Quality of Life of Community Elderly And Mindfulness Meditation/Mindfulness Training

May 9, 2023

Cera Kim-Sunada RN MSN

University of Hawaii, Hilo
DNP Program

Practice Inquiry Project (PIP) Final Report

Advisory Committee:

Dr. Joan Pagan Ph.D. committee chair

Dr. Katharyn Daub Ed.D. committee member

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ABSTRACT

Poor mental health can affect an older person's quality of life. The researchers found that older adults are at higher risk for depression. Negative stress significantly impacts older person's quality of life across physical, psychological, and social domains resulting in suffering and distress to older individuals. More effective interventions for improved quality of life for older persons are needed. Mindfulness meditation training can be beneficial in reducing symptoms of depression and stress and improving quality of life. (Amadpanah study, 2017). The goal of my PIP was to determine if older individuals (65 years or older) residing in the community can improve their quality of life by adding a mindfulness meditation program. The research question was "Can the introduction of the six weeks one-hour weekly mindfulness meditation class improve the quality of life of community-based older individuals?". The results of my PIP were lower perceived stress and depression reported by the participants after six weeks of mindfulness meditation class. Mindfulness meditation can help improve the quality of life of older individuals. Some participants stated that mindfulness meditation helped them become more "patient", sleep better, and have less pain (low back pain e.g., sciatica), and recent shoulder injuries).

Keywords: mindfulness, meditation, quality of life, depression, stress

ACKNOWLEDGEMENT

I want to thank my committee chair, Dr. Joan Pagan, and member, Dr. Katharyn Daub for their guidance and support for my practice inquiry project. I also want to acknowledge Dr. Michelle Chino-Kelly for teaching us evidence-based practice and advanced research methods helping my peers and me to become nurse researchers. With all your encouragement and support, the Doctorate of Nursing Practice program at the University of Hawaii, Hilo was worthwhile, and I enjoyed every moment of this journey. Thank you, Rebecca D'Haem, for your excellent communication and organizational skills. I am thankful to my husband, Jason, and daughter, Kimberly for their support and patience. I want to acknowledge Susie Chun Oakland, Program Director of Lanakila Multi-Purpose Senior Center, and Carole Mandryk, Director of OSHER Lifelong Learning Institute at the University of Hawaii, Manoa for their assistance and support in recruiting participants for my research project. I also want to acknowledge my brother-in-law, Dr. Gary Sunada in Indiana, for his hard work editing my papers over the last three years. Other colleagues, librarians, and friends, too numerous to name all, helped and supported me, and I am forever grateful for their kindness and friendship.

Quality of Life of Community Elderly and Mindfulness Meditation /Mindfulness Training

Chapter One

The World Health Organization defines quality of life (QOL) as " An individual's perception of their position in life in the context of the culture and value systems in which they live and about their goals, expectations, standards, and concerns. It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships, and their relationship to salient features of their environment." (WHO, 2012)

Older adults suffer from various mental health problems. Mood and anxiety disorders like depression are very common in older adults, especially among females (Byers et al., 2010). Older adults experience many stressors like declining health, fixed incomes with rising costs, social isolation, and loss of a spouse, and may also require help with activities of daily living like walking and bathing.

According to a study by the Mental Health Association of New York City in 2018, approximately 20% of older adults in the U.S. have diagnosable mental and substance abuse disorders (Friedman et al., 2018). It is estimated that, nationally, the number of older adults with mental illness will more than double between 2015 and 2060. As people are living longer and with an exponential increase in the U.S. population, healthcare providers are increasingly called upon to diagnose and treat chronic physical and mental illnesses in older adults. Currently, there is a shortage of mental health providers, especially in rural areas. Therefore, primary care providers, such as nurse practitioners, will increasingly experience challenges to provide needed care for physical and mental illness in older individuals.

About 27% of older adults (age 65 and older) have symptoms of depression. However, the symptoms of depression in older individuals should not be regarded as a normal consequence of aging. The risk of depression is higher for older adults with chronic medical conditions - e.g. 25% for stroke patients, 15% for diabetic patients, and 25% for heart disease patients (Fiske et al., 2009). Older adults who are medical outpatients/inpatients or residents of long-term care facilities are also at significantly higher risk for depression – estimated to be 10-12% and 14-42%, respectively. People with both depression and physical disorders are twice as likely than people without depression to experience preventable hospitalization and to experience premature disability and mortality.

Problem Statement

Poor mental health can affect an older person's quality of life. Studies found that older adults are at higher risk for depression. Poor mental health can affect a person's quality of life. Some studies found that older adults are at higher risk for depression. Few research studies have been published about the treatment of depressed elders in the community. Most focused mainly on the use of anti-depressant medications. However, anti-depressant medications have multiple adverse effects and do not eliminate the following negative symptoms of depression: lack of motivation, lack of energy, low self-esteem, difficulty with sleep, and difficulty dealing with stress. Stress significantly impacts the quality of life across physical, psychological, and social domains, resulting in suffering and distress to older patients. More effective interventions for improved quality of life for older persons are needed.

Significance of the Problem

Depression has serious consequences, as with all major anxiety and mood disorders. Anxiety and mood disorders contribute to social isolation, rejection of help, excessive placement in nursing homes, and high rates of suicide. Depressed older adults have high rates of increased cardiovascular mortality which can double their medical care cost (Katon & Ciechanowski, 2002). Advancing age is accompanied by higher risks for chronic conditions, including arthritis, back pain, migraines, and allergies. The co-occurrence of mental disorders with any of these chronic conditions contributes to increased stress and poor health-related quality of life due to an increased rate of disability and premature mortality (Katon & Ciechanowski, 2002).

Specific Aspects of the Problem Researcher Addressed

Goals of the project

The goal was to determine if elderly patients (65 years or older) residing in the community can improve their quality of life by adding a mindfulness meditation program. The research question was, Can the quality of life of community-based older individuals be improved with the introduction of 6 weeks one-hour weekly mindfulness meditation class?

Specific Aim I: Evaluate the effect of meditation on the quality of life of participants,

more specifically, as measured by Patient Health Quality -9 (PHQ-9) and Patient Stress Scale -4 (PSS4).

Objective 1: Measure the baseline qualities of life by each participant completing PHQ – 9 and PSS -4 before the 6 weeks of the mindfulness meditation program.

Objective 2**:** Measure the quality of life of participants by PHQ – 9 and PSS -4 scores reported by participants after the 6 weeks of the mindfulness training/meditation class.

Objective 3: Evaluate/determine any changes in the quality of life of participants by comparing their PHQ – 9 and PSS - 4 scores before and after 6 weeks of mindfulness meditation classes.
Objective 4: Evaluate the effect of meditation on the quality of life as measured by the changes in participants' PHQ-9 and PSS-4 scores.

Specific Aim II: Using Bandura's Learning theory (1977) framework, the researcher assessed participants learning of the mindfulness/meditation techniques (mindfulness training) by using Zoom polls - a four-question questionnaire each week beginning from the second week.

Objective 1: Teach mindfulness meditation to participants residing in the community for one hour weekly for six weeks on Zoom.

Objective 2: Assess participants' learning by having each participant complete a 4-question survey (by Zoom polling) at the beginning of each weekly mindfulness class from week 2 through week 6. The four survey questions pertained to their attention, retention, reproduction, and motivation and evaluated each participant's progress in learning mindfulness meditation techniques. The four-questions survey used a 4-point Likert scale.

Explanation of how the framework guided outcomes evaluation of the project

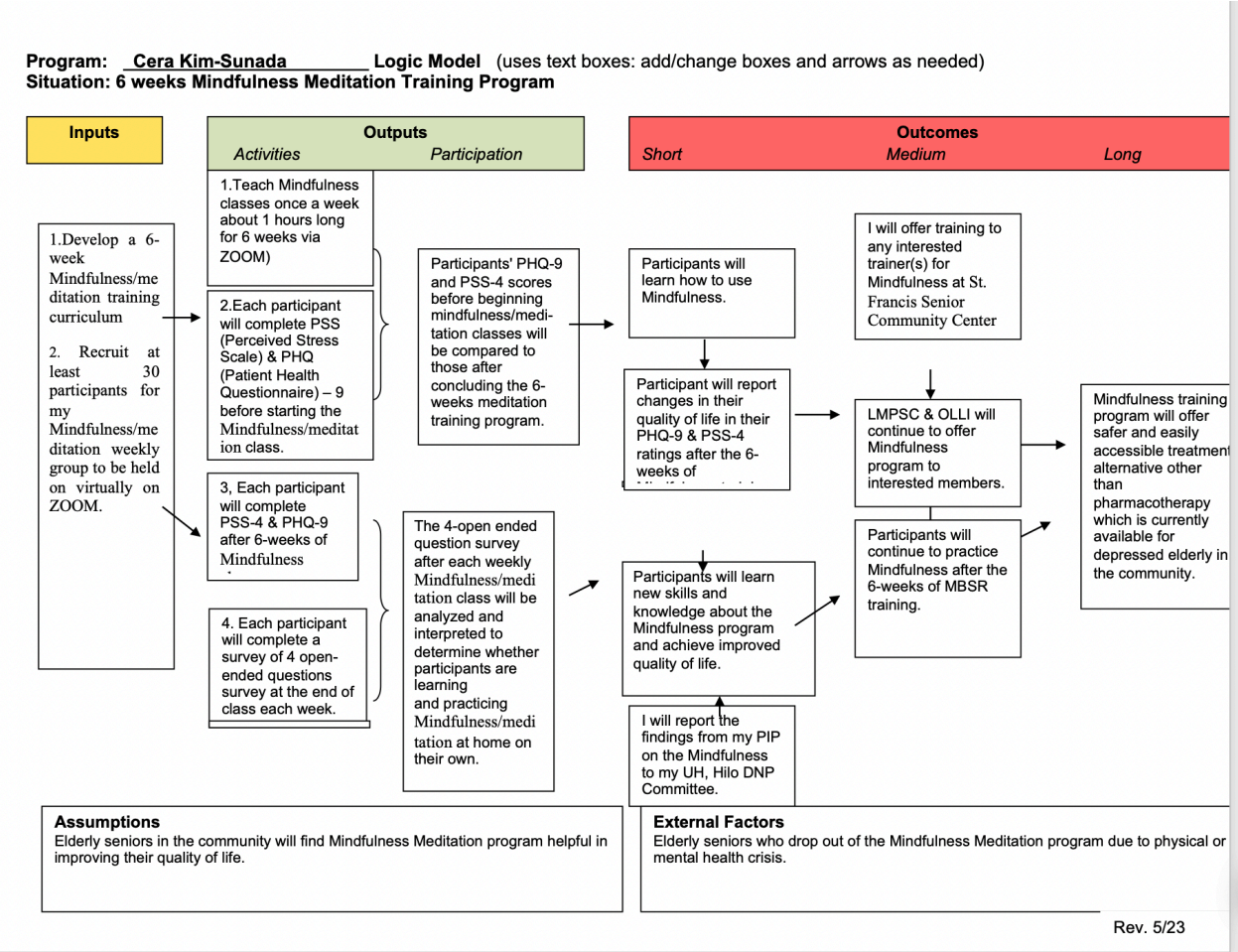
Bandura's Social Learning Theory (Bandura, 1977) asserts that humans actively process information and learn about the relationship between their behavior and its consequences. Bandura proposed four mediational processes – attention, retention, reproduction, and motivation. Individuals think about the behavior of a model before imitating it after they first observes the behavior.

The researcher applied the Social Learning Theory to evaluate how each participant's learning processes related to the mindfulness meditation exercise – attention, retention, reproduction, and motivation. The researcher wanted the participants to learn to perform their mindfulness activity by paying attention to weekly didactic instruction (utilizing videos and audio on Zoom) and, as a result, motivating them to continue practicing mindfulness activities on their own. While the researcher's Practice Inquiry Project (PIP) focused on the individual, the researcher wanted to teach all participants how to successfully utilize mindfulness activities in their daily lives during and after participating in the six weeks of one-hour weekly training sessions.

The Logic model (see Fig 1.1) guided the researcher's project planning, implementation, and completion. The Logic model attempts to convey visually the connections between program activities and the program's desired outcomes (Lando et al., 2006). The logic model starts with inputs or the resources needed to undertake activities. When activities are successfully implemented, a sequence of short, mid, and long-term outcomes will ensue (Lando et al., 2006). Inputs include "human, financial, organizational, and community resources a program has available to direct toward doing the work" (Trankle & Reath, 2019). Activities include processes, tools, events, technology, and actions to bring about the intended program changes or results.

Outputs are direct products of activities that include new resources, services, and programs delivered. Outcomes are specific changes in program participants' behavior, knowledge, skills, status, and level of functioning. The Logic model diagram below shows how the researcher developed the project.

Logic Model (Fig 1.1)



Chapter Two

Discussion of the overall health problem and specific issues for the elderly population

As people are living longer and with the exponential increase of the U.S. population of older adults, healthcare providers are increasingly called upon to diagnose and treat chronic mental illnesses, such as anxiety and depression in older adults. Depression adversely affects the self-care of chronic diseases due to negative impacts on memory, energy, sense of self-sufficiency, and relationships with others (Katon & Ciechanowski, 2002). Elders diagnosed with

depression are three times as likely to be nonadherent with medical treatment regimens than their non-depressed counterparts. Research studies demonstrated that major depression in people with chronic medical illness increases their symptoms of physical illness, raises their cost of medical care, and causes greater functional impairment, impaired self-care, and nonadherence (Katon & Ciechanowski, 2002).

Older adults are more likely to experience symptoms of depression (Himelhoch et al., 2004). Chronic medical conditions, such as stroke, diabetes, and heart disease, increase the risk of depression in older adults (Fiske et al., 2009). According to a study of non-depressed elderly, the most stressful life event associated with new-onset major depression was a life-threatening illness in the client or his/her spouse (Katon & Ciechanowski, 2002).

Older adults suffer from various mental health problems, such as long-term psychiatric disabilities, later-life psychotic conditions, severe anxiety and depression, mild or moderate anxiety and mood disorders, substance use problems (both lifelong and developing in later life), dementia, and emotional challenges to aging. Mood and anxiety disorders in older adults are very common, especially in females, despite the decline in prevalence with age (Byers et al., 2010). Therefore, effective prevention and intervention strategies are needed.

Discussion of the Proposed Intervention

The thesis is that elderly clients living in the community will be motivated to improve their quality of life by utilizing mindfulness exercises. This researcher taught mindfulness exercises once weekly for six weeks to elderly clients living in the community.

The researcher's goal was for elderly clients to practice mindfulness exercises regularly as part of their self-care to improve their quality of life. Each session was about 60 minutes long.

Discussion of Theoretical/Conceptual Framework

Bandura's Social Learning Theory (Bandura, 1977) asserts that humans actively process information and think about the relationship between their behavior and its consequences. Bandura proposed four mediational processes – attention, retention, reproduction, and motivation. Humans think about the behavior of a model before imitating it after they first observe the behavior. An individual must attend to the behavior - the first step in Bandura's four meditational processes. Next, an individual remembers or retains (second step) what the model did before he or she imitates the behavior. Humans must be able to reproduce (third step) the behavior demonstrated. Finally, individuals must be willing or motivated to perform the behavior (fourth step).

The Social Learning Theory is demonstrated by the participants' learning processes related to mindfulness exercise – attention, retention, reproduction, and motivation. This researcher wanted the participants to learn to perform their mindfulness activity by paying attention to weekly didactic instruction (utilizing videos and audio on Zoom) and, as a result, motivating them to continue practicing mindfulness activities on their own. While the focus of the researcher's Practice Inquiry Project (PIP) was on the individual, the researcher wanted to teach all participants how to successfully utilize mindfulness activity in their daily lives during and after the six weeks of weekly one-hour training.

Comprehensive and focused Review of the Literature – critiquing and synthesizing aspect of the problem

Depression Among the Elderly

Depression has serious consequences, as with all major anxiety and mood disorders. Anxiety and mood disorders contribute to social isolation, rejection of help, excessive placement in nursing homes, and high rates of suicide. Depressed older adults have higher rates

of cardiovascular morbidity and mortality, which can escalate their medical care costs (Katon & Ciechanowski, 2002).

Older adults have higher risks for chronic conditions, including arthritis, back pain, migraines, and allergies. The co-occurrence of mental disorders with any of these chronic conditions contributes to increased rates of disability and premature mortality (Katon & Ciechanowski, 2002).

Inadequate or no health insurance coverage adversely affects the use of physical and mental health care services by many elderly residing in rural areas (Chaffey et al., 1998). Due to the shortage of dedicated mental health providers, the risk for untreated mental illness (including depression) is higher in rural areas because most rural mental health service is provided by primary care personnel who are already overwhelmed providing physical health services. Collaboration between primary care providers and other mental health practitioners, such as nurse practitioners, can enhance creativity in delivering mental health services in the rural setting.

Risk Assessment for the Elderly in the Community

In the depressed elderly population, depressive symptoms are often just shy of meeting the diagnostic criteria of Major Depressive Disorder (MDD). Although not meeting the official requirement for the diagnosis of MDD, these depressive symptoms can still result in significant losses of function, such as cognitive and self-care deficits. Current diagnostic systems do not have diagnostic criteria specific to elderlies (Sözeri-Varma, 2012). Research studies show that clinical features of depression in elderlies may differ from those in people in their 20s to 40s.

Moreover, some clinical features specific to elderlies may make the diagnosis and treatment of depression complicated because of elderlies' difficulty expressing their depressive

moods (Sözeri-Varma, 2012). Older adults may accept depressive symptoms and cognitive losses as a normal part of aging and may not mention their symptoms unless asked directly by healthcare providers. Instead, depressed older adults may express complaints of vegetative symptoms, such as sleep disturbances and loss of appetite, through somatic complaints, like constipation and pain.

In MDD, problems with attention, concentration, short-term memory, and recall process can occur. Similarly, in depressed older adults, memory, and attention deficits can also occur.

The risk factors for later-life depression are being a female, living alone, being divorced, low educational level, having concomitant medical diagnoses, having a low-level cognitive deficit, cigarette and alcohol use, and polypharmacy. The most significant risk factor for MDD is the death of a spouse, followed by chronic medical disorder(s). Many physical illnesses common in elderlies, such as cerebrovascular diseases, Parkinson's disease, cancer, diabetes mellitus, and thyroid disorder, produce physical symptoms that may present as symptoms of depression. Medications, such as antihypertensives and corticosteroids, can cause depression (Sözeri-Varma, 2012). Advancing age raises the prevalence of physical illnesses and the consequent increased use of medications raises the risk for depression. More research is needed to increase our understanding of how polypharmacy affects elderly depression.

Tools for Assessing the Risk of Depression and Quality of Life in the Elderly in the Community

Although primary caregivers can diagnose moderate to severe major depression, mild depressive disorders often escape identification (Henke et al., 2004). Routine depression screening is essential for the following reasons:

1. There is a high prevalence of depression which, if left untreated, can lead to mental and physical impairments.
2. Effective treatments are available yet under-utilized.
3. Routine screening of depression can detect depression and can lead to effective treatment.

The author reviewed four depression screening tools – WHO (World Health Organization)-5, VQIDS (Very Quick Inventory of Depressive Symptomatology)-SR5, PHQ (Patient Health Questionnaire)-9, and GDS (Geriatric Depression Scale)-5. The author will discuss each depression screening tool below. For this research project, the author will use PHQ-9 and PSS (Perceived Stress Scale) -4 to assess this Practice Inquiry Project.

WHO-5 was developed to measure well-being for statistical analysis. However, it is also used to measure depression in a broad range of populations, including children, adolescents, adults, and the elderly. One research study found that WHO-5 performed well in detecting mild to moderate levels of depression but was not as effective in detecting severe and extreme forms of depression, such as MDD. The study concluded that the WHO-5 index is a valid measure of assessing depression severity with only five positively-worded question items (Kreiger et al., 2014).

Limitations of this study are:

1. Self and observer-rated symptoms of depression were assessed using only a single measurement tool.
2. Observer-rated measures were assessed only in one subsample.
3. Only a few participants had severe forms of depression.

Therefore, no conclusion can be made regarding the detection of MDD due to the second and third limitations (Kreiger et al., 2014).

Very Quick Inventory of Depressive Symptomatology (VQIDS) – SR5, a 5-item self-report using items chosen from QIDS-SR 16, is fast, convenient, and can obtain a valid measure of the severity of core symptoms of depression. However, the focus on core symptoms limits the information a mental health provider may need, such as hypersomnia/insomnia and weight gain/loss. As a result, this affects which medications healthcare providers prescribe to their patients. On the other hand, a focus on core symptoms can detect positive changes early in the course of treatment (De La Garza et al., 2017).

Limitations of this study are:

1. A small convenience sample drawn from a single study makes generalizability unreliable.
2. The study did not compare VQIDS-SR 5 to other commonly used depressive measurement tools.
3. Replication of the study is needed for validation.

The Patient Health Questionnaire (PHQ) is a 3-page self-administered version of PRIME-MD. PHQ has been well-validated in two large studies involving 3,000 patients in seven primary care clinics and 3,000 patients in seven OB-GYN clinics (Kroenke & Spitzer, et al., 2002). PHQ is self-administered and is the diagnostically valid instrument most often used in clinical and research settings. PHQ-9, a 9-item depression scale, has nine criteria for depressive disorders as presented in DSM-IV (Diagnostic and Statistical Manual IV). Before a diagnosis of depressive disorder is made, the healthcare provider must rule out physical causes of depression, such as normal bereavement and a history of manic episodes. PHQ-9 is an efficient way to

assess the score and severity of nine DSM-IV depressive symptoms. PHQ-9 can be self-administered by the patient in the clinic or by a nurse while interviewing a patient over the phone. PHQ-9 is treated like a lab test, such as a blood sugar level, for a patient; the primary care provider assesses this information and adjusts the treatment accordingly. The conciseness and validity make PHQ-9 an excellent diagnostic and assessment tool for depressive disorders.

The Geriatric Depression Scale (GDS) is a well-known depression screening instrument used for older adults. Short GDS versions, GDS-4 and GDS-5, are alternatives for depression screening for the elderly population but their accuracy is low. A total of 5,048 participants in 23 studies were included in this meta-analysis which assessed eleven different GDS (Geriatric Depression Scale) versions. The study concluded that several GDS-4 and GDS-5 versions showed low or very low accuracy and a high risk of bias. This suggests the need for more well-designed studies that compare different GDS versions (Brañez-Condorena et al., 2021).

Antidepressants

A systematic review and network meta-analysis of all interventions in the elderly population with MDD was done because there had been no recent comprehensive evaluation of the effectiveness and safety of interventions in elderly patients with major MDD (Krause et al., 2019). Antidepressants are the most frequently used treatment for depression and showed effectiveness in the general population compared to placebo. However, among many different types of antidepressants, it is still unknown which is the "best" type for older people. (Krause et al., 2019 p 1004). Researchers documented a broad range of effectiveness and tolerability.

Limitations of antidepressants included discontinuation of medications due to various side effects. Side effects included diarrhea, dizziness, anticholinergic side effects (such as a drop

in blood pressure, higher risk for falling, urinary retention, and dry mouth), dyspeptic signs and symptoms, insomnia, nausea, sedation, tremor, and weight gain (Krause et al., 2019 pp. 4-13)

This study concluded there is very limited evidence suggesting that non-pharmacological intervention, such as detached mindfulness conditioning, can reduce depressive symptoms in the short term. This study also concluded that the evidence for non-pharmacological treatments and the evidence for most antidepressants are still scarce, and more studies on this population are needed (Krause et al., 2019 p. 1015).

A limitation of this analysis is that despite the inclusion of 53 studies with 9274 participants, therapeutic comparisons were sparse, particularly regarding non-pharmacological treatments. The most common reason for excluding studies on non-pharmacological interventions was that they did not use operationalized criteria such as the Diagnostic and Statistical Manual of Mental Disorders (DSM V) criteria for the diagnosis of MDD. The Comparison of pharmacological and non-pharmacological treatments was not possible due to missing connections between treatments (p. 1017).

Further studies are needed to evaluate non-pharmacological interventions using the operationalized criteria, such as defined by DSMV, to allow comparisons between pharmacological and non-pharmacological interventions. Non-pharmacological treatment, such as mindfulness activity, can be a safe and cost-effective management option for depression in the population aged 65 and greater.

Health-Related Quality of Life (HRQOL) in the Elderly Population

Research results from baseline and follow-up surveys showed that pain is the primary cause of lower HRQOL among the older population in South Korea (Lee et al., 2018). Aging

causes a deterioration in the physical condition that increases the number of currently diagnosed diseases, a decline in physical function, and an increase in the number of comorbid symptoms.

Approximately 53% of U.S. adults have at least one chronic disease associated with physical or mental health, and comorbid physical and mental health conditions are associated with poor HRQOL (Bayliss et al., 2012). Two-thirds of the retired elderly in Europe have at least two chronic diseases (Walker et al., 2016), and approximately 67% of the older population in China (≥60 years old) have at least one self-reported chronic disease (Cao et al., 2016).

In summary, many physical discomfort symptoms, such as physical pain, are a consequence of aging and result in lower HRQOL in the older population. Depression and anxiety are the most common mental illnesses in the older population. The severity of depression is also correlated with poorer HRQOL. HRQOL in older individuals should take into account both physical and psychiatric health symptoms into consideration.

Mindfulness Training

Definition of Mindfulness. Mindfulness has been accepted as an approach to improve awareness of and skillful response to the mental processes that contribute to emotional distress and maladaptive behavior (Bishop et al., 2004). Practicing mindfulness allows one to contemplate thoughts and sensations as events in a continuous stream that are only noticed and observed while one remains aware that they are transitory and non-permanent. This breaks the habitual think-feel-act pattern and the habit of judging and evaluating thoughts as if they were independent entities. This way, one learns to observe those thoughts without judging or having to react to them. Mindfulness aims to condition one to feel things as they occur without trying to control or act upon them. To a certain extent, it is similar to exposure techniques and favors self-control (Delgado et al., 2010; Franco et al., 2010; Wlodarczyk et al., 2016).

How is Mindfulness helpful in Stress and Depression?

A randomized controlled trial (RCT) showed detached mindfulness (DM) reduced symptoms of depression and anxiety in elderly female patients with MDD compared to a control cohort in very similar social conditions. The study was conducted during the four weeks of intervention and four weeks after completion of this program (Ahmadpanah et al., 2017). This is the first research study that looked at depression and anxiety in the older population. Research studies of depression in adolescents and older adults have also been published.

Detached mindfulness (DM) has been used successfully with patients with obsessive-compulsive disorders, generalized anxiety disorders, and major depressive disorders (Wells et al., 2012; Spada et al., 2010; Wells, 2006; Matthews & Wells, 2000), and also with patients suffering from hypertension (Ahmadpanah et al., 2016a).

The primary aim of the above study was to compare the influence of DM on a control group of elderly female patients diagnosed with MDD. The secondary aim was to investigate whether DM has a persistent effect four weeks after study completion. The tertiary aim, given the substantial overlap between symptoms of depression and anxiety among the older population (Beattie et al., 2010; Flood & Buckwalter, 2009; Devanand, 2002; Lenze et al., 2002), Ahmadpanah et al, (2016) also aimed to investigate the influence of DM on both sets of symptoms among older patients diagnosed with MDD.

Ahmadpanah et al. (2016) formulated two hypotheses and research questions. First, the researchers expected improvements in symptoms of depression and anxiety, as rated by patients and experts, in the intervention group, but not in the control group. Second, they anticipated that the influence of DM would persist for four weeks after intervention completion.

The result of the above study by Ahmadpanah et al.(2016) was that the symptoms of depression were significantly reduced in the treatment group compared to the control group. A decrease of 50% or more was defined as a significant response to treatment. Response to treatment was observed at study completion and follow-up in the DM group but not in the control group (symptoms of depression [self and experts' ratings] and anxiety). The second research question explored whether, and if so in which study group, remissions were observed at study completion and follow-up. The following remission criteria were applied: Geriatric Depression Scale (Sheikh et al., 1991; Sheikh, 1985): 0–4 points = no depression; Montgomery-Asberg Depression Scale (Ahmadpanah et al., 2016b; Montgomery & Asberg, 1979): 0–6 points: no depression; and Beck Anxiety Inventory (Hossein Kaviani & Mousavi, 2008; Beck et al., 1988): 0–9: minimal anxiety. The likelihood of full remission from depression (self and experts' ratings) was 7.65–15.53-fold higher in the intervention group than in the control cohort. This study did not find a similar pattern regarding anxiety scores.

This research finding of Ahmadpanah et al. (2016) expanded upon previous research that mostly focused on younger adults without a diagnosis of MDD (Laidlaw, 2013). The study by Ahmadpanah et al. (2016) confirmed that DM had the potential to reduce symptoms of depression and anxiety among older people (Klainin-Yobas et al., 2015; Cuijpers et al., 2011a, b). Assessments of symptoms of depression were elicited from both participants and experts blinded to participants' group allocations and confirmed both the reliability and validity of the studied intervention to improve the quality of life of the older population in my Practice Inquiry Project (PIP).

Among the limitations of this study was the inclusion of only female subjects, so it is unclear if the study findings can be generalized to male patients. In addition, researchers did not

assess sleep differences. Several previous studies have shown that poor sleep is related to poor mental health. The major limitation of this study was the absence of direct evidence regarding patients' cognitive-emotional processes, such as what cognitive-emotional concepts, if any, were modified and why. The researchers recommended future studies focus on the effects of the interventions on patients' cognitive-emotional states.

Mindfulness Meditation, Mental Health, and Health-Related Quality of Life in Chinese Buddhist Monastics

In a Chinese Buddhist monks' cross-sectional study (Tsui et al., 2020), researchers found that both increased daily meditation times and increased temporal duration of this practice were associated with better mental health. Care should be taken when generalizing these findings to the community or clinical population.

BrainAGE Index

Using the BrainAGE index (machine algorithm that estimates functional brain age), researchers from both the U.S. and Australia analyzed and compared the brain ages of 50 long-term meditators and 50 control subjects who were not meditators. These researchers found that at age 50, the brains of meditators were 7.5 years younger than non-meditators. This finding implies a slowing of brain aging in meditators (Luders et al., 2016)

How is Mindfulness Taught?

The author taught mindfulness meditation to participants by describing the principles and practices of mindfulness meditation. Each participant practiced being non-judgmental of their negative thoughts and 'letting go' of negative emotions (anger, worry, sadness, etc.). Practicing mindfulness allows one to contemplate thoughts and sensations as events in a continuous stream that are noticed and observed while one remains aware that they are transitory and non-permanent. This practice breaks the habitual think-feel-act pattern and the habit of judging and

evaluating thoughts as though they were independent entities. As a result, one learns to observe those thoughts without judging or having to react to them. Mindfulness aims to condition one to feel things as they are occurring without trying to control them or act upon them.

Mindfulness Training and Quality of Life

Ahmadpanah et al. (2016) RCT aimed to analyze the effects of a mindfulness training program on anxiety, worry, and geriatric depression in a sample of older adults. A randomized controlled trial with pretest-posttest measurements was used on an experimental group (n = 42) and a control group (waiting list; n = 45). Participants in the experimental group completed the Short Cognitive Examination, the Penn State Worry Questionnaire (PSWQ), and the Geriatric Depression Scale. Analyses showed significantly larger reductions in geriatric depression, anxiety, and worry in the experimental group than in the control group, confirming the effectiveness of mindfulness techniques in reducing these conditions and, especially, for reducing the trait-worry variable, followed by important changes in anxiety and depression. This is one of the few studies examining the effects of mindfulness training on older adults. Such results are especially noteworthy because traits are quite resistant to change.

Anxiety disorders share some characteristics with depression, such as stress or inability to relax, sleep disorders, and physical symptoms. Anxiety can also be associated with other psychiatric disorders. The prevalence of anxiety is around 11% in the older population but is comorbid in the 30% with major depression (Arrieta & García, 2009; Foulk et al., 2014). Thus, elderly persons with major depression are even more vulnerable to physical conditions related to high anxiety, such as high blood pressure, cardiovascular diseases, and other health problems which could become chronic. Extreme concern or worry in the form of intrusive, repetitive

negative thoughts about future events is a clinically relevant phenomenon closely related to anxiety.

As the older population often takes multiple medications for their mental and physical health, identifying effective psychological interventions to reduce the need for polypharmacy is valuable. A recent study with students and professionals showed mindfulness exercises reduce worry, nervousness, and emotional distress by increasing muscular relaxation that promotes the feeling of emotional calmness and well-being. Mindfulness exercise techniques effectively lowered other psychological distress, such as anxiety, depression, stress, and insomnia. In addition, other studies showed that mindfulness exercises can help improve medical conditions, such as cancer, hypertension, asthma, fibromyalgia, and skin disorders (Franco et al., 2017).

More research regarding how mindfulness affects changes in cognition and emotion with a complete review of the mechanisms and networks inducing mindfulness is needed. Future studies in this area must isolate the effects on the psychological variables by the many different mindfulness training programs that exist today so that intervention can target symptoms more specifically. There is a strong need to conduct more research to isolate the program components or elements responsible for changes. Unfortunately, there is no current standardized method of conducting mindfulness activity training programs. This lack of standardization is a variable regarding the efficacy of the mindfulness activity program.

Limitations of the study by Ahmadpanah et al. (2016) included the lack of an active control group which made it difficult to account for the effects of other factors, such as social support and hope, and the lack of follow-up measures. Lastly, one of the main advantages of this program is that it can be taught in a group, which reduces the costs to participants and the burden

on clinicians. It also makes more efficient use of the economic and social resources invested in health.

Significance to Population Health in Rural Communities

One can easily learn mindfulness meditation techniques. Mindfulness meditation training is convenient, accessible, and cost-effective. Older people in the rural community can make a virtual appointment with a mental health professional via Zoom or Skype to learn these mindfulness meditation techniques. Mental health providers can provide mindfulness meditation training in groups of 10 to 12 patients in a rural setting despite an acute shortage of mental health professionals. Older people in the rural community do not need to travel long distances which reduces the cost and hazard exposure of travel to and from the mental health centers.

Summary of Purpose/Aims of the Project

The purpose was to determine if the quality of life of community-based older individuals can improve with the introduction of a 6-week duration of a one-hour weekly mindfulness meditation class.

A. Two aims of my project were to:

1. Teach mindfulness meditation class once a week for 6 weeks, for 60 minutes weekly, to older people living in the community and
2. Compare quality of life scores before the mindfulness program begins with those obtained after the mindfulness program ends using measurement tools (Appendix D1 PHQ – 9 and Appendix D2 PSS-4). To support the validity and reliability of the intervention, quality of life will be assessed by each participant by completing the above measurement tools.

B. There were no exclusion criteria. The inclusion criteria were English proficiency, abilities

to use Zoom, complete the consent form and pre and post-surveys, and access to the Internet.

Chapter Three

Project Design and Evaluation Plan

Bandura's Social Learning Theory (Bandura, 1977) asserts that humans actively process information and think about the relationship between their behavior and its consequences. Bandura proposed four mediational processes – attention, retention, reproduction, and motivation. An individual thinks about the behavior of a model before imitating it after the initial observance of one the behavior. Next, an individual must attend to the behavior - the first step in Bandura's four meditational processes. Then, the individual remembers or retains (second step) what the model did before the individual imitates the behavior. Individuals must be able to reproduce (third step) the behavior demonstrated. Finally, an individual must be willing or motivated to perform the behavior.

How Mindfulness Meditation Class Was Taught

Having been a meditator for over ten years and comfortable with meditation techniques, the author taught meditation classes on Zoom.

The researcher's background in meditation began when she was first diagnosed with colorectal cancer after her daughter was born. The researcher was 37 years old and terrified of possibly dying and leaving a newborn infant without a mother. The researcher's oncologist said the author was being "too anxious" and that this over-anxiousness could negatively affect her recovery from the cancer treatment. This researcher decided to take a step toward learning meditation to calm her mind and spirit. This researcher joined a Centering and Prayer group in Honolulu facilitated by Sister Catherine, a Catholic nun who became the author's mentor. Thus

began this researcher's journey toward healing her mind and body with the help of the Centering and Prayer group and Sister Catherine. After losing her dear father to cancer the same year, the researcher felt great sadness which eventually became a symptom of depression.

The Centering and Prayer meditation group follows the Catholic tradition of Lectio Divina - a way to refine our "receptive apparatus" (Keating, 1992). Father Keating describes Lectio Divina as a contemplative prayer that goes on to a new dimension and continues to refine and improve itself. Not all meditation is rooted in the Catholic or Christian tradition. There are many forms of meditation, such as Yoga, Taichi, Zen, Buddhist meditation, and Transcendental Meditation among others.

The researcher faithfully meditated twice daily for 40 minutes and began to feel calmer. She was able to handle painful events in her life, such as the feeling of profound sadness (depression) after her father's eventual passing due to cancer the same year she herself was also diagnosed with cancer.

Additionally, last Fall semester, the researcher audited a complementary and alternative medicine (CAAM 401) course on meditation offered by the John A. Burn School of Medicine at the University of Hawaii at Manoa. Dr. Amy Brown generously allowed the author to audit her course that meets weekly for an hour on ZOOM. With Dr. Brown's permission, the researcher used some of her videos and audio for my meditation classes.

The researcher taught mindfulness meditation to two groups of about 15 participants each by conducting one-hour-long classes weekly for a total of 6 weeks. A short four-question survey was completed by participants through Zoom polling before each class, starting the second week, to assess their degree of attention, retention, reproduction, and motivation

pertaining to the previous week's class. The author monitored the groups' progress in learning mindfulness meditation from the results of the weekly Zoom polls.

Methods to Conduct the Project

Project Design

The research design is descriptive. This study aims to find the correlation between the weekly mindfulness training (independent variable) and the PHQ – 9 and PSS – 4 (dependent variables) during a 6-week timeframe.

The author conducted weekly one-hour mindfulness classes for 6 weeks through Zoom presentation. The researcher taught participants the principles of mindfulness and encouraged them to practice what they learned in class to reduce burnout, to better manage stress, and live more fully in the present moment. Participants gradually learned to respond to rather than react to their current circumstances. This 6-week mindfulness class provided support and guidance for the participants as they continued to practice mindfulness meditation.

The weekly mindfulness class format was as follows:

Each class began with a 10-minute mindfulness meditation. The author then showed a 20-minute PPT module or YouTube video on meditation and the class ended with a 20-minute meditation. An optional 15-minute question and answer session followed the official class.

Each participant completed a 4-question survey (on a Zoom poll) at the beginning of each weekly mindfulness class from week two through week six. The four-question survey was on a 4-point Likert scale. Participants evaluated their mindfulness meditation activity during the previous week.

The following topics were presented:

Week 1 – Introduction to Mindfulness Meditation

Week 2 – How to Meditate and Types of Meditation

Week 3 – History of Mindfulness Meditation

Week 4 – Practicing Daily Mindfulness Meditation

Week 5 – Health Benefits of Mindfulness Meditation

(physical and psychological)

Week 6 – Gratitude & Contentment

Each participant completed PHQ – 9 and PSS – 4 before the first week and at the end of the last on Google Docs. After the class each week the researcher emailed the PPT or PDF to all participants so they could watch it on their own and practice as encouraged by the researcher.

Settings or Resources

The researcher selected about 30 participants (15 in each group) for this project. The participants who completed and signed the screening form (Appendix E), consent form (Appendix A), and pre-survey forms (PHQ-9 and PSS-4) were accepted into the class. The entire 6 weeks of the Practice Inquiry Project were on ZOOM. The screening of the participants was conducted from late November to December 2022 and the project began in the first week of January 2023.

The Study Population

The study population comprised individuals 65 years or older living in the community who were fluent in English, can complete consent forms, pre, and post-surveys, and to use the internet and ZOOM. There were no exclusion criteria. More females than males enrolled in the classes.

The Goal, Aim, and Objectives

The goal was to determine if the quality of life of community-based older individuals improved after the 6 weeks of one-hour weekly mindfulness meditation classes.

The specific aim was to teach a Mindfulness Meditation Class (one-hour weekly for a total of six weeks) to older individuals in the community.

Objectives were as follows;

Objective 1: Select at least 20 participants by utilizing the -question screening survey form the researcher developed.

Objective 2: Measure the baseline qualities of life by each participant completing PHQ – 9 and PSS -4 before the 6 weeks of the mindfulness meditation program.

Objective 3: Assess participants' learning by having each participant complete a 4-question survey (by Zoom polling) at the beginning of each weekly mindfulness class from week 2 through week 6. The four survey questions pertained to their attention, retention, reproduction, and motivation and evaluated each participant's progress in learning mindfulness meditation techniques. The four-questions survey used a 4-point Likert scale.

Objective 4**:** Measure any changes in the quality of life of participants by PHQ – 9 and PSS -4 scores reported by participants after the 6 weeks of the mindfulness training/meditation class.

Objective 5: Evaluate/determine any changes in the quality of life of participants by comparing their PHQ – 9 and PSS - 4 scores before and after 6 weeks of mindfulness meditation classes.

Data Analysis of the Researcher's Practice Inquiry Project

The researcher's research question was "Can the quality of life of community-based older individuals be improved with the introduction of the 6 weeks one-hour weekly mindfulness meditation class?" The goal of the researcher's PIP project was to determine if older

individuals living in the community can improve their quality of life by learning mindfulness meditation.

The author compared the pre and post-data collected from participants utilizing the PHQ – 9 and PSS – 4 before and after 6 weeks of mindfulness meditation classes. Of the twenty-seven participants who entered the study, the researcher chose not to include results from the nine participants who had missed three or more classes, so only data from the 18 participants who completed the project were analyzed. There were two data collection points – before and after 6 weeks of mindfulness meditation classes. To protect the confidentiality of each participant, the researcher coded the pre and post-test responses so as not to reveal any names or personally identifiable information.

Ethical Concerns:

No ethical concerns arose before, during, or after the research project. This researcher completed and earned the University of Hawaii's required Collaborative Institutional Training Initiative (CITI) certificate, parts 1 and 2 of the – Human Subjects Research (HSR), Non-Exempt Social & Behavioral Science Researchers, and Key Personnel Basic Course. The UH Institutional Research Board (IRB) reviewed the researcher's research proposal and approved it with some recommendations. The researcher made changes to the PIP project/research in collaboration with UH IRB and based on their recommendations and received UH IRB approval to conduct the practice inquiry project.

The researcher recruited participants from the Lanakila Multi-Purpose Senior Center (LMPSC) in Honolulu and OSHER Lifelong Learning Institute (OLLI) of the University of Hawaii, Manoa, with the assistance and support of the director of this program.

Memorandum of Understanding (MOU)

The MOU between the Catholic Charities that operate the LMPSC and the University of Hawaii at Hilo was obtained in May 2022. An MOU was not needed from OSHER Life Learning Institute (OLLI) since it is a program of the UH, Manoa.

Chapter 4: Results

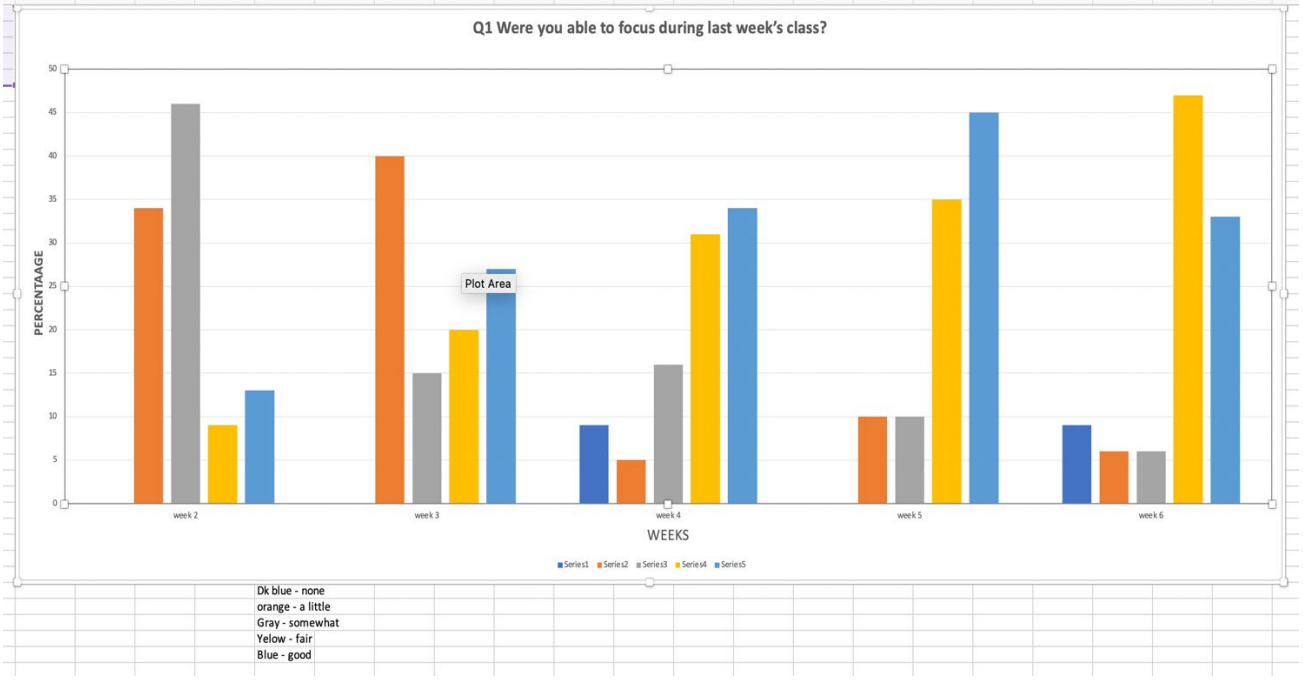
Objective Presentation of Data

The researcher recruited participants from the Lanakila Multi-Purpose Senior Center and OSHER Lifelong Learning Institute at the University of Hawaii at Manoa. The researcher emailed the recruitment flyer to the director of both programs to disseminate to their members and to encourage them to enroll. Interested members signed up through the program director or contacted the researcher directly to enroll. Once participants completed the screening form and signed both the consent and the two-part pre-survey forms (PHQ-9 & PSS-4) via Google Docs, the researcher enrolled them in the mindfulness meditation training class.

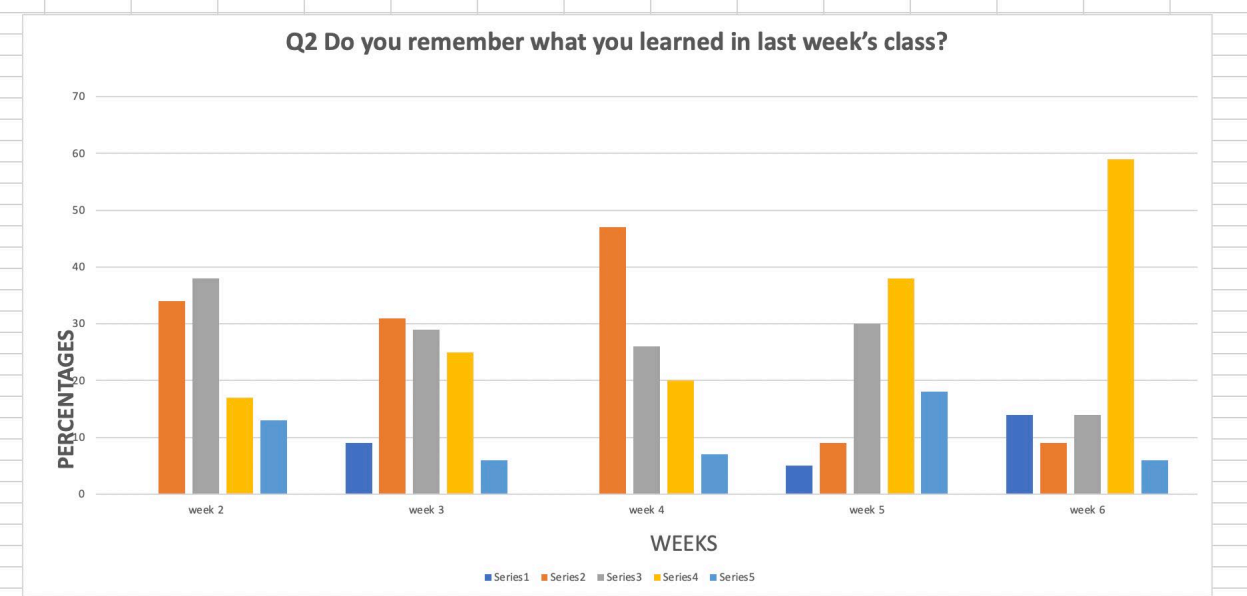
During week 2 to week 6, participants answered the following four questions survey administered via Zoom poll.

1. Were you able to focus during last week's class?
2. Do you remember what you learned in last week's class?
3. Did you practice mindfulness meditation?
4. Are you motivated to practice mindfulness meditation?

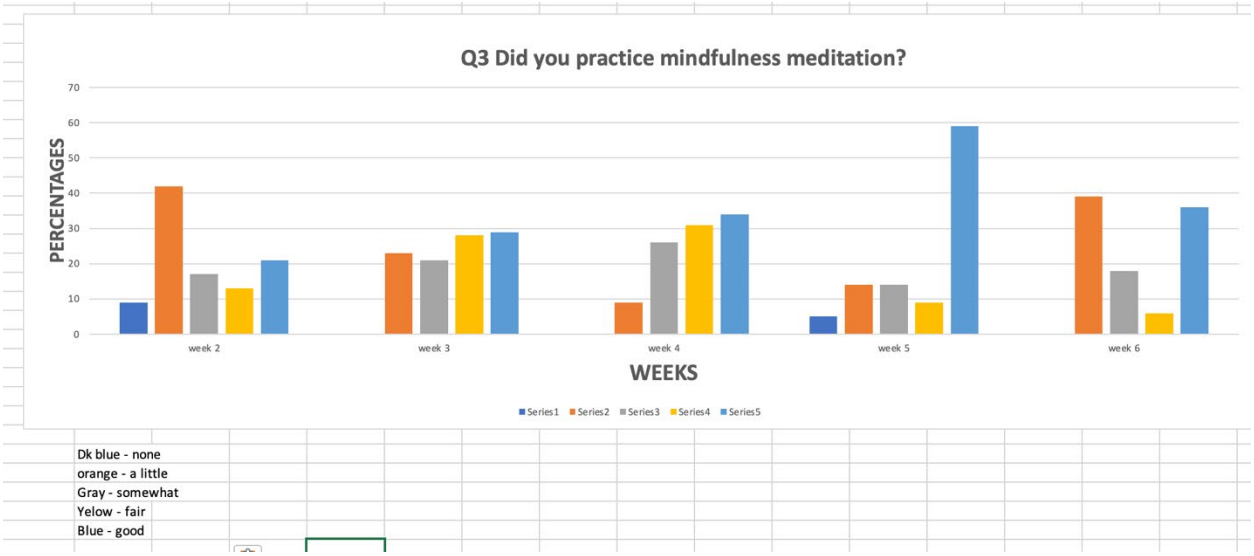
The bar graphs on the next page illustrate the participants' responses to each of the four questions on the survey.



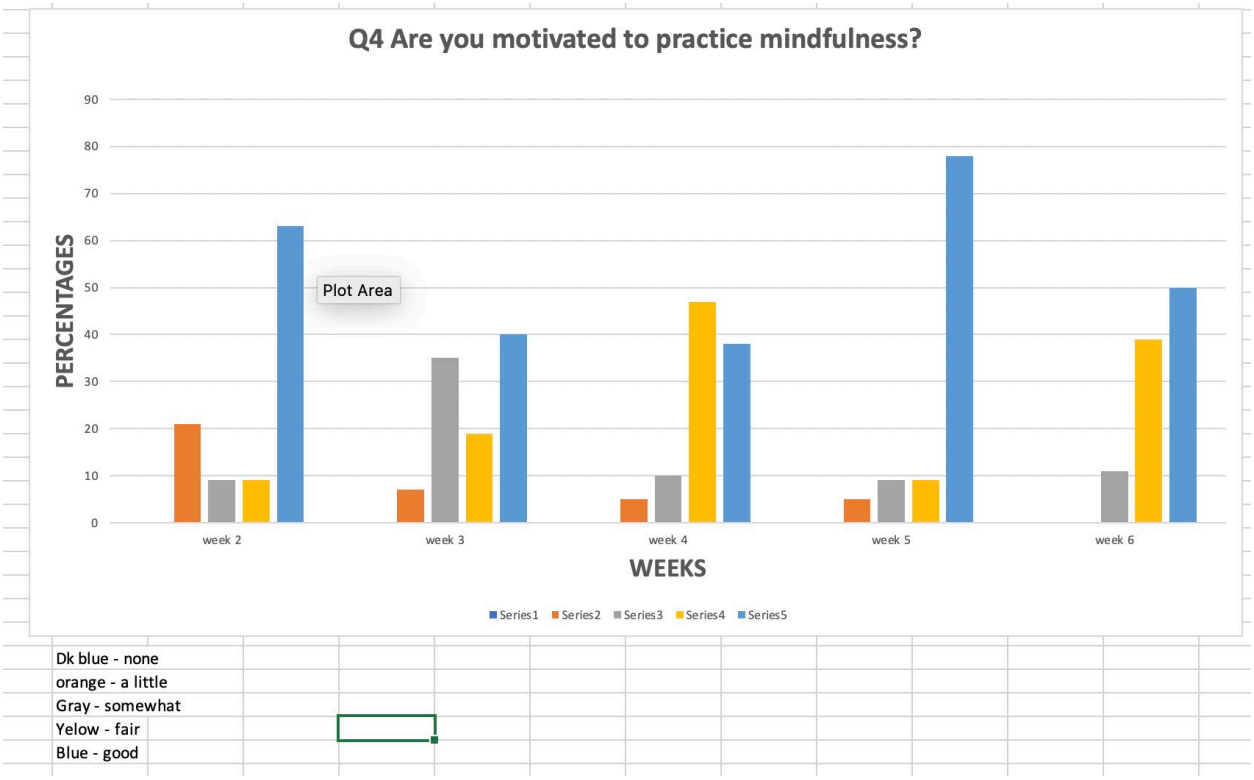
As shown by the blue bar indicating the answer choice 'good', the participants' focus generally improved from week 2 to week 6, although there was a dip in week 6 compared to week 5. On week 6, participants reporting their focus was 'fair' was the most frequent response in week 6. From week 2 to week 5, the percentage of participants reporting their ability to focus as 'fair' increased steadily. The researcher's guess for the reason for participants' focus being lower on the previous week (week 5) could be related to week 6 being the last class of the mindfulness meditation training. Perhaps participants were more distracted or relaxed after attending the weekly one-hour classes for five weeks. Participants may have felt more confident about practicing mindfulness meditation on their own. Therefore, they did not need to focus during the class as much as they did in the beginning of the mindfulness meditation training.



When participants were asked if they remembered last week's class materials, more answered 'fair' versus 'good'. Week 6 results showed the highest percentage of participants stating 'fair' in remembering what they learned in last week's class. Although participants started out reporting 'a little' to 'somewhat' in the first three weeks, they reported an improved ability to remember what they learned in last week's class ('fair') on weeks 5 and 6.



When participants were asked if they practiced mindfulness meditation each week, most responded 'a little' on week 2. As weeks went by, however, participants responded they were practicing more ('good') each week except for the last week. Week 6 showed a decrease in practicing mindfulness meditation compared to week 5.



Participants were very motivated from the first week. The motivation levels decreased in the next two weeks. Week 5 showed the highest level of motivation compared to the previous weeks then it dipped in the last week. The researcher's guess is that participants were less motivated in week 6 compared to week 5 because this was the last week of the mindfulness meditation training. Participants may have felt they can relax and not work so hard to practice the mindfulness meditation since the researcher will no longer ask them the Zoom polling survey questions.

Project Outcome Evaluation (Outcomes Monitoring and Evaluation) Data Collection Process

The researcher's practice inquiry project goal was to determine if older individuals (65 years or older) residing in the community can improve their quality of life by adding a mindfulness meditation program. The research question was "Can the quality of life of community-based older individuals be improved with the introduction of the 6 weeks one-hour weekly mindfulness meditation class?".

The researcher's two specific aims were; 1. evaluate the effect of mindfulness meditation on the quality of life of participants as measured by PHQ (Patient Health Questionnaire) -9 and PSS (Perceived Stress Scale) -4, and 2. using Bandura's Social Learning Theory, assess participants' learning of the mindfulness/meditation techniques by Zoom polling utilizing a four-question survey administered from week 2 to week 6.

The first aim was met by first collecting the PHQ-9 and PSS-4 before the 6 weeks of mindfulness training/meditation program. After the 6 weeks of mindfulness training/meditation program, the researcher again collected PHQ–9 and PSS-4. Participants self-reported PHQ-9 and PSS-4 scores were compared before and after the 6 weeks of the mindfulness meditation

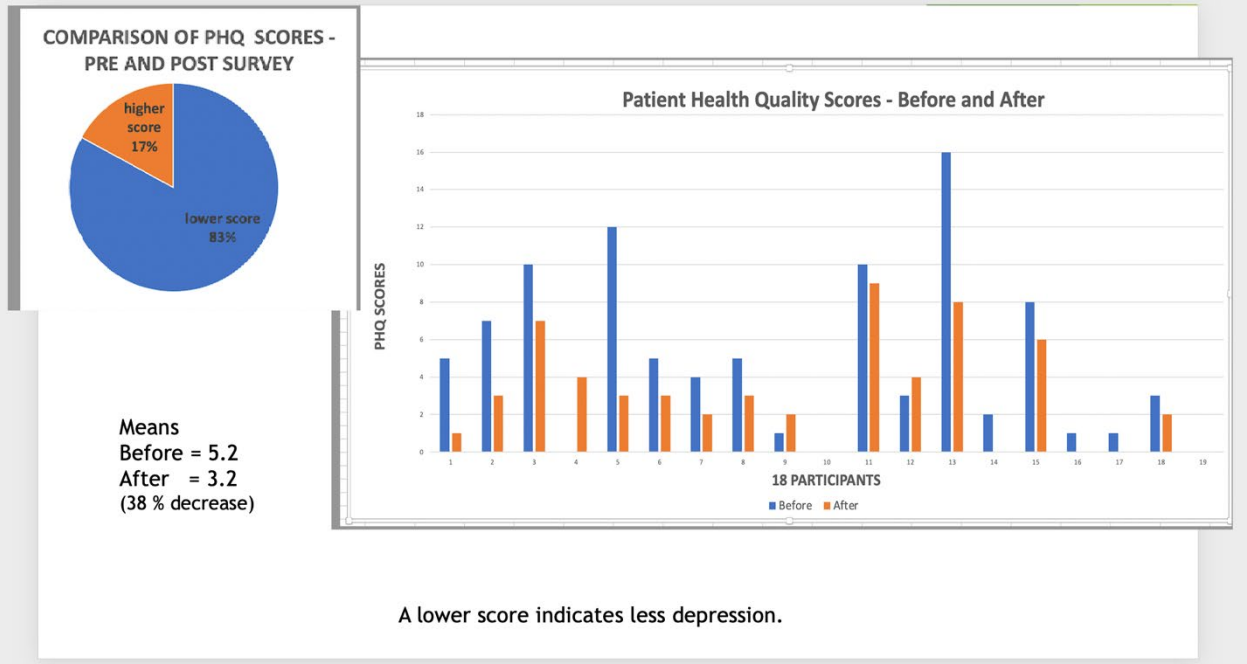
program. Participants used a link to Google Docs to answer both questionnaires (PHQ-9 and PSS-4) confidentially from their homes.

The second aim was met by assessing participants' learning of the mindfulness meditation techniques using Zoom polls - a four-question survey administered from week 2 to week 6.

Data analysis

As shown in the charts below (bar charts and pie charts), participants reported lower levels of depression and very slightly lower levels of perceived stress after completing six weeks of mindfulness meditation classes. The first chart compares the before and after scores of PHQ-9 which measured depression. The second chart compares the before and after scores of PSS-4 which measured stress levels.

Comparison of PHQ-9 scores (before and after)

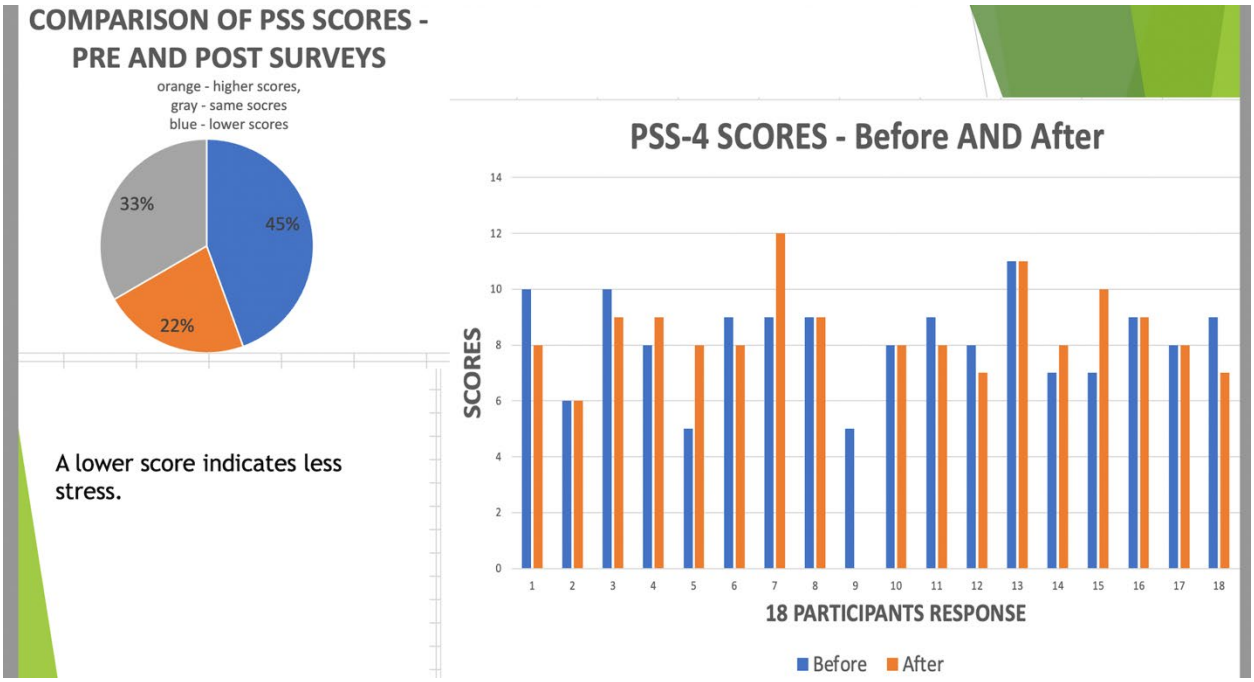


A total of 18 participants completed the six weeks of mindfulness meditation training although 29 had enrolled. All participants were 65 years or older and lived in Oahu. All were

fluent in English. There were five Caucasians and the rest were of Asian descent. One male and 17 females completed the program. All participated on Zoom using their computer or smartphone.

During the first two weeks, 6 dropped out of the program, and three were not included in the data analysis due to more than two absences & incomplete surveys. The researcher did not assess physical health status and social support statuses, such as socio-economic status or family support. As shown in the pie chart below, 83% of participants reported a decrease in depressive feelings after completing six weeks of one-hour weekly mindfulness meditation training. The average or mean before and after scores of PHQ-9 were 5.2 and 3.2, respectively, resulting in a 39% reduction in reported feelings of depression among the participants.

Comparison of PSS-4 scores (before and after)



As shown in the pie chart above, 45% of participants reported lower stress levels while 33% reported no change and 22% reported an increase in their stress levels. Of the 67% who

reported a change in their levels of stress, twice as many participants reported a decrease than an increase.

Conclusion and recommendations

The data showed both a reduction in reported depression and perceived stress by the participants after six weeks of mindfulness meditation classes. Some participants stated that mindfulness meditation has; helped them sleep better, decreased pain (low back pain, sciatica), and recent shoulder injuries), and be more "patient". The conclusion is that mindfulness meditation can help improve the quality of life of older individuals in the community.

Project limitations

Project limitations were; a small sample size (n=18), only one male among 18 participants, and non-assessment of physical health status or social aspects of participants.

Chapter 5

Recommendations and Conclusions

The researcher's two aims were 1. to evaluate the effect of mindfulness meditation on the quality of life of participants as measured by PHQ (Patient Health Questionnaire) -9 and PSS (Perceived Stress Scale) -4, and 2. to assess participants' learning of the mindfulness/meditation techniques, according to Bandura's Social Learning Theory, through Zoom polling utilizing a four-question survey administered weekly from weeks 2 through 6.

The first aim was met by comparing the self-reported scores of PHQ-9 and PSS-4 before the program with scores obtained after completing the 6-week mindfulness training/meditation program. Participants used links to Google Docs to answer both questionnaires (PHQ-9 and PSS-4) confidentially from their homes.

The second aim was met by assessing participants' learning of the mindfulness meditation techniques using Zoom polling with a four-question survey administered from week 2 to week 6. Participants reported lower levels of depression and very slightly lower levels of perceived stress after completing six weeks of mindfulness meditation classes.

83 percent of participants reported a decrease in depressive feelings after completing six weeks of one-hour weekly mindfulness meditation training. The average or mean before and after scores of PHQ-9 were 5.2 and 3.2, respectively, resulting in a 39% reduction in reported feelings of depression among the participants. 45 percent of participants reported lower stress levels while 33% reported no change and 22% reported an increase in their stress levels. Of the 67% who reported a change in their levels of stress, twice as many participants reported a decrease than an increase.

The researcher's findings are in line with the findings from the study by Ahmadpanah et al., (2016) which showed that the symptoms of depression were significantly reduced in the treatment group compared to the control group. A decrease of 50% or more was defined as a response to treatment (Ahmadpanah et al., 2016). A response was observed at study completion and follow-up in the Detached Mindfulness group but not in the control group (Ahmadpanah et al., 2016). This research finding of Ahmadpanah et al. (2016) expanded upon previous research that mostly focused on younger adults without a diagnosis of MDD (Laidlaw, 2013). The study by Ahmadpanah et al., (2016) confirmed that Detached Mindfulness had the potential to reduce symptoms of depression and anxiety among older people (Klainin-Yobas et al., 2015; Cuijpers et al., 2011a, b).

Although the researcher's sample size was small (n=18), the findings confirmed that the answer to the research question was yes, mindfulness meditation training can be helpful to improve the quality of life of older individuals in the community.

Zoom technology was a facilitating factor for this project as it enabled remote mindfulness meditation classes which provided both convenience and safety from COVID exposure for the participants. The use of Google Docs was another facilitating factor as it enabled confidential, convenient, and safe participation regarding the collection of forms for screening and consent as well as for pre, ongoing, and post-participation questionnaires. Both LMPSC and OLLI were already offering many virtual educational classes and their members' familiarity with Zoom was yet another facilitating factor in accomplishing the objectives of the researcher's project. Limited time was a barrier for this project as it negatively impacted the selection of participants and the collection of pre and post-survey data. The window to enroll in the mindfulness meditation class was less than a month since the researcher's project was scheduled from the first week of January to the middle of February after the UH IRB approval was obtained on December 22, 2022. This meant the researcher had only two weeks to recruit the participants. It would have been ideal if there had been at least a month-long recruitment period to allow the enrollment of more participants in the mindfulness meditation class.

The strengths of the project are that the researcher pursued validated measuring tools (PHQ-9 and PSS-4), a very thorough literature review, and the use of technology to engage participants in mindfulness meditation training to provide convenience, safety, and confidentiality. The weakness of the project include:

1. the small sample size (n=18),

2. having only one male among the 18 participants (only one male participant and 17 female participants. 5 males who initially signed up, however, either dropped out in the first two weeks or their attendance was sporadic leaving only one male participant who attended consistently for the six weeks of classes), and
3. not including the assessment of physical health status or social aspects of participants.

Implications for Future Practice

Mindfulness meditation classes can be offered for people of all ages to improve their quality of life. Currently, around the globe, researchers utilize MRIs and advanced computer technologies to better understand the brains of long-term meditators, e.g. Buddhist monks in China and Tibet. More research is needed to understand the relationship between meditation and mental health. Mindfulness meditation training should be a part of nursing school curricula so that nurses in training are exposed to the benefits of mindfulness meditation for themselves as well as for their patients. Healthcare professionals are increasingly challenged and stressed and are not immune to developing mental health disorders, such as depression and anxiety, so mindfulness meditation training benefits the providers themselves.

PMH NPs can offer mindfulness meditation training as an alternative and/or adjunct therapy to pharmacologic treatment of depression and stress to improve the quality of life of older people. As with other global disasters, the COVID pandemic has increased anxiety and depression in children as well as adults. Mindfulness meditation training can help manage depression and stress for everyone, not only for older adults.

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Appendix A UH IRB Approval of the Application and Consent Form

UNIVERSITY of HAWAI'I® SYSTEM

Office of Research Compliance
Human Studies Program

December 05, 2022
Pagan, Joan, PhD, University of Hawaii at Hilo, School of Nursing
Kim-Sunada, Cera, MSN, Nursing, Kapiolani Community College, Daub, Katharyn, EdD, University of Hawaii at Hilo, School of Nursing
Rivera, Victoria, Dir, Ofc of Rsch Compliance, Social & Behavioral
COMMUNITY ELDERLY'S QUALITY OF LIFE AND MEDITATION/MINDFULNESS
None
2022-00794
November 18, 2022

Your research project identified above meets all applicable federal criteria for approval of human subject research, including the informed consent/privacy authorization form, was reviewed by the University of Hawaii Institutional Review Board (UH IRB) at its IRB meeting on November 18, 2022.

This memorandum is your record of the IRB approval of this study. Please maintain it with your study records.

If you expect your project to continue beyond this date, you must submit an application for renewal of this Human Studies Program approval. The Human Studies Program approval must be maintained for the entire term of your project.

If, during the course of your project, you intend to make changes to this study, you must obtain approval from the Human Studies Program prior to implementing any changes. If an Unanticipated Problem occurs during the course of the study, you must notify the Human Studies Program within 24 hours of knowledge of the problem. A formal report must be submitted to the Human Studies Program within 10 days. The definition of "Unanticipated Problem" may be found at: _____ . The report form may be submitted via the eProtocol application.

You are required to maintain complete records pertaining to the use of humans as participants in your research. This includes all information or materials conveyed to and received from participants as well as signed consent forms, data, analyses, and results. These records must be maintained for at least three years following project completion or termination, and they are subject to inspection and review by Human Studies Program and other authorized agencies.

2425 Campus Road, Sinclair 10
Honolulu, HI 96822
Telephone: (808) 956-5007 • Fax: (808) 956-9150
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Association for the Accreditation of Human Research Protection Programs, Inc. Full Accreditation

UNIVERSITY of HAWAI'I® SYSTEM

Office of Research Compliance
Human Studies Program

December 22, 2022

Pagan, Joan, PhD, University of Hawaii at Hilo, School of Nursing

Kim-Sunada, Cera, MSN, Nursing, Kapiolani Community College, Daub, Katharyn, EdD, University of Hawaii at Hilo, School of Nursing

Rivera, Victoria, Dir, Ofc of Rsch Compliance, Social & Behavioral

COMMUNITY ELDERLY'S QUALITY OF LIFE AND MEDITATION/MINDFULNESS

None

2022-00794

Approval Date: December 22, 2022 Expiration Date: November 17, 2023

With this memorandum, the UH Human Studies Program acknowledges that the proposed revision(s) to this study have been reviewed and approved. The University of Hawaii Institutional Review Board (UH IRB) reviewed this application at its IRB meeting on January 20, 2023.

Note that this approval date is for the proposed revision, and does not reset the annual study expiration date. Please refer back to your most recent IRB approval letter (initial application or continuing review) for the study 's expiration date. Regulations require that continuing review be conducted on or before the one-year anniversary date of IRB approval.

You are required to maintain complete records pertaining to the use of humans as participants in your research. This includes all information or materials conveyed to and received from participants as well as signed consent forms, data, analyses, and results. These records must be maintained for at least three years following project completion or termination, and they are subject to inspection and review by Human Studies Program and other authorized agencies.

Please notify this office when your project is completed. Upon notification, we will close our files pertaining to your project. Reactivation of the Human Studies Program approval will require a new Human Studies Program application.

Please contact this office if you have any questions or require assistance. We appreciate your cooperation, and wish you success with your research.

Notes:
Approved Modification: Changing one of the two sites to Lanakila Multipurpose Senior Center (LMPSC) on O#ahu where UH, Hilo already has an MOU with the facility. The Director of LMPSC, Suzanne Chun-Oakland has scheduled the P.I. to teach the mindfulness classes starting in January 2023 on ZOOM. The second location is still the OSHER LLLI with UH Manoa and the P.I. is scheduled to teach classes in January, 2023 on ZOOM.

2425 Campus Road, Sinclair 10
Honolulu, HI 96822
Telephone: (808) 956-5007 • Fax: (808) 956-9150
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University of Hawaii Consent to Participate in a Research Project

Cera Kim-Sunada Principal Investigator
Project Title: Mindfulness and the Quality of Life in the Elderly Living in the Community

Aloha! You are being asked to participate in a research study conducted by *Cera Kim-Sunada RN MSN, Dr. Joan Pagan Ph.D., and Dr. Daub Ed.D*. from the DNP (Doctorate of Nursing Practice) program at the University of Hawaii, Hilo. The result of the research study will contribute to my Practice Inquiry Project.

What am I being asked to do?
If you participate in this project, you will be asked to participate in weekly 60-minute sessions of meditation/mindfulness training with the other participants and the facilitator.

Taking part in this study is your choice.
You may choose to take part or not take part in this study. You may also change your mind at any time. There is no penalty or loss to you if you stop being in the study.

Why is this study being done?
The purpose of my project is to determine if weekly 60-minute mindfulness training will improve the quality of life in community elderlies. I am asking you to participate because you may benefit from this 6-week mindfulness training to improve your quality of life.

What will happen if I decide to take part in this study?
If you decide to participate in this study, you will be asked to do the following.
First, I will ask you to complete a Patient Health Quality (PHQ) -9 form, Mini Mental State Examination (MMSE) form, and a short screening survey form which will take about 15 minute, before beginning the study. Only you and I will be present when you are completing the PHQ - 9. Then you will participate in six 60-minute weekly sessions meditation/mindfulness training. After the 6 weekly sessions of the study, you will be asked to complete another PHQ - 9. At that time, only you and I will be present while you are completing the PHQ-9. You will be one of about 30 people in this study.

What are the risks and benefits of taking part in this study?
I do not anticipate risks or discomfort, although you may feel initially awkward while learning a Mindfulness meditation. I will also ask you to complete a 4-question survey to assist me in monitoring your progress in learning the new skill of mindfulness training.

After six weeks of mindfulness training, you may benefit by improving your quality of life, such as better sleep and better mood. The results of this study will help determine the effect of mindfulness training on the quality of life in the elderly living in the community.

University of Hawaii
Consent to Participate in a Research Project

Cera Kim-Sunada Principal Investigator
Project Title: Mindfulness and the Quality of Life in the Elderly Living in the Community

Results of Research:
Clinically relevant research results will be available to participants upon request.

Privacy and Confidentiality:
Any information from this study that can be identified with you will remain confidential. I will not disclose information about your study participation without your permission except in situations I may be required by law. Confidentiality will be maintained by using a password for my Excel spreadsheet and the statistical software in addition to deleting all personally identifiable health information such as names, email addresses, ages, and birthdates. Only I will know the password for my Excel spreadsheet.

All study data will be stored in a locked cabinet and only I will have access to the key to the cabinet.

Other agencies, such as the University of Hawaii Human Studies Program, have the legal right to review research records for this study. When I report the results of my research project, I will not use your name. I will not use any other personally identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

Future Research Studies:
Even after removing identifier, the data collected for this study will not be used or distributed for future research studies.

Compensation:
You will receive a $25 gift certificate to either CVS or Times Super Market for your time and effort in participating in this research project.

Questions:
If you have any questions about this study, please call or email me at UH Human Studies Program at 808.956.5007 or uhirb@hawaii.edu to discuss problems, concerns and questions, obtain information, or offer input from an informed individual unaffiliated with the specific research protocol. Please visit http://go.hawaii.edu/jRd for more information on your rights as a research participant.

University of Hawaii
Consent to Participate in a Research Project

Cera Kim-Sunada Principal Investigator
Project Title: Mindfulness and the Quality of Life in the Elderly Living in the Community

If you agree to participate in this project, please sign and date the following signature page and return it to ceraks@hawaii.edu.

Keep a copy of the informed consent for your records and reference.

Signature(s) for Consent:

I give permission to join the research project entitled, *(Mindfulness and Quality of Life in the Elderly Living in the Community)*

Name of Participant
(Print):_____

Participant's Signature:
_____

Signature of the Person Obtaining Consent:
_____

Date: _____

Appendix B CITI Program Part 1 & 2, CITI Completion Certificate

CITI PROGRAM

Completion Date 15-Feb-2022
Expiration Date 14-Feb-2025
Record ID 47355350

This is to certify that:

Cera Kim-Sunada

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Human Subjects Research (HSR)
(Curriculum Group)
Non-Exempt Social & Behavioral Sciences Researchers and Key Personnel
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

University of Hawaii

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w937ceb81-914f-420f-bae7-35b4477ad5d4-47355350

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Cera Kim-Sunada (ID: 10955031)
- **Institution Affiliation:** University of Hawaii (ID: 1688)
- **Institution Email:** ceraks@hawaii.edu

- **Curriculum Group:** Human Subjects Research (HSR)
- **Course Learner Group:** Non-Exempt Social & Behavioral Sciences Researchers and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Record ID:** 47355350
- **Completion Date:** 15-Feb-2022
- **Expiration Date:** 14-Feb-2025
- **Minimum Passing:** 80
- **Reported Score*:** 91

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and Its Principles (ID: 1127)	10-Feb-2022	3/3 (100%)
Cultural Competence in Research (ID: 15166)	10-Feb-2022	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	10-Feb-2022	4/5 (80%)
Assessing Risk - SBE (ID: 503)	15-Feb-2022	5/5 (100%)
History and Ethical Principles - SBE (ID: 490)	15-Feb-2022	4/5 (80%)
The Federal Regulations - SBE (ID: 502)	15-Feb-2022	5/5 (100%)
Informed Consent - SBE (ID: 504)	15-Feb-2022	5/5 (100%)
Internet-Based Research - SBE (ID: 510)	15-Feb-2022	4/5 (80%)
Privacy and Confidentiality - SBE (ID: 505)	15-Feb-2022	4/5 (80%)
Conflicts of Interest in Human Subjects Research (ID: 17464)	15-Feb-2022	5/5 (100%)
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	15-Feb-2022	4/5 (80%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/?k112ba239-f147-40af-9a16-5ab7bef4359d-47355350

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 2 OF 2
COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Cera Kim-Sunada (ID: 10955031)
- **Institution Affiliation:** University of Hawaii (ID: 1688)
- **Institution Email:** ceraks@hawaii.edu

- **Curriculum Group:** Human Subjects Research (HSR)
- **Course Learner Group:** Non-Exempt Social & Behavioral Sciences Researchers and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Record ID:** 47355350
- **Report Date:** 05-May-2022
- **Current Score**:** 91

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
Defining Research with Human Subjects - SBE (ID: 491)	13-Feb-2022	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	15-Feb-2022	5/5 (100%)
Belmont Report and Its Principles (ID: 1127)	13-Feb-2022	3/3 (100%)
Assessing Risk - SBE (ID: 503)	15-Feb-2022	5/5 (100%)
Informed Consent - SBE (ID: 504)	15-Feb-2022	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	15-Feb-2022	4/5 (80%)
Internet-Based Research - SBE (ID: 510)	15-Feb-2022	4/5 (80%)
Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928)	15-Feb-2022	4/5 (80%)
History and Ethical Principles - SBE (ID: 490)	15-Feb-2022	4/5 (80%)
Conflicts of Interest in Human Subjects Research (ID: 17464)	15-Feb-2022	5/5 (100%)
Cultural Competence in Research (ID: 15166)	13-Feb-2022	4/5 (80%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: www.citiprogram.org/verify/?k112ba239-f147-40af-9a16-5ab7bef4359d-47355350

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
Phone: 888-529-5929
Web: https://www.citiprogram.org

Appendix C Participant Recruitment Flyer

How Does Mindfulness Affect the Quality of Life of the Elderly Living in the Community?

The purpose of this study is to determine whether 6 weeks of mindfulness training with elderly individuals residing in the community have positive effects in their quality of life.

<u>You are encouraged to participate if you answer YES to the questions below:</u>

Are you 65 years or older?
Speak and understand English?
Can complete study questionnaires online and use a computer or ZOOM?
Reside (live independently) in the Oahu community?

Sessions begin in January 2023. (Date to be determined)
(6) weekly 60 minutes mindfulness training sessions will take place virtually on ZOOM.
Study volunteers will receive an honorarium (25$ gift card to CVS or Times) after completing the 6 weeks of mindfulness training.
A summary of the results of certain tests performed during the study will be available to study volunteers.

What is Meditation/Mindfulness Training?

Each participant will practice being non-judgemental of their negative thoughts and learn skills to "let go" of negative emotions (anger, worry, sadness, etc.). Practicing mindfulness allows one to stop the habit of judging and evaluating thoughts and learning to observe those thoughts without judgment or reaction.

To learn more about the study, contact
Cera Kim-Sunada MSN , Doctorate of Nursing Practice candidate & researcher at 808-253-8776 or email <u>ceraks@hawaii.edu</u>.

10/28/2022 cks

Appendix D Pre and Post-Measurement Instrument
Table D1 PHQ (Patient Health Questionnaire) – 9

THE PHQ-9 A NEW DEPRESSION DIAGNOSTIC AND SEVERITY MEASURE

TABLE 1

PHQ-9 Scores and Proposed Treatment Actions

PHQ-9 Score	Depression Severity	Proposed Treatment Actions
1 to 4	None	None
5 to 9	Mild	Watchful waiting; repeat PHQ-9 at follow-up
10 to 14	Moderate	Treatment plan, considering counseling, follow-up and/or pharmacotherapy
15 to 19	Moderately Severe	Immediate initiation of pharmacotherapy and/or psychotherapy
20 to 27	Severe	Immediate initiation of pharmacotherapy and, if severe impairment or poor response to therapy, expedited referral to a mental health specialist for psychotherapy and/or collaborative management

THE PHQ-9 A NEW DEPRESSION DIAGNOSTIC AND SEVERITY MEASURE

Nine Symptom Checklist

Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things.....	0	1	2	3
2. Feeling down, depressed, or hopeless.....	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much.....	0	1	2	3
4. Feeling tired or having little energy.....	0	1	2	3
5. Poor appetite or overeating.....	0	1	2	3
6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down.....	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television.....	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual.....	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way.....	0	1	2	3

(For office coding: Total Score ____ = ___ + ___ + ___)

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

From the Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues. For research information, contact Dr. Spitzer at rls8@columbia.edu. PRIME-MD® is a trademark of Pfizer Inc. Copyright® 1999 Pfizer Inc. All rights reserved. Reproduced with permission.

Appendix D Pre and Post-Measurement Instrument
Table D2 Perceived Stress Scale (PSS) -4

Perceived Stress Scale 4 (PSS-4)

INSTRUCTIONS

The questions in this scale ask you about your feelings and thoughts during THE LAST MONTH. In each case, please indicate your response by placing an "X" over the square representing HOW OFTEN you felt or thought a certain way.

	Never 0	Almost Never 1	Sometimes 2	Fairly Often 3	Very Often 4
1. In the last month, how often have you felt that you were unable to control the important things in your life?	☐	☐	☐	☐	☐
2. In the last month, how often have you felt confident about your ability to handle your personal problems?	☐	☐	☐	☐	☐
3. In the last month, how often have you felt that things were going your way?	☐	☐	☐	☐	☐
4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	☐	☐	☐	☐	☐

Appendix E Screening Survey

Screening Survey for The Study on Mindfulness in the Elderly Living in the Community

Date: _____ Name: _____
Address: _____

Please answer each of the questions by the appropriate response.

1. What is your gender?
   Male ___
   Female ___
   Gender other than Male or Female (non-binary) ___

2. Are you 65 years of age or older?
   Yes___
   No ___

3. How would you rate your command of English language?
   a. Good___
   b. Fair ___
   c. Poor___

4. How interested are you in participating in weekly mindfulness training at the Senior Center?
   a. Very interested ___ ___
   b. Somewhat Interested ___
   c. Not sure but would like more information _____
   d. Not interested ___

5. Do you currently meditate or have you ever meditated?
   Yes___
   No ___

6. Are you familiar with mindfulness or meditation?
   a. Very familiar ___
   b. Somewhat familiar ___
   c. Not at all familiar ___

Thank you for completing the survey!
8/24/22 cks

Appendix F Data Codebook (for Screening Survey)

Screening Survey Code Book

Question	Variable	Type	Format	Recodes
1. What is your gender you identify with?	Survey number	Nominal Dichotomous	1= Male 2= Female 3= Binary	
2. Are you 65 years of age or older?	Age Group	Nominal Dichotomous	1=Yes 2 =No	
3. How would you rate your command of English language?	English fluency	Continuous	1 = poor 2 = fair 3 = good 4 = very good	
4. Are you interested in participating in weekly mindfulness training at the Senior Center?	Interest in mindfulness training	Nominal Dichotomous	1=Yes 2 =No	
5. Do you currently meditate or have you ever meditated?	Experience with meditation	Nominal Dichotomous	1=Yes 2 =No	
6. Are you familiar with mindfulness or meditation?	Familiarity with mindfulness/meditation	Nominal Dichotomous	1=Yes 2 =No	

cks 8/24/2022

Appendix G Project Budget

Budget for the Project

The budget for the project included a $25 incentive in gift cards per participant.

The incentives for participants were $450 ($25 x 18 = $450).

The postage stamp was $11.34 (63 cents x 18 = $11.34).

My total budget was $461.34.

Appendix H Project Timeline

Timeline for Completion of the Project

Completion Date	Activity to be Completed	Completed? Y or N
By 12/2021	Completed a valid qualitative research design for my PIP with knowledge gained from the NURS612 & 611 - EBP and Advanced Methods courses.	**Y**
By 5/2022	Learned more about mindfulness or other meditation techniques that showed positive outcomes.	**Y**
By 6/2022	Selected practicum sites to conduct my PIP project in the Fall of 2022 & obtain approval from the chosen site (LMPSC), by Catholic Charities, Hawaii and OLLI – UHM.	**Selected a site (LMPSC) and received MOU approval & provisional approval from Catholic Charities, Hawaii**
By 2/2022	Developed a detailed 6-week mindfulness meditation training curriculum;	**Developed a general training plan using JABSOM model**
By 9/2022	Completed literature review – identified Benchmarks, Strengths/weaknesses, and Gaps/limitations	**Y**
By 12/5/2022	Submitted application for IRB approval to UH	**Application completed, submitted and approved (12/2022)**

By 1/5/2023	Recruited and selected about 30 participants for my PIP project (from LMPSC & OSHER); utilized online screening survey forms using Google Doc.	**Y**
By 1/7/2023	Obtain signed consents and pre-surveys (PHQ-9 & PSS-4) from participants for my research PIP project in Spring, 2023.	**N**

Figure 1.1 Logic Model