive. She stated:

"Like yesterday, I went to the breakroom in my work, they had the news on and I hate hearing news… hearing news and there was like 5, 6 things, one after another which was terrible like somebody died, there was some fire somewhere and all the family members died, and blah blah blah ... And I am sitting in that breakroom and crying because it's ridiculous this hasn't happened to you, you know nobody who were the victim, like why are you so emotionally crazy and like I felt wow because I am a human now, like meditation made me more human…" (R7)

The next chapter will attempt to cross-interpret the quantitative and qualitative findings.

Chapter 5

Discussion

This chapter summarizes the results and makes recommendations for future Heartfulness meditation studies in future. The sections to this chapter include: Major Findings, Connections, Limitations, Strengths and Recommendations. A mixed (both qualitative and quantitative) methods design was used for the study. For the quantitative component, two standardized tools were used to calculate scores for EI and mental health measures like stress, depression, and anxiety. For the qualitative component, a focus group discussion was carried out to achieve the desired goals of the study.

Major Findings:

1. The first hypothesis states that Heartfulness meditation results in an increase in EI. This hypothesis is supported by the study as there is a significant association between frequency of meditation and EI, but only controlling for Occupation. Students who did Heartfulness meditation for a greater number of times had high EI Scores, on average, while students who did the intervention for a fewer number of times had comparatively low EI Scores.
2. The second hypothesis states that Heartfulness meditation results in better mental health. Here mental health is measured by three measures: Stress, Depression or Anxiety. Among these three measures, results from Stress and Anxiety were seen to be supported by the hypothesis whereas Depression was not supported. Stress and Anxiety levels were significantly decreased after the intervention among

students who had high frequency of meditation practice whereas Depression level did not change after the intervention.

3. The third goal of the study was to describe the students' perceptions regarding the importance of EI and meditation. The detailed focus group discussion has provided various insights of participant's perceptions on the importance of Heartfulness meditation and EI.

Quantitative Connections

The primary finding of my study is the decrease of stress and anxiety in students after the Heartfulness meditation. This finding is supported by previous literature as well. For example, in one of the studies Heartfulness meditation was done with school children (6^{th} to 10^{th} grade) of rural area of Telangana (India). It. showed a notable decrease in stress and anxiety of students (Soumya Mishra, 2017)**.** A similar study was conducted by Raja Amarnath to assess the effectiveness of Heartfulness meditation in reducing stress of nursing students in Chennai (India). In the study, baseline stress of workload was higher for the first and second-year students, and a joy score was higher for the first-year students compared to other students; A tension score was higher in the final year students. After a Heartfulness meditation workshop, there was an observed decrease in the mean score in workload, worries, tension and harassment, and a mean increase in the Joy score (Raja Amarnath, 2018). Additionally, in another research report, biomedical signals of Heartfulness meditating and non-meditating people was analyzed using Matlab and was found that the meditation group led to more relaxed conditions than the non-meditation group (Sapana M Adhalli, 2016).

Thus, different research supports that Heartfulness meditation is an effective tool to mitigate stress and anxiety levels. However, meditation related research of the literature on Heartfulness meditation was conducted in India, making it very challenging to generalize to other parts of the world, across cultures. Heartfulness meditation related research is in its infancy, and it still needs a lot more attention.

One of the assumptions of my study was that Heartfulness meditation can be used as a tool to improve mental health of people by decreasing stress, anxiety, and depression. The higher the frequency of meditation sessions, the lower was the stress and anxiety score found in this study. But the depression score did not change. This might have happened because the participants of my study are university students in the health field, individuals who I believe might be less susceptible to a complex form of a mental health disorder like depression. They are knowledgeable enough to know about the symptoms and efforts to solve them, decreasing the chance of having a depressive episode. The quantitative data also shows that most of the participants were not depressed in the initial phase before intervention, thus a change to less depression might have not been detected after the intervention. In simple terms, an intervention would not be expected to help when help was not needed. The participants of my study might already have good social support and less likely to have experienced a traumatic event in the past, i.e. in simple terms it would not be expected to help when help was not needed. The participants of my study might have a good social support.

In addition, my research hypothesized to have a positive relationship between stress, depression and anxiety. But a negative relationship with EI and any of them. It

assumed the higher the EI score the lower the scores for stress, anxiety, and depression. In my study, no strong correlation of EI was found with stress, anxiety, and depression. My findings contradict a study in which adolescents reporting a higher ability to regulate emotional states (higher EI), showed less anxiety, and depression (Pablo Fernandez-Berrocal, 2006). There is very little research found which deals with relationships between these psychological constructs (EI, Stress, Depression and Anxiety). So, there is a lot of potential for future research in this field.

Qualitative Connections

The qualitative part of my research has in general supported the primary quantitative findings. In addition, the qualitative findings have also contributed to the objectives of the study which the quantitative part, in some way, was not able to demonstrate. For instance, though the quantitative part was not able to show strong relationships between the psychological constructs, the qualitative part has beautifully bridged that gap.

The qualitative themes that were analyzed through qualitative findings under Immediate Benefits were: Calming, Decreasing severity of stress, and Relaxation. Participants' discussion under these themes showed that their stress level was decreased after meditation and they felt calmer and more relaxed. Similarly, the themes under Later Benefits were: Increased self-awareness, Increased sensitivity to physical and social environment, Reduced mattering, and Increased optimism. Discussion under these themes reflected that they were able to cope with life's situations in a better way as they felt change in their various emotional and mental aspects of dealing with the world. Some of them even

shared that with these changes, they felt less stressful and their anxiety decreased. With the qualitative findings, I could explore some sort of relationships among EI, Stress and Anxiety. However, no participant in the focus group shared his/her insight on depression. Thus, as with the quantitative findings, I did not find any qualitative results on depression.

There are various qualitative studies which confirms my study. One of the studies, showed main themes that were like mine: Improved emotion regulation, Relaxation and Sleep quality (Lynch, 2016).

Another type of meditation used in the study was Mindfulness-based cognitive therapy (MBCT) which was designed to reduce the risk of relapse of recurrent depression. The objective of the study was to explore participant's perspective, experiences, the usefulness of MBCT in the mental health context. The categories that were described in the study from participants which also supported my themes: Change to health and well-being, Distress, Difficult thoughts, and Initial negative experiences (Kocovski, 2016).

Similarly, one more qualitative study was found under a mindfulness-based intervention. The authors wrote that long practices, emerging negative thoughts and becoming self-critical were identified as the key hindrances of meditation (Moitree Banerjee, 2017). However, in my study, physical challenges like Back hurt, Leg numbness, Tiredness, Headache and Discomfort of staying still were the key hindrances. Additionally, thought intrusion and confusion were identified as the mental challenge or obstacle for doing meditation in my study. Thus, my research shows that there is a scope for further research in this field.

Limitations and Strengths

This study has several limitations. The subjects that participated in my study were students from the University of Texas at Tyler. Tyler participants may not represent the general population, college students certainly do not. I wanted to include more than two different faculty in the study, but I could recruit students from Nursing and Pharmacy only. They are both health disciplines which could bias the study. Ms. Gayatri Kambhampati was the instructor who provided the heartfulness meditation to the students and it was difficult to match her time availability with the timing of the other classes. In addition, the number of meditation sessions decreased from what was planned because of the cancelation of classes for student's examinations and projects. In addition, some of the students could not complete both pre-test and post-test of the study as they were absent on the day of the survey. It was difficult to follow up with the absentees, thus they were excluded from the study. Therefore, the sample size was smaller than expected which reduces the power of the analyses and increases the margin of error.

The major strength of the study is its design on several levels. First, I used a mixed methods design. Focus group discussion was the tool used to do the qualitative study, which helped support the quantitative findings. This mixed approach also helped uncover new ideas. Another strength of the research was incorporating pilot study results, into the methods. The pilot study made me aware of the potential obstacles during the entire process of the study. Furthermore, in every session of the meditation interventions, attendance was tracked, which made it easy to categorize the frequency of meditation into high or low. Nursing students were important to include in the study as there is a fair amount of

literature. Nursing students are characterized to be more stressed in general (not supported in my study).

Chapter 6

Conclusions and Recommendations

My area of interest has always been mental health. The human brain has always fascinated me, and it is, I believe, the most powerful machine in the world. Our brain has great potential and it is also the most crucial part of our body. People are still not equally concerned about the health of their brain as they are for their other body parts. However, with time, there is some good progress and people are advocating more on making mental health a priority. In this journey, Daniel Goldman has tried to bring psychology and neuroscience together. He is doing so by sharing the power of Emotional and Social Leaning skills like meditation to keep the brain healthy and sound. On hearing one of his presentations, I had first come to know EI, which raised my curiosity on finding out more about how it relates to psychological constructs like stress, anxiety and depression. This curiosity triggered me to initiate this study, that's how it all began. On further exploring EI, I got to know about the social emotional learning skills like meditation. And I gravitated towards Heartfulness meditation which became the central part of my study. The other components (EI and psychological constructs like Stress, Anxiety and Depression) revolve around it.

We sometimes don't get what we are looking for in research and it is normal, it is how research is, no research project is a perfect study. It has been the same with my research, too. Based on the findings of my research, I have delineated some of the conclusions and recommendations for further studies in the points below.

The primary finding of my research was that meditation frequency was significant with stress and anxiety. With this finding, I can conclude that the consistency in practicing meditation is the key to decrease mental health problems like stress and anxiety.

The second finding of my study was that no strong correlation was seen among any of the constructs. The highest positive correlation was seen between EI and anxiety, but it was a weak relationship. In my study, a self-report measure of EI was only used, I did not use an ability measure of EI Self-report measures the individual's beliefs about EI while ability measures directly the individual's emotional competencies. I recommend in further studies to include both self-report as well as ability measures of EI to explore their validities on psychological constructs like stress, depression, and anxiety.

In the quantitative component, EI in my study shows no strong relationship with stress, depression and shows a weak relationship with anxiety. Every human being is different from every other and they have unique personality traits. A personality trait of a person plays an important role since his/her personality shows how he/she perceives EI, stress, anxiety and depression. Personality traits should not be ignored when carrying out research on EI and mental health problems. In my opinion, future studies should control for personality traits (J.Dalsky, 2005).

References

Apperson. (2016, August 15th). *3 Games Your Students Will Love That Teach Social & Emotional Skills*. Retrieved from https://www.apperson.com/teacher-tips/3-games-students-will-love-teach-social-emotional-skills

Astrid Schutz, S. N. (2012). Mental Notes. *Emotional Intelligence as a Factor in Mental* Health https://www.unibamberg.de/fileadmin/uni/fakultaeten/ppp_lehrstuehle/psychologie_4/pressearchiv/Emotional Intelligence as a Factor in MentalHealth.pdf

Brown, K.W. (2007). Mindfulness: Theoretical Foundations and Evidence for Its Salutary Effects,*Vol.18,No.4,pp.211-237.* Retrieved from https://www.jstor.org/stable/20447389

Barnes, K. W. (007, October). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. Journal of Marital and Family Therapy, *Vol. 33, No. 4, 482–500.*

Charoensukmongko, P. (2014, July 28). Benefits of Mindfulness Meditation on Emotional Intelligence, General Self-Efficacy, and Perceived Stress: Evidence from Thailand. Journal of Spirituality in Mental Health, *16(3),171-192.* Retrieved from https://doi.org/10.1080/19349637.2014.925364

Chignell, B. (2018, February 13). The importance of emotional intelligence in the workplace. Retrieved from CIPHR

Ciarrochi, J. (2000, October 23). Personality and Individual differences.Measuring Emotional Intelligence in Adolescents, *31, pp. 1105-1119.* Retrieved from http://josephciarrochi.com/wpcontent/uploads/2011/08/Ciarrochi_Chan_PID_Measuring_Emotional_Intelligence_in_Adolescents_2001.pdf

Chu, L.-C. (2010, April). The Benefits of Meditation Vis-a-Vis Emotional Intelligence, Perceived Stress and Negative Mental Health. *Stress and Health, 26(2)*, 169 - 180. doi:10.1002/smi.1289

Choi, K. (2014). Trait Emotional Intelligence, Anxiety Sensitivity, and Experiential Avoidance. Europe's Journal of Psychology V*ol.10(2),376–404*. doi:10.5964/ejop.v10i2.754

Contributors,W.(2018,July10) https://en.wikipedia.org/w/index.php?title=Pilot_experiment&oldid=849678932

Downey, L. A., Johnston, P. J., Hansen, K., Schembri, R., Stough, C., Tuckwell, V., & Schweitzer, I. (2008, June). The relationship between emotional intelligence and depression in a clinical sample. *The European Journal of Psychiatry, 22*(2).

Retrieved from http://scielo.isciii.es/pdf/ejpen/v22n2/original5.pdf

Darwin, J. (2005). Emotional intelligence and mindfullness. In *Centre for Mondful Life Enhancement http://mindfulenhance.org/wp-content/uploads/2015/06/Emotional-Intelligence-and-Mindfulness.pdf*

Gutierrez, D, Conley, A.H, Young, M. (2016 , May 31) Examining The Effects of Jyoti Meditation on Stress and the Moderating Role of Emotional Intelligence. *Counselor Education and Supervision, 55*(2), 109-122. doi:https://doi.org/10.1002/ceas.12036

Gill, G. (n.d.). *Believe Perform*. Retrieved from https://believeperform.com/

Goleman, D. (2012, January 11). *Emotional Intelligence: Why it can matter more than IQ?* Bantam, Newyork

Goleman, D. (December 7, 2011) *Working With Emotional Intelligence.* Bantam, Newyork

Gunn, J. L. (2018, May 14). A blog by Concordia University . *Why We Really Need SEL (Social-Emotional Learning) Now*. Retrieved from https://education.cu-portland.edu/blog/leaders-link/social-emotional-learning-defined/

Henriques, G. (2014, Feb 15). The College Student Mental Health Crisis. *Psychology Today*. Retrieved from https://www.psychologytoday.com/us/blog/theory-knowledge/201402/the-college-student-mental-health-crisis

Hampton, D. (2015, January 12). The Best Brain Possible. *What's The Difference Between Feelings And Emotions?* https://www.thebestbrainpossible.com/whats-the-difference-between-feelings-and-emotions/

Hong Le M.T., Thach, T.T., Sara, H., Huong, T.N., Rory, W., & Fisher, J. (2013, Jan 12). Validation of the depression anxiety stress scales (DASS) 21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. *BMC Psychiatry.Vol.42(2)*

Harrington, R. J. (2012). *Visions of Compassion: Western Scientists and Tibetan Buddhists Examine Human Nature.* Oxford University Press. doi:10.1093/acprof:oso/9780195130430.001.0001

Hayati. (2018, March 15). *Styles of life.com*. Retrieved from http://stylesatlife.com/articles/jyoti-meditation/

Health, N. I. (2017, November). Transforming the understanding and treatment of mental illness. Retrieved from https://www.nimh.nih.gov/health/statistics/mental-illness.shtml

Kocovski, M. B. (2016 , May 18). Mindfulness-based cognitive therapy for depression: trends and developments. *Psychology Research and Behavior Management*. doi:doi: 10.2147/PRBM.S63949

Kerr, M. (2017). (T. J. Legg, Ed.) *Depression and College Students*. Retrieved from http://journals.sagepub.com/doi/abs/10.1111/1529-1006.00008 July 5, 2017

Lynch J, P. L. (n.d.). Mantra meditation programme for emergency department staff: a qualitative study. British Medical Journal, 2018 Sep 24;8(9)020685. doi: 10.1136/bmjopen-2017-020685.

Mayhew, R. S. (2018, August 7). *"How to Determine a Focus Group Size."* . Retrieved from Small Business - Chron.com: http://smallbusiness.chron.com/determine-focus-group-size-10337.html.

Moitree Banerjee, K. (2017, May 25). A Qualitative Study with Healthcare Staff Exploring the Facilitators and Barriers to Engaging in a Self-Help Mindfulness-Based Intervention. *Mindfulness*. doi:10.1007/s12671-017-0740-z

MacLean CR., Walton KG., Wenneberg SR., Levitsky DK., Mandarino JP., Waziri R., Schneider RH. (1997, May). Pub Med. *Effects of the Transcendental Meditation program on adaptive mechanisms: changes in hormone levels and responses to stress after 4 months of practice.*, pp. 22(4):277-95. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/9226731

Mayhew, R.S. (2018, August 7). *"How to Determine a Focus Group Size."* . Retrieved from Small Business - Chron.com: http://smallbusiness.chron.com/determine-focus-group-size-10337.html.

McClenon, R. (2016, 25 September). Speedy Deletion Wiki. *Heartfulness meditation*. Retrieved from https://en.wikipedia.org/wiki/Kamlesh_Patel

Numbers, M. H. (n.d.). National Alliance on Mental Illness. Retrieved from https://www.nami.org/learn-more/mental-health-by-the-numbers

Oppland, M. (2016, July 3). *Positive Psychology Program*. Retrieved from https://positivepsychologyprogram.com/emotional-health-definition-mike-oppland/

Pablo Fernandez-Berrocal, R. A. (2006). *The Role of Emotional Intelligence in Anxiety. Individual Differences Research, 2006, 4(1)*.

Pearmain, R. (2001). *The Heart of Listening, Attentional Qualities in Psychotherapy.* Biddles Ltd.: Great Britain.

Patel, K. Pollock, J. (2018) *The Heartfulness Way: Heart-Based Meditations for Spiritual Transformation* (1st edition ed.). Reveal Press. Retrieved June 1,2018

Pearmain, R. (2001). *The Heart of Listening, Attentional Qualities in Psychotherapy.* Biddles Ltd.: Great Britain.

Rubia, K. (2009, Sep). The neurobiology of Meditation and its clinical effectiveness in psychiatric disorders. *Pubmed*, 82(1):1-11. doi:10.1016/j.biopsycho.2009.04.003

Reetz, D. (2013, June). College students' mental health is a growing concern, survey finds. *American Psychology Association, Vol 44*(6), 13.

Raja Amarnath, R. M. (2018). Impact of Heartfulness Meditation on Reducing Stress in Nursing Students:. *International Journal of Medical Research and Health Sciences*, 98-109.

Snowden, A. (2017, September 14). The relationship between emotional intelligence, previous caring experience and successful completion of a pre-registration nursing/midwifery degree. *Journal of Advanced Nursing (JAN), 74*(2), 433–442. doi:10.1111/jan.13455

Sasanpour, M., Khodabakhshi, M. & Nooryan, Kh. (2012). The Relationship between Emotional Intelligence Happiness and Mental Health in Students of Medical Sciences of Isfahan University. *International Journal of Collaborative Research on Internal Medicine & Public Health*, *4*.

Sayeda, A.(2017). Relation Between Emotional Intelligence, Socio-Demographic and Clinical Characteristics of Patients with Depressive Disorders.

Archives of Psychiatric Nursing. 31, 13–23. Retrieved from https://www.psychiatricnursing.org/article/S0883-9417(16)30138-8/pdf

Schutte, D. N. (1998). Schutte Self-Report Emotional Intelligence Test (SSEIT). *Statistics Solution: Complete Dissertation*. Retrieved from http://www.statisticssolutions.com/schutte-self-report-emotional-intelligence-test-sseit/

Sharma, V.K.(2012). Comparative Study of Yoga and Physical Exercises on Psychological. *Open Access Scientific Reports*(7), 1. Retrieved from https://www.omicsonline.org/scientific-reports/2157-7595-SR-362.pdf

Sapana, M., Adhalli, H. U. (2016, May). Design and Implementation of EEG Signals Analysis on FPGA. *International Journal Of Engineering And Computer Science ISSN: 2319-7242*, *5*(5), 2319-7242.

Soumya Mishra, K. S. (2017, March). Beneficial effects of heart fullness meditation on depression, anxiety, stress. *Journal of Chemical and Pharmaceutical Sciences*.

Thach Duc Tran, T. T. (2013, Jan 12). Validation of the depression anxiety stress scales (DASS) 21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. *BMC Psychiatry*. doi:10.1186/1471-244X-13-24

Tyler, G. T. (n.d.). *University webpage*. Retrieved from UT Tyler: https://www.uttyler.edu/

Tang Y.Y., Ma Y., Wang J., Fan Y., Feng S., Lu Q., Yu Q., Sui D., Rothbart M.K., Fan M.; Posner M.I; (2007, October 23). Proceedings of the National Academy of Sceinces of the United States of America. *Short-term meditation training improves attention and self-regulation*, pp. 104 (43) 17152-17156. Retrieved from https://doi.org/10.1073/pnas.0707678104

Wang, Y. (2014, May). The Role of Emotional Intelligence in the Impact of Mindfulness on Life Satisfaction and Mental Distress. *Social Indicators Research*. doi:10.1007/s11205-013-0327-6

APPENDIX - 1

PILOT STUDY

A pilot study, or pilot experiment, is a small scale preliminary study conducted to evaluate feasibility, time, cost, adverse events, and improve upon the study design prior to carrying out the real research study (Wikipedia, 2018). The specific aims for my pilot study were as follows:

- To assess the feasibility of the entire research process by looking at the key steps like recruitment rates, retention rates, and refusal rates.
- To explore whether or not the questionnaire was appropriate.
- To assess the management of the entire process but in particular the delivery and data collection of the meditation sessions.

Description of procedure:

The pilot study started on February 16, 2018 with 18 students in the Health and Kinesiology Department. Mr. Tim Lowe was the instructor who provided time from his lecture for the pilot study. Ms. Gayatri Kambhampati was the instructor who provided the meditation intervention to the students.

On the first day of the pilot study, Mr. Lowe introduced me and Ms. Gayatri Kambhampati to the students. He shared with them our purpose. I gave a general overview of the pilot study regarding the purpose and time required for the study. We created the experimental and control groups of students according to their choice. Verbal consent from participants was given. We provided the pre-test questionnaire to all the students.

The next week, we gave the intervention to the case group, i.e. Ms. Gayatri taught Heartfulness meditation to them. We took the control group out of the class room and showed them a video regarding EI for the same amount of time as the meditation group, i.e. about 20 minutes. We carried out this process for 4 weeks. Later, the case group students were asked something related to their meditation experience. They were also told to keep a journal of how they felt in every session. After the last session, they filled out the post questionnaire.

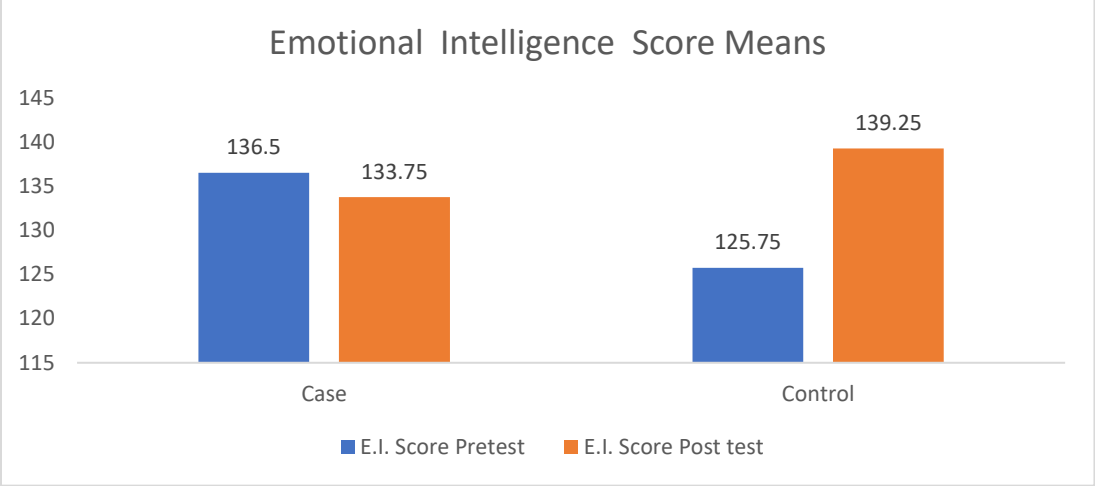
Procedures that were problematic:

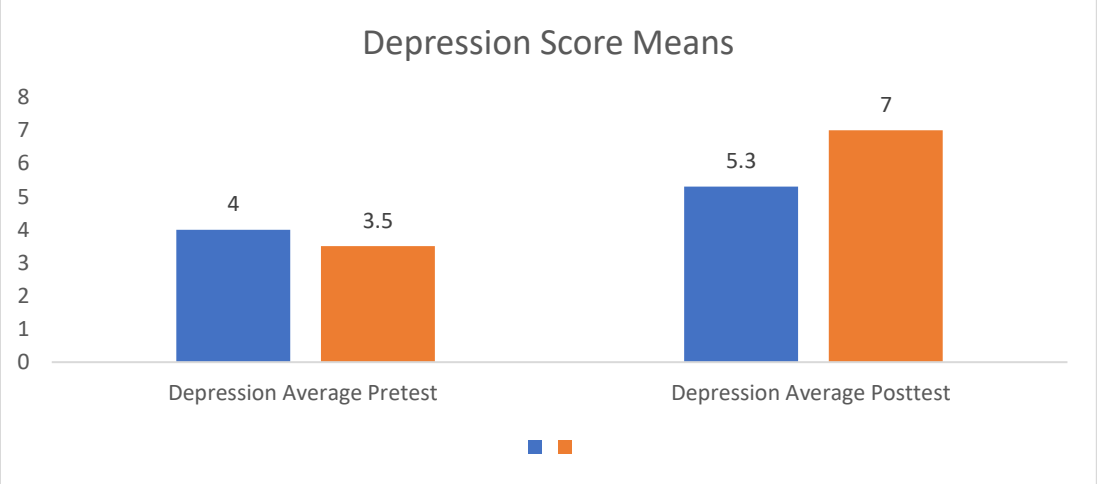
- Time management was difficult, since we had to be strict with the time limitation provided by the instructor and had to complete the task at the same time.
- The students who did not attend the first session did not know the rules so they switched their group, i.e. case in one session became control in the next session.
- All who were present on the first day were not present on the last day of the study. So, we could not take both pretest and posttest of some participants.
- The participants did not know their student ID and they did not mention their name in their questionnaires. This was a challenge matching the pretest and posttest of the students.
- Having students write about their meditation experiences after the session would take longer than the time allowed by the instructor.

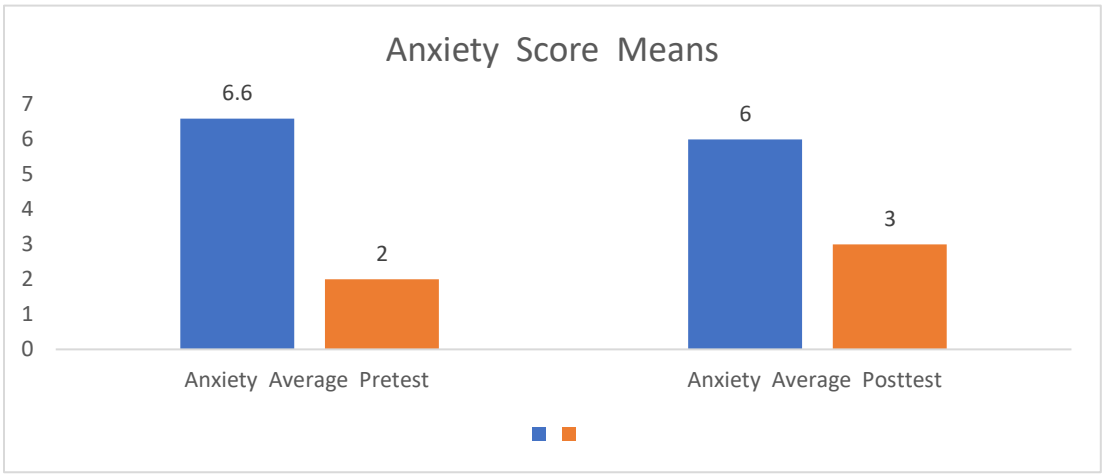
Good points:

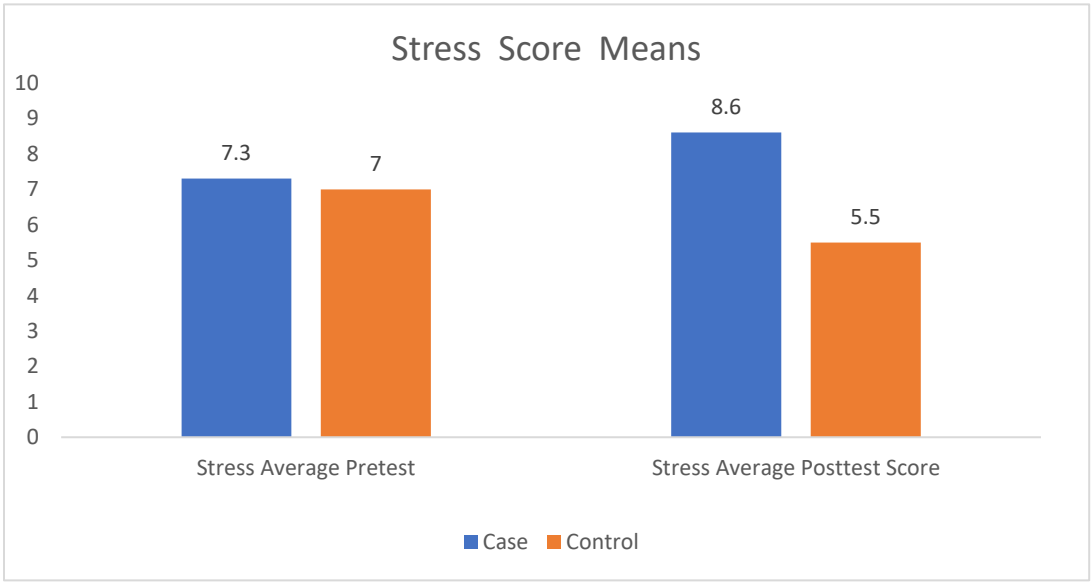
- The questionnaire was assessed for relevant questions.
- I learned to manage time since I knew what threats of intervention there are to hinder every session.
- I gained a better sense of data collection and analysis.

Analysis from pilot study






Anxiety Score Means
7
6
5
4
3
2
1
0
6.6
2
6
3
Anxiety Average Pretest
Anxiety Average Posttest


Stress Score Means
10
9
8
7
6
5
4
3
2
1
0
7.3
7
8.6
5.5
Stress Average Pretest
Stress Average Posttest Score
Case
Control

APPENDIX- 2

Questionnaire: Pre Test
****Your responses are not connected to your grades****
****Please answer honestly and completely; take your time****

GENERAL QUESTIONS

1. Name (Please Print)
2. Last digit of your cell number
3. Date of Birth …… 3. Sex: □ Male □ Female
4. Parent's Residence: …….. (City, Suburban, Urban)
5. Are you from North East Texas? □ Yes □ No
6. Race: □ Asian □ White □ Hispanic □ African American □ Other
7. Marital Status: □ Married □ Single □ Widowed □ Divorced
8. Type of living situation: □ Apartment □ House with other renters □ Parent's house □ Other…….
9. Occupation: □ Not currently working □ Employed full time □ Employed part time
10. Estimated Family Annual Income: $…….
11. Do you currently consume tobacco (either smoke or non-smoke)? □ Yes □ No

12. Do you currently consume alcohol? □ Yes □ No

13. If Yes to 12, how often?

    □ 4-7/week (about daily) □ Occasionally (1-2/week) □ Not often (about once a month)

14. Do you currently exercise? □ Yes □ No

15. If yes to 14, what type of exercise?

    □ Jogging/walking outside □ Gym workout □ Yoga □Organized Sports

    □ Other…….

16. If yes to 15, how often? …….. hours per week

17. Do you currently consume soda or energy drinks?

18. If yes to 17, how many? ……drinks [12 oz.] per week

19. Have you practiced meditation ever in your life? □ Yes □ No

20. If Yes (to #20), how often? How long?

    ……..…..

21. Have you ever heard of "emotional intelligence"? □ Yes □ No □ Don't know

22. On the scale below (0=Not beneficial; 5=Very beneficial) indicate with as "X" how beneficial you think meditation may be for your daily activities:

0……..1…….……2……3…….……4…….5

Not Beneficial	Somewhat Beneficial	Very Beneficial

SITUATIONAL QUESTIONS

For this next section, circle a number 0, 1, 2 or 3 to the right side of the statement, which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

- 0 = Did not apply to me at all
- 1 = Applied to me to some degree, or some of the time
- 2 = Applied to me to a considerable degree, or a good part of time
- 3 = Applied to me very much, or most of the time

23. I found it hard to wind down	0	1	2	3
24. I was aware of dryness of my mouth	0	1	2	3
25. I couldn't seem to experience any positive feeling at all	0	1	2	3
26. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness, in the absence of physical exertion)	0	1	2	3
27. I found it difficult to work up the initiative to do things	0	1	2	3
28. I tended to over-react to situations	0	1	2	3
29. I experienced trembling (e.g. in the hands)	0	1	2	3
30. I felt that I was using a lot of nervous energy	0	1	2	3
31. I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
32. I felt that I had nothing to look forward to	0	1	2	3
33. I found myself getting agitated	0	1	2	3
34. I found it difficult to relax	0	1	2	3
35. I felt down-hearted and blue	0	1	2	3
36. I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
37. I felt I was close to panic	0	1	2	3
38. I was unable to become enthusiastic about anything	0	1	2	3
39. I felt I wasn't worth much as a person	0	1	2	3
40. I felt that I was rather touchy	0	1	2	3
41. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
42. I felt scared without any good reason	0	1	2	3

43. I felt that life was meaningless	0	1	2	3

QUESTIONS about EMOTION

For this next section, circle a number 1, 2, 3, 4 or 5 to the right side of the statement, that applies to you, using the following scale:

- 1 = strongly disagree
- 2 = disagree
- 3 = neither disagree nor agree
- 4 = agree
- 5 = strongly agree

45. I expect that I will do well on most things I try	1	2	3	4	5
46. Other people find it easy to confide in me	1	2	3	4	5
47. I find it hard to understand the non-verbal messages from other people	1	2	3	4	5
48. Some of the major events of my life have led me to re-evaluate what is important and not important	1	2	3	4	5
49. When my mood changes, I see new possibilities	1	2	3	4	5
50. Emotions are one of the things that make my life worth living	1	2	3	4	5
51. I am aware of my emotions as I experience them	1	2	3	4	5
52. I expect good things to happen	1	2	3	4	5
53. I like to share my emotions with others	1	2	3	4	5
54. When I experience a positive emotion, I know how to make it last	1	2	3	4	5
55. I arrange events others enjoy	1	2	3	4	5
56. I seek out activities that make me happy	1	2	3	4	5
57. I am aware of the non-verbal messages I send to others	1	2	3	4	5
58. I present myself in a way that makes a good impression on others	1	2	3	4	5
59. When I am in a positive mood, solving problems is easy for me	1	2	3	4	5
60. By looking at their facial expressions, I recognize the emotions people are experiencing	1	2	3	4	5
61. I know why my emotions change	1	2	3	4	5
62. When I am in a positive mood, I am able to come up with new ideas	1	2	3	4	5
63. I have control over my emotions	1	2	3	4	5
64. I easily recognize my emotions as I experience them	1	2	3	4	5

65. I motivate myself by imagining a good outcome to tasks I take on	1	2	3	4	5
66. I compliment others when they have done something well	1	2	3	4	5
67. I am aware of the non-verbal messages other people send	1	2	3	4	5
68. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself	1	2	3	4	5
69. When I feel a change in emotions, I tend to come up with new ideas	1	2	3	4	5
70. When I am faced with a challenge, I give up because I believe I will fail	1	2	3	4	5
71. I know what other people are feeling just by looking at them	1	2	3	4	5
72. I help other people feel better when they are down	1	2	3	4	5
73. I use good moods to help myself keep trying in the face of obstacles	1	2	3	4	5
74. I can tell how people are feeling by listening to the tone of their voice	1	2	3	4	5
75. It is difficult for me to understand why people feel the way they do	1	2	3	4	5

Thank you for your time!!

APPENDIX-3

Questionnaire:Post-Test

****Your responses are not connected to your grades****

****Please answer honestly and completely; take your time****

GENERAL QUESTIONS

Name (Please Print your name)

Last four digits of your cell number

SITUATIONAL QUESTIONS

For this next section, circle a number 0, 1, 2 or 3 to the right side of the statement, which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

- 0 = Did not apply to me at all
- 1 = Applied to me to some degree, or some of the time
- 2 = Applied to me to a considerable degree, or a good part of time
- 3 = Applied to me very much, or most of the time

44. I found it hard to wind down	0	1	2	3
45. I was aware of dryness of my mouth	0	1	2	3
46. I couldn't seem to experience any positive feeling at all	0	1	2	3
47. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness, in the absence of physical exertion)	0	1	2	3
48. I found it difficult to work up the initiative to do things	0	1	2	3
49. I tended to over-react to situations	0	1	2	3
50. I experienced trembling (e.g. in the hands)	0	1	2	3
51. I felt that I was using a lot of nervous energy	0	1	2	3
52. I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
53. I felt that I had nothing to look forward to	0	1	2	3
54. I found myself getting agitated	0	1	2	3

55. I found it difficult to relax	0	1	2	3	
56. I felt down-hearted and blue	0	1	2	3	
57. I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3	
58. I felt I was close to panic	0	1	2	3	
59. I was unable to become enthusiastic about anything	0	1	2	3	
60. I felt I wasn't worth much as a person	0	1	2	3	
61. I felt that I was rather touchy	0	1	2	3	
62. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3	
63. I felt scared without any good reason	0	1	2	3	
64. I felt that life was meaningless	0	1	2	3	

QUESTIONS about EMOTION

For this next section, circle a number 1, 2, 3, 4 or 5 to the right side of the statement, that applies to you, using the following scale:

- 1 = strongly disagree
- 2 = disagree
- 3 = neither disagree nor agree
- 4 = agree
- 5 = strongly agree

45. I expect that I will do well on most things I try	1	2	3	4	5
46. Other people find it easy to confide in me	1	2	3	4	5
47. I find it hard to understand the non-verbal messages from other people	1	2	3	4	5
48. Some of the major events of my life have led me to re-evaluate what is important and not important	1	2	3	4	5
49. When my mood changes, I see new possibilities	1	2	3	4	5
50. Emotions are one of the things that make my life worth living	1	2	3	4	5
51. I am aware of my emotions as I experience them	1	2	3	4	5
52. I expect good things to happen	1	2	3	4	5
53. I like to share my emotions with others	1	2	3	4	5
54. When I experience a positive emotion, I know how to make it last	1	2	3	4	5

55. I arrange events others enjoy	1	2	3	4	5
56. I seek out activities that make me happy	1	2	3	4	5
57. I am aware of the non-verbal messages I send to others	1	2	3	4	5
58. I present myself in a way that makes a good impression on others	1	2	3	4	5
59. When I am in a positive mood, solving problems is easy for me	1	2	3	4	5
60. By looking at their facial expressions, I recognize the emotions people are experiencing	1	2	3	4	5
61. I know why my emotions change	1	2	3	4	5
62. When I am in a positive mood, I am able to come up with new ideas	1	2	3	4	5
63. I have control over my emotions	1	2	3	4	5
64. I easily recognize my emotions as I experience them	1	2	3	4	5
65. I motivate myself by imagining a good outcome to tasks I take on	1	2	3	4	5
66. I compliment others when they have done something well	1	2	3	4	5
67. I am aware of the non-verbal messages other people send	1	2	3	4	5
68. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself	1	2	3	4	5
69. When I feel a change in emotions, I tend to come up with new ideas	1	2	3	4	5
70. When I am faced with a challenge, I give up because I believe I will fail	1	2	3	4	5
71. I know what other people are feeling just by looking at them	1	2	3	4	5
72. I help other people feel better when they are down	1	2	3	4	5
73. I use good moods to help myself keep trying in the face of obstacles	1	2	3	4	5
74. I can tell how people are feeling by listening to the tone of their voice	1	2	3	4	5
75. It is difficult for me to understand why people feel the way they do	1	2	3	4	5

Thank you for your time!!

APPENDIX- 4

Emotional Intelligence Scoring:

Range of Emotional Intelligence	Emotional Intelligence Scores

Low	Less than 111
Medium	111-137
High	More than 137

DASS-21 Scoring Instruction:

The DASS-21 should not be used to replace a face to face clinical interview. If you are experiencing significant emotional difficulties, you should contact your GP for a referral to a qualified professional.

Depression, Anxiety and Stress Scale - 21 Items (DASS-21):

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress.

Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items.

The DASS-21 is based on a dimensional rather than a categorical conception of psychological disorder. The assumption on which the DASS-21 development was based (and which was confirmed by the research data) is that the differences between the

depression, anxiety and the stress experienced by normal subjects and clinical populations are essentially differences of degree. The DASS-21 therefore has no direct implications for the allocation of patients to discrete diagnostic categories postulated in classificatory systems such as the DSM and ICD.

Recommended cut-off scores for conventional severity labels (normal, moderate, severe) are as follows. NB Scores on the DASS-21 will need to be multiplied by 2 to calculate the final score.

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

APPENDIX-5

Focus Group Question Guide

1. What do you think about meditation? What first word comes in your mind when you hear the word meditation?
2. Have you done meditation before this semester? If yes talk about it.
3. If you have practiced meditation before, how was Heartfulness meditation different?
4. If you have not practiced meditation before, what were you expecting?
5. What differences in yourself do you notice since the first Heartfulness session?
6. Any positive changes or experiences after the Heartfulness meditation?
7. Any negative experiences after the Heartfulness meditation?
8. For any kind of meditation, what do you notice when you observe your mind?
9. Do you feel any kinds of changes in your behavior?
10. Did you feel any kinds of changes in your relationships?

APPENDIX:6

Transcript of Focus Group Discussion

- F: Facilitator
- R: Respondents

F: What first word or image comes in your mind when you hear the word meditation?

R1: Quite

R2: Relaxation

R3: Peaceful

R4: Silence

So, anything, any image that forms in your head when you think about meditation?

R4: Distressing, Taking Time to distress yourself, Getting your mind right.

R2: Taking Time for yourself, it's like a me time

R3: Calm yourself and clear your mind's clutters

R7: I am like odd one out here, first time I heard about meditation, I thought about religions like Hinduism.

F: Did you feel that only people who are Hindus meditate?

R7: I did not necessarily think that Hindus are only who do meditation, I just associated meditation with them as in ancient times, monks meditate and something like that…

F: There are various other kinds of meditation practices besides Heart fullness, like mindfulness, sound meditation, have anyone of you heard about any other types than heart fullness before?

R6: Mindfulness

F: Did you know anyone who did mindfulness practice or you just heard about it?

R2: I just learned about it in psychology

R7: I have heard about sound meditation, I had watched a video where a lady used different various kinds of sounds, she was called a sound guru, she had used big circular like things, and it was pretty cool.

F: Did they did with sounds?

R7: Yeah, the things were laid down and everybody were closing their eyes and were concentrating on those sounds made.

F: We have been doing the meditation throughout this semester, so what kinds of changes did you find after doing meditation in your daily life? Any kinds of positive or negative change that you felt?

R1: Severely, I have noticed that I fell sleep a lot faster. It used to take like 30 to 40 minutes for me to fall asleep but now I can fall asleep like within 10 minutes so that's nice.

R3: I can sleep so fast now, I am feeling more refreshing, sleeplessness was giving me a hard time from very long time and I am grateful I have not to deal with it any long.

F: Did you anytime tried doing meditation just before exam starts?

R4: No I did not do that but after each meditation I could walk out having a better state of mind.

R2: I think in my case it distressed me a lot, spending time with myself made me more relaxed.

And yours?

R3: It didn't exactly affect how often or how easily I get stressed, it did effect how severely to which I get stressed. So, when I feel stressed, my heartbeat would speed up, palpitation, chest tightness, but after sometime of doing meditation, my heartbeats didn't jump like that, it was like normal…I experience way less that what I did before.

F: So, you found something difference physically whenever you did meditation and whenever you didn't, right?

R2: Yes

And yours?

R4: I felt more relaxed, less stressful, I now wouldn't feel I have fifty things of to do in my head, I now split my tasks, and deal with them one at a time without getting disturbed by ongoing thoughts that I used to get before.

F: Yours?

R5: After I did meditation, I just felt really tired.

F: Ok, did you feel any kinds of tiredness or anything uncomfortable during the meditation session?

R5: Yes, for the first time when I did meditation, may be it was due to the sitting position for a long time made my back hurt.

R6: Yeah, I felt numbness in my legs as well..

R3: The first time, I got really bad headache, because I was like concentrating, I was trying to avoid thoughts in my mind, trying to calm myself down and focusing on my body parts as the instructor talks about every body parts during relaxation.

R2: But now in stressful situation, I know how to calm myself and don't overthink things. I felt calmer and don't get anxious often which I used to get,

Yours?

R7: Sitting down I had some back problem, so I did get pain but honestly I sleep now a lot faster. Because I remember after a week or two after the first time we meditated, I couldn't go to sleep and I used to go through all the relaxation steps that she goes through from toes to all the way up and it's like I fell asleep and even didn't have to go through the whole thing, I just got sound sleep, it worked well for me.

F: I would like to ask question to respondent 1, you shared that you slept better, did you also try the same kinds of relaxation techniques or did you just fall asleep without doing any meditative thoughts.

R1: I didn't do any sorts of specific routine that we did here but that was just like a talk to myself that ok one thing at a time, that assignment is not due till next week what test do I have tomorrow, what's due tomorrow, those kinds of things so clearing my thoughts basically.

R6: I am fast paced always doing and I know the importance of meditation and I have done it before but this is solidified why it is important and 20minutes was a long time, I mean in the first couple of sessions, it felt so long, and sometimes my mind is going and I don't stop to think … I thought about like active shooter situation**,** I thought about a lot of things, after I got that out of the way, I noticed I felt relaxed, I did feel better after it was done, and I could like you said go back to your day, I moved out feeling better for whole

day. So, I even noticed that for me the effect didn't carry to other day so I felt that I need to do it every day to experience its true benefits.

F: You said you felt mindfulness was harder that heartfulness, can you explain a bit more?

R4: In the mindfulness meditation, I was said to calm myself down and

F: So, what type of meditation did you try?

R4: Mindfulness. Mindfulness is harder for me just because it's being in present and I am like always planning, I am always thinking ahead, it's my natural personality.

F: Did you find any difference in these two practices, you said you felt it was harder than meditation, can to explain it little bit more on how did you feel that way?

R4: In mindfulness meditation, I was told to sit calmly and think about all the things you can hear, and think about all the things you can smell. And when you go deeper, you would hear sounds which are further off, that you would miss and just feel about everything and by the time I am one I become more relaxed. So, it was like going out, knowing about your surroundings in mindfulness where heartfulness is about looking into our own selves. I had to go out first to go within, I guess. That makes sense because I couldn't go straight to the heart and think in that way.

F: Any kinds of discomfort you felt?

R8: Discomfort of being still for so long, it felt so long. But yes slowly it went faster.

R2: thoughts

(laugh bursts)

F: So, whenever she said to observe your mind, your consciousness, your heart, for the first time when you meditated, did you get all what she said like going from your body parts to your mind and then heart? So what was your experience when you did your first session?

R3: I could go over the flow when she mentions about our outer body parts, I can imagine them but whenever she says about mind and heart, I got completely lost in my thoughts.

R8: Calm

R6: I don't remember anytime that I had no thoughts, like completely thoughtless, what I did was I gave myself permission to have those thoughts and I would catch myself and bring back to heart. As she says gentle, I think that's the key.

R7: I am a very visual and imaginative person in general so it took a lot of imagination for me to do this, when she says go to your mind, I imagine going to a huge dark room, full of like crossing all mixed and mingled of wires, coils that's what I think my mind is., No boxes, no any organizations, everything just touches everything. And it never really got calm, never really stopped. And whenever she says to go deep in heart in the source of light, I visualized the light and concentrate, I know we are not supposed to concentrate so I was like half way concentrating, half way imagining, I was imagining that I was walking all way through light of heart, this was very visual for me.

R3: lost

R5: I did not have trouble with any of them. I just went in my mind and just cleared everything out easily.

R1: I had thoughts coming up all in my mind and used to forget things easily but I feel I am getting better in my memory now. I am now better in organizing my thoughts. I still get trouble doing that but slowly its being fine.

R2: I didn't have problem in the process when I go into my mind. I am some of the people who can't stop thinking so it's not like I have no thoughts now, but now I can calm my mind. I was not racing my thoughts, I was just like chill. But in the session, I could not imagining going to my heart. I didn't know what it was like so I had to stay in my mind.

R4: For me, during meditation I have different thoughts for different things, for me I was able to keep them aside and don't worry about it much, I just think about how I am feeling about now, present, thinking about things I enjoy, things that really relax me. Instead of thinking about things that stress me, I choose to think about this that relax me. I say to myself I worry about all Those stuffs later and I concentrate in what I am doing right now.

R2: I could go over the flow when she mentions about our outer body parts, I can imagine them

but whenever she says about mind and heart… I got completely lost in my thoughts.

R3: I couldn't focus in my heart, I couldn't imagine light in my heart, so it was like quite dark place where I think about things I need to think about. That was relaxing for me as it was so quiet, dark and I can easily talk to yourself, that yes there is a test tomorrow but you have studied so you are fine, it was like personal counselling session for me. So, that was beneficial.

F: Did you feel that you were self-aware about your own emotions? Sometimes you are sad and you don't know the reasons, so did you feel that you know better after doing meditation?

R1: I believe that there are many things in our life going on and there is no point in worrying about all the points. There is no point on being mad or sad about it. So, I have a feeling now that you can throw this on me but still I am gonna be okay. So I had self-control on myself.

Did you feel anything difference on how you managed your emotions, your life?

I do a lot of talking to myself. I am just reminding myself hey it's not a big deal, you might get in a lot bigger things. Like counting back from 10 to 1.

R2: I have a stress A personality like I keep getting anxious about petty things. But after the meditation, I somehow could control my emotions. I feel more positive towards life and feel that everything will be good at the end.

R3: I realized how uncontrolled I was I am absolutely in control of how my brain works. And how much I think about something and meditation helped on perceiving things differently. It taught me not specifically about not thinking at album to calm yourself down, think about things rationally.

R5: In most of times, I project my opinions to people. I just talk without thinking so I learnt to be more sensible on what I say, I don't be rude now, I have learnt to think from others perspectives as well and think what would be the right response to any situation that I am in. Don't be rude as you don't know what they are going through, just be considerate. I am not judgmental now.

I just feel more relax but not thought in that way like about others emotions, nothing like that.

I get irritated easily and when I am stressed I don't want people bothering me in that case I sometimes snap on people. I don't do that much now with people around me.

R7: My is just opposite of everybody here, I found myself crazy on emotions… much more emotional, I guess I was not emotional before I started this whole process, as before if something happened I would not make that a big deal. I have been showing my emotions a lot, I am analyzing everything and ask myself how I feel. I have cried like every single day, it's crazy like good cries, like I feel relax, it feels like I should have been doing this a long time ago. One good cry can help a really bad day.

F: I have a question about your crying, Is the crying about you? Or is it more about the world around you? Is it regarding the emotions that moves around you or do you feel so for others?

R7: I think it's just like a mixture, like yesterday, I went to the breakroom in my work, they had the news on and I hate hearing news… hearing news and there was like 5. 6 things one after another which was terrible like somebody died, there was some fire somewhere and all the family members died, and blah blah blah. And I am sitting in that breakroom and crying because it's ridiculous this hasn't happened to you, you know nobody who were the victim, like why are you so emotionally crazy and like I felt wow because I am a human now, like meditation made me more human… At the same time when I am thinking a lot about everything, like my exams and I am preparing all my pre-requisites for my nursing school so sometimes I think what would it be, I am worried

about whatever like what would happen to my family if something wrong happens to me. Before like I would feel oh my family will be fine. They are going to be just fine but now it's like I have my family who cares about me so I should not be doing any stupid things. So, I think not only me personally I am crying but it's the world around and the situation I go through every day.

F: So here you talked about the shift from yourself to others, empathy. Did you feel any kinds of changes in your relationships? Like you are more aware about how others feel, do you keep yourself in other shoes and think? Any changes that you feel in your behavior after the sessions?

R5: I have a very bad habit, if somebody says something stupid I have a sarcastic response for that, it's usually pretty funny but not to the person whom I am saying. But nowadays I believe if anybody says something they might carry meaning to them and its ok to accept it besides passing sarcastic comments. So I feel I have become less sassy and quick, I am now thinking before I speak little bit more, and just having more patience. Because sometimes in class if I already know about the contents and somebody don't understand it I feel like common it's not that hard why cannot you get it but then I remember hey how did you feel when you took that class first time, how long did it take me to get that concept in to learn so I just feel that I am more sympathetic than before.

R2: For me I feel my relationships have got better. It's because I am more aware about other people's emotions. And what's coming out from my mind. So now I am more aware that the thing I say, did it offend anyone, did it made somebody feel bad, so yes I

am more aware about that and I feel happy moving around when I see my friends in the hallway which is good.

F: One question I would like to ask, is there someone whom you didn't like before meditation and now start liking it after meditation.

R7: Yes there are some people.

R3: It's kind of interesting to feel that way that I am more open to people now...

R6: I have been liking to live alone after I meditate, I genuinely love my company now so the one whom I don't like I just avoid meeting them.

Thank you so much that's all I have questions.

APPENDIX: 7

The University of Texas at TYLER
Office of Research and Scholarship

INSTITUTIONAL REVIEW BOARD
uttyler.edu/research ▪ Fax: 903-565-5858

September 5, 2018

Dear Ms. Amatya,

Your request to conduct the study, *Relationship of Heartfullness Mediation to Emotional Intelligence and Mental Health, Among University Students*, IRB #Fall2018-01 has been approved by The University of Texas at Tyler Institutional Review Board under expedited review. This approval includes the written informed consents that are attached to this letter, and your assurance of participant knowledge of the following prior to study participation: this is a research study; participation is completely voluntary with no obligations to continue participating, and with no adverse consequences for non-participation; and assurance of confidentiality of their data.

In addition, please ensure that any research assistants are knowledgeable about research ethics and confidentiality, and any co-investigators have completed human protection training within the past three years, and have forwarded their certificates to the IRB office (G. Duke).

Please review the UT Tyler IRB Principal Investigator Responsibilities, and acknowledge your understanding of these responsibilities and the following through return of this email to the IRB Chair within one week after receipt of this approval letter:

- This approval is for one year, as of the date of the approval letter
- **The Progress Report form must be completed for projects extending past one year.** Your protocol will automatically expire on the one year anniversary of this letter if a Progress Report is not submitted, per HHS Regulations **prior** to that date (45 CFR 46.108(b) and 109(e): http://www.hhs.gov/ohrp/policy/contrev0107.html
- Prompt reporting to the UT Tyler IRB of any proposed changes to this research activity
- **Prompt reporting to the UT Tyler IRB and academic department administration will be done of any unanticipated problems involving risks to subjects or others**
- Suspension or termination of approval may be done if there is evidence of any serious or continuing noncompliance with Federal Regulations or any aberrations in original proposal.
- Any change in proposal procedures must be promptly reported to the IRB prior to implementing any changes except when necessary to eliminate apparent immediate hazards to the subject.

Best of luck in your research, and do not hesitate to contact me if you need any further assistance.

Sincerely,

Gloria Duke, PhD, RN

Gloria Duke, PhD, RN
Chair, UT Tyler IRB