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Hyun-Ju Kang

*Eastern Kentucky University*

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Running head: STRESS REDUCTION PROGRAM IN A MILITARY CLINIC

Yoga-based Stress Reduction Program for Military Outpatient Clinic Staff

Submitted in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice  
at Eastern Kentucky University

By

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Wiesbaden, Germany

2016

### **Abstract**

Occupation-related stress has been a long-standing concern of the health care industry. Studies indicate that health care workers have higher rates of substance abuse and suicide than other professionals and elevated rates of depression and anxiety linked to job stress. In addition to psychological distress, other outcomes of job stress include burnout, absenteeism, employee intent to leave, reduced patient satisfaction, and diagnosis and treatment errors. Mindfulness interventions, such as practicing yoga on a regular basis, have been found to be effective in reducing work-related stress by multiple researchers. The overall level of stress, anxiety and depression decreased after implementation of intervention such as yoga or mindfulness exercise. The purpose of this project was to implement a weekly yoga-based stress reduction program for health care employees of a military outpatient primary care clinic. A sample of 29 staff members from an outpatient military clinic participated in eight onsite yoga classes two times per week for four weeks. Self-reported perception of stress was measured before and after the yoga intervention using the Perceived Stress Scale (PSS). Mean PSS scores improved significantly  $t(28) = 4.72, p < .0001$ . The yoga class was effective in reducing employee perceived stress over the four weeks and continues to be offered onsite for clinic employees one time per week.

*Keywords:* stress, burnout, exhaustion, health-care, and yoga

## Decreasing Occupational Stress/Anxiety through Yoga

By

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## Yoga-based Stress Reduction Program for Military Outpatient Clinic Staff

**Background and Significance**

## Problem Identification

Military healthcare teams provide care to active military personnel with various physiological and psychological injuries. It is far too often that the demanding, overwhelming and often high stress environments in both deployed settings and military treatment facilities can be associated with the occurrence of compassion fatigue (Owen & Wanzer, 2014).

When military healthcare teams are placed on the front line to care for the injured and dying, the exposure to traumatic injury and death could lead to an increased risk for developing compassion fatigue (Stewart, 2009). However, military health care teams in non-violent settings can also experience work-related stress. In a study of 131 army nurses, Rivers, Wertenberger & Lingren (2006) found that even those nurses who were not deployed to the war zones experienced emotional responses when caring for fellow service members who had major physical and psychological health needs.

Service-members are already taxed by deployments of their own and to care for complicated and severely wounded service-members, places caregivers at increased risk for symptoms similar to post-traumatic stress disorder. With symptoms such as heightened irritability, anxiety, depression and sleep disturbances, the symptoms bears a marked resemblance to post-traumatic stress disorder. Caregivers are trained to be compassionate, but there is little training in the military on how to handle the stress of compassion (Wilson, 2008).

Health care workers are exposed to a number of stressors, including logistical issues such as work overload, time pressures, and lack of role clarity, and clinical duties such as dealing with infectious diseases and difficult or demanding patients. Such stressors can lead to physical and

psychological symptoms, absenteeism, turnover, and medical errors (CDC, 2008). Healthcare providers experience occupational exhaustion, and occupational stress, which often get overlooked. Approximately 3% of all physician deaths are by suicide; suicides of female physicians are 3-4% higher than the general population, while male physicians have 1.15-3% higher rates of suicide when compared to the general population (Alexander, 2001).

### Context of the Problem

Post-9/11 military caregivers tend to be younger, caring for younger individuals with mental health or substance use conditions, and employed, but are not connected to a support network. These caregivers are more likely to use mental health resources and services, and to use them more often (Ramchand et al., 2014).

Providing care, compassion, and empathy for patients can enrich the lives of caregivers, both personally and professionally. Compassion satisfaction has been identified as a construct that measures these affirmative experiences (Sabo, 2006). Conversely, in the course of performing their jobs, healthcare professionals may experience profound emotional reactions as they witness the suffering of others, and thus gradually lose the ability to demonstrate compassion and empathy (Sabo, 2006). Compassion fatigue is considered to be the progressive and cumulative product of prolonged, continuous, and intense contact with patients, and exposure to stress (Hooper, Craig, Janvrin, Wetsel & Reimels, 2010).

Being stationed in an overseas assignment away from the resources of community, family, and friends that are typically available when in the US increases stress for individuals. Increased stress of being assigned overseas may be related to living amongst the local nationals where few speak English, learning to drive in a foreign country, and learning a different culture. In a Military Treatment Facility (MTF), there are mixture of active duty and civilian staff

working side-by-side to take care of patients. The active duty health care providers serve in dual roles as warriors who are combat trained and ready, and as providers, caring for patients with physical or mental health needs. Concerns for their own quality of life amidst their morally complex roles are often overlooked by health care providers (Gibbons, Barnett, Hickling, Hebig-Wall & Watts, 2012). Numerous studies address psychological impact of wars on deployed service members, but little information is available on stress and outcomes for military health care providers (Gibbons et al., 2012).

Being geographically separated from family increases stress level for those stationed overseas. For many of the younger soldiers and their families, this is their first duty assignment away from their extended family, they are new to military life, and it is their first time leaving the United States. Hagerty, Williams, Bingham & Richard (2011) reported that 20–30% of military personnel deployed to combat environments experienced some type of psychological ramification, including compassion fatigue, which led to a decrease in overall job performance, a decrease in quality of patient care and delivery, an increase in sick time, and decisions to leave the profession.

Compassion fatigue can arise as vicarious traumatization or ‘shared trauma’ in clinicians as a consequence of caring for traumatized people. Compassion fatigue is most commonly framed in military health settings as relating to exposure to physical, combat-related trauma but can equally occur when caregivers closely identify and therefore absorb patient’s emotional or psychological trauma or distress, such as those working in mental health field in a non-deployed setting (Clifford, 2014). There is a need for the U.S military health providers to apply the basic elements of self-care to their own mental health whilst also recommending changes to U.S.

Department of Defense policy to better balance workload and deployments with rest and recovery for military care providers. (DOD, 2011).

### Scope of the Problem

Recent studies have shown that nearly 50% of physicians report increasing levels of stress and burnout. This number may be low, as it only represents the physicians who recognize burn out and who are willing to admit it. Both the realization and the admission are as much of a problem as the burnout itself (Rosenstein & Privitera, 2015). A recent survey of American Surgeons revealed that although 1 in 16 had experienced suicidal ideation in the past 12 months, but only 26% had sought psychiatric or psychological help. There was a strong correlation between depressive symptoms, as well as indicators of burn out, with the incidence of suicidal ideation (Shanafelt et al., 2011).

The Department of Defense (DoD) Mental Health Advisory Team's 2005 survey showed that 33% of behavioral health personnel reported high burnout, 22% reported low morale, and 15% agreed that stressors of deployment impaired their jobs. A 2006 survey also found that burnout was an issue for behavioral health providers, with 21% reporting high or very high burnout levels (DoD, 2011). Similarly, in a study of 523 health care workers, Gosseries et al. (2012) found that 18% presented with burnout, 33% showed emotional exhaustion, and 36% had experienced depersonalization.

### Consequences of the Problem

There are multiple factors leading to increased level of stress being a health care provider in an overseas assignment. Stress of being stationed overseas in a foreign country away from family and/or normal support structure that would be available in the States is one factor. There are high turnover rates of civilian nurses and an imbalance between facility capabilities and

patient population size, which leads to increased tension for both patients and staff. The Chief Nurse of Weisbaden Army Health Clinic (WAHC) reported a 100% turnover in nursing staff in the last two years from July 2012-July 2014 (L. Cobbs, personal communication, 2015). Patrick and Lavery (2006) showed that working overtime and being pressured to work overtime were associated with emotional exhaustion in nursing staff.

#### Evidence-based intervention

Evidence supports that practicing weekly yoga as part of a stress reduction program decreased anxiety level and occupational fatigue (Alexander et al., 2015). Several authors have demonstrated that self-care practices such as yoga and Tai-Chi provide a way for nurses to avoid stress and burnout and also cope with increasingly hectic acute care settings (Brathovde, 2006; Cohen-Katz, Wiley, Capuano, Baker, Deitrick, & Shapiro, 2005; Gold & Thorton, 2001).

#### Purpose of the Project

The purpose of this project was to implement a weekly yoga-based stress reduction program for health care employees of a military outpatient primary care clinic.

#### **Theoretical Framework: Plan, Do, Study, Act**

Total Quality Management (TQM) describes organizational improvement as one the factors in improving quality in the services provided. The key concepts of TQM are quality, management, and people. Quality is described as a totality of characteristics of an entity that bears on its needs and expectations. The primary purpose of the management teams of an organization is to provide value to customers through its products and service (Clause, 1991).

Deming (1986) specified that quality improvement is followed by reduction in cost (because of less rework, fewer mistakes, fewer delays, snags and better use of machine time/material), which in turn increases productivity and therefore enables the company to

become more competitive, with better chances of survival and more jobs provided (Deming, 1986). In healthcare delivery, the end products are not concrete deliverables, but are safe and quality care accompanied by both patient and provider satisfaction.

The Plan, Do, Study, and Act (PDSA) cycle, also called the Deming Cycle, provides a framework for implementing a quality management change in an organization (Deming, 1986). In the Plan step, the change leader identifies the problem, potential solutions, goals for resolution, and a way to measure success in the change. The leader develops a plan for actually implementing the change. Once the plan is established, the Do phase involves executing the plan. This is often a change in practice, health care delivery, or provider routines. In the Study step, the leader evaluates the outcomes of the change, as well as the change process to look for areas of breakdown or success. The need for process improvement is evaluated in this phase. Finally, the Act step completes the cycle, assimilating the new process. The formative and summative data obtained during the Study phase are used to modify the goals, methods for implementation and outcome measures as needed. The cycle is repeated on an ongoing basis to assure that the intervention remains pertinent and successful (The W. Edwards Deming Institute, (n.d.).

The PDSA cycle was an applicable framework for the current project. In the PLAN phase, problems with employee job stress contributing to compassion fatigue and burnout was identified by a review of clinic staff sick leave and staff turnover rates. These factors have been noted not only in the onsite clinic, but have been documented in other similar populations and health care settings in the literature (Gibson et al, 2012). Based on empiric evidence and the feasibility of implementation, a targeted yoga-based program was selected as a method of reducing compassion fatigue. Implementing a staff yoga-based stress reduction program was

one of the processes of care for employees to improve their ability to deliver safe and quality care.

### **Review of Literature**

#### Compassion Fatigue or Stress and Burnout among Health Care Workers

The work of health professionals involves supporting and caring for the ill, the traumatized, and the dying. For some, the emotional investment becomes overtaxing and they become less able to manage the demands of being compassionate and empathetic. Compassion fatigue reduces productivity, increases staff turnover and sick days, and leads to patient dissatisfaction and risks to patient safety (Hegney et al., 2014). Both compassion fatigue and burnout may cause a nurse to become ineffective, depressed, apathetic, and detached (Boyle, 2011). Long-term results of both compassion fatigue and burnout include low morale in the workplace, absenteeism, nurse turnover, and apathy (Jones & Gates, 2007; Portnoy, 2011).

#### Forms of Yoga

There are many different types of yoga. Hatha yoga is one of the more classic and commonly practiced yoga forms. Hatha yoga is an ancient mind-body exercise that incorporates breathing and postures to unify and relax the mind and body. When the individual can practice the postures, deep breathing, and stretching movements of yoga while working, he or she increases awareness of his or her body positioning and motions and can elicit the relaxation response (Gura, 2002).

Dru yoga is a graceful and potent form of yoga, based on flowing movements, directed breathing and visualization. With its foundations set firmly in ancient yogic tradition, Dru works on body, mind and spirit - improving strength and flexibility, creating core stability, building a heightened feeling of positivity, and deeply relaxing and

rejuvenating (Dru Yoga, n.d.). A third method, Sahaja yoga begins with self-realization and awareness. Sahaja Yoga is a method of meditation that helps the individual develop this human awareness (Sahaja Yoga, n.d.).

### Evidence for Yoga Interventions

Several studies demonstrate the benefits of yoga on psychological outcomes. A synthesis of yoga effects on commonly measured outcomes is presented in Table 1.

**Table 1**

#### *Beneficial Outcomes of Yoga Therapy*

	Manocha et al., 2011	Waelde et al., 2004	Smith et al., 2006	Wolever et al., 2012	Hartfield et al., 2011	Alexander et al., 2015
Stress	↓		↓	↓	↓	
Anxiety/ Depression	↓	↓	↓		↓	
Well-Being/ Resilience		↑			↑	↑

Manocha, Back, Sarris, & Stough (2011) found that a Sahaja yoga intervention offered in one-hour, twice-weekly session for eight weeks significantly decreased the level of stress and anxiety for full time (more than 30 hours/week) workers. The majority (over 70%) of the participants were categorized as white color workers with at least secondary education. Workers were from the general population and not all from the same or similar profession since participants were recruited by advertising in local newspapers and other popular media. The purpose of the study was to assess the effect of meditation on work stress, anxiety and mood for full-time workers. In this randomized controlled trial (RCT), 178 adult workers participated in a three-arm intervention comparing a Sahaja yoga “mental silence” meditation approach (n = 59)



to a “relaxation” active control (n = 56) and a “wait-list” control group (n = 63). Work stress level and depression were measured with the Psychological Strain Questionnaire (PSQ), a subscale of the larger Occupational Stress Inventory (OSI), the State component of the State/Trait Anxiety Inventory for Adults (STAI), and the depression-dejection (DD) subscale of the Profile of Mood States (POMS). Differences in pre- and post-scores were calculated for the primary outcome measures. If the differences were normally distributed, a one-way ANOVA was used to compare the mean differences. There was a statistically significant improvement for the “Mental silence” meditation group compared to both the “relaxation” active control group and no treatment groups in the median differences for occupational stress symptoms ( $p = .026$ ) on the PSQ, and depressive symptoms ( $p = .019$ ) on the DD subscale of the POMS.

Smith, Hancock, Blake-Mortimer, and Eckert (2006) compared yoga and relaxation as treatment modalities to reduce stress, anxiety, blood pressure and quality of life. In their RTC, a computer-generated random assignment placed participants in a yoga (n=68) or relaxation (n=62) group. The study participants were from an Australian general working population between ages 18-65 years old, with mild to moderate levels of stress determined by the General Health Questionnaire (GHQ), Short Form 36 (SF-36) and State Trait Personality Inventory (STPI). The intervention group received ten weekly one-hour sessions of Hatha yoga while the active control group participated in progressive muscle relaxation. Data were obtained from participant self-reported questionnaires at baseline, 10 and 16 weeks. The 12-item GHQ-12 was used to measure psychological stress and the self-reported anxiety was assessed using the 10-item version of the STPI sub-scale anxiety. The investigators found that yoga was found to be more effective than relaxation as demonstrated by an improvement in mental health (measured with GHQ-12) at the end of the intervention ( $p = 0.54$ ). Overall, yoga was found to be as

effective as relaxation with reducing stress and anxiety and improving the seven health status domains of the SF-36 from baseline to the end of the intervention.

Wolever et al. (2012) evaluated the viability and proof of concept for two mind-body workplace stress reduction programs: yoga and mindfulness. In this RTC, employees of a national insurance carrier from two different states who scored a 16 or higher on the Perceived Stress Scale (PSS) were randomized into one of the groups between yoga, mindfulness and control group. The first group (n=96) had 12 weekly yoga sessions. The second group (n=96) participated in meditation mindfulness at work-based stress management sessions one hour per week. The control group (n=53) received no intervention. Both of the interventions, yoga and mindfulness, were provided at the workplace. The control group received no intervention. Randomization occurred within two weeks of baseline PSS measurement. Posttest data were collected within two weeks of the final class. The secondary outcomes measured sleep quality, mood, pain, productivity, mindfulness, blood pressure, heart rate and breathing rate. Using repeated-measures ANCOVAs to examine group differences and controlling for race, ethnicity, and income, the investigators found that compared with the control group, the mindfulness group had greater decreases in mean perceived stress and greater decreases in mean sleep difficulty. Additionally, compared with the control group, the yoga group also had greater decreases in perceived stress ( $F(1, 137) = 8.79, p < .01$ ) and greater decreases in sleep difficulty ( $F(2, 233) = 3.03, p < .05$ ). The authors concluded that yoga was the most effective intervention to reduce stress in employees with occupational exhaustion.

Hartfiel et al. (2011) evaluated the effectiveness of yoga in enhancing emotional well-being and resiliency to stress among British university employees. For this RCT, subjects were recruited by university intranet and posted flyers, then assigned to groups by computer-generated

randomization. The yoga group (n=20) had six weekly 60-minute sessions of Dru yoga; the control group (n=20) had no intervention. Dru yoga was the chosen intervention because it is particularly safe, accessible and a therapeutic form of yoga that can be practiced by most people. Participants completed the Profile of Mood States - Bipolar (POMS-Bi) as a measure of transient mood states and the Inventory of Positive Psychological Attitudes (IPPA), which measures two domains: (a) life purpose and satisfaction and (b) self-confidence during potentially stressful situations. Baseline and end-program data were compared using a two-way ANOVA on all six domains of the POMS-Bi and the two domains of the IPPA. The investigators found that in 7 of the 8 POMS-Bi and IPPA domains, scores for the yoga group improved 2-5 times more than those in the control group over the course of this study ( $p < 0.005$ ). A two-way ANOVA showed that at the end of the program, the yoga participants, when compared to the control group, self-reported feeling significantly less anxious, confused, depressed, tired, and unsure, and had a greater sense of life purpose and satisfaction.

Waelde, Thompson, & Gallagher-Thompson (2004) assessed the effect of yoga on depression, anxiety, and reactions to problems for family members caring for a demented family member. The pilot study included 12-caregivers (eight Latina and four Caucasian women) who were caregivers of family members with dementia. The caregivers provided a minimum of four hours per day of hands-on care to their family member (e.g., bathing, dressing, feeding, financial management). Caregiver outcome measurements included depressive symptoms (Center for Epidemiological Studies–Depression Scale (CES-D), anxiety (State-Trait Anxiety Inventory (STAI)), self-efficacy (Self-efficacy for Caregiver (SEC) and the Revised Memory and Behavior Problem Checklist (RMBPC). At one month post-treatment, eight or more (70%) of the caregivers reported feeling “somewhat better” or “much better” than before the program in each

of these outcomes: activity level, physical pain, sleep problems, depression, frustration, energy level, and overall well-being. Additionally, six or more of the respondents reported improvement in the domains of fatigue, coping with stress, physical illnesses, and anger. Adherence (average number of minutes of weekly practice) was significantly associated with change in depression score from pre- to post-intervention ( $r(11) = .62, p = .02$ ). There was a trend for adherence to be associated with improvement in self-efficacy ( $r(11) = .39, p = .11$ ).

Alexander et al. (2015) conducted pilot-level randomized controlled trial to examine the efficacy of yoga in improving self-care and reducing burnout among nurses. Participants completed assessments twice during the study: at baseline and at the end of the eight -week intervention period. For each assessment, participants completed study questionnaires online using the secure Qualtrics survey system. For the baseline assessment, participants completed a demographic questionnaire, the Health Promoting Lifestyle Profile II, the Freiburg Mindfulness Inventory (FMI), and the Maslach Burnout Inventory (Maslach, 1993). Investigators used SPSS (version 20) and a repeated measures multivariate analysis of variance (MANOVA). In addition, univariate ANOVAs with post hoc tests were used to interpret significant interactions. Compared with controls ( $n = 20$ ), yoga participants ( $n = 20$ ) reported significantly higher self-care as well as less emotional exhaustion and depersonalization upon completion of the eight-week yoga intervention. Although the control group demonstrated no change throughout the course of the study, the yoga group showed a significant improvement in scores from pre- to post-intervention for self-care ( $p < .001$ ), mindfulness ( $p = .028$ ), emotional exhaustion ( $p = .008$ ), and depersonalization ( $p = .007$ ) outcomes.

## **Agency Description**

### Setting

This project took place at Wiesbaden Army Health Clinic (WAHC), an active US Army outpatient health clinic serving active US Army, Air-force, Navy and Marine personnel and their families stationed at the Wiesbaden Community as well as retiree population in Wiesbaden, Germany. WAHC provides primary and specialty care services, including dentistry, behavioral health, physical therapy, TELE-MEDICINE, optometry, X-ray, laboratory services, pharmacy and patient administration. The clinic serves as the Patient-Centered Medical Home (PCMH) for approximately 9,000 patients.

### Target Population

The target population was the WAHC staff, including both military and civilian personnel. Various levels of providers staff the clinic, including active duty medics, nurse practitioners, physician assistants, physicians, registered nurses, social workers, pharmacists, physical therapist and multiple ancillary healthcare personnel.

### Congruence of DNP Project to Organization's Mission, Goals and Strategic Plan

The WAHC mission is "To provide high quality, cost effective, and efficient infrastructure and services that ensure readiness and enhance the quality of life for our Soldiers, Families and Civilians." Values include loyalty, duty, respect, selfless service, honor, integrity, and personal courage (WAHC Mission, Vision, and Values). The current Clinic Commander oversees all medical assets in the Wiesbaden area. She has three specific goals for the clinic: (a) to improve access to care for patients, (b) to provide excellent customer service, and (c) to improve staff resiliency in the current state of increased stress and workload (L. Cobbs, personal

communication, 2015). The current capstone project, implementing a weekly yoga-based stress reduction program for health clinic personnel, fit well with the Clinic Commander's third aim.

### Stakeholders

Primary stakeholders were the clinic staff who benefited directly from the yoga-based stress reduction program. There were two groups of secondary stakeholders. First, clinic patients will have ongoing benefit from interacting with health care providers who have an outlet for their stress release. Secondly, three WAHC leadership staff members oversee the enlisted, officer and civilian personnel. These include the Deputy Chief Nurse (DCN), Deputy of Clinical Service (DCCS), and the Executive Officer (XO). The leadership staff benefit when the provider staff experience less work-related stress, thus reducing their inappropriate use of sick leave and the undesirable attrition of clinic staff.

### Statement of Mutual Agreement with Agency

The Statement of Mutual Agreement with Agency for this DNP project was signed by the student, DNP project advisor, and WAHC Commander (Appendix A).

### Project Design

This project used a pre-test post-test design to evaluate the effect of an evidence-based staff stress reduction program. Perceived stress level, measured by the Perceived Stress Scale (PSS), was measured before and after clinic staff participated in four weeks of yoga therapy.

### Project Methods

#### Description of Evidence-based Intervention

Multiple investigators have reported the benefits of yoga or similar mind-body activities for reducing stress, anxiety, and burnout among caregivers or employees in difficult work situations (Hartfiel et al., 2011; Manocha et al., 2011; Smith et al., 2006; Raingruber & Robinson

2007; Waelde et al., 2004; Wolever et al., 2012). Based on this body of evidence, a weekly yoga-based stress reduction program for health care employees of a military outpatient primary care clinic was implemented. A certified yoga instructor conducted free, on-site, one-hour yoga sessions in a large clinic conference room two times per week for the project duration (Appendix B). Sessions were offered during the lunch hour, a time when the clinic is completely closed to patients. Participating staff were able to practice the yoga without extending their workday. The yoga instructor was certified by the US Yoga Alliance. The same yoga instructor was able to instruct all eight sessions for the project.

### **Procedures**

**Institutional Review Board (IRB) approval.** IRB approval was obtained through Eastern Kentucky University (EKU) Sponsored Programs (Appendix C). Exemption from IRB review was obtained from the Interim Human Protections Administrator, Landstuhl Regional Medical Center, Department of the Army (Appendix D). At the start of the intervention, all participants received a cover letter (Appendix E) explaining the purpose and nature of the project. Completion of the demographic survey (Appendix F) and Perceived Stress Scale (PSS) (Appendices G and H) implied consent to participate in the project.

**Measures and instruments.** A short demographic survey (Appendix F) was used to collect data for the sample description. This included gender, military status (active duty or civilian), race, provider role, and length of current deployment. Self-reported stress was measured with the PSS (Appendices G and H), a 10-item questionnaire used to evaluate the responders' perception about their level of stress while taking into account their ability to cope with stress over the previous month (Cohen & Williamson, 1988). The PSS is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the

degree to which situations in one's life are appraised as stressful. Items are designed to assess how unpredictable, uncontrollable, and overloaded respondents find their lives to be. The scale contains 10 Likert scale items with responses ranging from 0 (never) to 4 (Always). The items contain direct queries about current levels of experienced stress and feelings and thoughts during the last month. The items are of a general nature, and hence, are relatively free of content specific to any sub-population or group (Cohen & Williamson, 1988). Permission for use of PSS scales is not necessary for use in academic research or educational purposes (Appendix I). Previously reported PSS reliability coefficients range from .52-.76 (Cohen & Williamson, 1988; Lee, 2012). The pre- and post-yoga PSS Cronbach's alpha coefficients for this sample were .82 and .84, respectively.

### Implementation

To prepare the WAHC staff for the project implementation, the project leader announced the program purpose, goal, and process to the primary care health team members at morning team huddles. All clinic staff also received an e-mail from the project leader announcing the purpose, goal, and process. Of the 80 staff members invited to participate, an initial sample of 36 staff members were recruited and completed the baseline survey. From the 36 staff members who completed the baseline PSS pre-yoga, 29 participants completed the four-week yoga intervention. The project leader reminded and encouraged the WAHC staff on the days that they were scheduled to participate in the yoga sessions.

### Data Collection

At the start of the first yoga session, participants completed the demographic survey and a baseline PSS. A second PSS was completed following four weeks of yoga sessions. Each participant's data forms contained an identification (ID) number. During the first session, each



participant wrote down the ID number and placed in a sealed envelope labeled with the participant's name. At the conclusion of the four weeks of yoga, participants were given their individual sealed envelopes so they could retrieve their ID number for the post-intervention PSS. Completed data forms and envelopes containing participant ID numbers were kept in two separate files in the project leader's locked office in a locked file cabinet. All data were reported in aggregate form only. No data were reported to employee supervisors.

### Data Analysis

All data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS) software, version 23. Descriptive statistics was used to describe the sample demographics. A paired *t*-test was used to compare mean PSS scores before and after the four weeks of yoga sessions.

## Results

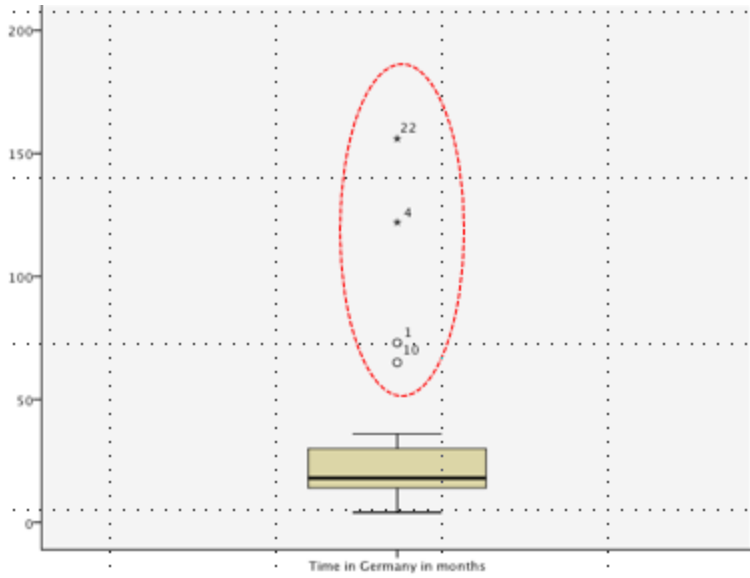
### Sample Description

The mean age of the 29 staff members was 35.5 (SD=8.5). Slightly more than half were Caucasian (58.6%). This sample was a highly educated group; more than half had graduate education (55.2%, n=16). Many of participants were staff nurse (41.4%, n=12) and providers (31%, n=9). Just over half (58%; n=17) were U.S. civilian staff; 41.1% (n=12) were active duty service members. Only 12 of the 29 participants were enlisted military personnel. The participants' time enlisted in the military ranged from 17 to 281 months, with a mean 99.2 months (SD=89.5). Despite the wide dispersion around the mean, there were no participants who met outlier criteria according to Pallant's (2010) boxplot method (Figure 1).



**Figure 1. Boxplot graph to assess outliers for Time in Military (months).**

The 29 participants' time in Germany ranged from 4 to 156 months with a mean of 30 months ( $SD=34$ ). Using Pallant's (2010) boxplot method, two participants were identified as outliers (more than 1.5 box-lengths from the edge of the box) and two participants were identified as extreme outliers (more than 3 box-lengths from the edge of the box) (Figure 2). Once these participants were removed from the analysis, the mean time in Germany was 18.2 months ( $SD=8.2$ ). The demographic data are presented in Tables 2 and 3.



**Figure 2. Boxplot graph to assess outliers for Time in Germany (months)**

**Table 2**  
*Demographics (Age, Total Months in Military, Total Months in Germany)*

	Mean	SD
Age (N=29)	35.6	8.5
Time in Military (months) (N=12)	99.2	89.5
Time in Germany (months) (N=25)	18.2	8.2

**Table 3**  
***Demographics (Gender, Military status, Race, Education, Clinic Role)***

	Frequency	Percent
<b>Gender</b>		
Female	19	65.5%
Male	10	34.5%
<b>Military Status</b>		
US Civilian	17	58.6%
Active Duty	12	41.4%
<b>Race</b>		
Caucasian	17	58.6%
African American	4	13.8%
2 or more races	4	13.8%
Hispanic	3	10.3%
Native American	1	3.4%
<b>Education</b>		
Graduate Degree	16	55.2%
College Degree	10	34.5%
Some College	2	6.9%
High School	1	3.4%
<b>Clinic Role</b>		
Staff Nurse	12	41.4%
Provider	9	31.0%
Ancillary Staff	7	6.9%
Administrator	1	3.4%

#### Change in Mean PSS Scores

A paired samples t-test (Table 4) was conducted to evaluate the impact of the yoga intervention on clinic staff PSS scores. There was a significant decrease in mean PSS score from Time 1 (baseline) ( $M=16.00$ ,  $SD=5.02$ ) to Time 2 (four weeks) ( $M=11.00$ ,  $SD 5.16$ ),  $t(28) = 4.72$ ,  $p<.0001$ . The mean decrease in PSS score was 5.00 with a 95% confidence interval ranging from 2.83 to 7.17. The eta squared statistic (.44) indicated a large effect size for this intervention. Results are presented in Table 4.

**Table 4**  
*Paired t-test Comparison of Mean scores on Perceived Stress Scale (PSS) before (Time 1) and after (Time 2) the Staff Yoga Program*

Score	Mean $\pm$ SD	<i>t</i>	<i>df</i>	<i>p</i>
PSS, Time 1 (n=29)	16.00 $\pm$ 5.02	4.72	28	<.0001
PSS, Time 2 (n=29)	11.00 $\pm$ 5.16			

### Resources

The internal resources obtained from WAHC included use of the clinic and AWC conference rooms for Yoga sessions, use of clinic huddles (meetings) and internal email for announcements, and copying costs. The certified yoga instructor, employed by the Wiesbaden Army Wellness Center, provided the yoga sessions as an in-kind donation. Participants brought their own yoga mat or towel and wore comfortable clothing as desired. No external resources were needed.

### Feasibility for Sustainability

The certified yoga instructor continues to offer weekly onsite yoga sessions to sustain the program for WAHC employees. Should she be unable to fulfill the commitment, other yoga instructors from the Wiesbaden AWC or Army Fitness Center may be able to offer yoga either onsite at the clinic or at the AWC. One month following completion of the project, approximately 10 WAHC employees were continuing to participate in the weekly onsite yoga sessions.

### Discussion

The outcomes of this project are consistent with the previous literature that yoga is beneficial for reducing stress, anxiety, and burnout among caregivers ( Harfiel et al., 2011; Manocha et al., 2011; Smith et al., 2006; Raingruber & Robinson 2007; Waelde et al., 2004; Wolever et al., 2012).

The intervention of participating in weekly yoga was effective in decreasing the level of perceived stress among the clinic employees. Perceived stress decreased significantly for the participants who completed a four-week yoga intervention. The results were consistent with previous literature such as Alexander et al. (2015), whose demonstrated the efficacy of yoga in improving self-care and reducing burnout among nurses. Other investigators found that those who participated in yoga had reduced burnout and increased well-being (Alexander, 2015); Hartfiel et al., 2011 & Waelde et al., 2004). It is evident that weekly yoga sessions improved the perceived stress of participating employees. Perhaps this intervention may be useful in other military outpatient clinic settings where employees demonstrate an increased stress level.

There was an excellent participation rate of Wiesbaden AHC employees, 29 out of 80 (36%) clinic employees participated in the project. There was a combination of active duty and civilian employees who participated. The employees commented that they appreciated the yoga sessions being on site. They also commented on how relaxed they felt after the yoga sessions. Many of the employees requested the yoga sessions continue even after the project was complete.

The major limitations of this project were the short-term measurement of perceived stress and the inability to measure staff turnover rate. As the yoga classes are continuing, a longevity measurement of perceived stress would be useful. By nature of the military, employee transition is common, making longitudinal data collection difficult.

### **Conclusion**

Studies indicate that health care workers have elevated rates of depression and anxiety linked to job stress and higher rates of substance abuse and suicide than other professionals (CDC 2008). Multiple investigators have reported the benefits of yoga or similar mind-body activities for reducing stress, anxiety, and burnout among caregivers or employees in difficult

work situations ( Hartfiel et al., 2011; Manocha et al., 2011; Smith et al., 2006; Raingruber & Robinson 2007; Waelde et al., 2004; Wolever et al., 2012). The purpose of this project was to implement an onsite weekly yoga-based staff stress reduction program for health care employees of a military outpatient primary care clinic. Mean self-reported stress scores measured before and after the intervention with the Perceived Stress Scale improved significantly after four weeks of yoga. Sustainability of the program is likely; one month following completion of this project, approximately 10 employees continued to participate in the onsite weekly yoga classes.

## References

- Alexander, R. (2001). Stress related suicide by dentists and other healthcare workers, fact or folklore? *Journal of American Dental Association*, 132, 786-794.
- Alexander, G., Rollins, K., Walker, D., Wong, L. & Pennings, J. (2015). Yoga for self-care and burnout prevention among nurses. *Workplace Health and Safety*. 63(10), 462-471.  
doi: 10.1177/2165079915596102.
- Brathovde, A. (2006). A pilot study: Reiki for self-care of nurses and health care providers. *Holistic Nursing Practice*, 20(2), 95–102
- Boyle, D. A. (2011). Countering compassion fatigue: A requisite nursing agenda. *Online Journal of Issues in Nursing*, 16(1), 1–16
- Centers for Disease Control (CDC) (2008). Exposure to Stress/ Occupational Hazards in Hospitals. Retrieved from: <http://www.cdc.gov/niosh/docs/2008-136/pdfs/2008-136.pdf>
- Clifford, K. (2014). Who cares for the carers? Literature review of compassion fatigue and burnout in military health professionals. *Journal of Military and Veteran's Health*, 22(3), 53-63.
- Claus, L. (1991). Total quality management: a healthcare application. *Total Quality Management*, 2 (2), 131-148.
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on applied social psychology*. Newbury Park, CA: Sage.
- Cohen-Katz, J., Wiley, S., Capuano, T., Baker, D., Deitrick, L., & Shapiro, S. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout. Part III. *Holistic Nursing Practice*, 19(2), 78–87.



Cohen, S. (N.D.) Permission to use PSS. Carnegie Mellon University. Retrieved from :

<http://www.psy.cmu.edu/~scohen/reprint.html>

Deming, W.E. (1986). *Out of the Crisis*, Cambridge University Press, Cambridge.

Department of Defense (DoD) (2011). Strategies help military health providers to prevent compassion fatigue, emotional burnout. *U.S. Medicine*. Retrieved from:

<http://www.usmedicine.com/agencies/department-of-defense-dod/strategies-help-military-health-providers-to-prevent-compassion-fatigue-emotional-burnout/>

Dru Yoga: <https://druyoga.com/yoga/what-is-dru-yoga>

Gibbons, S., Barnett, S., Hickling, E., Herbig-Wall, & Watts, D. (2012). Stress, coping, and mental health –seeking behaviors: gender differences in OEF/OIF health care providers. *Journal of Traumatic Stress*, 25. Doi:10/1002/jts.21661.

Gold, J., & Thornton, L. (2001). Simple strategies for managing stress, *RN*, 64(12), 65–68.

Gosseries, O., Demertzi, A., Ledonx, D., Bruno, M., Vanhauzenhusy, A., Thibaut, A., Laursys, S., & Schnakers, C. Burnout in healthcare workers managing chronic patients with disorders of consciousness, *Brain Injury*, 1-7. doi: 10.3109/02699052.2012.695426

Gura, S. (2002). Yoga for stress reduction and injury prevention at work. *Work*, 19 (3), 3-7

Hagerty, B. M., Williams, R. A., Bingham, M., & Richard, M. (2011). Military nurses and combat-wounded patients: A qualitative analysis of psychosocial care. *Perspectives In Psychiatric Care*, 47(2), 84–92, <http://dx.doi.org/10.1111/j.1744-6163.2010.00275.x>.

Hartfiel, N., Havenhand, J. Khalsa, S., Clarke, G. & Krayner, A. (2011). The effectiveness of yoga for the improvement of well-being and resilience to stress in the workplace. *Scandinavian Journal of Work, Environment & Health*, 37(1), 70-76.

- Hegney D.G., Craigie M., Hemsworth D., Osseiran-Moisson R., Aoun S., Francis K. & Drury V. (2014). Compassion satisfaction, compassion fatigue, anxiety, depression and stress in registered nurses in Australia: study 1 results. *Journal of Nursing Management*, 22, 506–518.
- Hooper C, Craig J, Janvrin D, Wetsel M, Reimels E. (2010). Compassion satisfaction, burnout, and compassion fatigue among emergency room nurses compared with nurses in other selected inpatient specialties. *Journal of Emergency Nurse*. 36, 420–427.
- Jones, C. B., & Gates, M. (2007). The costs and benefits of nurse turnover: A business case for nurse retention. *Online Journal of Issues in Nursing*, 12(3), Manuscript 4.
- Lee, H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research*. 6, 121-127.
- Manocha, R., Back, D., Sarris, J. & Stough C. (2011). A randomized, controlled Trial of meditation for work stress, anxiety and depressed Mood in full-time workers. *Evidence-Based Complementary and Alternative Medicine*, 2011. doi:10.1155/2011/960583
- Maslach, C. (1993). Burnout: a multidimensional perspective. In W.B. Schaufeli, C., Maslach, and T. Marck (eds), *Professional burnout: recent developments in theory and research*. 9-32. Washington DC; Taylor and Francis.
- Owen, R., & Wanzer, L. (2014). Compassion Fatigue in Military Healthcare Teams. *Archives Of Psychiatric Nursing*, 28(1), 2-9 8p. doi:10.1016/j.apnu.2013.09.007
- Pallant, J. (2010). *SPSS: survival manual. A step by step data analysis using SPSS (4<sup>th</sup> ed.)*, Maidenhead: Open University Press/McGraw-Hill.
- Patrick, K. & Lavery, J. (2006). Burnout in nursing. . *Australian Journal of Advance Nursing*, 24(3), 43-48.

- Portnoy, D. (2011). Burnout and compassion fatigue: Watch for the signs. *Journal of the Catholic Health Association of the United States Health Progress*, July–August, 46–50.
- Raingruber, B. & Robinson, C. (2007). The effectiveness of tai chi, yoga, meditation, and reiki healing sessions in promoting health and enhancing problem solving abilities of registered nurses. *Issues in Mental Health Nursing*, 28(10), doi:10.1080/01612840701581255
- Ramchand, R., Tanielian, T. Fisher, M., Vaughan, C. Trail, T., Batka, C., Voorhies, P., Robbins, M., Robinson, E. & Ghosh-Dastider, B. (2014). Hidden heroes- American's military caregivers. RAND CORP.
- Rivers, F., Wertenberger, D., & Lindgren, K. (2006). U,S, Army Professional Filler System nursing personnel; do they possess competency needed for deployment? *Military Medicine*, 171, 142–149.
- Rosenstein A., & Privitera M. (2015). Recognizing and addressing physician stress and burnout to improve satisfaction and patient care. *Physician Leadership Forum of American Hospital Association*.
- Sabo B. (2006). Compassion fatigue and nursing work: can we accurately capture the consequences of caring work? *International Journal of Nursing Practice*. 12, 136–142.
- Smith, C., Hancock, H., Blake, J., & Eckert, K. (2006). A randomized comparative trial of yoga and relaxation to reduce stress and anxiety. *Complementary Therapies in Medicine*, 15, 77-83. doi:10.1016/j.ctim.2006.05.001.
- Sahaja Yoga. (n.d) About sahaja yoga. <http://www.sahajayoga.org/whatissy/default.asp>
- Shanafelt TD, Balch CM, Dyrbye L, Bechamps G, Russell T, Satele D, et al. (2011) Special report: suicidal ideation among American surgeons. *Arch Surg*. 146(1). 54-62.

Stewart, D. W. (2009). Casualties of war: Compassion fatigue and health care providers.

*MEDSURG Nursing*, 18(2), 91–94.

The W. Edwards Deming Institute. <https://www.deming.org/theman/theories/pdsacycle>).

Wiesbaden Army Health Clinic (n.d.). Mission, Vision, and Values,

<http://www.wiesbaden.army.mil/sites/about/mission.asp>).

Wolever, R., Bobinet, K., McCabe, K., Mackenzie, E., Fekete, E., & Kusnick, C. (2012).

Effective and viable mind-body stress reduction in the workplace: A randomized controlled trial. *Journal of Occupational health psychology*, 17(2), 246-258.

doi:10.1037/a0027278.

Waelde, L., Thompson, L. & Gallagher-Thompson, D. (2004). A pilot study of a yoga and

meditation intervention for dementia caregiver stress. *Journal of Clinical Psychology*, 60,

677–687.

Wilson, E. (2008). A new program offers care for caregivers. DOD News. Retrieved

<http://archive.defense.gov/article.aspx?id=49979>

## Appendix A

### Statement of Mutual Agreement



Eastern Kentucky University  
Department of Baccalaureate and Graduate Nursing  
Doctor of Nursing Practice Program

Student Name: Hyun-Ju Kang  
Project Title: Decreasing Occupational Stress/ Anxiety through Yoga

---

- **Expected project outcomes (products, documents, etc.)**

Based on evidence in the literature, it is expected that employees who participate in an on-site yoga program will report lower levels of perceived stress.

The DNP student will develop a Capstone Project Final Report and deliver a Capstone Presentation as part of the requirements for obtaining a DNP degree. There are no expected products to come from this project. The DNP student hopes to submit a manuscript for publication.

- **On-site Activities (DNP student role, required meetings, access to agency records, non-disclosure expectations)**

The DNP student will:

- Act as the project leader, coordinating the project activities with the Wiesbaden Army Health Clinic Director.
- Coordinate conference room reservation, set-up of the room, and instructor confirmation for the yoga sessions.
- Oversee participant completion of the Perceived Stress Scale before and after the four-week yoga intervention. Maintain security of all Perceived Stress Scale results.

- **Products resulting from DNP Capstone Project with potential market value. Any products produced from collaboration with the agency must be discussed with the student, Capstone Advisor, and appropriate agency representative. The ownership of intellectual property rights must be determined prior to the implementation of the project.**

The DNP student, Hyun-Ju Kang, owns the intellectual property rights to any publications or presentations that may result from this project. All such products will be developed with the collaboration of the DNP student's advisor or designee.



Eastern Kentucky University  
Department of Baccalaureate and Graduate Nursing  
Doctor of Nursing Practice Program

Student Name: Hyun-Ju Kang  
Project Title: Decreasing Occupational Stress/ Anxiety through Yoga

### III. Agreement of written and oral communication

- **Reference to clinical agency in student's academic work, publications, and presentations**

The US Army, and specifically, Wiesbaden Army Health Clinic will be identified as the project site in student's academic project proposal and final report. Identification of the site in any dissemination products (publications or presentations) beyond the academic requirements will be in accordance with US Army policy.

- **Restrictions on discussion of any project or agency details**

All data will be reported in aggregate only. No participant identifying data will be reported.

- **Formal agency approval needed for any publicly shared findings**

Any dissemination products (publications or presentations) beyond the academic requirements will be vetted through the expected U.S. Army process through appropriate PAO clearance.

### IV. Required Signatures:

Student  Date 13 Jan. 2016

Capstone Advisor  Date 1-14-16

Agency Representative  Date 13 JAN 16

**Appendix B**

**Yoga Instructor Commitment Letter**

Adriana Skinner, MSPH

Army Wellness Center

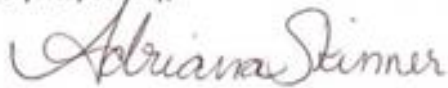
Wiesbaden, Germany

(06371)9464-1482

To Whom it May Concern:

MAJ Kang of the Wiesbaden Army Health Clinic reached out to me about volunteering to provide complimentary yoga classes for the clinic staff for her doctoral Capstone project. I am able to provide these classes on a weekly basis for the duration of her project over the course of two months. This is an official letter of commitment.

Very Respectfully,



Adriana Skinner

Health Educator / Certified Yoga Instructor

## Appendix C

## EKU IRB Approval



Graduate Education and Research  
Division of Sponsored Programs  
Institutional Review Board

EASTERN KENTUCKY UNIVERSITY  
Serving Kentuckians Since 1908

Jones 414, Coates CPO 20  
311 LANCASTER AVENUE  
RICHMOND, KENTUCKY 40475-3101  
(859) 622-8636; Fax (859) 622-6610  
<http://www.sponsoredprograms.eku.edu>

## NOTICE OF IRB APPROVAL

Protocol Number: 16-145

Institutional Review Board IRB00002836, DHHS FWA00003332

Review Type:  Full  Expedited

Approval Type:  New  Extension of Time  Revision  Continuing Review

Principal Investigator: **Hyun-Ju Kang** Faculty Advisor: **Dr. Mary DeLetter**  
Project Title: **Decreasing Occupational Stress/Anxiety through Yoga**  
Approval Date: **3/3/2016** Expiration Date: **12/1/16**  
Approved by: **Dr. Jonathan Gore, IRB Member**

This document confirms that the Institutional Review Board (IRB) has approved the above referenced research project as outlined in the application submitted for IRB review with an immediate effective date.

**Principal Investigator Responsibilities:** It is the responsibility of the principal investigator to ensure that all investigators and staff associated with this study meet the training requirements for conducting research involving human subjects, follow the approved protocol, use only the approved forms, keep appropriate research records, and comply with applicable University policies and state and federal regulations.

**Consent Forms:** All subjects must receive a copy of the consent form as approved with the EKU IRB approval stamp. Copies of the signed consent forms must be kept on file unless a waiver has been granted by the IRB.

**Adverse Events:** Any adverse or unexpected events that occur in conjunction with this study must be reported to the IRB within ten calendar days of the occurrence.

**Research Records:** Accurate and detailed research records must be maintained for a minimum of three years following the completion of the research and are subject to audit.

**Changes to Approved Research Protocol:** If changes to the approved research protocol become necessary, a description of those changes must be submitted for IRB review and approval prior to implementation. Some changes may be approved by expedited review while others may require full IRB review. Changes include, but are not limited to, those involving study personnel, consent forms, subjects, and procedures.

**Annual IRB Continuing Review:** This approval is valid through the expiration date noted above and is subject to continuing IRB review on an annual basis for as long as the study is active. It is the responsibility of the principal investigator to submit the annual continuing review request and receive approval prior to the anniversary date of the approval. Continuing reviews may be used to continue a project for up to three years from the original approval date, after which time a new application must be filed for IRB review and approval.

**Final Report:** Within 30 days from the expiration of the project, a final report must be filed with the IRB. A copy of the research results or an abstract from a resulting publication or presentation must be attached. If copies of significant new findings are provided to the research subjects, a copy must be also be provided to the IRB with the final report.

**Other Provisions of Approval, if applicable:** None

Please contact Sponsored Programs at 859-622-3636 or send email to [tiffany.hamblin@eku.edu](mailto:tiffany.hamblin@eku.edu) or [lisa.royalty@eku.edu](mailto:lisa.royalty@eku.edu) with questions about this approval or reporting requirements.



Eastern Kentucky University is an Equal Opportunity/Affirmative Action Employer and Educational Institution



## Appendix D

## IRB Deferral Letter – Landstuhl Regional Medical Center



DEPARTMENT OF THE ARMY  
LANDSTUHL REGIONAL MEDICAL CENTER  
Unit 33100  
APO AE 09180-3100

MCEU-LST

13 November 2015

SUBJECT: "Decreasing Occupational Stress/Anxiety through Yoga" (CY15-12), Investigator MAJ Hyun Kang

1. Your project, "Decreasing Occupational Stress/Anxiety through Yoga" was reviewed by the Regional Health Command – Europe Human Protections Administrator on 13 July 2015.
2. Per your project summary, the objectives are to: (1) describe the current state of well-being/stress level within the staff of Wiesbaden Army Health Clinic (WAHC), (2) implement a bi-monthly staff resiliency program (yoga) to the staff of WAHC, and (3) evaluate the outcomes as a result of the staff resiliency program implementation. The primary investigator (PI) will evaluate the level of stress/anxiety amongst the staff of WAHC after a bi-monthly trial of staff resiliency program to determine its effectiveness and feasibility. A baseline survey will be used to assess current well-being and stress level of staff participating in this project. After implementation of the resiliency yoga program, the PI will reassess the levels of staff well-being/level of stress through a post-intervention survey/questionnaire. The information obtained through this assessment will help to implement a program that will benefit the WAHC staff with coping and management of occupational exhaustion and burnout.
3. The activity, as described, does not meet the definition of research as defined in 32 CFR 219.102(d). Submission of an Institutional Review Board (IRB) application is not required.
4. This protocol may be initiated, provided all materials, personnel and procedures remain unchanged. Any changes must be reviewed and approved prior to implementation.
5. This protocol has been given the local reference number of CY15-12; please refer to this number in all future correspondence.
6. Point of contact for this recommendation is LTC MeLisa Gantt at DSN 314-590-4911 or melisa.a.gantt.mil@mail.mil

MeLisa A. Gantt  
LTC, AN  
Interim Human Protections Administrator

## Appendix E

### Project Cover Letter



# EASTERN KENTUCKY UNIVERSITY

Department of Baccalaureate and Graduate Nursing  
College of Health Sciences

233 Rowlett Building  
521 Lancaster Avenue  
Richmond, Kentucky 40475-3102  
(859) 622-1956  
FAX: (859) 622-1872

12 November 2015

Hello WAHC staff members,

I am a distance-learning student of a Doctor of Nursing Practice program at Eastern Kentucky University.

You are being invited to participate in my capstone project. The purpose of the project is to pilot the implementation of a WAHC staff resiliency program using yoga as a stress relief mechanism. There is strong evidence that the overall level of work-related stress decreases after regular participation in yoga exercises in the workplace.

As a participant in this program, you will receive a minimum of four complementary weekly yoga sessions guided by a certified yoga instructor. These sessions will be conveniently held in a WAHC clinic conference room. Following completion of your participation, location of yoga sessions can be negotiated with the yoga instructor. Project participants in the program will be asked to complete the Perceived Stress Scale, a brief survey measuring your level of stress, before and after at least 4 yoga sessions. Some demographic information will be asked but no names will be collected. Data collected will be anonymous, confidential and not shared with co-workers or supervisors.

This participation is voluntary. The completion of the questionnaires and participation in yoga will suffice as your consent to participate in this pilot project.

Thank you for your support!

Hyun-ju Kang, MSN, RN, FNP- BC

## Appendix F

### Demographic Survey

Age \_\_\_\_\_ Gender Male / Female

Current Status:

- Active Duty
- US Civilian
- German national

Race

- African American
- Asian/Pacific Islander/Indian subcontinent
- Caucasian
- Hispanic
- Native American
- Two or more races

Role

- Provider (MD/DO/OD/NP/PA/PT/LSW/PharmD/PsyD)
- Staff Nurse (RN/ LVN)
- Ancillary Staff Member (Technicians/ Medics, etc.)
- Administrator (PAD/ Tricare/ other admin)

Education

- Less than high school
- High school graduate or equivalent
- Some college
- College (i.e.: Associates /Bachelors)
- Graduate education or above

If you are on active duty, how long have you been in the military?

\_\_\_\_\_ Years    \_\_\_\_\_ Months

If you are a US civilians or US active duty personnel, how long have you been stationed in Germany?

\_\_\_\_\_ Years    \_\_\_\_\_ Months

## Appendix G

## Perceived Stress Scale (Pre-yoga)

ID number \_\_\_\_\_

Decreasing Occupational Stress/Anxiety through Yoga

## Perceived Stress Scale (Pre-yoga)

The questions in this scale ask you about your feelings and thoughts during THE LAST MONTH.

	Never	Almost Never	Sometimes	Fairly Often	Very Often
	0	1	2	3	4
1. In the last month, how often have you been upset because of something that happened unexpectedly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. In the last month, how often have you felt that you were unable to control the important things in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. In the last month, how often have you felt nervous and "stressed"?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. In the last month, how often have you felt that things were going your way?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. In the last month, how often have you been able to control irritations in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. In the last month, how often have you felt that you were on top of things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix H

## Perceived Stress Scale (Post-yoga)

ID number \_\_\_\_\_

Decreasing Occupational Stress/Anxiety through Yoga

## Perceived Stress Scale (Post-yoga)

The questions in this scale ask you about your feelings and thoughts after participating in yoga.

	Never	Almost Never	Sometimes	Fairly Often	Very Often
	0	1	2	3	4
1. In the last month, how often have you been upset because of something that happened unexpectedly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. In the last month, how often have you felt that you were unable to control the important things in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. In the last month, how often have you felt nervous and "stressed"?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. In the last month, how often have you felt that things were going your way?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. In the last month, how often have you been able to control irritations in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. In the last month, how often have you felt that you were on top of things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## **Appendix I**

### **Permission to use PSS for Education Purpose**

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