

An on-site Mindfulness-Based Intervention to Promote Wellness in the Workplace: A Clinically

Applied Project

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### Abstract

The purpose of this project is to implement an on-site mindfulness-based intervention to reduce stress and burnout among mental health care workers. Healthcare professionals are among the most stressed of any profession, and mental health workers are at an extremely high risk for burnout and compassion fatigue (Christopher & Meris, 2010) with an estimated 21% to 67% of mental health workers reporting that they experience high levels of burnout (Salyers et al., 2011). After researching the literature, it was evident that practicing mindfulness can lead to less stress and higher job satisfaction. In an effort to combat this problem, an on-site mindfulness intervention was implemented at an outpatient psychiatric setting for eight weeks. Twenty-seven mental health workers gave their consent to be part of the study, and eleven were able to complete the study and self-assessment surveys for three time periods. The Maslach Burnout Inventory (MBI) (the Human Service Version) and a 1-item job satisfaction were used to measure the effect of intervention on employees' levels of stress and job satisfaction. A non-parametric Friedman test of differences among repeated measures was conducted and findings were not significant when comparing the average total scores of means between pre-, post-, or 1-month follow-up for Emotional Exhaustion ( $p = .148$ ), Depersonalization ( $p = .223$ ), Personal Achievement ( $p = .784$ ) and job satisfaction ( $p = .422$ ). The positive outcomes cited by participant support the thesis that the on-site mindfulness-based intervention is better than no intervention though the effect was not statistically significant.

*Keywords:* occupational stress, burnout, mindfulness, job satisfaction, resilience

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food, clothing, etc. cost money. So, I prayed that if God can help me get through school and get a good paying job, I would take my grandmother to all the places Jesus went to (in the Bible). I also wanted to take her to meet the Pope. This was a vow I made with God; I never told my grandmother. Although her life was taken away from me too soon, I hope she is smiling and cheering me on as I complete my DNP journey. I will always have her in my thoughts, for she is the only person who has contributed the most to the person that I am today.

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## An On-Site Mindfulness-Based Intervention to Promote Wellness in the Workplace

### Chapter 1

#### **Background & Significance**

Although being employed takes away the worries that come with unemployment, it certainly does not guarantee a stress-free reality. Majority of today's jobs come with heavy workloads with little to no time to spare for family and the rest of one's life. Stress and burnout among healthcare workers is a critical problem in the health care industry (Wieck, Dols, & Landrum, 2010). Providing care to high-risk patients is stressful. In a 2012 workplace survey carried out by Harris Interactive for the American Psychological Association, it was found that two in five employed adults (41 percent) report feeling stressed out during the workday, and in that same study less than six in ten participants reported that they had the resources to manage stress effectively. In 2013, American Institute of Stress estimated that overall cost of job stress at work is estimated at \$300 billion annually (Helber et al., 2013). High stressful jobs are linked to higher absenteeism and voluntary turnover rates, and low morale (Maslach & Jackson, 1983).

According to recent studies, replacing one nurse costs hospitals, on average, between \$22,000 to \$64,000 (Jones & Gates, 2007). To remedy the turnover vacancies, hospitals are spending millions of dollars in advertisement and recruitment, orientation and training, hiring, use of overtime, and agency/travel staff (Jones & Gates, 2007). Consequently all of these actions are costly and lead to issues of safety, poor quality patient care, and reduced patient and employee satisfaction (Colosi, 2013). The problem of occupational stress and employees' turnover, in healthcare settings is unaffordable, and with this problem looming, finding solutions to retain employees, particularly in the mental health field, is paramount.



**Internal Evidence.** In a small outpatient psychiatric clinic, occupational stress/burnout and high turnover rates have been witnessed. Although the clinic heavily focuses on the undoubtedly important issue of improving clients' satisfaction, addressing employees' wellness on the job is equally important in improving the quality of care. The clinic has recently shown emphasis on employees' health and wellness, by implementing weekly one-hour yoga classes, but this practice did not sustain. It was unfortunate to hear that the weekly yoga classes were no longer available because an overwhelming number of employees expressed positive outcomes from the yoga class, such as less stress and more compassion with more energy and vitality. Employees' compassion satisfaction and higher morale play a critical part in patients/clients' satisfaction. In an effort to re-build on the original focus on employees' wellness to combat the problems of stress, and thereby improving the quality of care and to reduce the cost associated with employees' turnover, implementation of an on-site mindfulness meditation program was proposed.

**Problem Statement.** Occupational stress is particularly common in the mental health settings (Salyers et al., 2011). Multiple literatures reveal that mental health professionals are at an extremely high risk for burnout and compassion fatigue (Christopher & Meris, 2010). It is estimated that 21% to 67% of mental health workers experience high levels of burnout (Salyers et al., 2011). Chronic stress can lead to burnout, "a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do 'people work' of some kind" (Maslach & Jackson, 1983, p. 2), which is marked by feelings of emotional exhaustion, depersonalization, and dissatisfaction with one's accomplishments on the job (Maslach & Jackson, 1981). Some of the most common origins of compassion fatigue are linked to large case loads, limited supervision or lack of good supervision, and the disappointment and frustration

that takes over when our expectation of ourselves as helpers is vastly different from the reality of what we are able to do (Bush, 2009; Figley, 1995). In addition, the increase of government budget cuts and revenue shortfalls are worsening the problem as they are placing additional stress on personnel (Salyers et al., 2011).

**PICOT Question.** In outpatient psychiatric mental health setting, does implementing an on-site mindfulness-based intervention compared to no intervention affect employees' stress levels and job satisfaction over an eight-week period?

### Evidence Synthesis

**Literature Search.** Preliminary searching for evidence was undertaken to find the most relevant and best evidence to address an evidence-based inquiry and provide evidence-based interventions aimed at preventing or reducing stress in healthcare employees. Due to limited research studies that precisely address employee turnover as a consequence of occupational stress/burnout in outpatient settings, the search strategy was expanded to include studies conducted on hospital or inpatient health care workers who spend majority of their workday in direct contact with patients or clients. Studies concerning occupational stress, morale, self-care strategies and nursing turnover were obtained by performing an exhaustive search of the following databases: Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Psychology Information (PsychINFO), Google Scholar, and ancestry searches. The key words used were: *morale, stress, distress, nurs\**, *intervention, education, therapy*. In addition, a combination of words, such as *occupational stress, work place stress, psychiatric nursing, mindfulness skills, emotional regulation skills, and distress tolerable*, was used to ensure exhaustive search was warranted. The term “*nurs\**” was used to search all key terms related to nursing, such as nurse, nursing, nurses, etc.

The Cochrane Database of Systematic Reviews search was undertaken using the following key terms and word combinations: *morale, stress, distress, nurs\*, intervention, education, therapy, occupational stress, work place stress, psychiatric nursing, mindfulness skills, emotional regulation skills, and distress tolerance*. No filters were applied to this search, which yielded zero relevant results. A second attempt was done using these synonyms and combination of words: *attrition, mindfulness, employee turnover, and voluntary turnover*. Likewise, there were no filters applied to this search, which yielded two articles. One article was retained for inclusion; the other article was discarded due its lack of addressing key words from the PICOT question.

The CINAHL database was the next database searched. The following index terms and combination of words: *morale, stress, distress, nurs\*, intervention, education, therapy, occupational stress, work place stress, psychiatric nursing, mindfulness skills, emotional regulation skills, and distress* were entered in the search boxes. The filters applied were abstract and full-text article must be available; year of publication was set to be no prior to 2010; and English was the language of choice. The yielded results were 44 articles, two of which were selected for inclusion.

The next database searched was PubMed. Initial search included the following key terms: *morale, nurs\*, education, prevention, therapy, intervention*; and combination of words: *occupation stress and work stress* with Boolean terms AND and OR applied. Filters applied were as follow: articles = clinical trials, text availability = abstract and full text, year of publication = 5 years; and species = humans. The yielded result was 5072 articles before applying the filters, and ninety-three after applying the filters. A second attempt to search this database was done with the following key terms: *stress [title], morale [title], nurs\*, education, prevention, therapy, and*

*intervention*. A combination of words applied to this search was *occupational stress* [title], *work place stress* [title], and *psychiatric nursing*. Certain words were limited to appear in the title to narrow the yielded results and to be sure that the main point (stress and morale) was addressed in the studies' outcomes. The yielded results were 2190 articles. Boolean terms AND and OR were also applied to this search. The following filters were applied: article type = clinical trial, text availability = abstract and full text, publication date = 5 years, species = humans, language = English, and subjects = complementary medicine and systematic reviews. The yielded result was 20 articles.

The final attempt to search in the PubMed database was conducted to ensure that exhaustive search was done. The key terms searched were: *morale*, *stress*, *distress*, *nurs\**, *intervention*, *education*, and *therapy*. Also a combination of these terms was used in this search with particular use of Boolean term AND and OR: *occupational stress*, *work place stress*, *psychiatric nursing*, *mindfulness skills*, *emotional regulation skills*, and *distress tolerable*. The filters applied to this search were: article type = clinical trial, text availability = abstract and full text, publication date = 5 years, species = humans, and language = English. Yielded result was 18 articles. A total of eight articles were chosen for further evaluation to be considered for inclusion. In addition, three articles from recommended articles via this database were selected for inclusion.

Since the setting for the PICOT question relates to psychiatry, the PsychINFO database was also searched to find studies concerning the research problem. The key terms and combination of words used were similar to those used in the PubMed database. The initial yielded result was four articles. When a filter with limits to English language and publication

year to no older than 5 years was applied, the yielded result was two articles, which were considered for inclusion.

Lastly, a review of a several references lists of articles already selected for inclusion was examined. The inclusion criteria for the articles located within the reference lists were as follow: publication = 5 years; title had to address the research problem (occupational stress), the population (healthcare providers or nurses), and the outcome (voluntary turnover or retention rate). The reference articles that met the above inclusion criteria were then searched through the Google Scholar database. A total of four articles were chosen for further review and inclusion for rapid critical appraisal.

**Critical Appraisal.** Ten studies were included for this review with the goal of finding best evidence-based interventions to prevent or reduce stress arising from workplace. The studies chosen for the EBP inquiry provide evidence that is trustworthy and valuable to the clinical issue. Majority of the participants in the studies were healthcare workers: three studies used nurses as their participants; two studies used physicians; one study used both nurses and physicians and four studies used others (students or other healthcare participants). All participants were adults, ages eighteen and older. Six out of the ten studies were conducted in the U.S. Most studies reviewed were classified as randomized controlled trials. The commonly used interventions were CBT, Mindfulness/didactic, yoga/relaxation, and support group. Fifty percent of the studies used Maslach Burnout Inventory (MBI) and The Perceived Stress Scale (PSS) total score to measure the outcome. Evidence found in majority of the studies was found to be reliable. Six out of the ten studies reported that intervention worked using multiple analyses with a 95% CI and the level of significance measured at  $p < .05$ . Cohen's effect size ( $d$ ), Cronbach's alpha coefficient, repeated-measure of analyses and a statistical power of 80% and above were

used in multiple articles. Six studies reported lower stress scores both immediately and at follow-up assessment compared to baseline stress scores.

**Evidence of Synthesis.** After an exhaustive search from the aforementioned databases, studies concerning occupational stress, morale, and self-care strategies and nursing turnover were chosen for inclusion. A total of seventeen studies were reviewed for inclusion in the literature review, but over a third of the studies were discarded due to lack of addressing the PICOT question, inconclusive evidence, poor outcome data, unfeasible outcomes, and/or omitting data or results. The ten studies chosen met the inclusion criteria, which were to at least address the PICOT question. Selected studies had a common denominator of discussing some type of educational intervention or program with the aim to reduce or prevent work-related stress and ultimately improve nursing retention. Each article was reviewed independently using the rapid critical appraisal checklists (Melynk & Fineout-Overholt, 2014). The data was extracted and organized in the evaluation table for concise examination and comparison (Appendix A).

The evidence from multiple literature reveals that mental health workers are extremely vulnerable to high risk for burnout and compassion fatigue (Christopher & Meris, 2010). Evidence-based inquiry supports the use of stress management intervention, such as mindfulness and cognitive behavioral therapy to help improve employees' stress and ultimately improve the retention rate. Despite the few potential limitations found, such as lack of blindness, inadequate sample size, and the lack of homogeneity among the participants and intervention used among the ten selected studies, the evidence attained from these studies ensure the relevance and transferability of the evidence to a psychiatric health care setting (Appendix B).

**Purpose Statement.** The purpose of this study was to gain insight into the problem of occupational stress and voluntary turnover among psychiatric mental health workers and the

importance of an on-site mindfulness-based intervention to combat this issue. The first aim of this study was to assess the feasibility of a brief modified mindfulness-based stress reduction in outpatient mental health workers in regards to participation, adherence, and completion of the self-reported questionnaires. The second aim of the intervention was to investigate changes in employee stress, burnout, and job satisfaction over three time periods. The goal of this project was to find ways to effectively manage work-related stress to empower and improve employee resilience to stress and improve job satisfaction. It was assumed that implementing this intervention on-site would attract and allow more staff to learn and practice mindfulness meditation. In addition, the frequencies and intensity of stress and burnout would be reduced significantly, and there would be an increase in mindfulness, personal accomplishment, and job satisfaction post intervention and at 1-month follow-up. By providing an effective way to manage stress in a workplace, psychiatric health care settings may be able to improve employee morale and job satisfaction and retain more of their staff. This could help cut the cost of replacing a staff and assist health care settings with the ongoing issue of high occupational stress among mental health care providers and the negative outcomes that follow: absenteeism, turnovers, poor quality care, decrease in job satisfaction and morale. This study determined if a brief modified mindfulness-based intervention derived from Kabat-Zinn's (1982, 2005) traditional Mindfulness-based Stress Reduction (MBSR) model developed by Dave Potter (n. d.) would affect employees' stress and burnout frequencies and job satisfaction. Implementing a mindfulness-based intervention among health care workers has potential to help reduce employee stress and burnout, while increasing employees' self-compassion, mindfulness, and job satisfaction with long-term benefits of improvement in employee retention rates and better quality care delivery. Implementing an on-site mindfulness intervention has potential to improve

employees' professional caregiving, career longevity and interrelations on the job. This EB clinically applied project focused on the following questions.

**Q1** “Does implementing a mindfulness-based intervention on-site increase participation and adherence in relation to previous trials of traditional and brief MBSR studies with health care workers?”

**Q2** “In a participating outpatient clinic, will an on-site mindfulness-based intervention reduce stress and burnout frequencies and increase job satisfaction among their employees?”



## Chapter 2

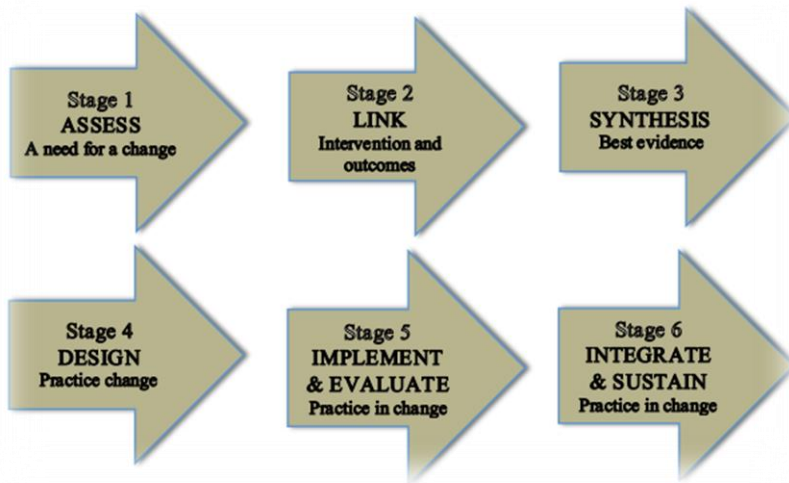
The synthesis of literature confirms that use stress management techniques, such as mindfulness, could significantly reduce the severity of stress and ultimately prevent burnout among mental health workers. In this chapter evidence based practice model and conceptual/theoretical model, which guides this project and proposed intervention, are discussed. The proposed Evidence Based (EB) clinical applied intervention, including methods, results, and discussions of results are discussed.

**Conceptual Framework.** The Multi-Causal Integral Model: Burnout syndrome in the workplace by Manzano-Garcia and Ayala-Calvo (2013) (Appendix C) was chosen as the conceptual framework for this project. This conceptual framework was chosen because it focuses on a more global definition of the term burnout syndrome and has a more integrating perspective. The multi-causal integral model offers a more cohesive vision of factors that causes people to experience burnout (Manzano-Garcia & Ayala-Calvo, 2013). The model emphasizes that burnout is not merely caused by an organization alone, but rather it is a results of stressors from both organizational (conflict and role ambiguity, work overload, few opportunities, etc.) and personal structures (multi-role, negative personal experience, scarce social relationships, etc.), that are incongruent with individual's inputs (high expectations, excessive involvement, etc.) (Manzano-Garcia & Ayala-Calvo, 2013).

**Evidence Based Practice Model.** The model chosen to serve as a guide for implementation for this EBP clinical applied project is Rosswurm-Larrabee's Model (1999) for Change to Evidence Based Practice. This model was chosen based on its comprehensive six-stage method that incorporates best evidence as a priority component of the model. The six stages are as follow: (1) – assess the need for change; (2) – link the problem with interventions

and outcomes; (3) – synthesize the evidence; (4) – design a practice change; (5) – implement and evaluate the change; and (6) – integrate and sustain. Figure 1 below is a graphic of the Rosswurm-Larrabee Model.

**Figure 1: Rosswurm-Larrabee Model (1999).**



Below is the breakdown of the process for implementation under the framework of the Rosswurm-Larrabee Model.

### **Stage 1 – Assess a need for change in practice**

As previously mentioned, it is estimated that 21% to 67% of mental health workers experience high levels of burnout (Salyers et al., 2011).

### **Stage 2 – Link Problem Intervention and Outcomes**

Mindfulness Based Stress Reduction (MBSR) training was first developed in 1979 by a physicist at Massachusetts Institute of Technology and founder of the Stress Reduction Clinic at the University of Massachusetts Medical School, Jon Kabat-Zinn. MBSR training has been studied scientifically and found to improve physical symptoms (such as chronic pain, high blood pressure, diabetes, etc.) and to decrease psychological and interpersonal struggles (such as depression, anxiety, low self-esteem, etc.). National Institute of Health supported studies show

brain MRIs before and after an eight-week course of MBSR training show a link between mindfulness meditation and measurable changes in the brain regions involved in memory, learning and emotion (Holzel, et al., 2011). In studies done by researchers from Massachusetts General Hospital, Bender Institute of Neuroimaging in Germany, and the University of Massachusetts Medical School, found increase in gray matter concentration in the left hippocampus (the area involved in learning, memory, and emotional control) and increase in gray matter from the participants who joined 2 weeks meditation program compared to the control group, who showed no change (Holzel, et al., 2011).

### **Stage 3 – Synthesize Best Evidence**

Numerous evidence reveal that interventions aimed at preventing or reducing stress, such as mindfulness have significance in reducing stress among participants.

### **Stage 4 – Design Practice Change**

An on-site mindfulness-based intervention with the approach on a modified John Kabat-Zinn (1982, 2005)'s original Mindfulness-Based Stress Reduction (MBSR) model, was chosen for this project. The theme of this intervention is based on the concept of mindfulness, which was originated from Zen Buddhism and historically Eastern practices (Epstein, 1999). The intervention was a 20 – 45 minutes mindfulness meditation practice, which ran twice a week preferably during lunchtime.

### **Stage 5 – Implement and Evaluate Practice Change**

Implementation of the on-site mindfulness intervention included the formal guided meditation practices; that took place at the clinical site. The investigator lead the guided meditations two days per week, Tuesdays and Wednesday at the time agreed upon with the clinical team and the lead investigator of the study. Evaluation process with included recording

attendance and completion of pre-, post-, and 1-month follow-up Maslach Burnout Inventory (MBI) - Human Service Version surveys.

**Data Analysis Plan.** The analysis plan was completed using IBM SPSS 23 software to provide the statistical measurements. The pre-, post-, and 1-month follow-up self-assessment survey level was ordinal using MBI-Human Services Version and Job Satisfaction to measure burnout frequencies and job satisfaction. The Maslach Burnout Inventory survey addressed three general scales: emotional exhaustion (EE), depersonalization (DP), and personal achievement (PA). Participants responded to the statements of the MBI on a Likert scale of 0 – 6: 0 = *never*, 1 = *a few times a year*, 2 = *once a month or less*, 3 = *a few times a month*, 4 = *once a week*, 5 = *a few times a week*, and 6 = *every day* (Appendix E). Job satisfaction was measured using a single item derived from Gauthier et al (2014)'s 5-minute mindfulness meditation pilot. Participants were asked a single question, “considering all aspects of my job, I would say that I am very satisfied with my job,” and rated their response on a Likert scale of 1-7: 1 = *strongly agree* and 7 = *strongly disagree* (Appendix D). Descriptive statistics were run to describe the sample and outcome variables, and because the sample was too small and scores were not normally distributed, a non-parametric test equivalent of a one-way repeated-measures ANOVA (i.e. Friedman test) was used to determine if there is significance difference between all three time periods (Cronk, 2014) at a significance level of  $p < .05$  (Munro, 2005).

## Methods

This topic was researched due to the need of stress management strategies for mental health workers in an outpatient psychiatric clinic where occupational stress and high turnover rates have been witnessed. In an attempt to combat the above issues the clinic and employees were open to the idea of weekly yoga classes from an independent yoga instructor; the practice

did not sustain because weekly yoga classes were too expensive. In addition, the clinic also grew and started taking on more responsibilities, like caring for children with high acuity, which the clinic did not previously treat. In the events following the cancellation of the yoga practice and the clinic taking on more responsibilities, increase in stress and burnout and turnover rates were witnessed. In an effort to re-engage the clinic's employees' focus, an on-site modified MBSR program was developed specifically for the needs of the mental health workers in an outpatient psychiatric clinic.

**Human Subjects Protection and Recruitment.** Prior to implementation of the proposed intervention, the project coordinator (the lead investigator of this EB clinical applied project) completed collaborative institutional training initiative (CITI Program) to enhance her integrity and professionalism in conducting research. Also prior to commencing the research, clinical site gave the approval for implementation at the aforementioned site. A "permission to reproduce" the measurement tool (MBI) chosen to measure the outcomes of this intervention was also obtained via Mindgarden.com (Appendix E). The EB clinical applied project was reviewed and approved by Arizona State University's Institutional Review Board (IRB) prior to data collection (Appendix F). Potential benefits and risks associated with the proposed intervention were underlined in informed consent (Appendix G), which was signed by participants who wished to be part of the study. In an effort to protect participant's privacy and confidentiality, encrypted identification (ID) was given to every participant who wished to take a part in the study. The ID code includes the participant's first and last initials followed by his or her last four digits of phone number. Data documents were securely stored in a locked cabinet, and were only available to the investigator and co-investigator. In terms of data analysis, obtained data were assigned security codes to computerized record.

The recruitment process included a word of mouth and distribution of flyers (Appendix H) in the employee break room, as this is the area all target disciplines assemble. The flyers containing an announcement about the upcoming study and a brief description of the study were distributed at the site one week prior to initial information session. On October 1<sup>st</sup>, 2015, an information session about the study was held during a monthly meeting. Employees (ages 18 and older) who showed interest were given additional information in written and verbal form (in English), and were asked to sign a consent statement (Appendix G).

**Population.** The target audience for this intervention included variety healthcare workers (supervisors, administrative staff/clerks, providers, therapists, and case managers) with the exception of the temporarily hired employees and interns. Inclusion criteria were as follows: all participants who wished to take part in the study had to be 18 years of age and older, and had basic skills of speaking and comprehension in English. Individuals who were temporarily hired or interning at the time of implementation of intervention and those with any health condition that restricted them from lying on their backs for a long time of period (approximately 37 minutes or more) were excluded from the study. Participants who did not sign informed consent had the option to attend the mindfulness meditation practices, but they were not asked to complete the self-assessment questionnaires (pre-, post-, or 1-month follow-up). Furthermore, individuals had to sign an attendance list at the beginning of every session; those who wished to not be part of the study were encouraged to not sign the roaster.

The implementation team consisted of a principal investigator (PI), an Associate professor at Arizona State University (ASU) with Psychiatric Mental Health Nurse Practitioner (PMHNP) and a PhD, whose role was to oversee this evidence-based project implementation. The co-principal investigator (co-PI) was an RN and Doctor of Nursing Practice (DNP) student

at Arizona State University (ASU) with training in the principles of evidence-based care, systems and leadership in healthcare. The facility mentor was the operational manager of the site who is a specialist in psychiatric mental health outpatient services.

**Setting.** The setting chosen for the implementation of this project was an outpatient psychiatric clinic located in Surprise, Arizona. The clinic is one of the fourteen clinics of the largest and one of the oldest not-for-profit child welfare and behavioral health agencies in the state of Arizona. The agency services more than 42,000 children, individuals and families in all 15 counties in the state each year, and employs more than 600 full-time, part-time, on-call, and relief staff.

**Intervention.** A three-month timeline was chosen for the project: eight weeks for implementation of mindfulness meditation and one month follow-up data collection. The proposed intervention followed the outline of a free 8-week online MBSR course through [lapalousemindfulness.com](http://lapalousemindfulness.com). La Palouse Mindfulness course is modeled on the MBSR program founded by Jon Kabat-Zinn at the University of Massachusetts Medical School (Potter, n.d.). This intervention used a modified version of the online course, which only encompassed the guided practice videos offered through La Palouse Mindfulness site (Appendix I). The guided practice videos' length range between 30 and 37 minutes. The following is the outline of the intervention week by week.

Week one focused on recruitment. The recruitment process included a word of mouth and distribution of flyers in the employee break room. Distributed flyers contained an announcement about the upcoming study and a brief description of the study. An information session was held on October 1<sup>st</sup>, 2015 during a monthly meeting. Employees who showed

interest in the study were given additional information in written and verbal form, and they were asked to sign a consent statement.

In week two the study was introduced to the staff. The objectives discussed in this week included: getting started, MBSR – an introduction and education on how to complete the assessment tools/surveys, and completion of pre-test (Time 1). In addition, 1:1 assistance was provided to those who needed further education on how to properly complete the pre-intervention self-assessment surveys. Although this intervention is based on the weekly-guided practices alone, those who wish to learn more about weekly themes had the option to request reading materials on weekly themes or topics for the upcoming-guided practice. The readings were optional; they were offered to help participants build a base of both knowledge and experience. These readings were obtained from [lapalousemindfulness.com](http://lapalousemindfulness.com) by the investigator, and they were provided in print forms to all participants per request.

Week three marked the beginning of the intervention. The theme for this week was “Simple Awareness”, where a 20-minute “Body Scan” guided mindfulness meditation practice was implemented. A total of fourteen participants took part in this mindfulness meditation practice.

In week four, introduction to sitting meditation was implemented. The theme for this week was “Attention and the Brain”. A 20-minute sitting meditation practice was implemented. A total of sixteen participants attended the sitting meditation practice.

The theme for week five was “dealing with thoughts”. Formal practice for this week was a 37-minute mindful yoga 1. On the day prior to yoga 1, all individuals who wished to partake in this practice were reminded (via email) to wear comfortable clothing for this week’s formal practice. Also, participants were briefly educated on the difference between mindful yoga and



traditional yoga. Mindful yoga focuses on body/mind awareness instead of exact posture, as seen in the traditional yoga. Individuals who took part in the formal practice of mindful yoga were asked to focus on their breathing throughout the practice.

Week six's theme was "Stress: Responding vs. Reacting". The investigator intended to show the following videos: stress – portrait of a Killer by National Geographic Special with Robert Sapolasky (27 minutes) and How to make stress your friend by Kelly McGonigal (14 minutes). However, due to the clinic's limited resources, such as not having a TV or projector monitor or access to Wi-Fi, the videos were not shown. The formal practice for this week was yoga 2, a 40-minute video.

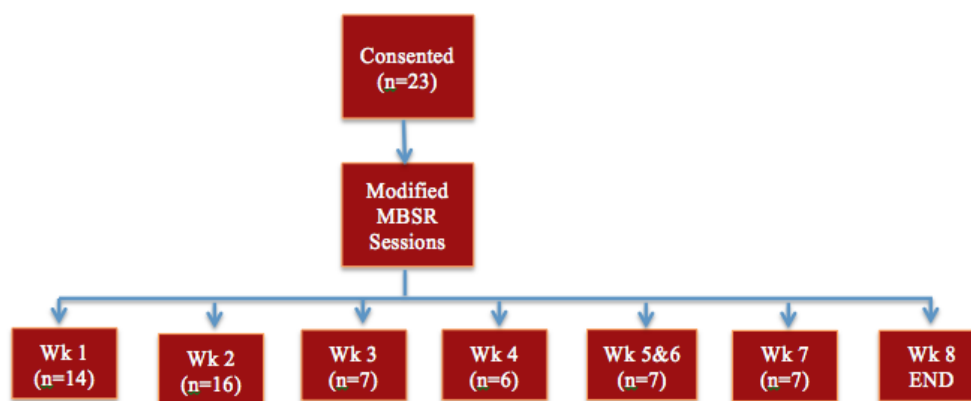
Week seven's focused on "Mindfulness & Compassion" theme. The formal meditation practice for this week was a 15-minuted guided meditation titled "Lovingkindness Meditation".

Week eight concluded the mindfulness meditation practices, and the take away message for this week was for participants to develop a practice of their own. In this week, post-intervention surveys were completed. One month following week eight, 1-month follow-up surveys were completed.

**Budget.** The proposed budget for this project was approximately \$155, \$100 to pay for permission to reproduce the MBI-Human Services Version screening tool, and approximately \$50 to cover for materials needed during formal guided meditation practices, such as yoga mats, wireless speaker, papers, and pens/pencils. In addition, a \$5 Starbuck's gift card was given to the participant with the best attendance. The guide mindfulness meditation videos and recordings were offered for free via [lapalousemindfulness.com](http://lapalousemindfulness.com); also the lead investigator received permission to use the online content for this project from the author of the free online course (Appendix J).

## Outcomes

**Results.** Participants included a total of eleven mental health workers with a wide range of experience working in an outpatient psychiatric setting. The first aim of this study was to assess the feasibility of a brief modified mindfulness-based stress reduction intervention in an outpatient psychiatric setting by looking at participation, adherence, and completion of the self-reported questionnaires. Twenty-four individual staff working in an outpatient psychiatric setting gave their consent to participate in the study. In terms of attendance, a majority of participants were in attendance for week one [fourteen (58%)] and week two [fifteen (62%)]. The lowest participation rate was noted in week 6 with attendance of four out of twenty-four (16%) individuals in both weeks. Eleven out of twenty-four (46%) completed the study and required surveys (see chart below).



*Note.* This table displays weekly number of participants who attended meditation practices.

**Demographic Results.** The demographic data results revealed that majority of participants were females (82%); Fifty-four percent (54%) were White, non-Hispanics; twenty-seven percent (27%) were African-American; and eighteen percent (18%) were Hispanic and Asian – One Hispanic and one Asian. In terms of marital status, nine out of eleven (82%) were

single at the time of intervention. Six participants (55%) reported having a college degree while five out of eleven (46%) had a graduate degree. Most participants were casemanagers with a total of nine out of eleven (82%) participants and two out of eleven (18%) whom were therapists. Regarding participants' years of experience, seven out of eleven (64%) had less than 5 years of experience while three out of eleven (27%) had less than 15 years of experience in current field. The subjects' ages ranged from 23 – 66 years of age, and the average age was 35.9 (SD = 15.25) (Appendix K).

**Statistical Significance.** The second aim of the intervention was to investigate changes in employees stress, burnout, and job satisfaction in relation to the practice of mindfulness at a clinical healthcare site. High stress levels and low job satisfaction were reported throughout the project (M = 66.09, SD = 15.26), post-intervention (M = 70.73, SD = 14.16), 1-mo. f/u (M = 65.27, SD = 11.90), and job satisfaction (M = 8.54, SD = 3.47) (Appendix L). Comparing average total scores on MBI and job satisfaction surveys (pre-, post-, and 1-mo. f/u), A Friedman's test revealed that there were no significant differences in pre-, post-, or 1-month follow-up in Emotional Exhaustion ( $\chi^2(2) = 3.818; p = .148$ ), Depersonalization ( $\chi^2(2) = 3.000; p = .223$ ), Personal Achievement ( $\chi^2(2) = .486; p = .784$ ) and Job satisfaction total scores ( $\chi^2(2) = 1.727; p = .422$ ). The on-site mindfulness-based intervention did not significantly affect the levels of stress and job satisfaction among the subjects (Appendix M).

**Clinical Significance.** In spite of not finding significant differences between average total scores both in burnout levels and job satisfaction, participants' feedback subjectively indicated positive outcomes of the intervention, which correlated with moderate (M = 32 – 38) to high (M = 39 or over) average frequency ratings from previous research reports that used MBI (Maslach & Jackson, 1981). A number of participants expressed how they enjoyed the guided

mindfulness meditation practices. In addition, participants voiced that ever since they took a part in the study, they have been practicing using mindfulness in their work life, which has helped improve their work productivity and their emotions during crisis situations. One participant wrote on the back of the survey “I never knew what mindfulness was until I participated in your study. Thank you! I now practice mindfulness daily, and this has helped me so much in my work and home relationships.” Clearly, these testimonials suggest that on-site mindfulness intervention made a difference in how participants go about dealing with stress and burnout in their work environment.

**Discussion.** The positive outcomes voiced by the participants with how on-site mindfulness-based intervention has helped them learn to deal and manage stressful situation in work and life show that although on-site mindfulness-based intervention was not statistically significant, it was clinically significant. The first aim for this study was to assess the feasibility of a brief modified mindfulness-based stress reduction in outpatient mental health workers in regards to participation, adherence, and completion of the self-reported questionnaire. The highest attendance was fifteen participants (100%) per week, whom attended week two of the implementation period, and eleven participants (73%) were able to complete the pre-, post-, and 1-month follow-up self-assessment surveys. With considering the fact that participants had to attend these mindfulness practices during their lunch time showed that the participants were motivated to learn self-care techniques, such as mindfulness meditation, to help cope with occupational stress. Individuals who partially attended the formal meditation expressed that the reason was either because their job for that particular day or week required them to be away from the site. This intervention was implemented on-site in an effort to recruit more participants easily, but those who had more work, such as doing intake evaluations or client(s) to see at the

time of the class did not attend the meditation practices for that particular day or week. Despite the decline in attendance towards the end of the implementation of the on-site mindfulness-based intervention, high efficacy and attendance was noted. This may-in-part be due to the fact that the formal meditation practices were facilitated on-site during employee's designated lunchtime.

The second aim of this intervention was to investigate changes in employee stress, burnout, and job satisfaction over three time periods. On-site mindfulness based stress reduction techniques did not produce a positive significant correlation in regards to stress levels and job satisfaction, but positive outcomes were voiced by the participants. Although, on-site mindfulness-based intervention did not significantly lower stress levels or improve job satisfaction among participants, research evidence suggest that getting in a habit of practicing mindfulness cultivates self control of one's emotions by being attentive to the present moment is beneficial in reducing that feeling of stress that results from one's mind being all over the place (site). Dwelling and complaining about things that are not in one's control, such as workload, client's situation, etc., makes it difficult to concentrate on a task or person at work.

Implementing on-site mindfulness practices is better than doing nothing. On-site mindfulness based stress reduction is a cost effective and easily accessible self-help way of de-stressing and relaxing one's mind, and implementing this self-help method for accepting and adjusting to stressful work circumstances can promote resilience and have a positive impact to both the healthcare workers, health care organizations, and the patients. The positive outcomes voiced by the participants can lead to improvement in employees' morale and ultimately improve employee retention, which could be translate to less money spent on recruitment and orienting new employees and optimal patient outcome. Implementation of on-site mindfulness based stress reduction practices for employees could significantly cut down the \$300 Billion annual

loss in healthcare expenditures and corporations as a result of work-related stress (American Institute of Stress, 2013). The practice of mindfulness to relax and de-stress is not a new thing; hospitals all around the country are using mindfulness to help those who suffer from anxiety, depression, pain, and other physical and emotional issues. Clinical research studies, both Medicine and Psychological, support use of mindfulness to help manage stress. Practicing mindfulness can be done anywhere and does not require a specific amount of time one needs to spend in order to attain the benefits. The techniques that were practiced in this study can be accessed for free via [lapalousemindfulness.com](http://lapalousemindfulness.com) and also via other Internet websites, and they can be practiced anytime in the workplace.

**Limitations and Implications.** Some limitations were encountered during the implementation of this study. One of the limitations was inconsistency in the weekly attendance. The institution where the study was implemented was supportive of the study, but it did not give those who wished to participate less work or extra lunch break on the days on-site mindfulness-based intervention was implemented. Those who participated in weekly formal mindfulness meditation practices had to integrate that into their already busy work schedule, which may explain the low attendance and job satisfaction results. Also this study had a small sample size, which means that the study did not contain enough data to make reliable inferences about the effect of the intervention on the subject. Having a small sample meant that the Friedman's test results had little power, which means that the results can be misleading and unreliable (Munro, 2012). The participants were able to self-select to participate in the study, which could lead to inaccuracy of self-reported data. Lastly, the study used self-reported questionnaires; there a chance that confidentiality concerns might have swayed some participants into reporting higher job satisfaction scores.

Future recommendations include conducting a randomized control trial, integrating qualitative research methods, engaging a large sample size, providing more didactic methods, and measures that address the effects of mindfulness practice in predictions of changes in stress levels and job satisfaction, reachable coping and social/spiritual/religious support. Designing a randomized control trial with a larger sample size in similar outpatient setting at a different location, and comparison studies with professionally certified facilitators in mindfulness practice would address limitations in future on-site mindfulness-based interventions among psychiatric mental health workers.

**Conclusion.** The problem of occupational stress and poor morale among health care workers is a critical problem that is costing the health care industry an estimated \$300 billion annually. It is paramount for healthcare organizations to start looking for alternative solutions, such as on-site mindfulness meditation practices, to help manage and eliminate this problem. Implementation of evidence-based clinically applied project on on-site mindfulness-based stress reduction intervention did not show a significance difference in total average scores for stress and burnout or job satisfaction, but clinical outcomes were reported by participants. Results from this study suggest that further study is needed to examine whether practicing mindfulness while on the job is a viable self-help technique employees can use to manage occupational stress. This will lead to having a better connection with working with outpatient psychiatric clients, enhance passion for this chosen career and lead toward a successful work-life balance.

## Chapter 3

### **Impact of Project**

The evidence from literature and implementation of an on-site mindfulness based stress reduction provide evidence that practicing mindfulness in the workplace have positive outcome on employees and potentially help health care organizations retain their employees. The plateau of burnout levels and job satisfaction results in this study does not discount the overwhelming evidence from the literature and previous research studies that support the use of mindfulness based stress reduction to manage stress among healthcare workers. The U.S. health care industry continues to spend an estimated \$300 billion annually on consequences of stress, which could be prevented by self-help methods like practicing mindfulness. This chapter will discuss the organizational and health policy impact on the implementation of on-site mindfulness, including the sustainability plan for the use of mindfulness in clinical health care settings.

**Practice.** In 2013, The American Institute of Stress estimated that annual cost of stress on the health care industry is \$300 billion (Helber et al., 2013). This is mind-blowing and the reason why health care clinical sites need to pay attention to the evidence from literature and the on-site mindfulness based stress reduction results, which support that use of mindfulness can help reduce occupational stress and improve job satisfaction. Implementing on-site mindfulness based stress reduction can impact the future of health care and employee wellness in major ways. It is assumed that implementing on-site mindfulness based stress reduction in clinical settings will lead to positive outcomes, such as employees gaining the skills to self-regulate stress and integrate mindfulness into their daily practice. Ability for healthcare workers to accept and adjust to stressful work circumstances in an effective way can promote resilience, which could lead to a snowball effect that could lead to increased job satisfaction, improved employees' professional



caregiving, career longevity and interrelations on the job, improved employee retention rates, higher quality care delivery, and ultimately a reduction in health care expenditure on the consequences of occupational stress.

**Cost Benefit Analysis.** The cost-benefit analysis used for this project was that of an economic evaluation, which appropriately captured the benefits of a mindfulness-based intervention in a setting similar to the chosen setting for this project (Edwards et al., 2015). The clinic and participants were not expected to contribute the project, but for future implementation of an on-site mindfulness-based stress reduction, the organization and employees will have to contribute to the creation and sustainability of the “de-stress and renew “ room. The investigator spent approximately \$155 on materials to implement the project; the exact cost of creating a space and furnishing the space where employees can go to de-stress is going to cost more or less depending on the location in which the clinical setting is at. The expectation is that these charges will be a one time charge, which with everlasting benefits for the employees, patients, and organization. The expected changes and benefits of implementation of this intervention into practice through creation of a space where employees can go to practice mindfulness while on the job will –

1. Help employees accept or adjust to stressful work circumstances and promote resilience;
2. Improve employees’ psychological functioning by enhancing their ability to undertake the usual stress that comes with working with individuals with mental illness,
3. Have an indirect effect on the level of ease with which participants are able to work within their current work environment.

The sensitivity and generalizability of this project intervention in terms of its economic effects is going to depend on subjects' attendance. If majority of employees do not utilize the "de-stress and renew" room or do not adhere to the rules pertaining to what one should do while they are in the room; this will affect the outcomes.

**Current Policies.** There is no outstanding policy that would hinder the implementation of an on-site mindfulness based stress reduction program in clinical health care settings because this intervention is considered to be a self-care stress management resource with no noted or reported negative outcomes. On-site MBSR would only be offered to employees', not the patients. Also, the implementation of on-site MBSR would help meet the two out of three set forth objectives in The Affordable Care Act (ACA) – quality and cost control (McDonough, 2013). The ACA emphasizes on moving the U.S. health care away from disease treatment and more towards health promotion and disease prevention, and this model parallels the ultimate goals for the implementation of on-site MBSR – prevention of stress and burnout, which in hopes would lead to higher job satisfaction, reduction in turnover rates, and reduction in healthcare's annual spending on the consequences of stress and burnout. Taking action and initiating on-site mindfulness in clinical health care settings is a harmless, easy, and low cost way to help improve the size and effectiveness of the nation's healthcare workforce.

**The DNP as an Innovative Leader.** The development and implementation of my project was created in the wake of a conversation I had with several healthcare workers who said that they felt that their jobs did not provide enough resources to support employees' wellness. There are abundant health care policies and patients' resources to help patients with stress, but that is not the case for employees. This idea that healthcare workers can handle stress and are somewhat

considered superhuman led me to the development and implementation of my project. As a DNP innovative leader, thinking of ways to improve the wellness of healthcare workers was the goal.

After searching the literature, it was evident that the majority of healthcare businesses are not prioritize employees' wellness as much as they do for the patients, so the question was how can this be changed? One of the Healthy People 2020 objectives discusses occupational safety and health, and the goal for this objective is to “promote the health and safety of people at work through prevention and early intervention (Office of Disease Prevention and Health Promotion, 2016, p. 1).” As a future DNP and innovative leader the need to take on this role to educate clinical health care settings on ways to improve employee morale and improve recruitment and retention of their staff would be important. The National Institute for Occupational Safety and Health (NIOSH) (Office of Disease Prevention and Health Promotion, 2016) reports that U.S. workers spend more time at work – more than they spend with their families, sleeping, or commuting. It is paramount that health care organizations take action in implementing ways to ensure safety and contentment in the work environment in order to optimize recruitment and retention of their employees.

The practice of mindfulness in clinical health care setting is an innovative method healthcare organizations adopt in their employee wellness program to warrant the safety and contentment of their employees. Health care settings should aspire for a holistic atmosphere that empowers staff by helping them stay connected to their mind, body, emotions, and spirit because doing such can would encourage healing and hope and ultimately improve employee retention and patient care delivery. On-site MBSR is an innovative idea that could change the way health care employee look and deal to stressful work situations. Through the practice of mindfulness,

health care workers can be more positive and accepting of stressful work events, which can improve their relationship in working with patients, families, or colleagues.

**Sustainability Plan.** This project was designed with great intent and hope that use of on-site mindfulness based stress reduction guided meditations would decrease stress and burnout and improve job satisfaction in the clinical outpatient setting that was selected. While the study findings were not significant, participants personally shared some of the positive outcomes they gained from attending mindfulness meditation practices, and these positive outcomes cited by participants offer some encouragement for the sustainability of this practice through the application of learned skills to self-regulate one's stress in the future. Sustainability of this project is possible in part because there were no negative outcomes associated with the study. Also, the cost to implement this project was very minimal when the costs of the instrument and yoga mats are deducted from the total price. The sustainability plan for the practice of mindfulness in clinical health care setting will include healthcare organization taking initiative with addressing occupational stress and burnout by adding private space into their clinical setting structure, where employees can go to distress and renew while on the job. This room would be called the "de-stress and renew" room, and it would have comfortable furniture, like a recliner and a sofa to ensure that one can sit or lie in a relaxing body posture. It would have visual and mental relaxation enhancement decorations and materials, such as a painting of an ocean or beach, pictures of waterfalls, inspirational and mindfulness books, a computer where one can access guided mindfulness meditation recordings or videos, and a yoga mat. The clinical management team would be responsible for providing access to the room, so each employee would have to request access in order to use the room. Those who wish to use the "de-stress and renew" room would be asked to utilize the room only for mindfulness relaxation. All handheld or

communication devices, such as cellphone, pagers, or any other communication devices including papers or nursing notes would be asked to not be taken into the room. And to avoid misusing the room, a timer can be set where the alarm would go off after 15-minutes (maximum length of time that would be allowed for each employee to use the room. Also only one person can access the room at a time.

**Implications for Future Study.** Although the findings from the study showed that there was no significance difference between average total scores in MBI and job satisfaction pre-, post-, and 1-month following the implementation of an on-site mindfulness-based intervention at an outpatient psychiatric setting, participants voiced positive outcomes from the study, which calls for more studies to be done to ensure both statistical and clinical significance. Future study recommendations include conducting a randomized control trial, integrating qualitative research methods, engaging a large sample size, providing more didactic methods, and measures that address the effects of mindfulness practice in predictions of changes in stress levels and job satisfaction, reachable coping and social/spiritual/religious support. Designing a randomized control trial with a larger sample size in similar outpatient setting at a different location, and comparison studies with professionally certified facilitators in mindfulness practice would address limitations in future on-site mindfulness-based interventions among psychiatric mental health workers. Also due to inconsistent attendance, which was noted in the aforementioned study, offering of a variety of incentives, such as a one-time movie tickets, free lunch ticket, gift cards to local store like target, etc., would be recommended for future studies. In addition exclusion of mindful yoga formal meditation practices is recommended. The attendance for this study showed the weeks with lower participation were during mindful yoga weeks with a total of six participants compared to fourteen to sixteen participants from other weeks of formal

meditation practices. Lastly, use of measurement tools with high validity and reliability is highly recommended to ensure generalization and transferability.

### **Conclusion**

Stress/burnout among health care workers is an occupational hazard that requires as much attention as any other issues that face healthcare workers. The American Institute of Stress estimates that the U.S. health care industry spends approximately \$300 billion annually on stress (Helber et al., 2013). Implementation of an on-site mindfulness-based intervention, a clinically applied project, was not significant in reducing burnout or improving job satisfaction among the subjects, but clinical significance was noted through the positive outcomes mentioned by the participants. Practicing mindfulness to help people accept and deal with stressful work circumstances concur with nursing theories in regards to ways to develop self-help coping strategies and practices to alleviate stress and prevent burnout and other detrimental outcomes of work-related stress. It is presumed that implementing an on-site mindfulness based stress reduction through the creation of “de-stress and renew” rooms will reduce stress and burnout among employees, increase job satisfaction, with a potential to improve employees’ resilience to stress; improve their professional caregiving, interrelations on the job, and career longevity. Taking action to help protect and ensure the wellness of our health care workers should be a priority for every health care clinical setting because practicing mindfulness in a worksite setting can greatly influence the future of health care as a whole and can contribute to successful work-life balance.

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## Appendix A

Table 1

*Evaluation Table*

Author/Title/Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables	Measurement(s)	Data Analysis	Study Findings	Applicability
Gunusen, et. al., (2010) An RCT of coping and support groups to reduce burnout among nurses Turkey	NMS	RCT	N =108 N=89 Turkey	IV= C DV1= CP DV2: SG	MBI	Chi-square test	SG	L/E: III-1 Feasible and applicable
Kravits, K., et al., (2010) Self-care strategies for nurses: A psycho-educational intervention for stress reduction and the prevention of burnout	PACC CMSC TMC	Pre- &Post-	N=248 USA	MBI HSS		SPSS Paired <i>t</i> test	SG	L/E: IV Feasible and applicable
Lemaire, J. B., et al., (2011). The effect of a biofeedback-based stress management tool on physician stress: a randomized controlled clinical trial Canada		RTC	N=41 N=40	Canada	IV = no BSM DV = BSM	HPQ-9 POQA-R	SG	L/E: II-2 Feasible and applicable
Li, Y-. M., et.al. (2011) The effect of music on biochemical markers and self-perceived stress among first-line nurses: a randomized controlled crossover trial Taiwan	Psychophysiological theory	CCT	N=54 N=49	IV= peer monitoring DV= no intervention	VAS IMMULI T E test	SPSS Repeated measure  Multiple <i>t</i> tests	SG	Feasible and applicable
Moody, et. Al. (2013) Helping the helpers: Mindfulness training for burnout in pediatric oncology – a pilot program USA	Theory of mindful practice	RCT	N=48 N=45	IV = no MBC DV = MBC	MBI PSS RDI	Qualitative  t-test Wilcoxon	NS	Applicable and feasible
Mori, M., et. al., (2014) A web-based training program using cognitive behavioral therapy to alleviate psychological distress among employees: Randomized controlled pilot trial	TMS	RCPT	N=168	IV= CBT + HW DV=CBT	K6	ITT MI	Mixed	Not applicable

Tokyo, Japan									
Ruotsalainen, J. H., et al., (2014) Preventing occupational stress in healthcare workers (Review) Country:Europe (19), North America (24), Asia (8), Middle East (3), South America (2), & Australia (2)	The Transactional Model of Stress	Systematic search	N=7188	IV1: CBT IV2: CBT + R IV3: PR IV4: MR IV4: OR (Sc Δ)  DV1: NI (no CBT) DV2: NI (No PR) DV3: NI (No MR) + course on theory analysis DV4: No ORC	SMD <sub>s</sub> GRADE	SMD <sub>s</sub> CBT	PS	Feasible and applicable	
Salyers, M. P., et al., (2011) BREATHE: A pilot study of a one-day retreat to reduce burnout among mental health professionals U.S. (Midwestern Cities)	A model of burnout process development	Pre- & Post-	N=84 N=74	IV=intervention DV= no intervention	MBI JDS COS	Paired <i>t</i> tests	SG	Feasible and applicable	
Sood, et. Al., (2011) Stress management and resilience training among department of medicine faculty: A pilot randomized controlled trial USA	Theory of mindful practice	RTC	N = 40 N = 32	IV= no DV= intervention	PSS CDRS SAS OQL LASA	Two-sample <i>t</i> test	SG	Feasible and applicable	
Wolever, R. Q., et al., (2012) Effective and viable mind-body stress reduction in the workplace: A randomized controlled trial USA	TMS NJSM	RCP	N <sub>1</sub> = 239 (205) N <sub>2</sub> = 96 (82)	DV <sub>1</sub> = yga DV <sub>2</sub> = Mindfulness DV <sub>3</sub> = none	SPSS PSQI CAMS-R CES-D WLQ	MANCOVA  Independent <i>t</i> tests  ANCOVA	SG	Feasible and applicable	

Key. CP=coping training; DV = dependent variable; IV = independent variable; L/E = level of evidence; MBI = Maslach Burnout Inventory; NS = not significance; NSM = Newman Systems Model; PA = personal accomplishment; RCT = Random Controlled Trial; SG = significance; ANOVA = analysis of Variances; HSS = Human Services Surveys; JCI = Joint Commission International; JS = job satisfaction; L/E = level of evidence; PACC = Promotion adaptation by creating challenge; SPSS = Perceived Stress Scale; TMC = The Transtheoretical Model of Change; AHSWCE = Alberta Health Services Wellness; BSM = Biofeedback-based stress management; CEP = Citizen Engagement portfolio; DM = Department of Medicine; FKUC = Faculty of Kinesiology University of Calgary; HPQ-9 = 9-item Patient Health Questionnaire; HRV = heart rate variability; POQA-R = Personal and Organizational Quality Assessment-Revised; PSS = perceived stress score; SD = standard deviation; RCT = Randomized controlled trial; UTCH = Urban Tertiary Care Hospital; CB = cognitive behavioral; CCT = controlled clinical trial; CG = coaching group; DPC = Diagnostic Products Proportion; MG = music group; M-S-E = medical surgical experience; VAS= Vascular Analogue Scale; BDI = The Beck Depression Inventory; PSS = Perceived Stress Scale; USA = United States of America; BDI = The Beck Depression Inventory; MBC = Mindfulness-based course; CBA = interrupted time-series and controlled before-and-after; CENTRAL = Cochrane Central Register of Controlled Trials; ICC = intra-cluster correlation coefficient; MPR = mental physical relaxation; MR = mental relaxation; COS = Consumer Optimism Scale; JDS = Job Diagnostic Survey; CDRS = Connor Davidson Resilience Scale; DOM = Department of Medicine; LASA = Linear Analog Self Assessment Scale; L/E = level of evidence; MBC = Mindfulness-based course; SMART = Stress Management; Resiliency Training; ANCOVA = Analysis of covariance; CAMS-R = the 12-item Cognitive and Affective Mindfulness Scale-Revised; CES-D = CES-D = Epidemiological Studies' Depression Scale; MANCOVA = multivariate analyses of covariance; MRT = Middle Range Theory; PSQI = The Pittsburgh Sleep Quality Index, RCP = Randomized Controlled Pilot, TSM = Transactional Stress Mod

Appendix B: Synthesis Table

Table 2

Synthesis Table

<b>Study Info.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
Country	Turkey	USA	Canada	Taiwan	USA	Japan	E, USA, As., ME, SA, Au	USA	USA	USA
Year	2010	2010	2011	2011	2013	2014	2014	2011	2011	2012
Design	RCT	Pre-Post	RCT	CCT	RCT	RCPT	RN/P/RN-S	Pre-Post	RCT	RCP
LE	III-1	IV	II-2	II	II-2	II-2	I	IV	II-2	II
<b>Sample Info</b>										
Size	108	248	41	54	48	168	7188	84	40	239
Participants	RN	RN	P	RN-S/RN	RN/P	U	X	U	P	U
<b>Interventions</b>										
CBT						X	X			
Mindfulness/didactic					X					X
Yoga/Relaxation								X		X
Bio-feedback			X							
Coping Training	X									
Support Group	X			X						
Peer Mentoring										
SMART									X	
Self-Care Strategies		X								
<b>Outcomes</b>										
MBI	NS	SG			NS		NS	SG		
PSS			SG	SG	NS				SG	SG
MPR								SG		
JDS								NS		
CDRS									SG	
SAS									SG	
LASA									SG	
Autonomic Balance										SG
PD						NS				
<b>Bias</b>										
Selection	L	H	L	H	L	L	L	H	U	H
Blinding	H	H	H	H	H	H	L	H	H	L
Attrition	L	U	H	L	L	L	U	H	L	H
Reporting	L	L	L	U	L	H	L	L	L	L

**Key.** As = Asia; Au = Australia; CCT = controlled clinical trial; CDRS = Connor Davison Resilience Scale; DV = dependent variable; E = Europe; H = high; JDS = job satisfaction; L = low; LE = level of evidence, IV = independent variable; LASA = Linear Analog Self-Assessment; MBI = Maslach Burnout Inventory; ME = Middle East; MPR = mental physical relaxation; NA = North America; NS = no Significance; P = physicians; PD = psychological distress; PSS = perceived stress QE = quasi-experimental; RCP = randomized controlled pilot; RCPT = randomized controlled pilot trial; RCT = randomized controlled trial; RN = nurse; RN-S = nursing student; SA = South America; SAS = smith anxiety scale; SG = significance SR = systematic Review; U = unclear; USA = United States of America.

Appendix C: Multi-Causal Integral Model: Burnout Syndrome in Workplace

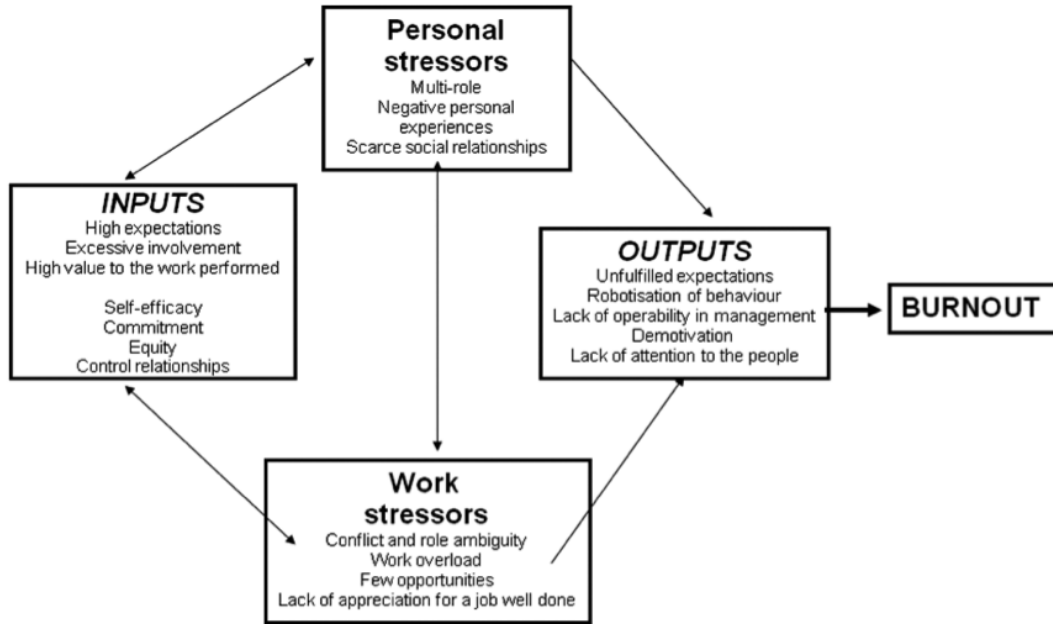


Figure 1. Multi-causal integral model: burnout syndrome in the workplace.

Appendix D: Maslach Burnout Inventory & Job Satisfaction Tool

ID: \_\_\_\_\_ Date: \_\_\_\_\_ Study#: \_\_\_\_\_

**MBI-Human Services Survey**

For each question, check "✓" or place an "X" in the box to indicate the score that corresponds to your response.

Questions	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
<b>SECTION - A</b>	0	1	2	3	4	5	6
I feel emotionally drained from my work.							
I feel used up at the end of the workday.							
I feel fatigued when I get up in the morning and have to face another day on the job.							
Working with people all day is really a strain on me.							
I feel burned out from my work.							
I feel frustrated by my job.							
I feel I'm working too hard on my job.							
Working with people directly puts too much stress on me.							
I feel like I'm at the end of my rope.							
<b>Total score – SECTION A</b>							

Questions	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
<b>SECTION - B</b>	0	1	2	3	4	5	6
I feel I treat some clients as if they were impersonal objects.							
I've become more callous toward people since I took this job.							
I worry that this job is hardening me emotionally.							
I don't really care what happens to some clients.							
I feel clients blame me for some of their problems.							
<b>Total score – SECTION B</b>							

ID: \_\_\_\_\_ Date: \_\_\_\_\_ Study#: \_\_\_\_\_



Questions	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
<b>SECTION - C</b>	0	1	2	3	4	5	6
I can easily understand how my clients feel about things.							

I deal very effectively with the problems of my clients.							
I feel I'm positively influencing other people's lives through my work.							
I feel energetic.							
I can easily create a relaxed atmosphere with my clients.							
I feel exhilarated after working closely with my clients.							
I have accomplished many worthwhile things in this job.							
In my work, I deal with emotional problems very calmly.							
<b>Total score – SECTION C</b>							

(Administrative use only)

EE: \_\_\_\_\_ cat: \_\_\_\_\_ DP: \_\_\_\_\_ cat: \_\_\_\_\_ PA: \_\_\_\_\_ cat: \_\_\_\_\_

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**Job Satisfaction**

Question	<i>Strongly Agree</i>	<i>Agree</i>	<i>Somewhat agree</i>	<i>Neutral</i>	<i>Somewhat disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
	1	2	3	4	5	6	7
Considering all aspects of my job, I would say that I am very satisfied with my job.							

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**Maslach Burnout Inventory™  
Instruments and Scoring Guides  
Forms: General, Human Services,  
& Educators**

Christina Maslach  
Susan E. Jackson  
Michael P. Leiter  
Wilmar B. Schaufeli  
Richard L. Schwab

**Published by Mind Garden**

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Appendix F: IRB Approval Letter



APPROVAL: EXPEDITED REVIEW

Ann Guthery  
 CONHI - DNP  
 602/496-0794  
 Ann.Guthery@asu.edu

Dear Ann Guthery:

On 9/12/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	An On-Site Mindfulness-based Intervention to Reduce Stress and Burnout in Outpatient Mental Health Care Workers
Investigator:	Ann Guthery
IRB ID:	STUDY00003093
Category of review:	(7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None

Documents Reviewed:	<ul style="list-style-type: none"> <li>• Pre-/Post-/1-month follow-up survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• informed consent, Category: Consent Form;</li> <li>• Letter of support from the site (AzCA), Category: Other (to reflect anything not captured above);</li> <li>• CITI training certificate, Category: Other (to reflect anything not captured above);</li> <li>• Demographics survey.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Introduction presentation, Category: Resource list;</li> <li>• Flyer_Mindfulness_Meditation.pdf, Category: Recruitment materials/advertisements /verbal scripts/phone scripts;</li> <li>• Letter of permission to reproduce &amp; screening materials, Category: Screening forms;</li> </ul>
---------------------	---

	• HRP_503_SocialBehavioral 1.docx, Category: IRB Protocol;
--	--

The IRB approved the protocol from 9/12/2015 to 9/11/2016 inclusive. Three weeks before 9/11/2016 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 9/11/2016 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Aimee Uwimana  
Aimee Uwimana  
Ann Guthery



CLOSURE

Ann Guthery  
CONHI - DNP  
602/496-0794  
Ann.Guthery@asu.edu

Dear Ann Guthery:

On 4/29/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	An On-Site Mindfulness-based Intervention to Reduce Stress and Burnout in Outpatient Mental Health Care Workers
Investigator:	Ann Guthery
IRB ID:	CR00002048
Funding:	None
Grant Title:	None
Grant ID:	None

The IRB acknowledges your request for closure of the protocol effective 4/29/2016. As part of this action:

- The protocol is permanently closed to enrollment.
- All subjects have completed all protocol-related interventions.
- Collection of private identifiable information is completed.
- Analysis of private identifiable information is completed.

Sincerely,

IRB Administrator

cc: Aimee Uwimana  
Aimee Uwimana

## Appendix G: Consent

**INFORMED CONSENT*****An On-Site Mindfulness-Based Intervention to Reduce Stress & Burnout in Outpatient Mental Health Care Workers***

I am a graduate student under the direction of Professor Dr. Ann Guthery in the College of Nursing and Health Innovation at Arizona State University. I am conducting a research study to assess the feasibility of a brief modified mindfulness-based stress reduction in outpatient mental health workers and to investigate changes in employee stress, burnout, and job satisfaction over three time periods.

I am inviting your participation, which will involve attending an 8-weeks mindfulness-based guided meditation practices, which will be held every Wednesday at noon in the large group room. This study is expected to start in mid October of 2015 to December 2015. Everyone is invited to attend! All you will need is a yoga mat and comfortable attire. The duration of each weekly meditation session is approximately 30 to 37 minutes. All attendees are highly encouraged to attend all 8 sessions in order to get the full benefit of this wonderful program. There will be self-reported questionnaires, which will be completed pre-, post-, and 1-month follow-up from the study. You have the right not to answer any question pertaining to the data collection, and you can stop participation at any time.

Your participation in this study is VOLUNTARY. If you choose not to participate or to withdraw from the study at any time, there will be no penalty, for example, it will not affect our friendship or professional relationship. Participants who will attend ALL 8-week sessions will be compensated with a \$5 Starbucks gift card. All participants must be 18 or older to participate in the study.

It is expected that you will see benefits as a result of regular and consistent participation in this study. After completion of this study, you will gain inner peace and self control, which will enhance – 1) your ability to accept or adjust to stressful work circumstances and resilience; 2) improve your psychological functioning by enhancing your ability to undertake the usual stress that comes with working with individuals with mental illness, and 3) an indirect effect on the level of ease, which will enable you to work within your current stressful work environment.

There are no foreseeable risks or discomforts to your participation; however, in order to promote the safety and benefit of your participation in this study, it is important that you get medical clearance from your primary care provider before participating in this study. If you happen to experience the following symptoms: back/neck/joint pain, shortness of breath, tightness or pressure in your chest, unusual shortness of breath, light headedness, dizziness and the like during the guided meditation practices, you are encouraged to immediately stop the practice and let the CO-PI know. It is important that you adhere to the recommendations of the guided instructions from the videos with regards to the choice and intensity of exercises you perform. You should not exceed the recommended exercise intensity, and you should not attend the guided meditation practices when you are sick or not otherwise feeling well.

In order to protect your confidentiality, the following practices will be implemented: 1) study codes on surveys will be used instead of recording identifying information. Also documents that link the study code to subjects will be kept separate. All information will be only available to the primary and co-investigators access. 2) Encrypted identifiable ID will be given to every participant who wishes to be part of the study. The ID will include the participant's first and last initial followed by last four digits of his/her phone number. 3) Surveys containing personal identifiers will be removed from the study and destroyed appropriately. 4) Data documents will be securely stored in a locked location and/or assigned security codes to computerized record. Your responses will be confidential. The results of this study may be used in reports, presentations, or publications but your ID will not be used. Also, due to the nature of focus groups, complete confidentiality cannot be guaranteed.

If you have any questions concerning the research study, please contact the research team at: aluwiman@asu.edu and/or 602-399-0134. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

By signing below you are agreeing to be part of the study.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Appendix H: Flyer

*Mindfulness  
Meditation*


*Breathe - Relax - Renew*

Feeling stressed and overwhelmed?  
Looking to create meaning and increase happiness in  
what you do?

Join this 8-week on-site mindfulness-based stress reduction training to learn how to be mindful and  
increase your sense of balance and create greater intentionality in your job.

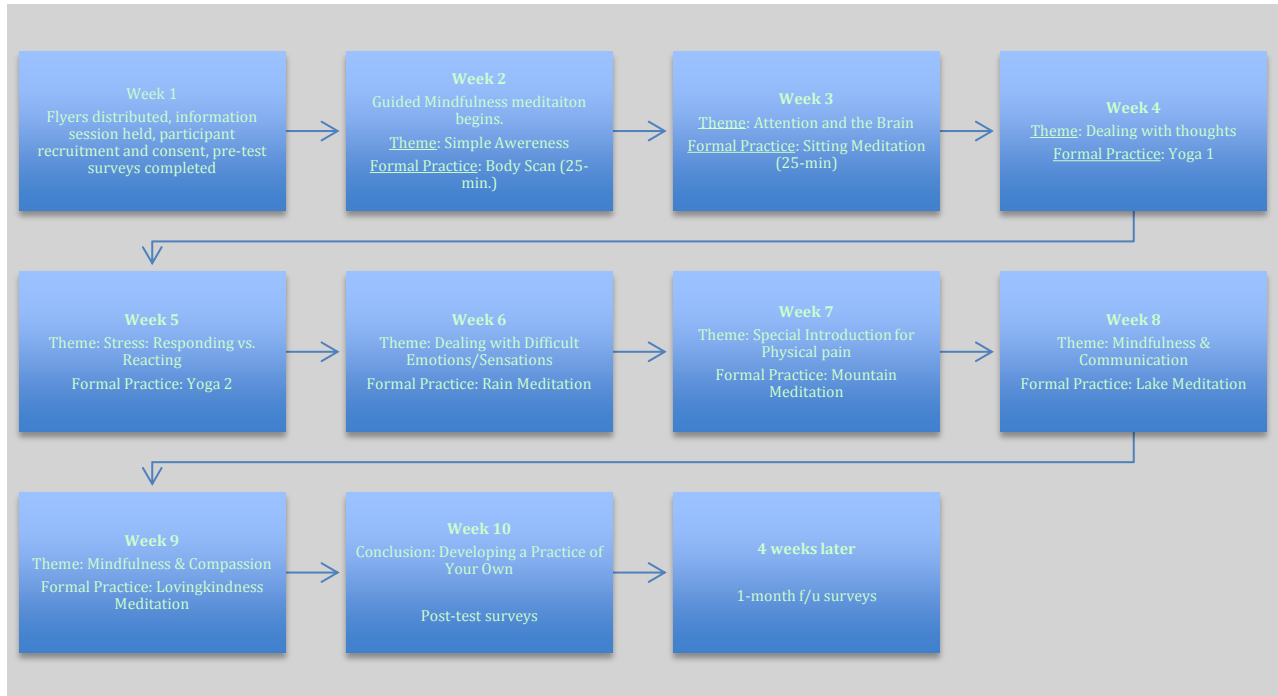
*Everyone is welcome!*

*Free Guided Mindfulness-based Meditation*  
2 days per week  
October - December, 2015



Almee Uwimana (DNP Student - ASU) | aluwiman@asu.edu | 602-399-0134

Appendix I: Intervention Flowchart



## Appendix J: Budget

<b>Materials</b>	<b>Estimated cost</b>
<b>Instruments: MBI</b> <ul style="list-style-type: none"> <li>• Obtaining permission to use and copyright instrument</li> </ul>	\$100 via MindGarden.com
<b>Yoga mats</b> <ul style="list-style-type: none"> <li>• For formal practice</li> </ul>	\$50
<b>Papers</b> <ul style="list-style-type: none"> <li>• Printout of instruments and weekly reading materials</li> </ul>	Obtained from the clinic via facility mentor's permission at no cost
<b>Pens</b>	Participants used personal pens, no purchase necessary
<b>Reward</b> <ul style="list-style-type: none"> <li>• Starbucks gift card (for a participant who attended the most)</li> </ul>	\$5

## Appendix K: Demographic Results

Table 1 Sample Display of Demographics Findings

*Individual characteristic as a percentage of the sample*

		<b>Gender</b>			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Male	2	18.2	18.2	18.2
	Female	9	<b>81.8</b>	81.8	100.0
	Total	11	100.0	100.0	

		<b>Ethnicity</b>			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	White, Non-Hispanic	6	<b>54.5</b>	54.5	54.5
	Black or African-American	3	27.3	27.3	81.8
	Hispanic	1	9.1	9.1	90.9
	Asian	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

		<b>Marital Status</b>			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Single	9	<b>81.8</b>	81.8	81.8
	Married	2	18.2	18.2	100.0
	Total	11	100.0	100.0	

		<b>Education</b>			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	College	6	<b>54.5</b>	54.5	54.5
	Graduate/Ph.D	5	45.5	45.5	100.0
	Total	11	100.0	100.0	

		<b>Occupation</b>			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Therapist	2	18.2	18.2	18.2
	Case Manager	9	<b>81.8</b>	81.8	100.0

Total		11	100.0	100.0	
<b>Years of Experience</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	7	<b>63.6</b>	63.6	63.6
	Less than 10 years	1	9.1	9.1	72.7
	Less than 15 years	3	27.3	27.3	100.0
	Total	11	100.0	100.0	

Note. Highlighted percentage indicates the maximum characteristics of participants in that category. Majority of participants were white, non-Hispanic single females casa managers with a college degree and less than 5 years of experience in current field/job at the time of intervention.

Table 2

*Descriptive Statistics*

	N	Minimum	Maximum	Mean	SD
Age (years)	11	23.0	66.0	35.909	15.2542
Valid N (list wise)	11				

Note. N = sample size; M = mean; SD = standard deviation. The youngest participant was 23 years of age, and the oldest was 66 years of age.



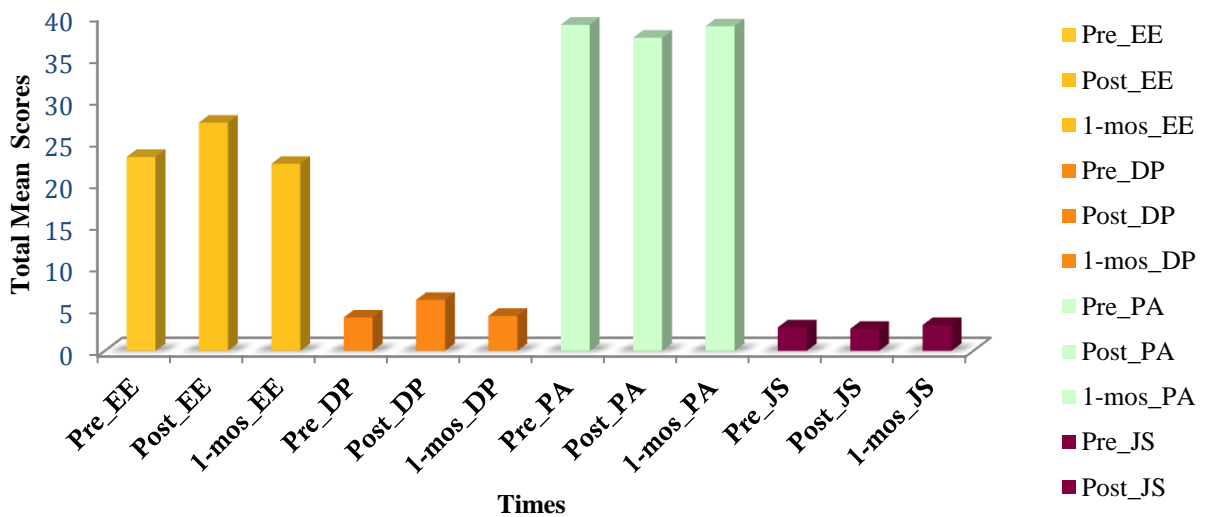
Appendix L: Statistic Findings

Table 3

*Descriptive for MBI and Job Satisfaction Average Total Scores*

Measure	Pre-		Post		1-month follow-up	
	M	SD	M	SD	M	SD
Maslach Burnout Inventory						
1. Emotional Exhaustion	23.18	12.91	27.27	12.62	22.36	13.15
2. Depersonalization	4.00	4.17	6.09	5.73	4.18	4.07
3. Personal Achievement	39.91	4.85	37.36	6.09	38.73	8.28
Job Satisfaction	2.82	1.74	2.64	1.29	3.09	1.38

Note. MBI = Maslach Burnout Inventory; M = mean; SD = standard deviation.



*Figure 1.* Mean Rank values representing the total average scores (TS) for Emotional Exhaustion (EE), Depersonalization (DP), Personal Achievement (PA) and job satisfaction (JS) for pre-, post-, and 1-month follow-up for scores. No statistical significance was found between the mean rank scores between all three-time periods.

## Appendix M: Friedman's Test Results

Table 2

*Results of Friedman test of pre-, post-test, and 1-month follow-up scores*

Tool	Measure	<u>Pre-</u> Mean Rank	<u>Post-</u> Mean Rank	<u>1-month follow-up</u> Mean Rank	$X^2 (2,11)$	$P$
MBI	Emotional Exhaustion	1.91	2.45	1.64	3.818	.184
	Depersonalization	2.05	2.32	1.64	3.000	.223
	Personal Achievement	2.14	1.86	2.00	.486	.784
Job Satisfaction		1.91	1.86	2.23	1.727	.422

*Note.* The Maslach Burnout Inventory (MBI) is from Maslach, C., & Jackson, S. E. (1981), obtained through mindgarden.com; Job satisfaction survey was self-made. Friedman test of differences among repeated measures findings were not significant when comparing the average total scores of means between pre-, post-, or 1-month follow-up.