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School of Health Sciences

Department of Occupational Therapy

Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

An Evidence-Based Capstone Project
In
Occupational Therapy

by
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Submitted in Partial Fulfillment of the Requirements for the Degree of
Occupational Therapy Doctorate

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The Evidence-Based Practice Occupational Therapy Capstone Project was reviewed and approved * by the following:

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Abstract

Approximately 60% of professional and graduate students are experiencing high levels of anxiety and/or stress that impact their academic performance. Therefore, this capstone presents an evidence- and theory-based mindfulness training project to reduce anxiety and stress for entry-level occupational therapy students. Twelve students participated in six weekly 90-minute group sessions that included instructional presentations introducing mindfulness-based concepts and techniques, active skills training and practice, and small group discussions to process their experiences in class and daily life. Participants explored the techniques to determine which met their academic and personal needs. Homework was optional because evidence for its inclusion was mixed.

A pre-/post-intervention mixed-methods approach was used to determine outcomes. Findings from the State-Trait S-Anxiety Short Form were statistically significant ($p < 0.05$) suggesting that the training may have reduced student anxiety. Positive results from the Perceived Stress Scale did not reach statistical significance, but qualitative data from the author-developed survey suggested that the training may have clinical relevance for stress reduction. Participant responses to the post-intervention author-developed survey indicated that they knew how to select techniques to manage anxiety, felt more in control of their emotions, and used mindfulness techniques to manage stress related to the academic program. Therefore, academic and clinical fieldwork educators may find mindfulness training helpful in reducing anxiety and stress for their students.

Keywords: health professional students, graduate students, student mental health, mindfulness-based interventions, mindfulness techniques

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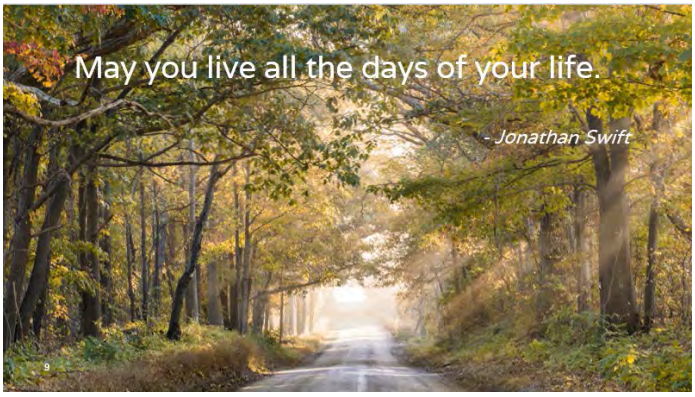
I will never forget the students who volunteered to take this journey with me, sharing thoughts and feelings as they experienced new ways of being. I truly appreciate the generous gift of your time and your self. You will be incredible occupational therapists!

And finally, to my beloved initial cohort: You are an amazing group of kind, caring, sharing, wise, funny, committed, motivated, genuine individuals. You have been my rock.

My wish for all of those who have contributed to this journey…



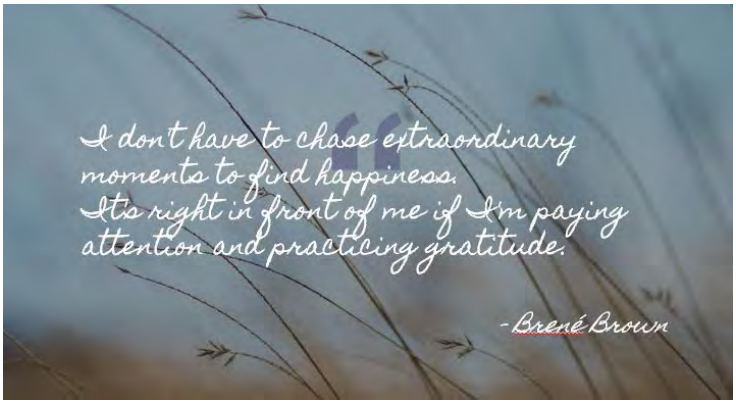
Dedication

This project and doctoral degree are grounded in the strong foundational values that my dad and mother instilled in me: love of learning, serving others, and doing what is right. My ordinary family life, which was filled with love, was truly extraordinary. I first dedicate my accomplishment to my parents and then reach to my husband Chuck to share this dedication.

When I mentioned to Chuck that I was seriously thinking about pursuing a doctoral degree, he responded with "Let's do it. I'll support whatever you want to do." And he certainly has done so throughout the journey. Thank you for your loving care.

Finally, this dedication would not be complete without embracing others in my beloved family, each of whom has contributed their support in many different ways: my son David and daughter-in-law Lissie; my daughter Amy and "best son-in-law" Jack; and three amazing grandchildren, Dom, Jocelyn, and Natalie Grace.

You all bring me so much happiness. I love you dearly. Thank you from the bottom of my heart.



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Chapter 1

This chapter provides background for the evidence-based occupational therapy (EBOT) project. Beginning with the project setting, it then provides a description of and background for the problem that was addressed that includes the rationale to support the EBOT project. Potential project supports and barriers with plans to mitigate roadblocks are discussed. The chapter concludes with the significance of the project to the field of occupational therapy.

Description of the EBOT Project Setting

The setting for this EBOT project was the University of Florida's (UF) Department of Occupational Therapy. The department is in the College of Public Health and Health Professions, which seeks through education, research, and service to improve the health and well-being of not only individuals but also communities and populations. The department's mission, to "lead research innovations, present thriving and varied educational programs, embrace a clinician-scientist model, be fiscally healthy, and serve the occupational needs of people, organizations and populations" (UF Department of Occupational Therapy, 2018, p. 1), reflects a culture of scholarly excellence and high expectations for faculty and students.

Although UF is a large, public university, it prides itself on creating a culture of caring for the students. Available resources on campus include the "U Matter, We Care" a 24-hour/7-days-a-week program for students in distress, the Counseling and Wellness Center mental health services, the Disability Resource Center for students with physical, mental, sensory, or learning disabilities, and "GatorWell" promotional health education services. However, given the size of the campus, the location of the various services, and student schedules and workloads, accessibility to the various resources can be challenging. In addition, the UF Department of

Occupational Therapy presently has not had formal supports that address student stress or anxiety factored into the curriculum.

Because the plan for the EBOT project was to recruit first-year entry-level occupational therapy students as participants, it is important to understand the academic program. At the time of the project's intervention, student participants were enrolled in the second cohort of the entry-level occupational therapy doctoral (OTD) program that was initiated in August 2018. Despite the newness of the program, gaining admission to the OTD program was competitive with over 500 students applying for only 46 positions. The applications that had been received indicated that the candidates were academically strong; most having had considerable volunteer community or professional service experience, or gainful employment, often in areas that provide a solid background for occupational therapy coursework. However, faculty anticipated that coping with the potential ambiguity, uncertainty, anticipated rigor, and high expectations of a new doctoral entry-level program could result in an increase in stress and anxiety for the incoming first-year students.

Description/Background of the Problem & Rationale for EBOT Project

Within the previous few years, faculty members in the UF entry-level master of occupational therapy program had observed and expressed concern about student behaviors that indicated an increasing amount and intensity of anxiety and stress, such as freezing when practicing transfers with a classmate during skills lab, experiencing a sudden loss of memory during a presentation, and questioning instructors repetitively about clearly defined assignments with rubrics. Those concerns may have been reflective of the status of student mental health at the national level as well. Results of the National College Health Assessment II Fall 2017 survey of graduate and professional students revealed that anxiety and stress were the two factors

that most impacted student academic performance (American College Health Association, 2018, p. 5). Of the 4,622 student respondents, 58.9% reported having experienced overwhelming anxiety during the previous 12 months (p. 14), while 63.7% rated their stress levels above average (p. 16), with 13.8% reporting a level of tremendous stress (p. 16). In addition to the above results, the literature supported findings of high levels of anxiety and stress in medical, nursing, and other healthcare professional students (McConville, McAleer, & Hahne, 2017; Stillwell, Vermeesch, & Scott, 2017). Given the prevalence of graduate student mental health needs, the rationale for this project was to investigate evidence-based mindfulness interventions to determine how to assist occupational therapy students at UF to successfully manage their anxiety and stress.

To clarify the understanding of key terms used in this project, *anxiety* was defined as poorly-controlled worry that is out of proportion to an individual's situation, which is similar to but not to be interpreted as a diagnosed general anxiety disorder (APA, 2013). *Stress*, or *perceived stress*, was defined as the result of a person's perception of an environmental situation as threatening and for which the individual may not have the resources or capacity to cope (Lazarus & Folkman, 1987). As for the term *mindfulness*, Kabat-Zinn's (2003) definition "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" was used (p. 145).

Kabat-Zinn's Mindfulness-Based Stress Reduction approach has been shown to reduce anxiety and stress with multiple adult populations (Greeson, Juberg, Maytan, James, & Rogers, 2014). However, for this project a variety of mindfulness and mind-body interventions were investigated, such as mindfulness training with mindful-movement (Kinser, Braun, Deeb, Carrico, & Dow, 2016), mindfulness-based cognitive therapy (Halladay et al., 2018), Koru

(Greeson et al., 2014), and mobile application of mindfulness meditation (Yang, Schamber, Meyer, & Gold, 2018). The purpose of this project was to complete a literature review on mindfulness training options and to develop an evidence-based mindfulness program based on the techniques, tools, and resources that best met the mental health needs of entry-level occupational therapy students in the classroom, the lab, and fieldwork settings.

Identification of Supports & Barriers

Supports. The anticipated supports of the evidence-based mindfulness project were related mainly to the culture of the occupational therapy department. The chair had been a strong advocate for and supporter of scholarly endeavors. The OTD program director and faculty members, all of whom embraced evidence-based teaching, had been incorporating innovative pedagogy and technology to enhance student learning. A course design expert and member of the occupational therapy faculty had collaborated with the teaching faculty to design curriculum with evidence-, occupation-, and client-based concepts incorporated throughout the educational endeavors of the department. The faculty and staff of the department functioned as a team, supporting each other personally as well as professionally. The three project proofreaders, who offered valuable guidance and advice, were members of the occupational therapy faculty, one occupational therapist and two rehabilitation counselors. Engagement in designing, implementing, and measuring an evidence-based project focused on student mental health was highly valued as indicated by faculty members' frequent status checks and offers to assist. In addition to the departmental culture and faculty support, the university provided full access to resources that supported the project, (e.g., personal office, classroom options, audio-video equipment, computers, software, internet with on-site support, and library).

Barriers. The barriers that arose during the process of conducting the EBOT project were threefold. The first of those involved honing the interventionist's mindfulness-related skills. Although the interventionist was a seasoned UF occupational therapy faculty member with a master's degree in counseling psychology, she sought to assure her competence in teaching the evidence-based mindfulness techniques that were the critical component of the program.

The second barrier was the required institutional review board (IRB) approval of the project. Initially the time-consuming and challenging decision had to be made as to whether to use the UF IRB or the Chatham University IRB. However, once all parties supported using the UF IRB, the complex process was navigated successfully by the interventionist who was well prepared due to rigorous Chatham coursework.

The third potential barrier was recruiting and facilitating the engagement of the occupational therapy student participants. The interventionist was concerned that students might not be invested in mindfulness training while navigating a heavy course schedule. In addition, many students had part-time jobs or other outside responsibilities. The plan to address this potential barrier was to draw upon the literature, including the Banerjee, Cavanagh, and Strauss article (2017), to inform the design and operational aspects of the project to assure as much as possible that facilitators to student participation had been included and hindrances to engagement eliminated.

Significance of the EBOT Project to the Field of Occupational Therapy

When applying the *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2014) to academic education, desired student outcomes could include successful occupational performance (i.e., completing desired actions or activities), role competence (i.e.,

fulfilling the requirements of the role of student and ultimately of entry-level occupational therapist), participation (i.e., engaging in meaningful and satisfying occupations), along with personal well-being (i.e., feeling physically and mentally healthy, secure, and in control of one's life). It has been the responsibility of occupational therapy educators to provide not only the academic content but also the environment that supports student success in classroom, lab, and fieldwork sites. By offering an evidence-based mindfulness intervention, educators might be able to help their students manage stress and anxiety, which in turn, might have a positive impact on students' occupational performance, role competence, participation, and well-being. In addition, the evidence indicated that students with a sense of personal well-being were more likely to be able to provide better care for their clients (Guillaumie, Boiral, & Champagne, 2017; Yang et al., 2018). Students might use their knowledge and skills to teach clients how to manage stress and anxiety related to their situations more effectively.

However, the impact of the evidence-based project could go beyond the local level. Because there is very little literature specifically related to occupational therapy and mindfulness training, the additional evidence might be welcomed by not only occupational therapy educators but also clinicians who are fieldwork educators. The project could be introduced to other occupational therapy and occupational therapy assistance programs by disseminating the results through state and national conferences and publications. In addition, the close international ties that the UF department has with occupational therapists in South Africa, Israel, and Canada might offer opportunities to share the results beyond the boundaries of the United States in person or virtually, through an online continuing education course. Interdisciplinary opportunities also might be available within the other departments within the College of Public Health and Health Professions along with the Colleges of Nursing, Pharmacy, Medicine, and

Dentistry, all of which reside in the UF Health Science Center. The various rehabilitation departments within the UFHealth Shands healthcare system might also benefit from the work. The UF occupational therapy department would be very supportive of these endeavors.

Chapter 2

This chapter provides a review of the literature supporting the evidence-based mindfulness training project for occupational therapy students. After introducing the evidence-based practice question (PIO) upon which the literature search was grounded, the chapter presents a narrative synthesis of the Critically Appraised Topic (CAT) Portfolio that supported and informed the project. The portfolio synthesis includes the methodology used for the literature search, a description of the CAT Portfolio, and a synopsis of the evidence that directly supported the potential effectiveness of the project intervention as well as having informed the design of the program.

Evidence-Based Practice Question (PIO)

Despite the variety of mental health services that the University of Florida offers students, it was likely that less than a quarter of the occupational therapy students dealing with anxiety received professional assessment or treatment within the previous year (ACHA, 2018, p. 15). Given the distinct value of occupational therapy in the provision of mental health services for clients across the lifespan (AOTA, 2016), it was important that the UF Department of Occupational Therapy provide needed supports for its own student population to successfully manage anxiety and stress. Therefore, the evidence-based practice question (PIO) that served as the foundation for the occupational therapy project was the following: Is mindfulness training (Intervention) useful in reducing perceived levels of anxiety and stress (Outcomes) in entry-level occupational therapy students (Population)?

Narrative Synthesis of CAT Portfolio

Methodology of literature search. Once established, the PIO question was used to inform a broad literature search. The following terms were selected and searched in various

combinations: mindfulness, mindfulness based, meditation, guided imagery, progressive muscle relaxation, relaxation response, guided relaxation, relaxation techniques, therapeutic breathing, breathing techniques, breathing exercises, health science, health sciences, healthcare, medical, physician assistants, pharmacy, nurse practitioners, dental, occupational therapy, health professions, nursing, nurses, physical therapy, physiotherapy, speech pathology, speech language therapy, social work, postgraduate, masters, doctoral, doctorate, graduate, students, anxiety, stress, mental health, psychological health, coping, resilience, and wellbeing. Limiters used were academic articles, English language, and publications within the last 10 years (i.e., 2009-2018).

CINAHL, PsycINFO, and PubMed electronic databases and the American Occupational Therapy Association website were employed for the search. Reference lists of systematic reviews and articles were hand searched. A total of 397 articles were identified, which was reduced to 306 after duplicates were removed. The inclusion criteria that were applied included college and university students, graduate students, health professional students of multiple disciplines, professional students, a self-help focus, mind-body and mindfulness-based approaches, cognitive behavioral interventions, and anxiety and/or stress reduction outcomes. The exclusion criteria included diagnosed mental illness, a physical diagnosis focus, a focus solely on application to patients or clients, and college-credit mindfulness courses. After screening the remaining articles and assessing 34 full-text articles, the 10 studies that were determined to be the best evidence to support the project were selected for the critical appraisal portfolio.

Description of the portfolio. The Critically Appraised Topic (CAT) Portfolio was comprised of 10 selected studies, nine of which provided direct evidence to support the PIO question. Three Level I systematic reviews (Halladay et al., 2018; McConville et al., 2017;

Regehr et al., 2013), two Level I randomized controlled trials (Greeson et al., 2014; Yang et al., 2018), three Level II systematic reviews (Bamber & Morpeth, 2018; Guillaumie et al., 2017; Stillwell et al., 2017), and one Level III mixed-methods pilot study (Kinser et al., 2016) of an intervention program, similar to the one under consideration, provided direct evidence to support the intervention from the PIO question. One phenomenological qualitative study (Banerjee et al., 2017) completed the portfolio (see Appendix A: Critically Appraised Topic Portfolio, p. 70).

The nine studies directly supporting the proposed intervention originated from the United States (Bamber & Morpeth, 2018; Greeson et al., 2014; Kinser et al., 2016; Stillwell et al., 2017; Yang et al., 2018), Canada (Guillaumie et al., 2017; Halladay et al., 2018; Regehr et al., 2013), and Australia (McConville et al., 2017); all included college-level students from the United States. The systematic reviews incorporated studies from international subjects (e.g., the United Kingdom, Spain, Italy, Turkey, Southeast Asia). Three studies were specific to health professional students (McConville et al., 2017; Stillwell et al., 2017; Yang et al., 2018), while two others included practitioners (Guillaumie et al., 2017; Kinser et al., 2016).

In addition to the empirical evidence directly supporting the proposed intervention, studies in the portfolio offered background information, frequency and dosage options, methods of delivery, and suggestions for program structure. Three outcome measurement tools that appeared frequently in the studies provided psychometrically sound options for the project. The qualitative studies contributed insight into the lived experience of mindfulness-based programs, which informed recruitment, retention, and assessment of participant satisfaction. Synthesis of the articles in the portfolio revealed the need to address further three program-related themes that emerged: program structure, program content and methods of delivery, and outcome measurement.

Synopsis of evidence that directly supports the proposed intervention. Crane et al. (2017) described "an explosion of interest in mindfulness-based programs… in the last two decades" (p.990). These authors illustrated the grounding of mindfulness programs in the integration of spiritual practices, cognitive neuroscience, research, and the evidence-based practice of such disciplines as medicine, psychology, and education (Crane et al., 2017). Given its multi-theoretical and transdisciplinary background, mindfulness training for the reduction of perceived levels of anxiety and stress was proposed as the intervention to address the mental health needs of entry-level occupational therapy students.

Although the literature supported the effectiveness of mindfulness-based interventions, many individual studies reported rather small sample sizes with a variety of program content and methodology. Hence, six of the nine studies chosen to support the proposed intervention were systematic reviews. Many of the selected studies presented multiple outcomes (e.g., depression, burnout, sleep-parameters), but this synopsis focused on the outcomes chosen for this mindfulness project.

Four of the studies supported the effects of mindfulness-based interventions on the reduction of both anxiety and stress. Two systematic reviews found that mindfulness programs significantly decreased symptoms of anxiety and stress when compared to controls (McConville et al., 2017; Regehr et al., 2013). Interestingly, Regehr et al. (2013) remarked that the results were exceptionally stable for student populations from diverse programs and different countries. The Halladay et al. (2018) review reported a moderate significant reduction in anxiety symptoms and a small significant reduction in perceived stress when comparing mindfulness interventions to passive controls, declaring that interventions of only two weeks were better than none at all. In addition, Halladay et al. (2018) suggested that these interventions might benefit college

students while waiting for formal counseling services. Finally, one mixed-methods study of an interdisciplinary mindfulness course reported significant reductions in both perceived stress and state anxiety using a theory-grounded didactic component combined with the practice of mindfulness techniques (Kinser et al., 2016).

When considering the studies that focused on only one of the selected outcomes for the proposed intervention, the two measuring just anxiety reported that mindfulness interventions significantly decreased anxiety in college students: Bamber and Morpeth's (2018) meta-analysis that focused on mindfulness meditation and the review of Guillaumie et al. (2017) which identified maintenance of anxiety reduction at follow-up. Of the three studies specifically supporting interventions to reduce perceived stress, the Stillwell et al. (2017) review of a wide variety of mindful approaches showed a reduction in perceived stress in all eight included studies, of which six were statistically significant. The authors recommended that, given the low cost of mindfulness training, graduate health profession programs should consider designing an effective, sustainable self-care mindfulness-based program that would meet the specific needs of their institution and students. In addition, two individual trials also reported significant decreases in perceived stress. Greeson, et al. (2014) investigated the effectiveness of the Koru program designed for young adults. Yang et al. (2018) researched the effects of the independent use of a mindfulness meditation program delivered via a mobile application and emphasized how critically important it is that schools designate time and resources for stress reduction programming for students. In conclusion, although there were differences among the nine studies in their definition of mindfulness and in mindfulness-related programs, delivery methodologies, frequency, dosage, and outcome measurements, all concluded that the evidence

supported the effectiveness of mindfulness-based interventions in reducing anxiety and/or stress in the studied student populations.

Program structure. In 2013 Regehr et al. suggested that, even with the variability among the 24 studies included in their systematic review, their meta-analysis indicated that differences in the length and content of the interventions had little impact on the results. Stillwell et al. (2017) came to a somewhat similar conclusion reporting that weekly sessions of a variety of mindfulness-based stress reduction approaches ranging from 3 to 18 weeks were effective in reducing perceived stress. Nonetheless, other authors offered more specific recommendations related to frequency and length of effective programs. Bamber and Morpeth (2018) found that mindfulness programs of greater than 8 sessions may be more effective in reducing anxiety. In contrast, the Halladay et al. (2018) review supported brief (<8 weeks) mindfulness training interventions to reduce anxiety. Two randomized controlled trials showed the effectiveness of even shorter training programs (Greeson et al., 2015; Yang et al., 2018). The Greeson et al. (2015) study recommended an efficient approach of 5 hours in-class work with daily 10-minute practice sessions. A mobile self-help application was used effectively for the Yang et al. (2018) 30-day intervention to allow students greater control over time but with recommended reminders and check-ins. The above studies provided evidence to support a 4- to 6-week mindfulness-based intervention and offered information useful for sequencing and dosage.

Program content and methods of delivery. In keeping with the principles of evidence-based practice, the program was designed with the wants and needs of the occupational therapy students in the forefront of planning and implementation. Information from the qualitative studies was used to assist with increasing student satisfaction as well as improving recruitment

and retention. Areas identified as potentially important for the students included: motivation, types and intensity of practice, perceptions of impact, school environment and workload, lack of time, sustainability of daily practice, and comfortable use of mindfulness practices in daily life (Banerjee et al., 2017; Guillaumie et al., 2017; Kinser et al., 2016). In order to address a variety of student needs, consideration was given to dividing the program into two or three evidence-based sections, e.g., didactic, experiential skills practice, and perhaps homework as supported by the literature (Greeson et al., 2014; Stillwell et al., 2017).

An evidence-based didactic section of the program would introduce basic concepts, e.g., mindfulness benefits, anxiety, stress theory and prevention, and a variety of mindfulness-based techniques (Greeson et al., 2014; Guillaumie et al., 2017; McConville et al., 2017; Stillwell et al., 2017). The incorporation of mindfulness-based cognitive therapy components would be seriously considered, given that it was reported to be the most effective approach in decreasing anxiety in post-secondary students (Halladay et al., 2018). Discussion and sharing of experiences, which McConville et al. (2017) found may support increased use of mindfulness practice in daily life, might also help students process their lived experiences and perceived effects of mindfulness (Banerjee et al., 2017).

An effective skills practice section would provide a variety of experiences from which students could choose the mindfulness-based approaches that would work best for them to prevent or manage stress and anxiety in different circumstances (Greeson et al., 2014; Regehr et al., 2013; Stillwell et al. 2017). The use of mobile applications would be introduced and explored to provide students options for a tool to support them while on-campus and to sustain mindfulness practice on fieldwork and ultimately in the clinic upon graduation (Kinser et al., 2016; Yang et al., 2018).

The evidence related to a homework section was mixed. Bamber and Morpeth (2018) suggested that including outside practice may actually increase anxiety, which was understandable given such issues as student time constraints and school workload. In addition, McConville et al. (2017) reported that required home practice may decrease the incorporation of mindfulness practice into daily life. Nonetheless, homework that included reading and/or skills practice was supported by the findings of Greeson et al. (2014) and Stillwell et al. (2017). An evidence-based decision about homework for the project would be informed by input from the participants and a decision made regarding inclusion of mandatory homework. The critically appraised articles in this section were used as the foundation upon which to plan and implement program content and methodology.

Outcome measurement. Three outcome measurement tools emerged from the studies in the CAT portfolio, all of which had solid psychometric properties and required further investigation to determine appropriateness for the proposed project. The Perceived Stress Scale (PSS) had been utilized as an outcome measure for all the studies included in one systematic review (Stillwell et al., 2017), in the two randomized controlled trials (Greeson et al., 2014; Yang et al., 2018), in the mixed-methods pilot study (Kinser et al., 2016), and in a variety of studies included in the other systematic reviews. The Spielberger State-Trait Anxiety Inventory (STAI) had been used to measure anxiety in the Kinser et al. (2016) study and in 11 studies included in the Regehr et al. (2013) systematic review. Although the Depression Anxiety Stress Scales (DASS) was identified only in three studies included in the McConville et al. (2017) review, it would be further investigated because it would assess both PIO outcomes. Analysis of the ability of the above tools to meet the measurement needs of the project would be completed and an informed decision made.

Given that the UF Department of Occupational Therapy did not have structured supports for students dealing with stress and anxiety, the project had the potential to fill that gap for future students. Therefore, drawing upon data from the qualitative studies (Banerjee et al., 2017; Guillaumie et al., 2017; Kinser et al., 2016), a survey was designed by the interventionist to evaluate the project and garner student satisfaction feedback. The results from the survey and the other selected outcome measure(s) would be analyzed and utilized to improve and sustain the program.

In conclusion, the review and synthesis of the critically appraised studies included in the CAT portfolio directly supported the effectiveness of mindfulness training to reduce perceived levels of anxiety and stress in entry-level occupational therapy students. In addition, the studies provided valuable indirect support for the design, development, implementation, and measurement of the proposed intervention program.

Chapter 3

This chapter focuses on additional supports for the mindfulness-based training project. After introducing the conceptual model that guided the sequencing and design of training modules, the chapter describes the relationship of the evidence-based project with the *Occupational Therapy Practice Framework* and the American Occupational Therapy Association's *Vision 2025*. The chapter then presents the plan for sustainability of the mindfulness project and its support for the health and well-being of future students and clinicians and concludes with the interventionist's credentials and professional qualifications to carry out the evidence-based project.

Occupation-based Conceptual Model Guiding the Project

The Transtheoretical Model of Behavior Change is an effective approach to address multiple health and wellness needs, such as addictions, anxiety, stress management, and medication compliance (Evers et al., 2006; Prochaska, DiClemente, & Norcross, 1992; Prochaska & Velicer, 1997). Brown (2011) proposed that occupational therapy practitioners use the model to inform practice when designing interventions to facilitate clients' behavioral change. Therefore, this conceptual model was chosen as the framework to guide the mindfulness project, which supported students in behavioral change to reduce their perceived stress and anxiety levels.

The Transtheoretical Model of Behavior Change identifies stages of the process that individuals use to initiate, implement, and sustain positive health-related behavior change (Prochaska & Velicer, 1997). These stages include *Precontemplation, Contemplation, Preparation, Action,* and *Maintenance* (see Figure 3.1). The stages are dynamic with individuals moving both upward and downward during the change process (Prochaska &

Velicer, 1997). Interestingly, Prochaska (2008) identified the action and maintenance stages as more vulnerable to instability with greater potential for regression to a lower stage (i.e., relapse). Given that most of the student participants were anticipated to be in the action stage, the interventionist could help them understand that change dynamics include the possibility of regression, which is not a barrier to success. Finally, in addition to the stages being used to inform the sequencing of the program, the Transtheoretical Model of Behavior Change provides evidence-based cognitive-behavioral guides for each stage (Prochaska & Velicer, 1997) that would support the selection of mind-body activities (see Figure 3.2).

Specifically, the project would facilitate behavioral change for students as they learned how to reduce perceived stress and anxiety using a mindfulness approach. Program modules would progress participants into the action stage by providing education, cognitive-behavioral supports, and options for mind-body practices from which they would be able to create individualized mindfulness routines to enhance their occupational performance. Potential relapse would be addressed as a part of the dynamic change process, and planning for maintenance and sustainability would be a critical component of the program. In summary, the Transtheoretical Model of Behavior Change provided the framework for helping students proceed through stages of change so they could successfully integrate occupation-based mindfulness practices into their daily lives.

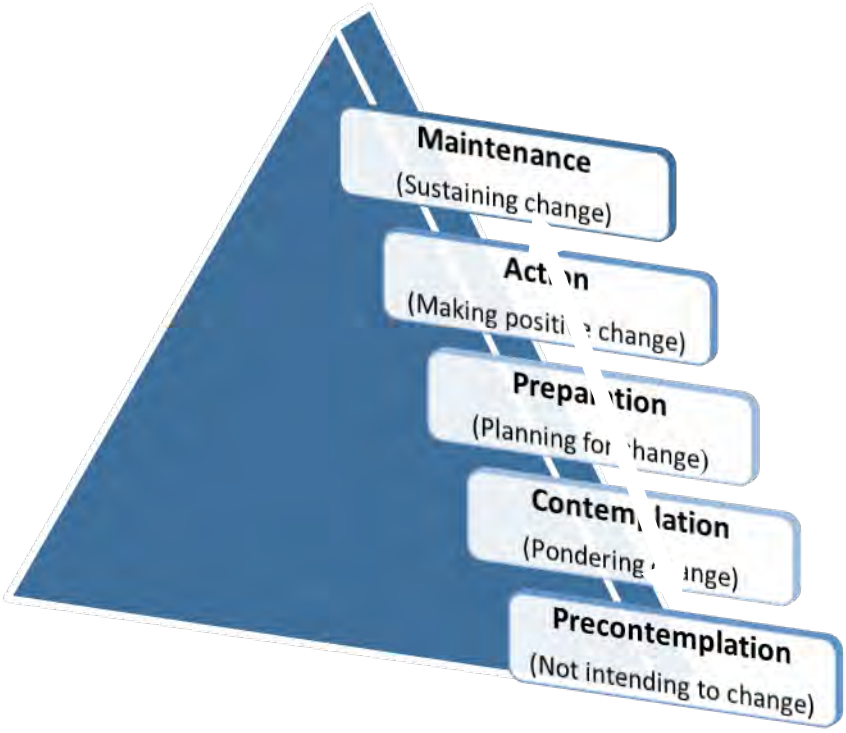


Figure 3.1. Transtheoretical Model of Health Behavior Change (Prochaska & Velicer, 1997).

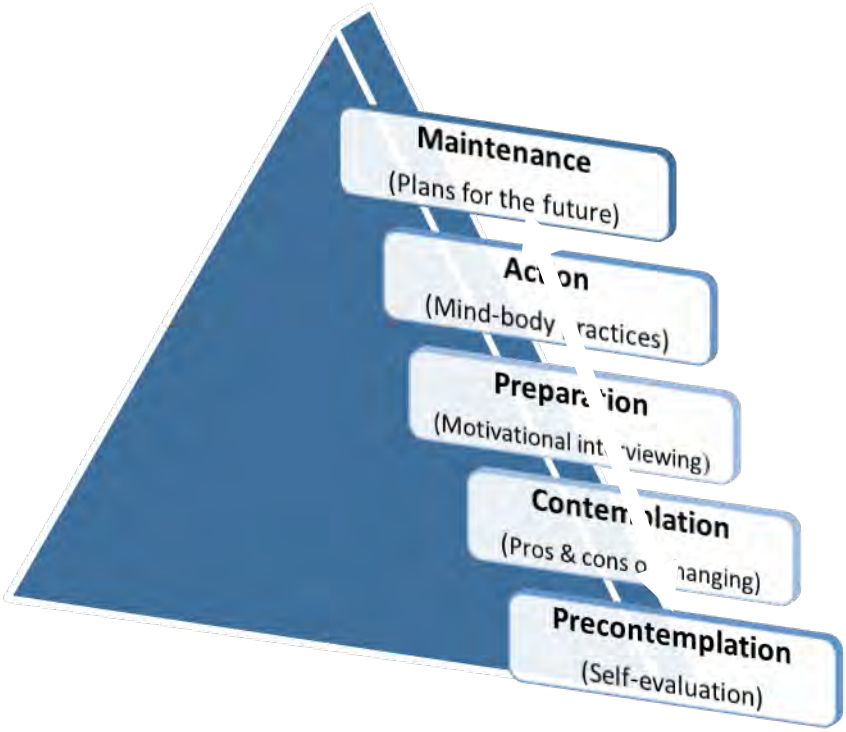


Figure 3.2. Conceptual Model Applied (Prochaska & Velicer, 1997).

Correlation between the Project and the Practice Framework/Vision 2025

This project had its foundation in the *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2014), referred to as the *Framework*. The purpose of the mindfulness project was to reduce students' perceived stress and anxiety so they could engage more successfully in the occupation of formal education participation. The training was geared toward developing mindful performance patterns to meet the desired outcomes of improved occupational performance, mental health, and well-being, as well as competence in the roles of student and emerging occupational therapist (AOTA, 2014). Evidence-based interventions using didactic presentations, mindfulness-based activities, and dynamic group interactions provided training and practice in mindfulness techniques. The focus of the interventions was application to the students' daily life contexts, environments, and situations (AOTA, 2014). As outlined above, the proposed project was grounded in multiple aspects of the occupational therapy domain presented in the *Framework* (AOTA, 2014) with the aim to support student health and participation.

In addition, the proposed mindfulness project was aligned closely with the American Occupational Therapy Association's *Vision 2025* which emphasizes "…health, well-being, and quality of life for all people…to facilitate participation in everyday living" (AOTA, 2017, p. 7103420010p1). In its support of the mental health and well-being of students, the project aligned well with the *effective* guidepost of *Vision 2025* (AOTA, 2017, p. 7103420010p1). To illustrate, the effective guidepost confirms that the profession should be evidence-based, and the intervention was directly supported by evidence obtained in an extensive literature review. As the effective guidepost identifies that occupational therapy should be client-centered, the proposed project was designed to provide students opportunities to self-select practices that met

their mental health needs. The effective guidepost also clarifies that occupational therapy should be cost-effective; the proposed training incurred minimal cost. In alignment with the *collaborative* guidepost of *Vision 2025* that addresses effective outcomes (AOTA, 2017, p. 7103420010p1), the occupational therapy students learned evidence-based mind-body skills they could use to support outcomes that may be valued by their future clients. In summary, the proposed project had a solid foundation in both the *Framework* (AOTA, 2014) and *Vision 2025* (AOTA, 2017).

Sustainability of Practice and Health

Sustainability of the evidence-based project could be implemented at multiple levels. To sustain mindful practice for the student participants' health and well-being (Kelley, 2017) as they begin clinical practice, the program could assure that they had a documented plan to maintain their mindfulness routines. The hope was that the students would share their knowledge of mindfulness with peers, practice occupational therapy mindfully, and contribute to the health and well-being of others.

On a larger scale, the interventionist would use the input from student participants to improve and sustain the program for future cohorts. As requested by the occupational therapy department chair, the interventionist would expand mindfulness training to staff and faculty. Fortunately, the UF occupational therapy department is situated in the academic health science center and affiliated with UF healthcare facilities, which offer opportunities to provide mindfulness training to students and clinicians from other disciplines.

To further expand, the interventionist has submitted abstracts to the Florida State Occupational Therapy Association and the American Occupational Therapy Association to report on the evidence-based project and has prepared an article to submit for publication. In

addition, the interventionist will record a presentation for the occupational therapy department's online continuing education program. By introducing environmentally-friendly online mindfulness training, a diverse community of students, educators, and clinicians could benefit with the program potentially expanding globally. As stated in the World Federation of Occupational Therapists' Principle 5 (2018, p.36), it is important for occupational therapists to value competency and client-centeredness when supporting health and well-being. Care would be taken to be culturally sensitive, especially when reaching to more global populations. These proposed efforts address both the multiple levels of sustainability and the educational challenge to support climate cultural change put forth by the World Federation of Occupational Therapists (2012, p. 2).

Practitioner Professional Skills and Knowledge

My professional career was launched when I received my Bachelor of Health Science in Occupational Therapy in 1985 from the University of Florida and obtained licensure in the State of Florida. Within four years I had returned to school, earning a Master of Arts in Counseling Psychology from Rollins College, Winter Park, Florida, in 1991. I have extensive experience clinically in adult neuro-rehabilitation as well as in hospital management and administration.

I began teaching as adjunct faculty for the UF Department of Occupational Therapy in 1999 and accepted a full time faculty position in 2003, which I continue to hold today. My appointment has included operational and clinical program management, course coordination and development, and curriculum design. For the past 17 years I have instructed and academically advised graduate-level occupational therapy students, teaching courses in mental health, adult rehabilitation, theory, and healthcare management for the Master of Occupational Therapy program. I also have supervised students in their mental health clinical fieldwork. I have

engaged in curriculum and course development for the recently approved Doctor of Occupational Therapy program. Grounded clinically in adult neuro-rehabilitation and mental health, I am accomplished in incorporating adult learning theory and evidence-based practice into course design and teaching.

In conclusion, as a life-long learner, I am completing a Doctor in Occupational Therapy degree from Chatham University to advance my knowledge and skills so I can better serve the needs of graduate students. To this end, I have completed a 4-week course in Koru, which is a mindfulness training program designed for emerging adults, and a 6-week online mindfulness certificate course through Mindful Schools. With this background, I believe I am qualified to provide mindful-based training designed to reduce the perceived stress and anxiety that is so prevalent in today's health professional students.

Chapter 4

This chapter is based on the integration of the evidence and indirect supports of the literature review, the occupation-based conceptual model, official documents of the profession, and the professional knowledge and skills of the interventionist. The culminating result is the presentation of the detailed plan for the evidence-based occupational therapy project plan. In addition, assumptions and limitations of the project design provide additional background information and the approach to client-centeredness is highlighted.

Activities of the Project

This section presents participant selection and recruitment with inclusion and exclusion criteria as well as materials and plans for recruiting participants. Next, a comprehensive list of materials and equipment required for the intervention is provided. Then the steps of project implementation and an outline of the content and the time requirements of the project modules are discussed. These are followed by plans for program evaluation, which address data management and determination of project success. Finally, specific assessments to measure project outcomes, two that are commercially available and one developed by the project interventionist, are presented.

Participant selection and recruitment. All students enrolled in 2019 Fall semester Year 1 courses in the UF entry-level occupational therapy program and who attended classes in August 2019 were eligible to participate in this evidence-based mindfulness intervention program. Enrollment was determined by inclusion on the UF course roster and class participation by report of teaching faculty members. In keeping with the requirements of the occupational therapy curriculum, these students met the computing requirements of the university (UF Information Technology, 2013, p. 1).

Recruitment of participants began with the inclusion of a flier (see Appendix B: Recruitment Flier, p. 97) in the materials provided to the incoming cohort at their formal departmental orientation. With the interventionist not in attendance, the Program Director drew the students' attention to the flier and invited those who were interested to attend one of two voluntary introductory meetings that were led by the interventionist in the upcoming weeks (see Appendix C: Invitation to the Voluntary Introductory Meetings, p. 98). The meetings introduced the students to the mindfulness project, its purpose, procedures, expectations for participation, risks and benefits, confidentiality, and the time commitment of approximately 90 minutes per week over a six week period (see Appendix D: Introductory Meeting Presentation, pp. 99). The students had an opportunity to ask questions and were informed of office hours during which they also were able to ask questions on an individual basis. Students were be able to sign the informed consent form at the introductory meetings, during office hours, or immediately before the first session of the mindfulness program.

Materials and equipment required. The materials and equipment required for the evidence-based project follow:

- Recruitment flier (see Appendix B: Recruitment Flyer, p. 97)
- Invitation to the voluntary meetings (see Appendix C: Invitation to the Voluntary Introductory Meetings, p. 98)
- Presentation for the introductory meetings (see Appendix D: Introductory Meeting Presentation, p. 99)
- Pre- /post-intervention outcome measure, the 10-item State-Trait Anxiety Inventory for Adults Short Form for State Anxiety (STAI S-Anxiety Short Form) from the State-Trait

Anxiety Inventory for Adults Form Y-1 (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p. 100)

- Pre- /post-intervention outcome measure, Perceived Stress Scale form (see Appendix F: Perceived Stress Scale, p. 101)
- Interventionist-developed post-intervention survey (see Appendix G: Mindfulness Training Program Survey, p. 102)
- Locked file cabinet
- Learning modules developed by the interventionist (see Appendices H-M: Mindfulness Intervention Modules #1-6, p. 105, p. 111, p. 116, p. 120, p. 126, p. 132)
- Classroom with computer, projector, audio-visual technological capacity, and internet access
- Tables and chairs
- Therapy floor mats
- Mindfulness chime
- Whiteboard and erasable markers
- Rosters for each class
- Paper and pencils

Procedures. This section presents the pre-intervention steps of the project, a detailed table of the proposed intervention plan with the time commitment for participants, and the plans for evaluating the project to determine success upon completion.

Preliminary steps. The first step of the project was obtaining permission from the chair of the UF occupational therapy department to implement the project on site using departmental supports (see Appendix N: Letter of Site Permission, p. 136). Although the Fall 2019 course calendar had not yet been published, the program director gave assurances that the face-to-face

mindfulness program would be accommodated for two separate sessions a week for six weeks in one of the classrooms in the department. The interventionist, who had completed the 4-week Koru mindfulness training (see Appendix O: Koru Certificate, p. 137) and a 6-week online mindfulness certificate program (see Appendix P: Mindful Schools Certificate, p. 138), used the literature and multiple resources to design the modules tailored to meet student needs. The course management platform, Canvas, was set up with the PowerPoint slides (see Appendices H-M: Mindfulness Intervention Modules #1-6, p. 105, p. 111, p. 116, p. 120, p. 126, p. 132) and supplemental resources upon their completion. The 10-item State-Trait Anxiety Inventory for Adults Short Form for State Anxiety (STAI S-Anxiety Short Form) from the State-Trait Anxiety Inventory for Adults Form Y-1 (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p.100) was selected for the anxiety outcome measure and the Perceived Stress Scale (PSS) for the perceived stress outcome (see Appendix F: Perceived Stress Scale, p. 101). Permission for the use of both outcome measures was received (see Appendix Q: Permission to Use State-Trait Anxiety Inventory for Adults, p. 139, and Appendix R: Perceived Stress Scale Permission for Use, p. 140). After UF Qualtrics was selected for the online administration of the surveys, the interventionist completed setting up the measures. The interventionist-developed post-intervention survey geared toward improving and sustaining the project was reviewed by a faculty researcher and piloted on two others (see Appendix G: Mindfulness Training Program Survey, p. 102). Recruitment materials were designed and written. The consent form (see Appendix S: Consent Form, p. 141) was completed, and the IRB proposal (see Appendix T: IRB Proposal, p. 147) was submitted. Upon request of the IRB board, minor revisions to the proposal were submitted, and the project was approved as exempt (see Appendix U: IRB Approval, p. 228).

Project implementation. After receiving IRB approval, the group-formatted mindfulness-based intervention was administered early in the 2019 Fall semester for a total of six weeks. The face-to-face group intervention sessions, which were not part of the regular curriculum, occurred outside of regular class time but within the occupational therapy department to allow easy accessibility for the students. In an effort to meet students' differing schedule needs, a total of 12 participants were distributed between two groups, 5 students in one group and 7 in the other, based on their class sections. Each group met once a week for 90 minutes with a total commitment for each student of 9 hours for the 6 week period. The interventionist was the instructor for all sessions.

Table 4.1 outlines the programmatic weekly intervention and assessment modules along with the time commitments for participants. The modules included didactic presentations, active participation in mindfulness practices, and small and larger group discussions to support learning (see Appendices H-M: Mindfulness Intervention Modules #1-6, p. 105, p. 111, p. 116, p. 120, p. 126, p. 132). The modules and supplemental resources to enhance understanding and allow students to individualize mindfulness practice to meet their own needs were accessed using the password-protected UF Canvas course management system. Examples of supplemental resources provided on the Canvas website included journal articles, worksheets, links to videos, TED Talks, mindfulness-related websites, and information about mindfulness-based mobile applications. The intervention modules were organized and sequenced using the framework of the Transtheoretical Model of Health Behavior Change. This model also informed the selection of early stage-specific intervention techniques for students in the contemplation or the preparation stage of change (Prochaska & Velicer, 1997). Module content and design was

informed primarily by the findings of Stillwell et al., (2017), and the works of Rogers (2016) and Wolf and Serpa (2015).

Table 4.1: *Mindfulness Intervention Modules*

Week	**Intervention**	**Assessment**	**Time Commitment for Participants**
1	• What is Mindfulness? (see Appendix H: Mindfulness Intervention Module #1, p. 105) • Welcome • Pre-intervention assessments • Class overview (Ground rules, expectations, reassurances) • Participant introductions • Didactic: Stages of Change– Moving toward action o Why am I here? Where am I now? (Contemplation? Preparation? Action?) • Didactic: Mindfulness Basics • Practice: Body Scan • Discussion: Group processing • Discussion: Role of the body in mindfulness • Wrap-up/Options for practice	Immediately after the Welcome: Pre-intervention assessments • STAI S-Anxiety Short Form (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p. 100) • Perceived Stress Scale (PSS) form (see Appendix F: Perceived Stress Scale, p. 101)	1.5 hours
2	Being Where You Are (see Appendix I: Mindfulness Intervention Module #2, p. 111) • Practice: Mindful Listening and Mindful Talking for sharing week's experiences in small group check-ins: Where am I now? • Processing small group experience • Didactic: Being Where You Are • Practice: Belly Breathing • Practice: Mindfulness of Breath • Practice: Gatha Meditation • Discussion: Group process and routines • Wrap-up/Options for home	• Ongoing observations during check-ins, practice and discussions to monitor student levels of change and perceptions of stress	1.5 hours

	practice		
3	Stream of Thoughts and Stress (see Appendix J: Mindfulness Intervention Module #3, p. 116) • Mindfully sharing week's experiences in small group check-ins: Where am I now? • Practice: Mindful Walking Meditation • Processing the meditation • Didactic: Thoughts and Stress o STOP Technique • Practice: Mindfulness of Sound • Discussion: Group processing • Wrap-up/Options for home practice	• Ongoing observations during check-ins, practice and discussions to monitor student levels of change and perceptions of stress	1.5 hours
4	Kindness for Oneself and Others (see Appendix K: Mindfulness Intervention Module #4, p. 120) • Mindfully sharing in small group check-ins: Where am I now? • Didactic: What is Loving-Kindness? • Practice: Loving-Kindness for Oneself and Others • Discussion: Group processing • Didactic: Dealing with challenging emotions - RAIN and Anchor Phrases • Wrap-up/Options for home practice	• Ongoing observations during practice, check-ins, and discussions to monitor student levels of change and perceptions of stress	1.5 hours
5	Willing to Be With Things as They Are: Daily Mindful Practice (see Appendix L: Mindfulness Intervention Module #5, p. 126) • Mindfully sharing in small group check-ins: Where am I now? • Practice: Mindful Walking Meditation With Loving Kindness • Discussion: Group processing • Didactic: Self-compassion and resilience	• Ongoing observations during practice, check-ins, and discussions to monitor student levels of change and perceptions of stress	1.5 hours

	• Practice: Exploring Unpleasant-Neutral-Pleasant • Didactic: Working with Resistance • Discussion • Plans for next week • Wrap-up/Options for home practice		

6	Moving Onward and Upward (see Appendix M: Mindfulness Intervention Module #6, p. 132)
	• Mindfully sharing in full group check-in: Where am I now? How was my journey? Changes I've Seen? Where do I go from here?
	• Creating my plan (Maintain and sustain)
	  o Time commitment
	  o Mobile applications
	  o Writing a plan for the future
	  o Self-help strategies to address potential regression
	• Practice: Mindfulness of Breath with Spaciousness
	• Practice: Guided Imagery
	• Post-intervention assessments
	• Wrap-up discussion with a Closing Circle
		Before the Wrap-Up: Post-intervention assessments
		• STAI S-Anxiety Short Form (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p. 100)
		• PSS (see Appendix F: Perceived Stress Scale, p. 101)
		• Mindfulness Training Program Survey (see Appendix G: Mindfulness Training Program Survey, p. 102)
			1.5 hours

			TOTAL time commitment for each participant: 9 hours

Project evaluation. With the completion of the evidence-based project, pre- and post-intervention data from the STAI S-Anxiety Short Form and the PSS were described, analyzed, and compared using descriptive statistics. Scoring was performed using the instructions for each tool and then coded. The demographic data was calculated and evaluated. Microsoft Excel was used for descriptive statistics and to calculate differences in medians to determine the amount of

change in pre- and post-intervention results. Success was to be determined by comparing the differences in anxiety (i.e., STAI S-Anxiety Short Form data) and perceived stress (i.e., PSS data) pre- and post-intervention at group as well as at individual levels.

Descriptive statistics were to be used to analyze data from the interventionist-developed Mindfulness Training Program Survey (see Appendix G, Mindfulness Training Program Survey, p. 102), which focused on participants' success in the use and valuation of the mindfulness training. The demographic data was described. Qualitative data was to be analyzed using a phenomenological perspective, coding and identifying themes that would provide valuable information related to improving and sustaining the project. The primary investigator/ interventionist would analyze the data sets and collaborate with identified members of the UF occupational therapy faculty to corroborate and support the credibility of the findings. Both the Chatham faculty IRB advisor and capstone advisor would have the opportunity to review and provide feedback on data analysis and interpretations.

Outcome measures. This section presents the two pre- /post-intervention outcome measures selected to assess the project's PIO question, which inquires if mindfulness training is useful in reducing perceived levels of anxiety and stress in entry-level occupational therapy students, i.e., the STAI S-Anxiety Short Form (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p. 100) and the PSS (see Appendix F: Perceived Stress Scale, p. 101). The pre-intervention STAI S-Anxiety Short Form and PSS assessments were administered electronically at the beginning of the first intervention module and post-intervention at the conclusion of the final module. The interventionist-developed Mindfulness Training Program Survey was included with the other two post-intervention assessments. All outcome measures were presented via UF Qualtrics, which masks IP addresses so that they are unidentifiable, with

participants using self-determined identification codes to assure confidentiality while allowing individuals' pre- and post-intervention data to be matched for analysis.

The State-Trait Anxiety Inventory Adult Form Y-1, which assesses state and trait anxiety in adults, is a widely accepted self-report instrument that has internal consistency reliability when used with a variety of populations (Barnes, Harp, & Jung, 2002). The STAI State-Anxiety Form Y-1 subscale was selected as a pre- /post-intervention outcome measure for the evidence-based project because it asks participants to report about levels of anxiety at the current time. The rationale for selecting the shorter 10-item version of the STAI State-Anxiety Y-1 subscale (STAI S-Anxiety Short Form) was taken from Spielberger (2015), who suggested that when time was limited, the STAI S-Anxiety Short Form was a "reasonable valid measure" of state anxiety that could be used for research (p.13).

The PSS, also a widely used self-report tool, measures the level of stress that is assigned to situations in one's life. In 1983, Cohen, Kamarck, and Mermelstein stated that PSS items were developed to address the three issues that are fundamental to an individual's experience of stress, i.e., unpredictability, uncontrollability, and overload in one's life (p. 387). Besides being well accepted as a solid measure for a variety of populations, the PSS has demonstrated reliability and internal consistency specifically for student and young adult populations (Cohen, & Janicki-Deverts, 2012).

In addition to the measures for levels of anxiety and stress, the interventionist developed a 13-item post-intervention survey (see Appendix G: Mindfulness Training Program Survey, p. 102), the purpose of which was to capture student feedback on their use of mindful practices and the mindfulness training program, and demographic data. The Mindfulness Training Program Survey, which had been informed by qualitative and mixed methods studies from the Critically

Appraised Topic Portfolio (Banerjee et al., 2017; Guillaumie et al., 2017; Kinser et al., 2016) was administered to obtain input that would be used to improve and sustain the mindfulness training program for future cohorts of occupational therapy students. The survey was reviewed by a UF professor with expertise in qualitative research and piloted on two other UF faculty members to support reliability and validity. When the survey results were combined with those of the STAI S-Anxiety Short Form and the PSS, outcome measurement of the proposed evidence-based project was well-rounded and useful.

Assumptions and Limitations of Project Design

This section presents assumptions and limitations of the evidence-based mindfulness project. The assumptions are sequenced chronologically, representing the background behind the program's initiation and its design.

- Approximately 60% of the occupational therapy student cohort could be experiencing increased anxiety (American College Health Association, 2018, p. 14) and/or stress (p. 16) at the initiation of the evidence-based project. Others might be interested in learning how to cope with anticipated stress or anxiety. Therefore, an adequate number of students should be interested in participating and sign consents.
- The UF occupational therapy department would support the program as indicated by the chair's permission and willingness of the faculty to offer assistance in scheduling and other aspects of the program.
- UF students would report decreased perceived stress and/or anxiety post-intervention (Bamber & Morpeth, 2018; Greeson et al., 2014; Halladay et al., 2018; Regehr et al., 2013; Stillwell et al., 2017).

- Mindfulness training, by helping students manage stress and/or anxiety, should positively impact their mental health, well-being, and occupational performance. (Kelley, 2017)
- Students should be given options and as many opportunities to make choices as possible to meet their individual needs, i.e., client-centered practice (AOTA, 2017; McConville et al., 2017; Tickle-Degnen, 2002).
- Students should make individualized plans, which could include mobile applications, for sustaining mindfulness practice in their daily lives post-intervention (McConville et al., 2017; WFOT, 2018, p. 36).
- In relation to readiness to adopt mindfulness behaviors, students could be at different stages of change, requiring individualized approaches to facilitate engagement in the program (Prochaska & Velicer, 1997).
- Some students might regress in their practice of mindfulness, which is normal behavior. They should learn how to self-identify potential regressions and self-help strategies (Prochaska & Velicer, 1997).

One of the limitations of project design was the modest sample size of 12 occupational therapy students from one entry-level doctoral occupational therapy program at a major public university in Florida. Due to the competitiveness for acceptance into the program and the mandate that the state universities serve Florida residents, the students tended to be engaged high achievers from the state. Another limitation involved the project interventionist who is a faculty member in the program. Although the interventionist did not know the incoming students and was not teaching them the semester in which the intervention took place, she was scheduled to be teaching them the following semester, so her position had the potential to be a limitation. Also, the use of self-reported outcome measures could be a limitation as students might provide what

they believed to be a "right" answer. An additional concern related to time limits of the intervention that did not allow for the implementation of Kabat-Zinn's Mindfulness-Based Stress Reduction 8-week course, which tends to be viewed as a standard for mindfulness training. Finally, time limitations related to the interventionist's graduate school status would not allow for acquisition of follow-up outcome data, which would be a valuable addition to the evidence supporting mindfulness training. However after graduation, the project could serve as a pilot from which the information could be used to inform further projects that include acquisition of follow-up data.

Approach to Client-Centeredness

The concept of client-centeredness arose from psychology with subsequent research indicating that a *therapeutic alliance* of client and therapist could predict positive clinical outcomes (Horvath & Luborsky, 1993). Since the mid-1970s when the Canadian Association of Occupational Therapists declared client-centeredness a core value of occupational therapy (Law, Baptiste, & Mills, 1995), the profession has advanced the concept. In 1995, Law et al. defined client-centered practice as "an approach to providing occupational therapy, which embraces a philosophy of respect for, and partnership with, people receiving services" (p. 253). The authors proceeded to identify concepts of client-centered practice: a collaborative client-therapist relationship, client autonomy and choice, and accessibility of services (p. 253). Today the *Occupational Therapy Practice Framework* has incorporated client-centeredness into the process that informs the delivery of occupational therapy services (AOTA, 2014, p. S10). The "effective" guidepost of the American Occupational Therapy Association's *Vision 2025* states that occupational therapy should be client-centered (AOTA, 2017, p. 7103420010p1). The concept of client-centeredness is central to the profession of occupational therapy.

Because this evidence-based mindfulness intervention was presented in a group format, it was important to assure that the program was client-centered so that it could fulfill as many needs of the participants as possible. The participants for the project were voluntary first-year entry-level occupational therapy students, most of whom were new to the UF occupational therapy department. In employing the concepts of Law et al. (1995), the interventionist established a relationship with the student participants by individually welcoming them to the program. Then within a group format, after introducing herself and briefly describing her journey with mindfulness, the interventionist encouraged the students to do likewise, reassuring them that they could share according to their level of comfort. Weekly small group check-ins and larger group discussions allowed the interventionist to monitor students' stages of behavioral change related to mindful practice and their perceptions of anxiety and stress (Prochaska & Velicer, 1997).

Student autonomy and choice was supported by providing adequate education so that participants were able to make informed decisions concerning their practice of mindfulness. A variety of mindful activities were practiced under the supervision of the interventionist and options for home practice were provided, including optional resources. To support accessibility, two weekly group sessions were offered to allow students to choose which time would work best for them, and office hours were posted to allow individualized support.

Appropriately, this chapter concludes with the client-centered approach that informed the mindfulness intervention. The program modules were tailored to meet the individual mental health needs of the incoming entry-level occupational therapy students. The selected outcome measures have helped determine whether this evidence-based project was successful in reducing

the students' levels of perceived anxiety and stress as they began their professional coursework for the doctor of occupational therapy degree.

Chapter 5

This chapter provides an account of the mindfulness training project implementation and the results of the outcome measures. Beginning with a description of the participants, it then continues with modifications that were made to the project plan during implementation. The chapter concludes by offering an account of the data analysis and results from the outcome measures.

Description of Participants

Twelve students from the 2019 fall semester incoming cohort of the University of Florida (UF) entry-level occupational therapy program were recruited for this project and provided informed consent. All 12 participants were young adult females with a bachelor's degree. Eight (67%) self-identified as white with the remaining four (33%) selecting Hispanic/Latinx (2, 17%), Asian (1, 8%), and multiracial (1, 8%). When queried if they had practiced mindfulness previously, four (33%) responded that they had and eight (67%) that they had not. Table 5.1 presents the demographic details for this population.

Table 5.1: *Participant Demographics (N=12)*

Participant	Gender (M/F/Other)	Ethnicity	Age Range	Education (Highest Degree)	Previous Mindfulness Practice
A	F	Hispanic	25-34	Bachelor	Yes
B	F	White	18-24	Bachelor	Yes
C	F	Multi-racial	18-24	Bachelor	No
D	F	Hispanic	18-24	Bachelor	No
E	F	White	18-24	Bachelor	Yes
F	F	White	18-24	Bachelor	Yes
G	F	White	18-24	Bachelor	No
H	F	White	18-24	Bachelor	No
I	F	White	18-24	Bachelor	No
J	F	White	18-24	Bachelor	No
K	F	Asian	18-24	Bachelor	No

L	F	White	18-24	Bachelor	No

Modifications to the Project Plan

Modifications to the planned project were primarily environmental and contextual. The interventionist had scheduled the first two weeks of the semester for subject recruitment with the training program to begin in week three. However, due to poor weather (i.e., a hurricane), the university closed the campus for two days, which required that the first training session begin in week four. In addition, as adjustments were made in college classroom assignments, the meeting site was changed prior to the start of the program from a warm, welcoming lab room to a more traditional brightly-lit classroom. In response, the interventionist rearranged tables and chairs into a circle, added potted plants and ceramic artwork, and reduced the level of lighting to enhance the context. Unfortunately, due to the new classroom location, there was not adequate space for walking meditation. As an alternative, the interventionist and participants went outdoors to a nearby wooded trail on campus for walking meditation practice. Because all the participants attended every session, only a few revisions were made to the program content, mainly the addition of or timing for client-centered mindfulness practices, to meet their changing needs throughout the semester, e.g., techniques to manage anxiety and stress before their first exam.

Data Analysis

The three selected outcome measures were administered to participants using Qualtrics: the 10-item STAI S-Anxiety Short Form (see Appendix E: State-Trait Anxiety Inventory for Adults Form Y-1, p. 100) the 10-item Perceived Stress Scale (see Appendix F: Perceived Stress Scale, p. 101), and the 13-item interventionist-developed Mindfulness Training Program Survey (see Appendix G: Mindfulness Training Program Survey, p. 102). Pre- and post-intervention

data were downloaded into Microsoft Excel 2016 and reviewed. Items requiring reverse scoring were adjusted.

Excel was used for all statistical analysis. Descriptive statistics were calculated for the the STAI S-Anxiety Short Form and Perceived Stress Scale surveys, which consist of 4- and 5-point Likert scales respectively. Because these surveys provide ordinal, nonparametric data, the Wilcoxon signed-rank test was selected for inferential analysis to determine differences in median pre- and post-intervention scores and statistical significance. Content analysis supported interpretation of the data to inform application to practice and recommendations for future endeavors.

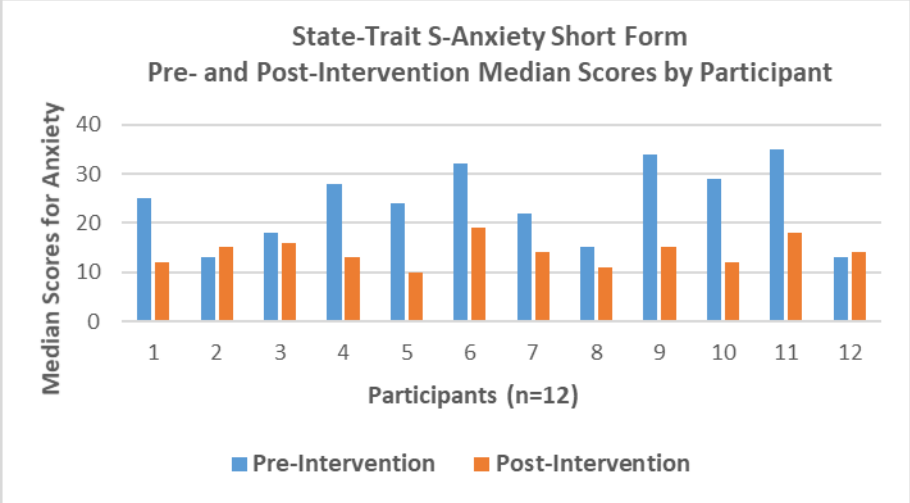
The Mindfulness Training Program Survey was administered post-intervention to capture demographic data and obtain feedback to inform program evaluation and improvements. After delineating the demographics of the participants, data obtained from a 4-point Likert scale that measured five items related to student application and valuation of mindfulness practices were described. In addition, three open-ended questions requesting feedback about barriers to students' mindfulness practice and what they liked best about and how they would improve the program were analyzed. The students' responses were summarized, and themes were identified. Two UF professors, both experienced in quantitative and qualitative analysis, reviewed calculations, advised on the choice of the quantitative statistical test, reviewed all data analysis, and concurred with the results.

Results

This section presents the results of the three outcome measurement tools for the project. It begins with the findings from the STAI S-Anxiety Short Form, which measured participants' state anxiety, and progresses to the results of the Perceived Stress Scale that assessed their

perceived stress. The section concludes with qualitative findings related to participants' experiences and perceptions of the project from the Mindfulness Training Program Survey, information that will be used to improve and sustain the program.

State-Trait S-Anxiety Short Form. This instrument tests for state anxiety by instructing participants to "*indicate how you feel right now, at this moment*." All 12 participants completed both the pre- and post-intervention 10-item State-Trait S-Anxiety Short Form survey. The median score (i.e., the midpoint of the ranked scores for the 10 items) from each participant's pre-test and post-test are illustrated in Figure 5.1. Visual analysis indicates 10 participants with a decrease and two with a slight increase in the State-Trait S-Anxiety Short Form median score post-intervention. Lower scores indicate less anxiety.



Note. The median scores are ranked midpoint of ratings from the 10-item State-Trait S-Anxiety Short Form. Lower scores indicate less anxiety.

Figure 5.1: *State-Trait S-Anxiety Short Form Median Scores for Each Participant Pre- and Post-Intervention*

Results from the Wilcoxon signed-rank test for the statistical analysis are included in Table 5.2 in which pre- and post-test median scores for level of anxiety are reported along with the median difference and interquartile ranges. As presented in Table 5.2, the median for the

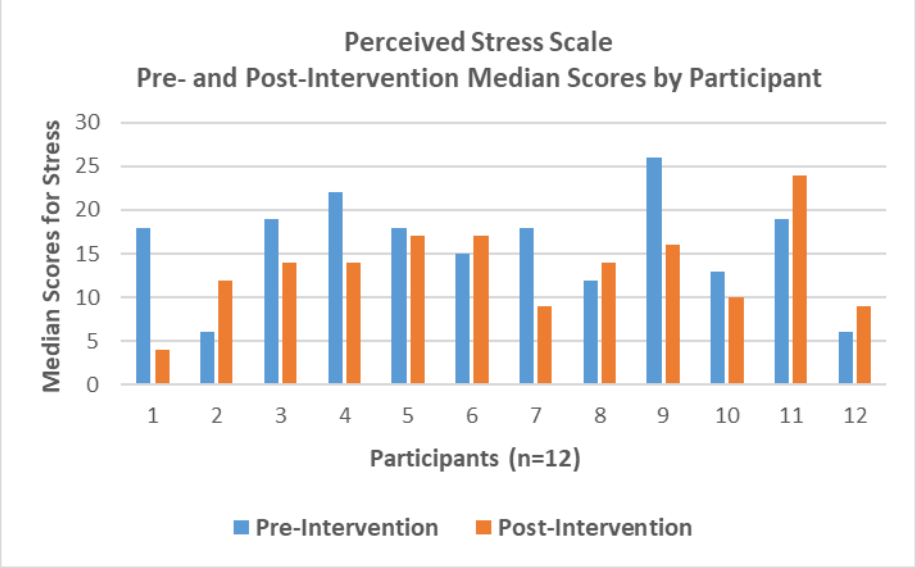
pre-test was 24.5 with 14.0 for the post-test (median difference of 13.0). The test statistic was 3.0, which indicated a statistically significant difference (decrease) in level of anxiety between the pre- and post-intervention test scores ($z = 3.0$, $p < 0.05$).

Table 5.2: *Statistical Difference between the Median Scores Pre- and Post-Intervention on the State-Trait S-Anxiety Short Form Test*

Pre-Test Median Score (IQR)	Post-Test Median Score (IQR)	Median Difference	*Z* Statistic
24.5 (15.5)	14.0 (3.75)	13.0	3.0*

Note: *Indicates $p < 0.05$, IQR = interquartile range

Perceived Stress Scale. This instrument tests for perceived stress by asking participants "about your feelings and thoughts *during the last month.*" All 12 participants completed both the pre- and post-intervention 10-item Perceived Stress Scale. The median score (i.e., the midpoint of the ranked scores for the 10 items) from each participant's pre-test and post-test are illustrated in Figure 5.2. Visual analysis indicates seven participants with a decrease and five with an increase in the Perceived Stress Scale median score post-intervention. Lower scores indicate less stress.



Note. The median scores are ranked midpoint of ratings from the 10-item Perceived Stress Scale. Lower scores indicate less stress.

Figure 5.2: *Perceived Stress Scale Median Scores for Each Participant Pre- and Post-Intervention*

Although the post-intervention aggregated score indicated a decrease in perceived stress, the results of the Wilcoxon signed-rank test disclosed that there was not a statistically significant median difference when comparing pre- and post-test scores. Table 5.3 presents the pre- and post-test median scores with the median difference and interquartile ranges. The median for the pre-test of 18.0 compared to a post-test median of 14.0 and a median difference of 4.0 is shown. Using the test statistic of 3.0, pre- and post-intervention levels of stress were not adequately different to attain statistical significance ($z = 3.0, p > 0.05$).

Table 5.3: *Statistical Difference between the Median Scores Pre- and Post-Intervention on the Perceived Stress Scale*

Pre-Test Median Score (IQR)	**Post-Test Median Score (IQR)**	**Median Difference**	***Z* Statistic**
18.0 (6.75)	14.0 (7.5)	4.0	3.0*

Note: *Indicates $p > 0.05$**,** IQR = interquartile range

Interventionist-developed Mindfulness Training Program Survey. In addition to obtaining participants' demographics, the Mindfulness Training Program Survey included a 4-point Likert scale, ranging from one (Strongly Disagree) to four (Strongly Agree) to obtain students' rankings for five questions about their knowledge, skills, and valuation of the mindfulness training project. All 12 participants rated these items positively with the results and means reported in Table 5.4. Interestingly, inquiry about the students' use of mindfulness practices to help them deal with stress or anxiety related to the occupational therapy program received the lowest mean rating (3.5/4.0).

Table 5.4: *Results of the Mindfulness Training Program Survey (N=12) to Gather Data for Program Evaluation and Improvement*

Survey Item	# Participants Who Strongly Agree (%)	# Participants Who Agree (%)	Mean Rating
1. I know how to select a mindfulness technique that will help me manage anxiety when I am in stressful situations.	10 (83)	2 (17)	3.83
2. I use mindfulness techniques to help manage feelings of stress or anxiety that arise related to the occupational therapy graduate program.	6 (50)	6 (50)	3.50
3. I feel more in control of my emotions when I practice mindfulness techniques.	10 (83)	2 (17)	3.83
4. I would suggest mindfulness techniques to friends, family members, or others in my life.	8 (67)	4 (33)	3.67
5. I would recommend this mindfulness training program to future OTD students.	9 (75)	3 (25)	3.75

Note: Rating scale: 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Finally, to obtain qualitative data, participants were asked three open-ended questions. The first of these items was to list the three biggest barriers to incorporating mindfulness practice into their daily life. The three resultant themes that emerged from the analysis of the data set included time constraint barriers, remembering to practice, and needing more support. These themes and participants' comments are found in Table 5.5.

Table 5.5. *Themes Representing the 3 Biggest Barriers to Practicing Mindfulness from the Mindfulness Training Program Survey*

Theme	Representative Quotation
Time Constraint Barriers	• "Time, Time, Time" • "Allotting time each day to spend practicing mindfulness outside of our Tuesday meetings"

	• "Other obligations get in the way of self care/ mindfulness" • "Feeling too busy to practice it"
Remembering to Practice	• "Simply remembering to incorporate it into daily life" • "Remembering it is there to be used" • "Forgetting to formally practice mindfulness" • "Forgetting to set aside time for mindfulness"
Needing More Support	• "Not having a mindfulness group to check in on" • "Lack of facilitator" • "Figuring out the appropriate technique" • "Finding things to incorporate into the different techniques ie: [*sic*] loving kindness"

The second open-ended question asked the participants to list three things that they liked best about the program. While the students valued the diversity of learning activities and beneficial results of mindfulness practices, they expressed surprise and appreciation that a community of support had been created. The resulting three themes that emerged from this survey item were variety of learning activities, supportive community context, and benefits of mindfulness. These themes and illustrative participant comments are presented in Table 5.6.

Table 5.6: *Themes Representing the 3 Things the Students Liked Best about the Intervention from the Mindfulness Training Program Survey*

Theme	**Representative Quotation**
Variety of Learning Activities	• "I really enjoyed learning the new techniques that I could apply to my life, such as box breathing, which I used to slow my heart rate during stressful exams" • "I enjoyed the discussions we had, it helped me learn how to implement it in my everyday life, even if it is in an informal way." • "The PowerPoints with quotes and reasons why the various practices worked"
Supportive Community Context	• "Something that surprised me that I was able to really enjoy from this program was the friendships made. I now have a community of other OT students who are actively trying to engage in mindfulness and encourage me"" • "Doing it in a group setting where we can discuss how we felt about the techniques" • "Having a safe space to talk, vent, learn how to destress, and meditate"
Benefits of Mindfulness	• "I am more grateful"

	• "Decreased stress" • "The focus on improving my quality of life" • "Bettering my sleeping patterns due to relieved stress level" • "It has helped me find a more positive outlook on life- enjoy the good times because they will not last forever, and stay strong through the bad times because they will pass too"

The third and final open-ended question on the survey asked participants to provide three things they would do to improve the mindfulness training program. Two participants did not respond to this question, three stated that they had trouble answering the question, and three provided fewer than three suggestions. Their responses were divided into two themes, operationally-oriented and content-oriented suggestions, and listed individually (see Appendix V: Participant Suggestions to Improve the Program, p. 229).

In conclusion, 12 female occupational therapy student participants actively engaged in the mindfulness training program. The minimal modifications to the project focused on creating a more supportive context and adjusting content to address participants' emerging needs. Although post-intervention results showed a statistically significant decrease in students' level of anxiety, the reduction in stress levels did not attain statistical significance. Qualitative results provided participants' "lived experience" data to enhance interpretation of results and inform program improvement and sustainability.

Chapter 6

This chapter begins with the discussion and interpretation of the results of the evidence-based project. Then recommendations for future practice, policy, and education are presented. The chapter concludes with the project interventionist's capstone journey.

Discussion and Interpretation of the Project Results

This mindfulness-based project began with the interventionist's growing concern about increasing anxiety and stress among entry-level occupational therapy students and the negative impact on their academic occupational performance. As a result, the evidence-based question (PIO) that grounded the project was developed: *Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?* Overall findings of the project outcome measures supported the use of mindfulness training to help student participants reduce their anxiety and stress levels. The project aligned with Zeman and Harvison's (2017) call for teaching occupational therapy students mindful strategies to support self-care.

Beginning with the results for mindfulness training to reduce student anxiety, the statistically significant decrease in levels of anxiety from the State-Trait S-Anxiety Short Form findings ($p < 0.05$) aligned well with the literature. For example, the following systematic reviews of mindfulness-based interventions reported a strong, significant effect for reduction of anxiety in college students (Bamber & Morpeth, 2018); a moderate significant decrease in anxiety in college students, including health professional students (Halladay et al., 2018); and a significant effect of mindfulness training to reduce anxiety for health professional students (McConville et al., 2017). In addition, results from the Mindfulness Training Program Survey showed that the participants could select a mindfulness technique to manage anxiety as well as

deal with feelings of anxiety related to their academic program, findings that aligned with Stew's (2011) qualitative results. The anxiety-related outcomes for the project were supported by the current literature suggesting that a six-week mindfulness training program may enhance student mental health.

Conversely, given the high level of enthusiasm and engagement of the participants, the lack of statistical significance for the positive Perceived Stress Scale results was unexpected. This discrepancy may have been due to the delay of the beginning of the project, which led to the administration of the post-intervention Perceived Stress Scale immediately after the participants' first mid-term examinations when stress may have been higher. Also, the Perceived Stress Scale asks for "feelings and thoughts *during the last month,"* which could have influenced the results as it likely would not be unusual to recall feelings from the most recent past, e.g., the mid-term examinations. The literature had supported mindfulness-based practices to significantly reduce stress in college and/or graduate students (Greeson, et al., 2014; Halladay et al., 2018; Kinser et al., 2016; McConville et al., 2017; Regehr et al., 2013; Yang et al., 2018). However, Guillaumie et al. (2017) had reported mixed results from their systematic review of mindfulness-based interventions for stress reduction, and Stillwell et al. (2017) indicated that two of the eight studies included in their systematic review were not statistically significant for a decrease in stress.

Although the Perceived Stress Scale results were not statistically significant, the Mindfulness Training Program Survey findings indicated that the results might be clinically relevant. When queried, the participants agreed that mindfulness techniques helped them feel more in control of their emotions, results that aligned with those of Stew (2011). In addition, the students indicated that they would recommend the training to future OTD students. The theme,

benefits of mindfulness, that emerged from the qualitative data included comments on decreased stress, improved sleeping that was attributed to reduced stress, a more positive outlook on life, and a focus on improving quality of life, the last two of which were identified in the study by Banerjee et al. (2017). Of note, the students also expressed surprise and delight about the supportive community context that had developed, another theme, and shared how they intended to continue their community after the project ended. Hence, notwithstanding the Perceived Stress Scale findings, the qualitative results indicated that the participants valued the mindfulness training for stress reduction.

In addition, the qualitative findings provided information about the students' perceptions of the project. When asked to list barriers to mindfulness practice, 11 of the 12 participants identified time constraints, results that were supported by Rogers (2016) and Guillaumie et al. (2017). In contrast and aligned with the findings of Stew (2011), participants described how they frequently engaged in informal (vs. formal) mindfulness practices, indicating that they were able to incorporate mindfulness into such daily activities as walking to their car. The students also remarked about difficulty remembering to practice and needing more post-intervention support, information that could be used to enhance the program and support sustainability.

Of note, what unexpectedly made the project unique was the role that the transtheoretical model of health behavior change (Prochaska & Velicer, 1997; see Figure 3.1) played. This conceptual model had been selected primarily to organize the project's content. The model's stages of change and acceptance of regression were threaded throughout the sessions as participants discussed their current stage each week along with their successes and set-backs in incorporating mindful practices into their lives. Interestingly, the model was found to align remarkably well with the mindfulness foundational concepts of acceptance, non-judgment,

patience, trust, and kindness for self and others (Wolf & Serpa, 2015). Besides the organization of content, the integration of the transtheoretical model and mindfulness training may have facilitated the development of the supportive community that the participants found so valuable, and which Wolf and Serpa (2015) indicated helps sustain practice.

Limitations to the generalizability of the results included the small, convenience sample from one university. Although the sample was diverse ethnically, the other demographic characteristics were essentially homogenous. The primary outcome measures were self-report surveys with the potential for recall bias and expectation bias. The pre-/post-intervention design limited the understanding of the timing of beneficial effects and their sustainability. For example, as mentioned earlier, participants were asked to respond to items that measured their perceived levels of stress within the last 30 days. Therefore, it is not known if there was a reduction in stress initially and if other factors, such as the mid-term examinations, contributed to an increase in perceived stress. Additionally, although the interventionist had not yet met the participants, they likely knew that she was scheduled to be one of their instructors for the upcoming spring semester, which may have influenced their responses. Finally, although the self-developed outcome measure was reviewed and piloted, validity and reliability may not have been dependable.

Recommendations for Practice, Policy, and Education

This evidence-based project helps fill a gap in the literature on the use of mindfulness-based practices to support the mental health of occupational therapy students. Due to the limited longitudinal research related to mindfulness training outcomes, studies to follow-up at three and six months post-intervention would inform educators how to support students better as they transition from the classroom to fieldwork. The qualitative findings suggest that the use of the

transtheoretical model of health behavior change to inform mindfulness-based training programs should be studied further. However, when designing outcomes for mindfulness programs to reduce student stress, it is recommended that the investigator consider measures other than the Perceived Stress Scale.

Given Zemen and Harvison's (2017) call to support self-care education for occupational therapy students, efforts should be made to incorporate mindfulness training into academic programs based on the needs of the organization and its students (Stillwell et al., 2017). From a different viewpoint, educators should consider advocating for improved student mental health supports by promoting their inclusion in the next iteration of the *Accreditation Council for Occupational Therapy Education (ACOTE) Standards and Interpretive Guide*. In addition, evidence-based projects addressing the impact of mindfulness practices on academic and clinical occupational performance should be undertaken to inform practice and policy development.

In conclusion, there is strong enough evidence to examine further the mindfulness training intervention to reduce anxiety among occupational therapy students. Although the quantitative analysis did not result in a significant decrease in stress, the qualitative results revealed that further investigation of the effects of mindfulness training on stress is warranted. This is further supported by existing knowledge from previous studies. Therefore, faculty in academia along with fieldwork educators would benefit from future evidence-based projects, presentations, publications, and continuing education on the ability of mindfulness training to reduce anxiety and perceived stress in occupational therapy students.

Creative Epilogue of the Journey

My journey began when the UFOT department received State of Florida approval for an entry-level doctoral program. I was faced with the decision of whether I wanted to leave

teaching or pursue a doctorate. I was not ready to give up the job I love, and I strongly wanted to grow my knowledge and skills, so I began searching for a post-professional program that would fit my needs. I came to my conclusion when Chatham's program seemed to reflect my values of client-centeredness, occupation-based focus, social justice, and sustainability. My husband and I celebrated my acceptance!

I jumped into what felt at times like a baptism in fire. But I was delighted to experience the journey with the members of my cohort, laughing and crying together as we navigated the capstone process and other challenging courses. Then came the site visit in December, which was truly inspirational, meeting peers, professors, and staff face-to-face, experiencing the campus environment, and absorbing the spirit of Chatham. I felt grounded and very thankful to be a part of the university.

I enthusiastically powered ahead during the challenging Chatham spring semester, while carrying a heavy workload related to our new OTD program. I truly enjoyed developing the capstone intervention while I incorporated the knowledge and skills I was gaining into the courses I was designing and teaching. I was creative and very excited about my professional world that seemed to expand almost daily. Then one morning I was hit by a neurological scare that required eight weeks of testing and waiting. Mindfulness had supported me through the fall semester, and I drew upon it even more that spring. The findings that came back were all I could have hoped for, and I had learned how precious health can be. I came to the very difficult conclusion that I would have to slow down to move forward. Chatham and my cohort were incredibly supportive as I extended the program by a semester, but it nearly broke my heart knowing I would not graduate with my peers.

But I moved forward. I was able to initiate my mindfulness training program in the fall semester with recruitment and implementation. It was such a joy to work with my student participants and see how they were incorporating mindfulness into their lives. They were so dedicated and engaged; they still share with me how much they value and use what they learned. And I can observe how they have sustained the supportive community that they developed during the project. It makes me smile!

So, what did I learn? I learned what it is like to be a student at this point in time; I am a better teacher for it. I have embraced occupational science and incorporate it into my courses. I have a deep desire to pursue evidence-based projects. I gained the confidence to coach entry-level students through their capstone experience. I learned that mindfulness can be empowering in many ways. Although AOTA cancelled this year's conference, a member of my cohort and I had a presentation accepted, and we will resubmit it for next year. We plan to disseminate our evidence-based capstone findings and advocate for OT educators to support student mental health by introducing it into their programs. I am more committed even more after seeing the challenges of the COVID-19 pandemic that are facing my students. I am a life-long learner. My journey is not over!

You are whole and also part of larger and larger circles of wholeness
you may not even know about.
You are never alone.
And you already belong.
You belong to humanity.
You belong to life.
You belong to this moment, this breath.
- Jon Kabat-Zinn -

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Appendix A:
Critically Appraised Portfolio

Literature Review Matrix

Authors (Date)	Purpose	Study Design/ Level of Evidence	# subjects (or articles for SR)	Independent Variable(s)*	Dependent Variable(s)*	Results	Implications for Practice	Indicate "Shows effectiveness" or "indirect support for theme" **
Bamber & Morpeth, 2018	Examine the effect of mindfulness-based interventions on anxiety in Florida State Univ. college students	SR with meta-analysis/ Level II	25 studies through 6/2016 (1492 subjects including undergrad and graduate FSU nursing and psychology students)	Mindfulness-based interventions	Anxiety (state)	Mindfulness- based interventions found to have large, significant effect on reducing anxiety in college students	• Not including outside practice may be more effective in reducing anxiety. • Providing >8 sessions may provide greater reduction in anxiety	Shows effectiveness for use of mindfulness-based interventions to reduce anxiety. Indirect support: Data available for comparison of various intervention types may assist with program design for anxiety reduction
Banerjee et al., 2017	To identify facilitators & barriers to engagement in a non-guided mindfulness-	Qualitative	16 subjects (clinical staff from the mental health National Health	Questions from the semi-structured interview	Facilitators and barriers to engaging in self-help mindfulness -based intervention	Four arching themes, addressing facilitators and barriers to engaging in mindfulness-based self-help interventions	• Use information from the themes to design & manage EBOT	Indirect support for planning, designing, managing EBOT intervention

	based self-help intervention with healthcare staff		Service trust)			• Attitude towards engagement (motivation, prior knowledge, personal predispo-sition) • Intervention elements (rationale, types of practice, intensity of intervention) • Change process (personal changes from mindfulness) • Perceived consequences (perceptions of impact & results)	intervention and plan recruitment, retention, and student satisfaction • Use information for program evaluation and student satisfaction survey	and measuring outcomes
Greeson et al., 2014	Determine if Koru, a mindfulness training program for college students & emerging adults, is	RCT/ Level I	90 students (undergrad, graduate, and professional with ¾ grad or prof)	Koru mindfulness program	Perceived stress (Perceived Stress Scale [PSS])	Supports the effectiveness of a 4-week mindfulness training program designed for college students and emerging adults	• Teach mindfulness and mind-body skills • Include skills practice • Include homework	<u>Shows effectiveness</u> Mindfulness training to reduce perceived stress in a population similar to

	effective						skills practice & reading	students for EBOT project. Indirect support for program design, content, structure, learning materials, and outcome measurement
Guillaumie et al., 2017	Review the literature on the effects of mindfulness on nurses and nursing students	Mixed-method SR of 17 controlled (16 RCT + 1 QCT), 11 pre-post, 4 qualitative designs/ Level II and Qualitative	32 studies (nurses and nursing students) 1980- 2014. Most from US.	Mindfulness-based interventions, each of which included at least 1: mindfulness, meditation, or relaxation techniques	Anxiety (state) Stress	Significant for MT effectiveness in reducing level of anxiety post-tx. and follow-up. Incomplete findings related to stress.	• Consider including at least one in EBOT intervention: mindfulness, meditation, or relaxation • Multiple program designs can be effective	Shows effectiveness of MT to reduce anxiety. Indirect support for program structures, methods of delivery, interventions, and schedules. Detailed tables provided.
Halladay, et al., 2018	Determine effectiveness of mindfulness-based interventions for mental health outcomes in post-secondary students	SR using RCTs only/ Level I (1946 – 2017) Extensive search. All languages & publication status. GRADE	41 studies (4211 healthy undergrad, graduate, college and health prof. 18 – 29 YO students)	Mindfulness-based interventions of at least 2-week duration	Anxiety symptoms (24 studies): moderate significant reduction Perceived stress (27 studies): small significant	Support for brief, mindfulness training interventions to reduce anxiety and perceived stress in students. Support for inclusion of mindfulness-based cognitive therapy,	• Seriously consider incorporating mindfulness-based cognitive therapy in the mindfulness training program to reduce anxiety more	Shows effectiveness of 1) brief mindfulness training programs for the EBOT project and 2) mindfulness-based cognitive therapy for reduction of

		for quality.			reduction	appearing to be the most effective intervention to address anxiety	effectively • Support for a brief (<8 weeks, as little as 2 weeks) intervention program	anxiety. Indirect support for program planning
Kinser et al., 2016	Determine feasibility, acceptability, effectiveness of shortened mindfulness training program intervention	Mixed-methods pretest-posttest pilot study/ Level III within group repeated measures design and Qualitative	27 subjects (healthcare professional students & professionals, primarily nursing students)	8-week mindfulness-based program designed for population	Perceived stress (PSS) State anxiety (State-Trait Anxiety Inventory [STAI])	Preliminary support of feasibility and acceptability of program with statistically significant reduction in stress and anxiety	• Support for shortened mindfulness training program intervention • Information for program design & management (theory-driven, didactic with skills practice, incl. yoga) • Strong outcome measurement options (PSS, STAI) • Example for qualitative "program evaluation"	Shows effectiveness for shortened mindfulness training programs. Indirect support for course design; choice of learning resources, including mobile apps; incorporation of mindful and movement-based practices, recruitment and retention of participants; quantitative & qualitative outcome measurement
McConville et al., 2017	1) Determine effectiveness of	SR of 12 RCTs and 7 non-	19 studies (1815 health profession	Mindfulness training programs	Anxiety Stress	In 11 studies: significant effect on anxiety and	• Use multiple mindful approaches	Shows effectiveness in use of

	mindfulness training for health profession students 2) Determine most effective training elements	RCTs (parallel prospective cohort trials) / Level I	student subjects). Review using PRISMA. Peer review. No medical diagnoses. Cochrane Collab for RCTs and non-RCTs tool	focused on improving mindfulness, including mindfulness-based cognitive therapy		stress reduction with benefits maintained at follow-up. Multidimensional mindfulness training, which may include mindfulness-based cognitive therapy, is more effective for reducing anxiety and stress in health profession students. Adding discussion & experience-sharing may improve daily use. Formal practice may increase effect. More home practice may decrease use. Optional programs and those seen as relevant garner higher student satisfaction ratings.	• May add discussion and experience–sharing for greater use in daily life • Home practice may decrease use in daily life • Optional programs & those where relevance addressed improve student satisfaction.	mindfulness programs for decreasing levels of anxiety & stress. <u>Indirect support</u> for adding discussion, peer sharing, carefully considering homework, making program optional and including relevance to enhance subject recruitment and retention
Regehr et al, 2013	A meta-analysis of stress-reduction interventions	SR with meta-analysis of 24 studies: randomized	24 studies (1431 university students: Undergrad,	Cognitive, behavioral, & mindfulness interventions to reduce	Anxiety (self-reported) Stress	Cognitive, behavioral, and mindfulness interventions addressing stress	• Consider a prevention approach as well as an intervention	<u>Shows effectiveness</u> of a program based on cognitive,

	with the aim of providing an evidence-based approach for interventions to reduce stress in university students	with treatment and comparison or control groups, or parallel cohort design / Level I	graduate, & professional (1981 – 2011. Primarily US)	stress		reduction significantly decreased symptoms of anxiety and stress when compared to controls. Also, the results were interestingly stable for students from various programs across different countries.	approach • Amount of time and contact had little impact on results • Investigate use of PSS and STAI for outcome measurement	behavioral, and mindfulness approaches Indirect support for outcome measurement using PSS and STAI
Stillwell et al., 2017	Identify evidence that supports self-care interventions for managing perceived stress	SR of 8 studies: 7 pre-post design & 1 unblinded RCT/ Level II All appraisals using JBI tools	8 studies (health professional graduate students) Only SR to date confined to intervention for perceived stress in a mix of graduate HP students	Mind-body self-help interventions	Perceived stress	All studies showed a reduction in perceived stress with 6/8 statistically significant. All programs included didactic, experiential, and homework components (practice and self-reflection documented). All used PSS.	• Weekly sessions with trained instructors in mind-body stress reduction • Sessions can range from 15 – 180 min./wk. for 3-18 weeks • Instruction in such topics as stress, mindfulness, meditation, breath-work, relaxation, yoga • Practice	Shows effectiveness of a variety of mind-body programs for reduction of perceived stress. Indirect support from a detailed table outlining information from the 8 studies: interventions, instructor credentials, scheduling, strategies, topics, and

							techniques each session & assigned related homework	homework
Yang et al, 2018	Determine feasibility, acceptability, effectiveness of 30-day self-help mindfulness training program for decreasing perceived stress	RCT/ Level I	88 subjects (medical students)	Use of a mindfulness meditation mobile phone app for delivery of program	Perceived stress (PSS-significant decrease) Mindfulness Well-being	Use of a mobile app to deliver a 30-day mindfulness meditation program is effective in reducing perceived stress	• Results can be generalized for EBOT project • A mobile app allows students more control over scheduling • May include reminders or check-ins • Could include as a technique in mindfulness training program to support sustainability	Shows effectiveness of a 30-day mindfulness training program and one delivered via mobile app. Indirect support for use of a mobile app to sustain mindfulness practice beyond campus

CRITICALLY APPRAISED PAPER #1

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Bamber, M. D., & Morpeth, E. (2018). Effects of mindfulness meditation on college student anxiety: A meta-analysis. *Mindfulness,* 1-12. https://doi.org/10.1007/s12671-018-0965-5

Purpose of the Study	To examine the effect of mindfulness-based interventions (MBI) on anxiety in college students
Setting	Settings for the studies were US, UK, China, Australia, Thailand, Korea, and Spain in 23 academic centers, 1 medical center, and 1 home
Subjects/Sample	25 studies with inclusion criteria: Use of MBIs with undergraduate and graduate college students and measured anxiety as an outcome, both clinical (i.e., diagnosed with an anxiety disorder) and non-clinical student samples, and written in English. 80% female. Mean age 24.3 years. Medical professions (i.e., nursing, medicine, and pre-med) were most common majors (709 of 1492 total students)
Study Design/ Methodology	• Systematic review • Primary studies with 2-group comparisons (MBI vs. control, including no-treatment control) and pre-test/post-test analysis of MBI (1-group MBI). Studies with an active control were included in the pre-test/post-test analysis to allow a more precise estimate of effect size in the 2-group comparison. • Inclusion criteria: studies with MBI that included the core constructs of mindfulness (i.e., attention, awareness, acceptance, non-reactivity, and non-judgmental thought) as determined by reading each article and coding intervention characteristics. • Use of electronic databases and other resources for unpublished studies. Completed a final search to capture any new studies published after initial search. • Used a codebook to extract and record data with a wide variety of moderator variables (e.g., participant characteristics, intervention characteristics, interventionist training, types of MBI). • Coding was double-checked and differences result via discussion • Data analysis included calculating effect sizes, confidence intervals, exploring heterogeneity, and examining potential publication bias. Forest plot provided.
Level of Evidence	Level II - 17/25 studies had a control group of which 12 were randomized, 4 stratified randomized, and 9 self-selected. 8/25 were pre-test/post-test studies. Sample sizes ranged from 6 to 162.
Data Collection	• Researchers did not address quality of studies but examined effect

Tools/Measures	size differences across various indicators of quality and compared differences between the country and settings where interventions took place.
Results/ Main Findings	• Overall, MBIs were found to have a large and significant effect in reducing anxiety in college students in controlled studies and in post-test/post-test studies • MBIs with >8 sessions (vs. <8 sessions) showed greater reduction in anxiety • An unexpected finding: Interventions that did not expect home meditation practice showed greater significant reductions in student anxiety. Perhaps the additional work or expectation of incorporating practice into their daily lives overwhelmed students • Results are clinically significant in that they support use of MBIs for reducing levels of anxiety in college students.
Limitations	The authors indicated concern related to potential publication bias in several studies and suggest that results should be considered carefully.
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Similar population: sample included undergraduate, graduate, and professional students, of which 48% were medical professional graduate students • DIRECT: Provided evidence to support the PIO for anxiety outcome • INDIRECT: Findings specific to anxiety reduction, especially related to home practice and number of sessions may be helpful in program design. Data comparing various mindfulness-based interventions may assist with program planning.

CRITICALLY APPRAISED PAPER #2

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Banerjee, M., Cavanagh, K., & Strauss, C. (2017). A qualitative study in healthcare staff exploring the facilitators and barriers to engaging in a self-help mindfulness-based intervention. *Mindfulness, 8*(6), 1653-1664. https://doi.org/10.1007/s12671-017-0740-z

Purpose of the Study	To identify facilitators and barriers to engagement in a non-guided mindfulness-based self-help intervention with healthcare staff
Setting	University of Sussex, Sussex, England. Participants engaged in the interviews at self-selected sites.
Subjects/Sample	Purposeful sampling. Participants were part of the larger feasibility study that included 31 healthcare clinical staff from the mental health National Health Service trust, all of whom were offered to participate. Of the 16 participants ranging in age from 24 – 60 years, 15 were female (93.8%) and all were white and British.
Study Design/ Methodology	• Qualitative: phenomenology • In the feasibility study, subjects had participated independently in a self-selected mindfulness-based self-help intervention for 8 weeks. Upon conclusion 16 volunteer subjects for this current study were interviewed within 2 weeks via telephone using a semi-structured interview • Interviews lasted 27-54 minutes with a mean of 34 minutes. All were audio recorded and transcribed verbatim by interviewer who compared results with notes taken during interview. • Thematic analysis used to analyze data. The 6 recommended phases for inductive coding were used during data analysis. Decision trail was described in detail. Investigator triangulation was used via outside assessors and disagreements discussed. • There was evidence of the 4 components of trustworthiness: credibility, transferability, dependability, and confirmability.
Level of Evidence	Qualitative
Data Collection Tools/Measures	• The questions for the semi-structured interview were developed using the Client Change Interview as a guide. This protocol is a qualitative interview guide used to assess the person's perceptions of how they have changed as a result of the intervention received. • Interviewer used reflective listening techniques to strengthen theoretical perspective of interpretivist, providing opportunity to summarize and clarify participant responses • Interviewer had no part in organizing or implementing

	mindfulness-based self-help interventions. No face-to-face contact with subjects.
Results/ Main Findings	• Four arching themes emerged addressing facilitators and barriers to engaging in mindfulness-based self-help interventions. Quotations provided richness and clarity to the findings. o Attitude towards engagement (motivation, prior knowledge, personal predisposition) o Intervention characteristics (rationale, types of practice, intensity of intervention) o Change process (personal changes from mindfulness) o Perceived consequences (perceptions of impact & results) • The results provided important information about potential facilitators and hindrances to participation in mindfulness interventions. They help understand what the subjects liked and did not like about the mindfulness-based self-help program in which they had participated. Participant input was practical, reasonable, and helpful.
Limitations	• Only 16 of the 31 feasibility subjects participating, indicating that data may have been lost and findings were not representative of all • Subjects were from the same region of the country, all working in mental health, with assumption that they might be more amenable to mindfulness interventions • Only two mindfulness-based self-help programs were offered as choices, potentially impacting generalizability to other programs • Participant checking and validation were not used
How is this study useful for your EBP project? Check all that apply.	☐Provides background info ☒Study uses the same/similar Population to your proposed project ☐DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• The study uses a fairly similar population in that the participants were healthcare workers. The results are transferrable to the EBOT project. • INDIRECT support is valuable in that the information gained from the study will help with reducing hindrances to participation and enhancing recruitment, retention, and student satisfaction when planning and managing the EBOT project intervention. • Study provides information that could be used for program evaluation and student satisfaction survey

CRITICALLY APPRAISED PAPER #3

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Greeson, J. M., Juberg, M. K., Maytan, M., James, K., & Rogers, H. (2014). A randomized controlled trial of Koru: A mindfulness program for college students and other emerging adults. *Journal of American College Health, 62*(4), 222-233. https://doi.org/10.1080/07448481.2014.887571

Purpose of the Study	To determine if Koru, a mindfulness training program for college students and young adults, is effective
Setting	Duke University, Raleigh, North Carolina, USA

Subjects/Sample	• 90 students (66% female/ 34% male, predominantly white, 71% graduate/professional)
	• Inclusion criteria
	  o Enrolled undergraduate, graduate or professional student
	  o At least 18 years old
	  o English proficiency
	  o Ability to use computer with internet access
	  o Willing to be assigned to Koru or Wait-list control group
	• Blocked randomization (block size=2) using randomization schedule created using Research Randomizer
	• Study coordinator kept group assignments blinded from staff performing statistical analyses. Instructors blinded to subject recruitment, consent, randomization, & data collection procedures.

Study Design/ Methodology	• RCT with 2 study arms: 1) Koru, active intervention, and 2) Wait-list control, designed to control for effects of time. Wait-list students were offered opportunity to attend Koru later in the semester. • Enrolled students completed online standardized self-report questionnaires assessing symptoms of stress, sleep problems, mindfulness, self-compassion, and gratitude within 1-week before and after participating in 4-week Koru program. • Koru is a program specifically designed for emerging adults. Program involved practicing meditation and logging at least 10 minutes daily and reading the course book. In class students were taught mindfulness meditation and mind-body skills.
Level of Evidence	Level I
Data Collection Tools/Measures	Although 6 tools were used to assess various identified outcomes for the study, the measure directly related to the EBOT project PIO:

	• Perceived Stress Scale (PSS) with demonstrated reliability and construct validity in student samples
Results/ Main Findings	• 82% of randomized students retained • Perceived stress levels dropped significantly in the Koru group • Given the high enrollment and retention in the study, Koru was well liked by students • Clinically, this means that a 4-week mindfulness program designed for college students and young adults can be successful in decreasing levels of stress.
Limitations	• Self-report surveys are susceptible to recall bias • Limited diversity in student sample hampers generalizability • Use of pre-post-intervention measures limits understanding of when beneficial effects began to occur and how long they may last
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Provides background information for a mindfulness training program for college-age students and young adults • Similar population: very similar to entry-level OT students, regarding age, gender, and academic situation • DIRECTLY supports the effectiveness of a shorter mindfulness program intervention for perceived stress in a similar population • INDIRECTLY supports EBOT program design, content, structure, learning materials and resources; acceptance by students, retention of participants • Provides support for potential use of PSS for the EBOT project

CRITICALLY APPRAISED PAPER #4

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Guillaumie, L., Boiral, O., & Champagne, J. (2017). A mixed-methods systematic review of the effects of mindfulness on nurses. *Journal of Advanced Nursing, 73*(5), 1017-1034. https://dx.doi.org/10.1111/jan.13176

Purpose of the Study	To systematically review the literature on the effects of mindfulness on nurses and nursing students
Setting	Settings included hospitals (>50%), colleges, universities, nursing schools, and healthcare centers in the US (75%), China, Canada, Italy, Korea, South Africa, and UK.
Subjects/Sample	• 32 studies published between 1981-2013: RCTs (50%), quasi-randomized controlled trials (QCT), one-group pre-post, mixed-methods, and qualitative • Subjects: registered nurses, nursing aides, and nursing students. Other health professionals could be included.
Study Design/ Methodology	• Mixed-method systematic review. Mindfulness, meditation, and relaxation had to be clearly stated for inclusion. • Extracted and coded data. Four-step Thomas and Harden synthesis process used that included meta-analysis, analysis of heterogeneity, calculation of confidence intervals, and inductive/deductive thematic analysis of qualitative data to produce codes. Triangulation used. Main themes identified and quotations selected. Integration of quantitative and qualitative findings involved side-by-side comparison using a matrix and triple-checked.
Level of Evidence	Level II due to multiple study designs
Data Collection Tools/Measures	• Mixed Methods Appraisal Tool (MMAT) was used to assess quality of qualitative, RCT, QCT, one-group pre-post, and mixed-methods studies. The MMAT is efficient and has inter-rater reliability scores ranging from moderately reproducible to perfect agreement. • Risk of bias in RCTs and QCTs assessed with Cochrane risk of bias tool.
Results/ Main Findings	Quantitative findings related to PIO: • Mindfulness-based training may be effective in reducing state anxiety (meta-analysis of RCTs findings supported by uncontrolled studies). Incomplete findings related to stress – inadequate data. Researchers could only estimate mean decrease in 2 RCTs.

	Qualitative themes • Stressful work environment for nurses • Mindfulness facilitating inner state of fullness (calmness, acceptance of own feelings) • Mindfulness enhancing nursing practice (quality of communications, problem-solving, and motivation) • Challenges related to practice of mindfulness (lack of time, discomfort during training, sustaining daily practice) The findings for the effect of mindfulness training for state anxiety was significant. Clinically, the SR supports using mindfulness training to help reduce anxiety for nurses and nursing students.
Limitations	• Small study sizes, some with limited data provided • Small number of RCTs • Most studies conducted in the US • Potential for selection bias
How is this study useful for your EBP project? Check all that apply.	☐Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention (shows effectiveness of the intervention for desired/similar outcome) ☒INDIRECTLY supports Intervention (supports smaller aspects of the intervention—content, structure, etc.) ☐Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Similar Population: Nurses and nursing students • DIRECTLY supports the desired outcome of decreased level of anxiety for the EBOT project • INDIRECTLY supports the proposed intervention by providing interventions, methods to deliver the program, frequencies and duration of programs. Qualitative findings on challenges to practicing mindfulness may be helpful when planning the intervention program.

CRITICALLY APPRAISED PAPER #5

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Halladay, J. E., Dawdy, J. L., McNamara, I. F., Chen, A. J., Vitroroulis, I., McInnes, N., & Munn, C. (2018). Mindfulness for the mental health and well-being of post-secondary students: A systematic review and meta-analysis. *Mindfulness,* 1-18. https://doi.org/10.1007/s12671-018-0979-z

Purpose of the Study	To determine the effectiveness of mindfulness-based interventions for mental health outcomes in post-secondary students.
Setting	Information not provided, however, studies from the US, Canada, and Australia have been identified.
Subjects/Sample	41 studies. Subjects were post-secondary students (mean age in individual studies ranged from 18–29 years): undergraduate, graduate, college, and health professional students. Healthy participants with internalizing symptoms. Excluded studies: those restricted to students with physical neurological disorder, psychosis, ADHD, or other developmental disabilities due to different neurological processing
Study Design/ Methodology	• Systematic review using RCTs only • Intervention inclusions: mindfulness-based interventions of at least 2-week duration assessed for fidelity & integrity based on core components of mindfulness: 1) grounding in present moment, and 2) open & accepting of experiences. Included any method of delivery, length or frequency of practice periods • Rigorous, extensive search included electronic databases, ongoing trials using registries and internet resources, unpublished trials using Proquest Dissertations and OpenGrey, and contacting authors. No language restrictions or publication status. • All 7 authors participated in a rigorous selection, extraction, and study management process.
Level of Evidence	Level I
Data Collection Tools/Measures	• Outcomes were based on 9-point rating scale suggested by Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group. GRADE provides guidelines to rate quality of evidence and strength of recommendations; it is being increasingly utilized internationally. Primary outcomes: anxiety and depressive symptoms. Secondary outcomes included perceived stress, sleep, substance use, and emotion regulation. • When available independent outcome measures were used, which included the PSS, a widely accepted tool with demonstrated

	reliability and construct validity. • Assessment of quality and risk of bias for studies included use of Cochrane Risk of Bias tool employing a collaborative process of checks and double checks. Heterogeneity included visual inspection of forest plot and 2 statistical tests. Authors report the quality of evidence in the meta-analyses is low to very low due to high risk of bias.
Results/ Main Findings	Results related to the PIO: • *Anxiety:* Pooled data from 20 studies (1185 participants) showed a moderate significant reduction in anxiety symptoms. No significant difference between brief (<8 weeks) and long (>8 weeks) interventions. • *Perceived stress:* Pooled data from 23 studies (1643 participants) show a small significant reduction in perceived stress. No significant difference between brief and long interventions. • Overall, findings suggest that mindfulness-based intervention of at least 2 weeks appear better than no intervention, especially for reduction in symptoms of anxiety, depression, and perceived stress. • Mindfulness-based cognitive therapy appears most effective for symptoms of anxiety and depression. • Shorter mindfulness interventions may provide doable, effective options for reducing anxiety and perceived stress in students.
Limitations	High risk of bias due to performance and detection bias related to inability to blind intervention and self-report of outcomes, lack of clarity around allocation concealment procedures, and high attrition. Publication bias as smaller studies with results favoring controls are not published. Small sample sizes. Inability to access all studies. Multiple other limitations were discussed in the article.
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed ☒INDIRECTLY supports Intervention ☐Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Besides providing background information about mindfulness interventions, the study addresses a student population that would include entry-level occupational therapy students • DIRECT: Review directly supports mindfulness-based interventions to reduce anxiety and perceived stress, which are being carefully considered for the EBOT project. • INDIRECT: Review suggests mindfulness-based cognitive therapy as best intervention for reducing anxiety levels, supporting inclusion of this intervention in the program. Also information on program content, delivery, frequency and dosage are provided.

CRITICALLY APPRAISED PAPER #6

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Kinser, P., Braun, S., Deeb, G.M., Carrico, C., & Dow, A. (2016). Awareness is the first step: An interprofessional course on mindfulness and mindful-movement for healthcare professionals and students. *Journal of Complementary Therapies in Clinical Practice, 25,* 18-25. https://doi.org/10.1016/j.ctcp.2016.08.003

Purpose of the Study	Pilot study to determine if an 8-week mindfulness course designed for interprofessional healthcare professionals and students: 1) was doable and acceptable, and 2) effective in decreasing stress, anxiety, depression, burnout, ruminations, and emotional exhaustion.
Setting	Virginia Commonwealth University, Richmond, Virginia, USA
Subjects/Sample	Of the 49 healthcare professionals and students who self-enrolled in the mindfulness course, 38 chose to participate in the study and completed the course. Of those, only 27 completed the post-intervention survey and were included in outcome analysis. Convenience sample. Voluntary, informed consent. Majority female, white, and currently in or graduated from graduate program. Primarily nursing.
Study Design/ Methodology	Mixed-methods pilot study: • Qualitative - phenomenology. Aim: to determine do-ability and acceptability of course • Quantitative - within-group pretest-posttest. Aim to assess changes in and levels of psychological measures Collaboratively designed course using multiple resources: texts, articles, online materials, mobile applications. Didactic and small group discussions geared to healthcare professionals and students. Experiential practices of a variety of mind-body and mindfulness-based practices.
Level of Evidence	Level III, and qualitative
Data Collection Tools/Measures	• Qualitative: At conclusion of course, open questions about personal gains, aspects of most and least value to self, knowledge to carry forward into practice. Analysis grounded in descriptive methodology using outlined hermeneutic circle-designed steps. Triangulation with emphasis on enhancing rigor with outside researchers involved. • Quantitative: Baseline demographic survey and pre- and post-intervention assessment of (only measures used for PIO desired outcomes included): o *Stress:* Perceived Stress Scale-10 (PSS), often utilized in research, psychometrically-solid tool assessing perceived

	stress within the past month o *Anxiety:* State-Trait Anxiety Inventory, Form Y (STAI), reliable and valid tool to measure state anxiety. Useful for indicating change occurring within intervention period.
Results/ Main Findings	Qualitative themes - Subjects: • expected to gain self-care skills they could teach clients • reported greater comfort in using mindful practices in daily life • consistently stated they would use mindfulness with future clients Quantitative findings • Significant differences reported in pre- and post-intervention scores for PPS and STAI. Participants' levels of stress and anxiety were significantly lower after completing the course. • This pilot study offers preliminary support for an 8-week mindfulness course for healthcare professionals and students. A 100% course retention rate indicates that the 49 self-enrolled course participants found the course interesting. Qualitative results indicate that the course format is do-able and content is acceptable. Quantitative results indicate that it was effective in reducing perceived stress and anxiety.
Limitations	Small sample size, convenience sampling, non-controlled study, potential selection bias. Readers should carefully consider generalizability to their populations.
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Background information may assist in designing, implementing, and measuring outcomes for the EBOT project. • Similar population: healthcare professionals and students in a university setting • DIRECT: Provides support for a similar (i.e., shortened) EBOT mindfulness intervention. • INDIRECT: Supports choices for content, structure, project management, and outcome measurement options (i.e., quantitative and qualitative). With the added mobile application intervention included in the study, this option may support students' ability to sustain a mindfulness self-care program during fieldwork and future clinical practice. • Two of the outcome measures (PSS and STAI) address the same outcomes as needed for the project.

CRITICALLY APPRAISED PAPER #7

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

McConville, J., McAleer, R., & Hahne, A. (2017). Mindfulness training for health profession students - The effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: A systematic review of randomized and non-randomized controlled trials. *Explore: The Journal of Science and Healing, 13,* 26-45. http://dx.doi.org/10.1016/j.explore.2016.10.002

Purpose of the Study	Twofold purpose: 1) determine the effectiveness of mindfulness training for health professional students, and 2) compare the training programs to investigate which of their elements are most effective
Setting	Undergraduate and graduate health professions courses in Australia, US, and Southeast Asia

Subjects/Sample	• 19 studies with a total of 1815 subjects
	  o 12 randomized
	  o 7 non-randomized
	• Students having no medical diagnosis and enrolled in medicine, nursing, social work, occupational therapy, physical therapy, podiatry, and dietetic programs

Study Design/ Methodology	• Systematic review of RCTs, parallel prospective cohort trials (in which comparison and intervention groups were assessed simultaneously) and non-randomized controlled trials • Articles written in English in peer-reviewed journals • Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines were used. PRISMA is an evidence-based minimum set of items for reporting in SRs and meta-analyses. • Search included 6 electronic databases for articles through June 2016, manually scanned reference lists of SRs, and monthly website searches for recent publications • Only mindfulness programs intending to improve mindfulness, including mindfulness-based cognitive therapy, included • Transcendental meditation and relaxation response excluded due to the focus on concentration-based meditation • Courses on training how to use mindfulness as a clinical treatment tool excluded
Level of Evidence	Level I
Data Collection	• Cochrane risk of bias tool used to assess internal and external

Tools/Measures	validity of results of trials. Six domains include: sequence generation, allocation sequence concealment, blinding, incomplete outcome data, selective reporting of outcomes, and other potential biases. Two researchers independently assessed articles. Grid of results provided. • Moderate quality of methodology reported.
Results/ Main Findings	• Effect of mindfulness post-intervention on 9 areas of interest reported from meta-analysis. Those related to the PIO: o Anxiety – 9/11 trials showed significant effect of mindfulness o Stress - 11/11 trials showed significant effect of mindfulness • Results clinically significant in that mindfulness training was found to be helpful for identified populations. Could support EBP. • Greater effects using multiple mindful techniques (e.g., body scan, movement, meditation) as opposed to just mindful meditation. Inclusion of discussion and peer experience-sharing may improve application to daily living. More time in formal practice may increase effectiveness, but greater home practice tended to decrease use of interventions. Optional programs and those perceived as relevant had higher satisfaction ratings.
Limitations	• Study lacks potentially enriching qualitative data • Outcome conclusions limited due to the number of small studies in the meta-analysis and limited follow-up data • Funnel plots provided for only 2 meta-analyses
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Background info: Provides list of mindfulness based interventions, approaches, outcome measures (e.g., PSS, STAI, DASS) • Similar Population: health professional students, including OT • DIRECT: Overall results indicate that mindfulness-based stress reduction using various practices (e.g., mindful movement, body scan, meditation) can be effective for desired anxiety and stress outcomes • INDIRECT: Including didactic and discussion components to the training may enhance the effectiveness of the intervention • INDIRECT: Less costly interventions of mindfulness training (e.g., 5-week programs, electronically-based programs) may be as effective as longer, resource intensive programs • INDIRECT: Assists in designing a cost-effective, evidence-based intervention that may support program sustainability

CRITICALLY APPRAISED PAPER #8

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders, 148*(1), 1-11. https://doi.org/10.1016/j.jad.2012.11.026

Purpose of the Study	A meta-analysis of stress-reduction interventions with the aim of providing an evidence-based approach for interventions to reduce stress in university students
Setting	Universities in the US, England, Switzerland, Jordan, Scotland, and Tasmania
Subjects/Sample	SR of 24 studies (from 1981-2011) that included experimental and parallel cohort quasi-experimental evaluations of psychological intervention programs to reduce stress in university students (undergraduate, graduate, or professional). Inclusion criteria: 1) random assignment to create treatment and comparison or control groups or 2) parallel cohort designs where groups where assessed at the same points in time. Exclusion: any studies involving pharmacological interventions.
Study Design/ Methodology	• SR with meta-analysis • Controlled trial studies, 19 of which were from the US, included students from wide variety of disciplines (e.g., healthcare-related, law, technology). Combined, they included 1802 students, with approximately 25% male, 72% female, 3% no gender reported. • Searches using electronic databases, reference lists of relevant articles retrieved and assessed. Screening conducted in 3-stage procedure. Exclusion criteria reported. • Standard mean differences calculated for comparisons across studies, confidence intervals computer, heterogeneity calculated.
Level of Evidence	Level I
Data Collection Tools/Measures	• Assessment of primary outcome of psychological stress and anxiety symptoms included the State-Trait Anxiety Inventory (STAI) and the Perceived Stress Scale (PSS), both of which are well-respected with good psychometrics. Secondary outcomes were assessed but not relevant to PIO. • Assessment of studies for methodological quality based on Cochrane Collaboration Handbook.
Results/ Main Findings	• Cognitive, behavioral, and mindfulness-based interventions focused on stress reduction were found to significantly reduce

	symptoms of anxiety in the university student population. • The results also were clinically significant meaning that cognitive, behavioral, and mindfulness-based programs can help decrease the effects of stress on university students, including reducing their levels of anxiety.
Limitations	• Possible publication bias • Only articles in English and in peer-reviewed publications • Over-representation of female students in Western countries • Some types of interventions (e.g., psycho-education, arts-based) inadequate data for inclusion in meta-analysis
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☐INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Besides providing background information, the population is similar to EBOT project students in that the subjects are university students • DIRECT: the review provides direct evidence for mindfulness-based interventions, which may include cognitive and behavioral components, to reduce anxiety and stress in the similar population • The review used the Perceived Stress Scale (PSS) and the State-Trait Anxiety Inventory (STAI), both of which are under consideration as outcome measures for the EBOT project

CRITICALLY APPRAISED PAPER #9

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Stillwell, S., B., Vermeesch, A. L., & Scott, J. G. (2017). Interventions to reduce perceived stress among graduate students: A systematic review with implications for evidence-based practice. *Worldviews on Evidence-Based Nursing, 14*(6), 507-513. https://dx.doi.org/10.1111/wvn.12250

Purpose of the Study	To identify evidence that supports self-care interventions for managing perceived stress
Setting	Universities in the SW, Midwest, West, and Eastern United States
Subjects/Sample	• 8 studies: 7 studies pre-post design and 1unblinded RCT that used random number generator • Graduate students enrolled in 24 different health professional programs, e.g., medical, dental, nursing, social work, OT, PT, SLP, clinical psychology, pharmacy
Study Design/ Methodology	PICOT question: In graduate students (P) how does practicing self-care interventions (I) compared to those not practicing self-care interventions (C) affect perceived stress (O) during graduate school (T)? • Systematic review informed by PICOT • Search conducted by 2 authors using electronic databases and ancestry search. • Results reviewed by 2 authors, 1 of whom was an evidence-based practice (EBP) mentor, using inclusion criteria (i.e., self-care intervention, graduate students, Perceived Stress Scale (PSS) measure, quantitative analysis, conducted in US, English, peer-reviewed, IRB approval)
Level of Evidence	Level II. 7 studies at Level II on Joanna Briggs Institute (JBI) Levels of Evidence and the 1 RCT at JBI Level I
Data Collection Tools/Measures	• Quality assessed by 2 authors, 1 EBP mentor and 1 wellness expert, using JBI appraisal tools for quasi-experimental and RCTs. Appraisers met with third author to discuss findings. • Key data extracted into an evaluation table to summarize results. Table included study design, sample and setting, variables, data collection tool, statistical analysis, findings, and applicability • PSS used for outcome measurement (often utilized in research, psychometrically-solid tool assessing perceived stress within the past month) • No meta-analysis performed
Results/	• All studies showed a decrease in perceived stress using mind-body

Main Findings	stress reduction techniques but 2 were not statistically significant (i.e., the RCT and the longitudinal study) • Findings were clinically significant due to the decrease in perceived stress through the use of low-risk mind-body stress reduction interventions, meaning clients benefited with little risk to their well-being. • Mind-body stress reduction interventions varied but all programs included didactic section, experiential practice, and homework.
Limitations	• Small sample sizes • Single site university settings • Potential selection bias and publication bias • No meta-analysis
How is this study useful for your EBP project? Check all that apply.	☒Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Background: Table provides specific information from all 8 studies (i.e., interventions, instructor credentials, scheduling, strategies, topics, and homework) • Similar Population: graduate level students enrolled in health professional programs, including OT • DIRECT: Evidence supports reduction in perceived stress levels using mind-body interventions • INDIRECT: Supports program design that would include didactic, experiential, and homework components, provides information addressing frequency, dosing, length, and mind-body interventions, recommends use of instructor trained or certified in mind-body stress reduction • Use of PSS outcome measure for inclusion criteria in the literature search supports the importance of considering this tool for the EBOT project

CRITICALLY APPRAISED PAPER #10

Is mindfulness training (I) useful in reducing perceived levels of anxiety and stress (O) in entry-level occupational therapy students (P)?

Yang, E., Schamber, E., Meyer, R. M., & Gold, J. I. (2018). Happier healers: Randomized controlled trial of mobile mindfulness for stress management. *Journal of Alternative and Complementary Medicine, 24*(5), 505-513. https://dx.doi.org/10.1089/acm.2015.0301

Purpose of the Study	Determine how doable, efficient, and effective a 30-day mindfulness program was on decreasing perceived stress in medical students at one medical school.
Setting	Keck School of Medicine at the University of Southern California, USA
Subjects/Sample	All 716 medical students in school invited to participate. 97 completed the survey. 88 enrolled into study (36% male, 64% female). Participants stratified by year in medical school & randomly placed using computer-generated randomization: • 45 in intervention group • 43 in control group
Study Design/ Methodology	Prospective RCT ● Intervention group asked to download the mobile application HeadSpace, use it daily for 30 days, and manually log number of minutes, plus take screenshot of minutes logged on application ● Control group placed on a waiting list to receive the HeadSpace subscription codes after the 60th day of the study
Level of Evidence	Level I
Data Collection Tools/Measures	Self-reported questionnaires completed at baseline, the 30th day, and the 60th day. Each included demographics, measure listed below, and open-ended questions to evaluate stress, coping strategies, and current/past exposure to meditation. Tool used relevant to EBOT PIO: ● *Perceived stress:* Perceived Stress Scale (PSS) – widely used, reliability and construct validity in student population
Results/ Main Findings	Relevant to PIIO: • *Perceived stress*: statistically significant decrease from baseline to 60th day • Findings support that a mindfulness meditation program using a mobile application is effective in reducing perceived stressed in medical students. • Results are clinically significant as this first study of its kind supports the effectiveness of using a mobile application to deliver a mindfulness program to reduce stress in medical students, which may generalize to other health professional students.

Limitations	• Selection bias and response bias due to self-reported questionnaires • Secondary analyses not performed on whether personal factors or demographics may influence usage of the application. Differences between those who chose to use the app and those who did not were not determined, including whether reminders or "checking in" might influence engagement.
How is this study useful for your EBP project? Check all that apply.	☐Provides background info ☒Study uses the same/similar Population to your proposed project ☒DIRECTLY supports the Proposed Intervention ☒INDIRECTLY supports Intervention ☒Provides info on tools/methods you could use to collect data/evaluate your project
This study was identified as the 'best' evidence and can be applied to your proposed EBP project in these SPECIFIC ways:	• Similar population to EBOT project students: medical students • DIRECT support of a 30-day mindfulness program that significantly decreases perceived stress in a graduate health professional student population • INDIRECTLY supports EBOT project by offering an evidence-based mobile application (i.e., HeadSpace) intervention that may help students sustain mindfulness practice not only while on but also beyond campus, e.g., fieldwork and ultimately clinical practice. Sending electronic reminders or personally "checking-in" might increase student engagement • Supports use of PSS as an outcome measure

Appendix B: Recruitment Flier

Are you stressed or anxious about school or daily life situations?

You have the opportunity to be part of a research study that may help you manage stress and anxiety

What is the purpose of the research? To determine if mindfulness training helps occupational therapy students reduce their levels of stress and anxiety, like it has for students in other professional programs

What would I have to do?

- Participate in 6 weekly mindfulness training sessions outside of regular class time
- Take a confidential survey to rate your level of stress and anxiety at the beginning of the first session. Then retake the survey during the last session and offer your thoughts about mindfulness and the training program

Where will the training sessions be held? In the Occupational Therapy Department

How might I benefit? Learn how to use mindfulness practices to reduce levels of anxiety and stress, which has been shown to improve students' academic performance, mental health, and well-being

How can I learn more about the study?

- Attend an introductory meeting with the primary investigator, Ms. Emily Pugh, faculty member of the Occupational Therapy Department, scheduled for
  - Date, time, location
  - Date, time, location
- Contact Ms. Pugh personally
  - Email her at epugh@phhp.ufl.edu or call (352) 273-6096
  - Visit her during posted office hours in the Occupational Therapy Department, Room 2110

UF IRB protocol number: IRB201901779

Appendix C:
Invitation to Voluntary Introductory Meetings Script

During the department orientation program for the incoming students, Dr. Christine Myers, Program Director for the Entry-Level Doctor of Occupational Therapy Program, will draw the students' attention to the Recruitment Flier, which will be located in the student orientation packet. Emily Pugh, the principal investigator will not be present at their orientation.

Script for Dr. Myers:
(Dr. Myers will show students the flier from their packet.)
One of our faculty members, Ms. Pugh, will be conducting a research study to see if training in mindfulness practices can help occupational therapy students lower their levels of stress and anxiety. Mindfulness training has been shown help medical, nursing, and other professional students decrease stress and anxiety, but very few studies have included OT students. You all are invited to attend a meeting where Ms. Pugh will tell you about the study, what it will offer you, and what it will involve. She will answer any questions that you may have. Information about the time and place of the two meetings are indicated on this flier. Ms. Pugh also has included how to contact her. This is an opportunity to learn about and volunteer for a project that may benefit you as you start the occupational therapy program.

Appendix D:
Introductory Meeting Presentation

Agenda:

A. Welcome to the meeting

B. Introductions

C. Purpose of the meeting

D. Review of the Informed Consent form line by line

E. Request and respond to questions and comments

F. Offer the opportunity to sign the Informed Consent form

G. Provide the participant a copy of the Informed Consent form

H. Express appreciation for their interest

I. Share information about office hours and other ways to contact the Principal Investigator

Appendix E:
State-Trait Anxiety Inventory for Adults Form Y-1

The 10-items that make up the State-Trait Anxiety Inventory for Adults Short Form for State Anxiety are circled below.

SELF-EVALUATION QUESTIONNAIRE

STAI AD Form Y-1

Please provide the following information:

Name_____ Date_____ S_____

Age_____ Gender (*Circle*) **M** **F** T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below Read each statement and then blacken the appropriate circle to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
(1) I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
(3) I am tense	1	2	3	4
4. I feel strained	1	2	3	4
(5) I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
(7) I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
(9) I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
(12) I feel nervous	1	2	3	4
(13) I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
(15) I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
(17) I am worried	1	2	3	4
18. I feel confused	1	2	3	4
(19) I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

Appendix F:
Perceived Stress Scale

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. **In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.**

Name _____ Date _____

Age _____ Gender (*Circle*): **M F** Other _____

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

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

info@mindgarden.com
www.mindgarden.com

References

The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 386-396.
Cohen, S. and Williamson, G. Perceived Stress in a Probability Sample of the United States. Spacapan, S. and Oskamp, S. (Eds.) *The Social Psychology of Health.* Newbury Park, CA: Sage, 1988.

Appendix G:
Mindfulness Training Program Survey

The purpose of this survey that will take about 10 minutes is to obtain some general information about you and the mindfulness training program you have completed. Your feedback is very valuable, because it will be used to make improvements to the program for next year's incoming OTD students. Your responses are confidential. By completing the survey, your informed consent is implied. Thank you for sharing your input.

Please provide the demographic data below.

Age: Which category below includes your age?
__18-24
__25-34
__35-44
__45-54
__55-64
__65 or older

Gender Identity: What is your gender?
__Male
__Female
__Other

Ethnicity: How do you describe your ethnicity?
__Asian
__Black or African-American
__Hawaiian or Pacific Islander
__Hispanic or Latinx
__Native American or American Indian
__White
__From multiple races
__Other

Education: What is the highest degree you have received?
__Bachelor's degree
__Master's degree
__Doctorate degree

Mindfulness Experience: Have your practiced mindfulness previously in your life?
__Yes

__No

Please check the best answer for each of the 5 items below:

1. I know how to select a mindfulness technique that will help me manage anxiety when I am in stressful situations.

____ Strongly agree

____ Agree
____ Disagree
____ Strongly disagree

2. I use mindfulness techniques to help manage feelings of stress or anxiety that arise related to the occupational therapy graduate program.

____ Strongly agree
____ Agree
____ Disagree
____ Strongly disagree

3. I feel more in control of my emotions when I practice mindfulness techniques.

____ Strongly agree
____ Agree
____ Disagree
____ Strongly disagree

4. I would suggest mindfulness techniques to friends, family members, or others in my life.
____ Strongly agree
____ Agree
____ Disagree
____ Strongly disagree

5. I would recommend this mindfulness training program to future OTD students.
____ Strongly agree
____ Agree
____ Disagree
____ Strongly disagree

For this next 3 questions, please write your comments in the boxes below the question. The boxes will expand as you write.
6. List the 3 biggest barriers to incorporating mindfulness practice into your daily life.

1.

2.
3.

7. List the 3 things you liked best about the mindfulness training program.

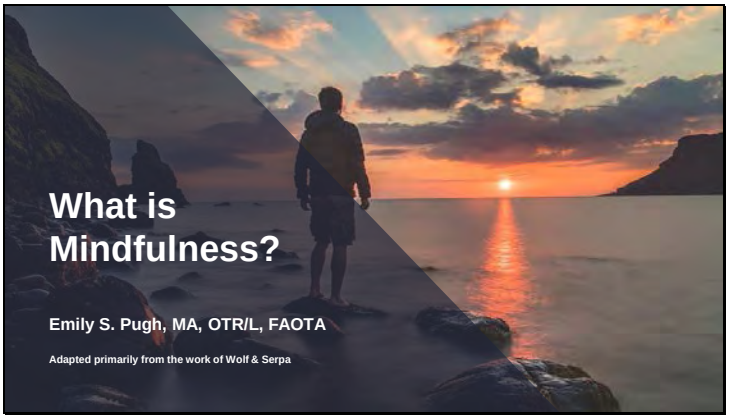
1.
2.
3.

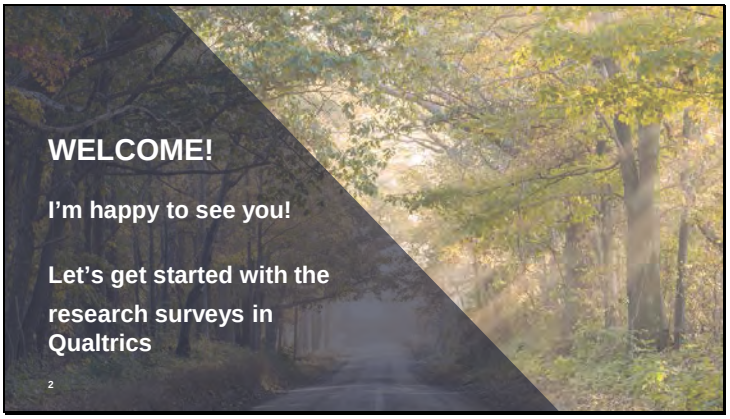
8. List 3 things that you would do to improve the mindfulness training program.

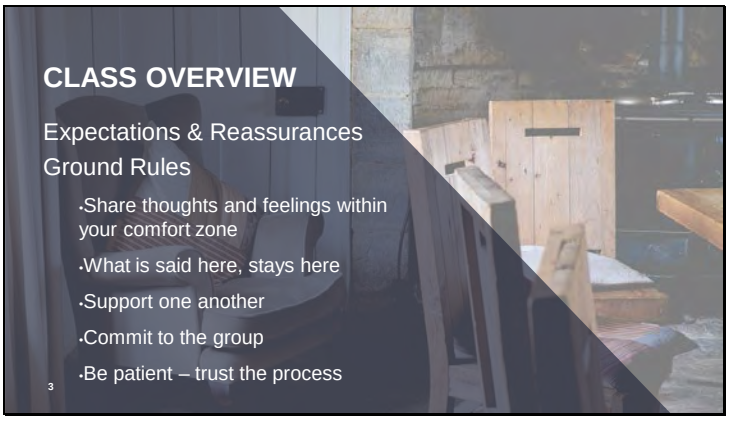
1.
2.
3.

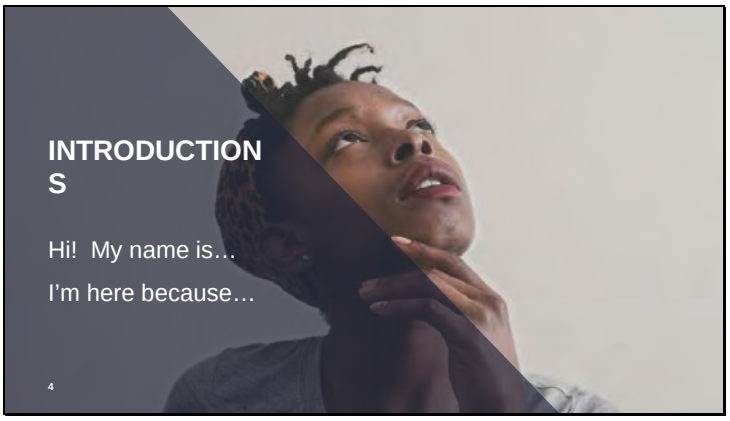
You have completed the survey. Thank you very much!

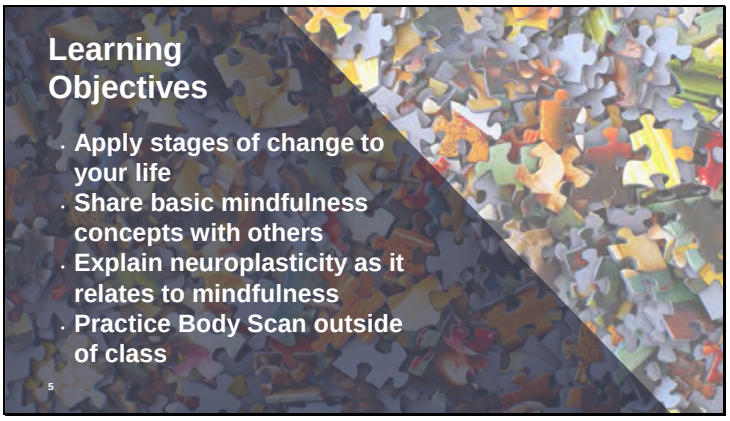
Appendix H:
Mindfulness Intervention Module #1



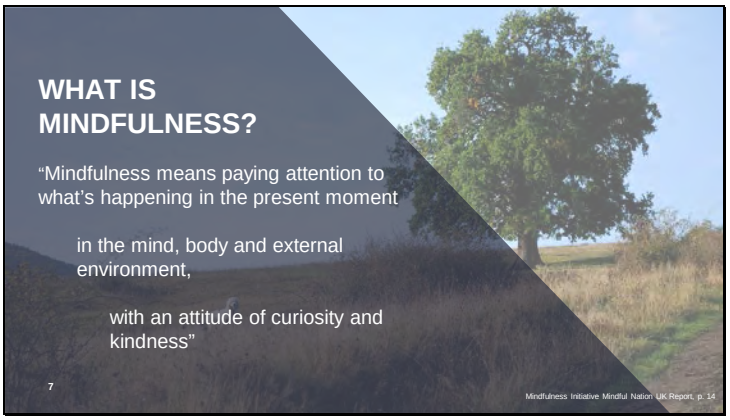


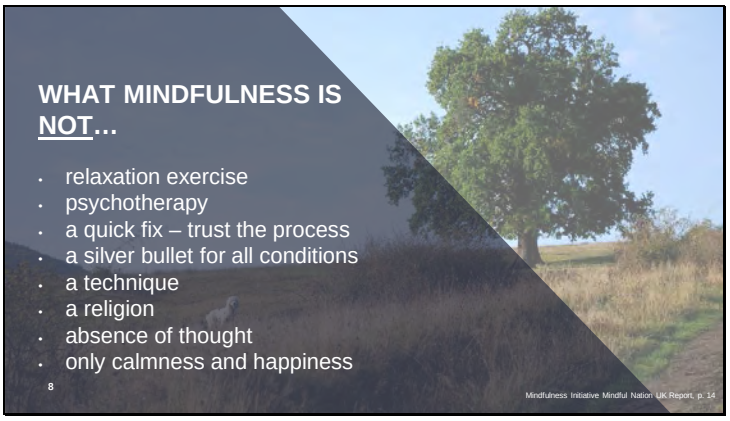


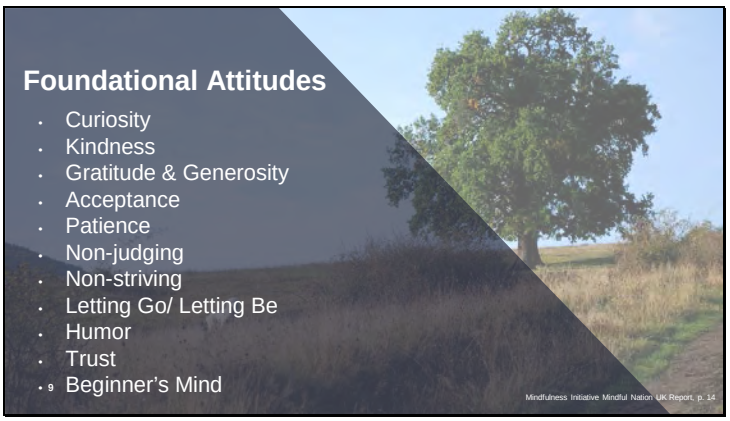

INTRODUCTIONS
Hi! My name is…
I'm here because…
4


Learning Objectives
· Apply stages of change to your life
· Share basic mindfulness concepts with others
· Explain neuroplasticity as it relates to mindfulness
· Practice Body Scan outside of class
5


STAGES OF CHANGE
pre-contemplation
contemplation
preparation
action
maintainence
relapse
Transtheoretical Model of Change
Prochaska & DiClemente
6
the relationshipblog.net


WHAT IS MINDFULNESS?
"Mindfulness means paying attention to what's happening in the present moment
in the mind, body and external environment,
with an attitude of curiosity and kindness"
7
Mindfulness Initiative Mindful Nation UK Report, p. 14


WHAT MINDFULNESS IS NOT…
relaxation exercise
psychotherapy
a quick fix – trust the process
a silver bullet for all conditions
a technique
a religion
absence of thought
only calmness and happiness
8
Mindfulness Initiative Mindful Nation UK Report, p. 14


Foundational Attitudes
Curiosity
Kindness
Gratitude & Generosity
Acceptance
Patience
Non-judging
Non-striving
Letting Go/ Letting Be
Humor
Trust
Beginner's Mind
9
Mindfulness Initiative Mindful Nation UK Report, p. 14

Mindfulness and Neuroplasticity

Neuroplasticity: Changes in brain neural pathways based on our life experiences, e.g.,

- Changes in neural tract responsible for self-regulation, after only 4 weeks of daily meditation practice (Tang et al., 2012)

- Mindfulness practice associated with increased gray matter in the insula, hippocampus and prefrontal cortex (Fox et al., 2014)

How do these changes occur?

10

Research Related to Mindfulness Training for College Students

A literature review of scholarly publications (2008-2018) related to college students' perceived stress and anxiety found 6 systematic reviews, 2 randomized controlled trials, and 1 mixed method study that directly support this project
(Bamber & Morpeth, 2018; Greeson et al., 2014; Guillaumie et al., 2017; Halladay et al., 2018; Kinser et al., 2016; McConville et al., 2017; Regehr et al., 2013; Stillwell et al., 2017; Yang et al., 2018)

Results: Solid evidence for mindfulness training to reduce perceived stress and anxiety

What else might that mean? Reduction in levels of anxiety and stress have been shown to improve students' academic performance, overall mental health, and well-being (Kelley, 2017)

11

Body Scan: 1st formal practice

Why Body Scan?
- Constant change of focus
- Focus away from cognition
- Letting go
- Non-striving

Posture
Discomfort
Sleepiness

Discussion

12

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14

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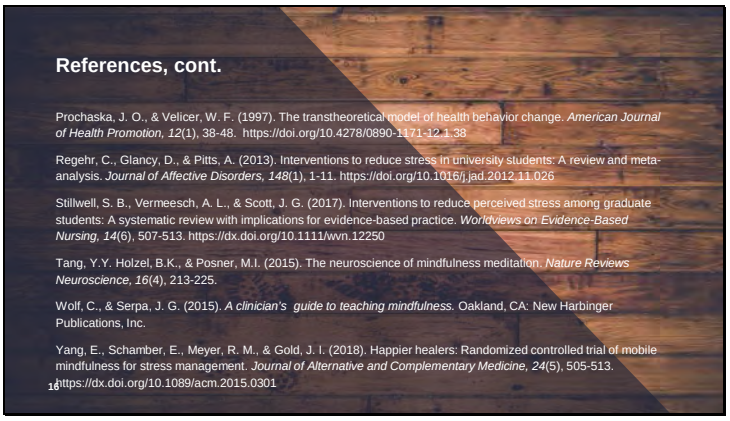
15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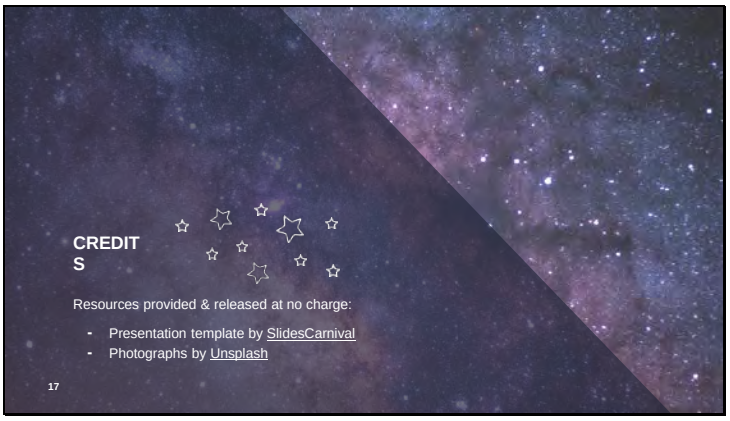
Yang, E., Schamber, E., Meyer, R. M., & Gold, J. I. (2018). Happier healers: Randomized controlled trial of mobile mindfulness for stress management. Journal of Alternative and Complementary Medicine, 24(5), 505-513. https://dx.doi.org/10.1089/acm.2015.0301
16


CREDITS
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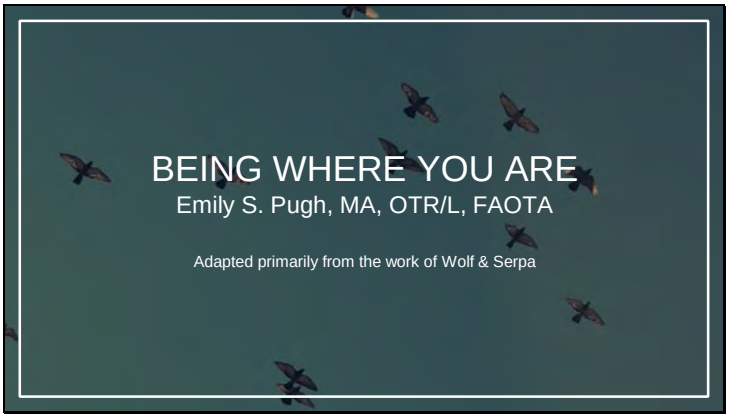
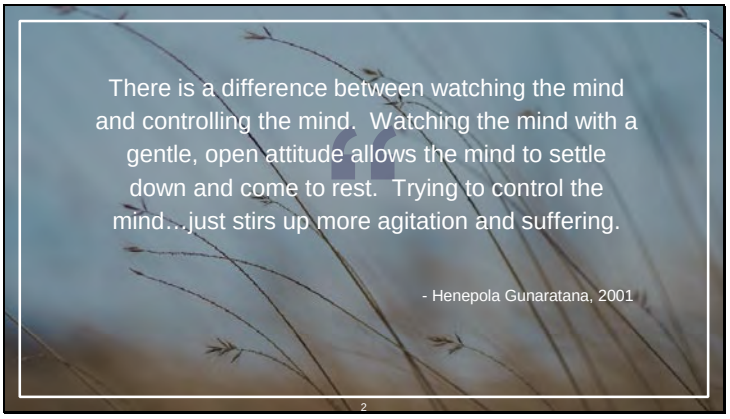
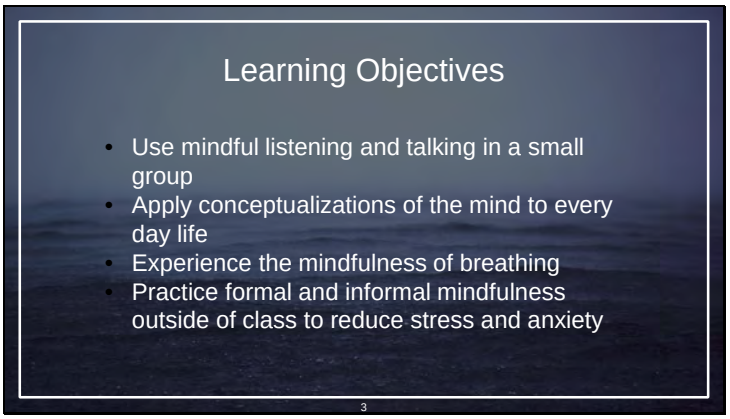
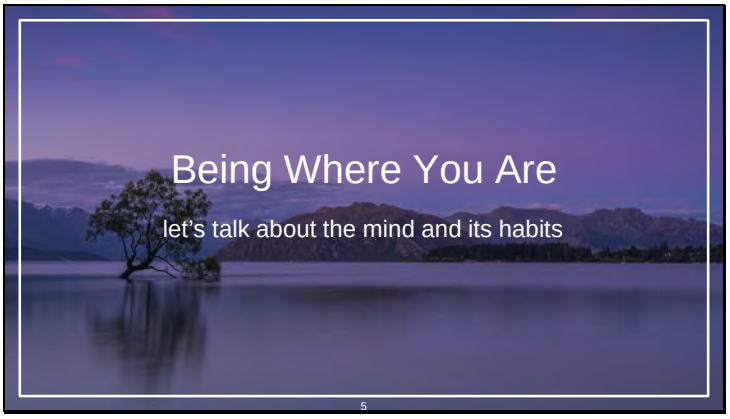
Appendix I:
Mindfulness Intervention Module #2

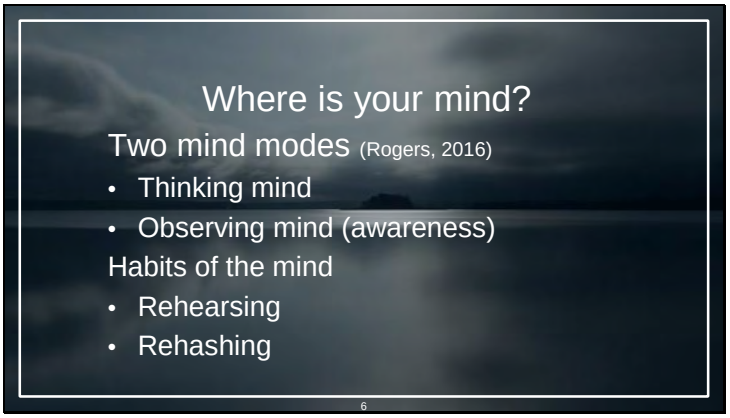


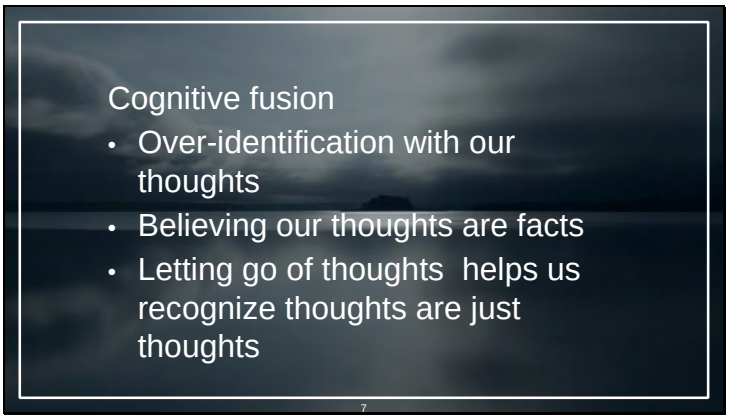


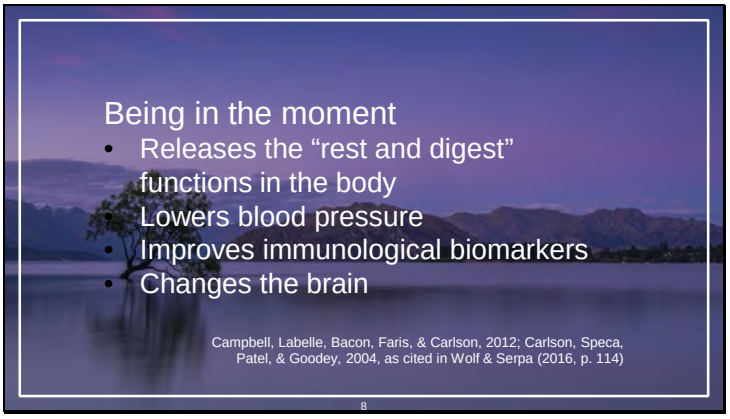


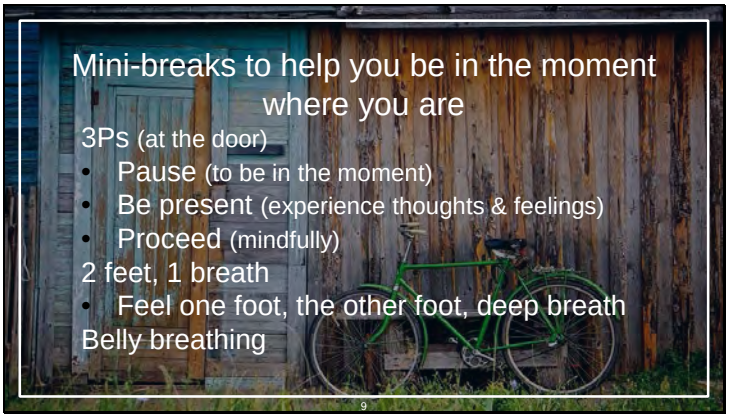

Checking-in and Following-up
Mindful listening
Mindful talking
4

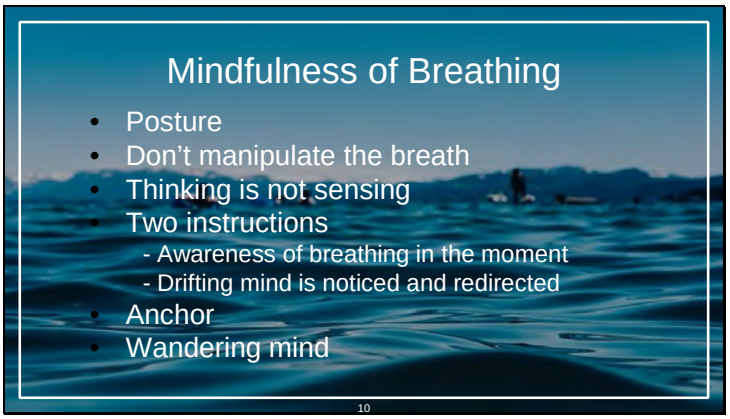

Being Where You Are
let's talk about the mind and its habits
5

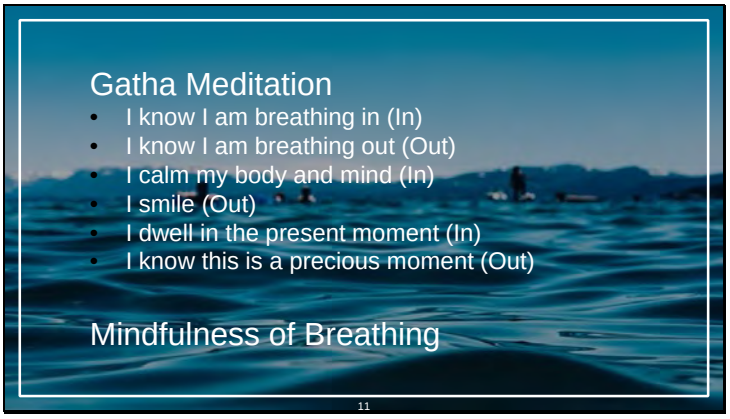

Where is your mind?
Two mind modes (Rogers, 2016)
• Thinking mind
• Observing mind (awareness)
Habits of the mind
• Rehearsing
• Rehashing
6

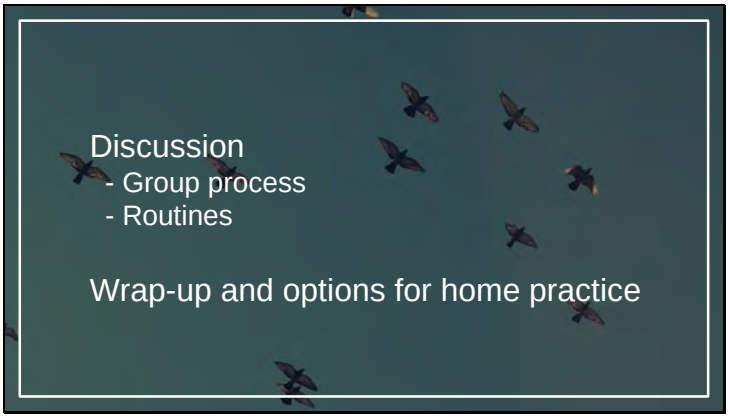

Cognitive fusion
• Over-identification with our thoughts
• Believing our thoughts are facts
• Letting go of thoughts helps us recognize thoughts are just thoughts
7

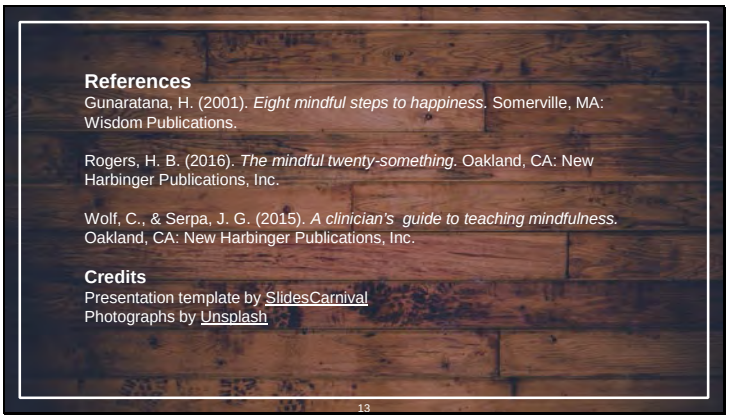

Being in the moment
• Releases the “rest and digest” functions in the body
• Lowers blood pressure
• Improves immunological biomarkers
• Changes the brain
Campbell, Labelle, Bacon, Faris, & Carlson, 2012; Carlson, Speca, Patel, & Goodey, 2004, as cited in Wolf & Serpa (2016, p. 114)
8


Mini-breaks to help you be in the moment where you are
3Ps (at the door)
• Pause (to be in the moment)
• Be present (experience thoughts & feelings)
• Proceed (mindfully)
2 feet, 1 breath
• Feel one foot, the other foot, deep breath
Belly breathing
9


Mindfulness of Breathing
• Posture
• Don't manipulate the breath
• Thinking is not sensing
• Two instructions
- Awareness of breathing in the moment
- Drifting mind is noticed and redirected
• Anchor
• Wandering mind
10


Gatha Meditation
• I know I am breathing in (In)
• I know I am breathing out (Out)
• I calm my body and mind (In)
• I smile (Out)
• I dwell in the present moment (In)
• I know this is a precious moment (Out)
Mindfulness of Breathing
11


Discussion
- Group process
- Routines
Wrap-up and options for home practice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Rogers, H. B. (2016). The mindful twenty-something. Oakland, CA: New Harbinger Publications, Inc.
Wolf, C., & Serpa, J. G. (2015). A clinician's guide to teaching mindfulness. Oakland, CA: New Harbinger Publications, Inc.
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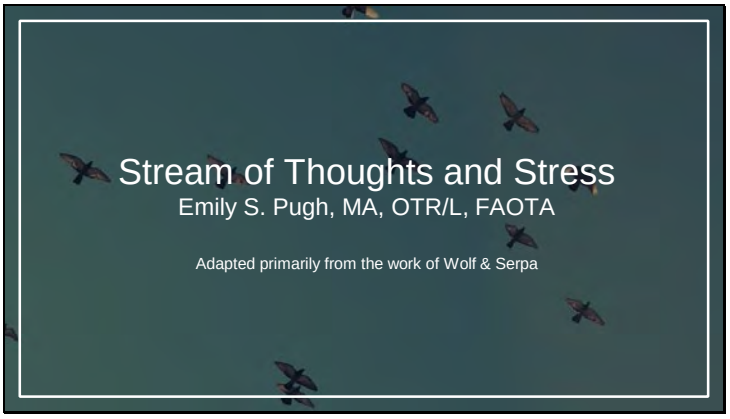
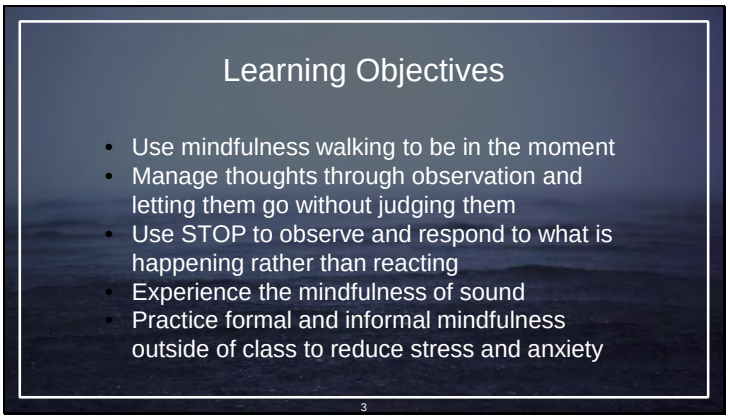
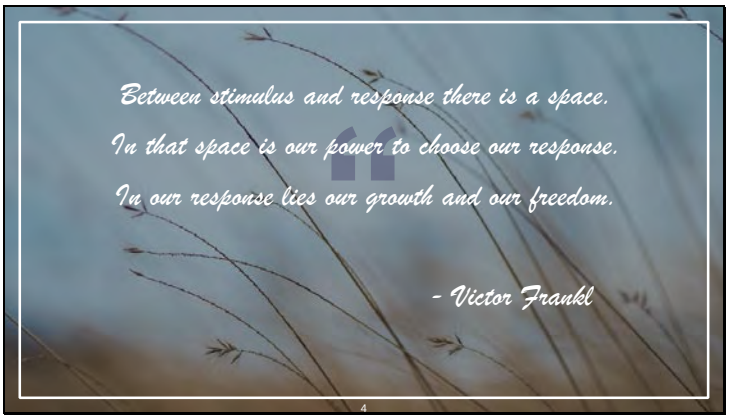
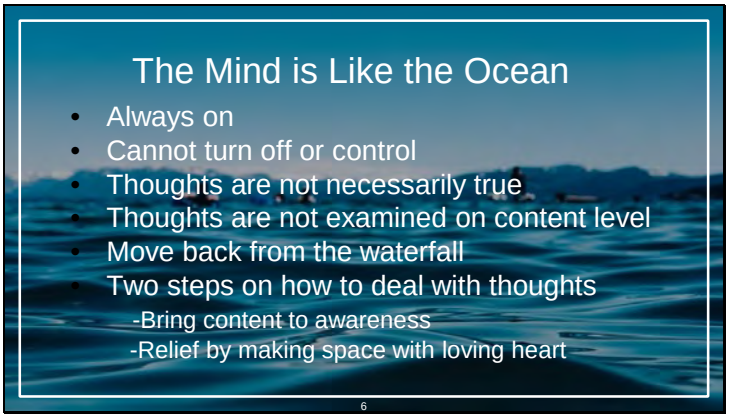
Appendix J:
Mindfulness Intervention Module #3



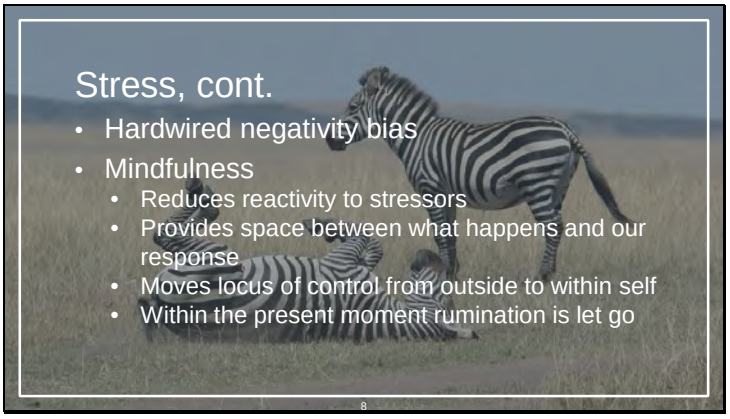


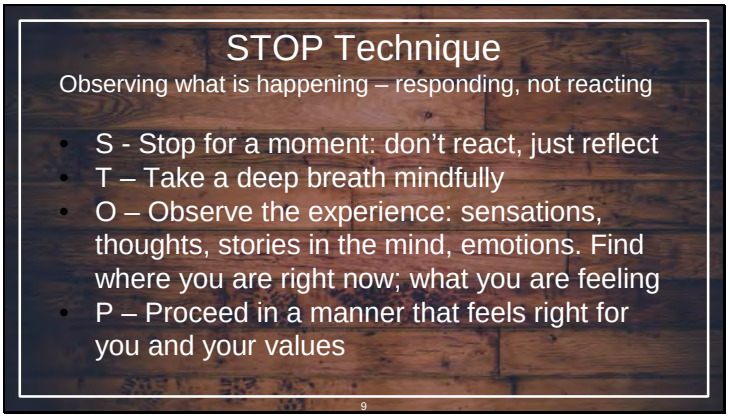

Between stimulus and response there is a space.
In that space is our power to choose our response.
In our response lies our growth and our freedom.
- Victor Frankl
4

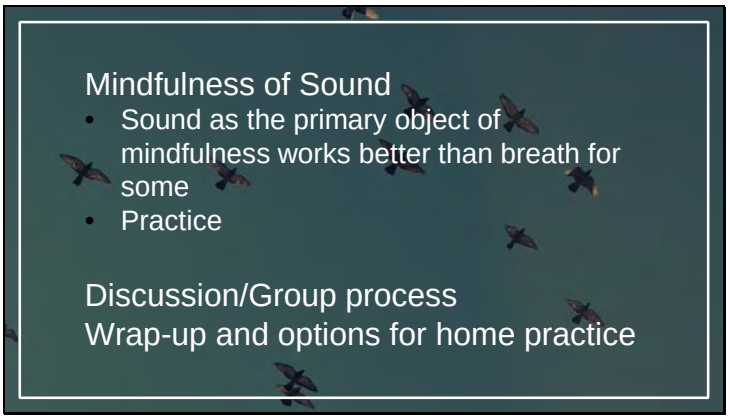

Mindful Walking Meditation
• Sensations in soles of feet or in lift-move-place
• Naming sequence while walking
• 15-20 foot path, back and forth
• Follow-up
5

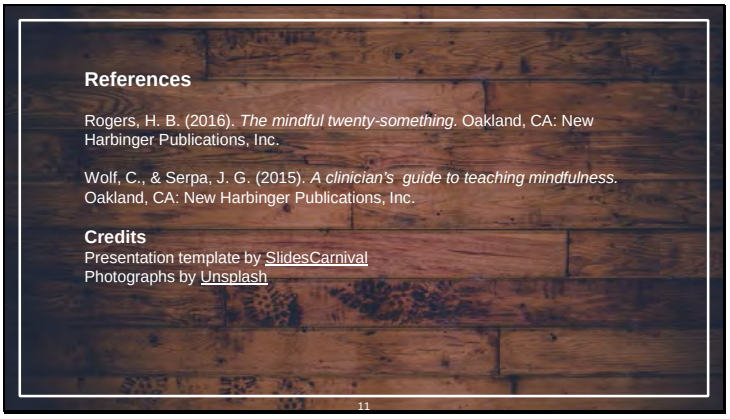

The Mind is Like the Ocean
• Always on
• Cannot turn off or control
• Thoughts are not necessarily true
• Thoughts are not examined on content level
• Move back from the waterfall
• Two steps on how to deal with thoughts
-Bring content to awareness
-Relief by making space with loving heart
6


Stress in our lives and bodies
• Internal and external stressors
• Interpretations and perceptions
• Not all bad
• Impact on health
• Fight or flight response
7


Stress, cont.
• Hardwired negativity bias
• Mindfulness
• Reduces reactivity to stressors
• Provides space between what happens and our response
• Moves locus of control from outside to within self
• Within the present moment rumination is let go
8


STOP Technique
Observing what is happening – responding, not reacting
• S - Stop for a moment: don't react, just reflect
• T – Take a deep breath mindfully
• O – Observe the experience: sensations, thoughts, stories in the mind, emotions. Find where you are right now; what you are feeling
• P – Proceed in a manner that feels right for you and your values
9


Mindfulness of Sound
• Sound as the primary object of mindfulness works better than breath for some
• Practice
Discussion/Group process
Wrap-up and options for home practice


References
Rogers, H. B. (2016). The mindful twenty-something. Oakland, CA: New Harbinger Publications, Inc.
Wolf, C., & Serpa, J. G. (2015). A clinician's guide to teaching mindfulness. Oakland, CA: New Harbinger Publications, Inc.
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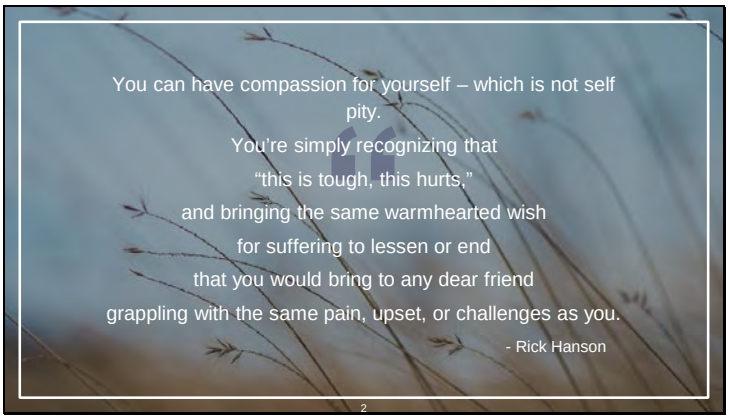
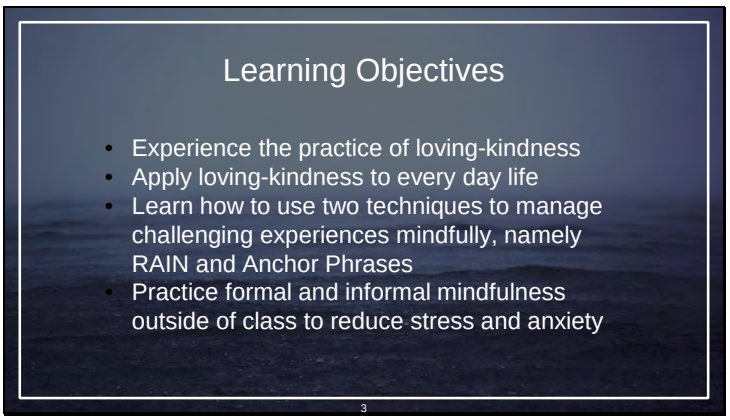
Appendix K:
Mindfulness Intervention Module #4

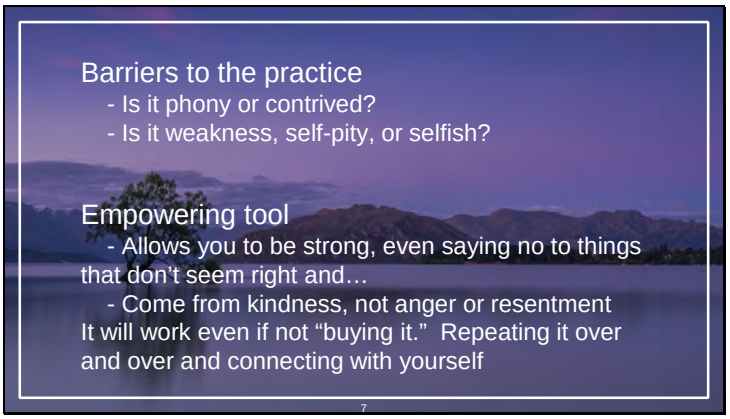


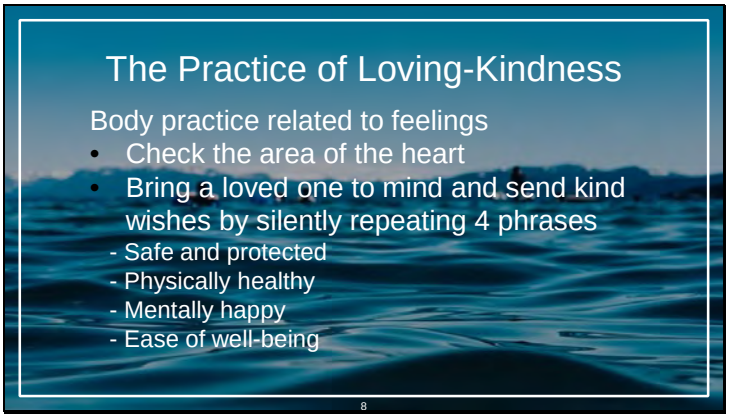


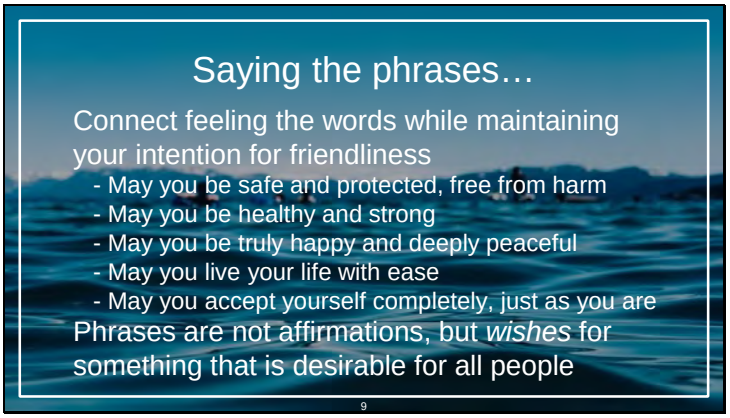

Checking-in and Following-up
Mindful listening
Mindful talking
4

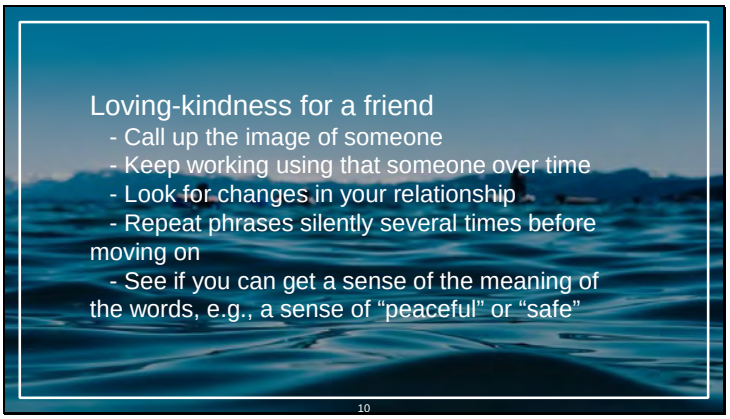

What is Loving Kindness?
cultivating kindness
5

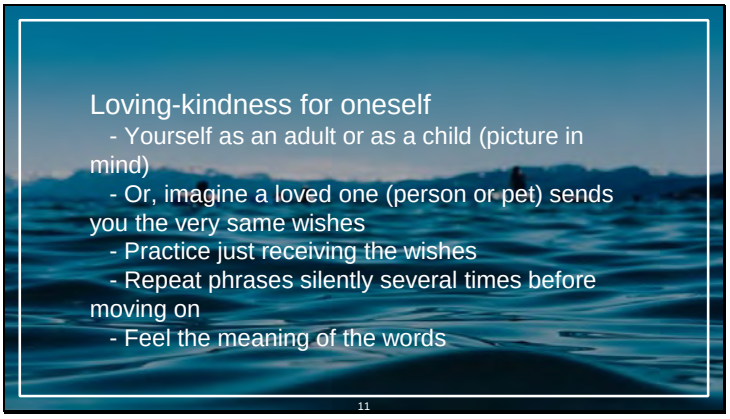

Old, established meditation practice
- How you pay attention in the present moment
- Aim: to increase feelings of warmly caring for yourself and others and cultivate the healthiest parts of you
- Activating the left prefrontal cortex results in a happier mood
- Loving-kindness helps us be better friends to ourselves and others
- Changes feelings of loneliness to connectedness
- Reduces our negative, judgmental thoughts about ourselves and others
6

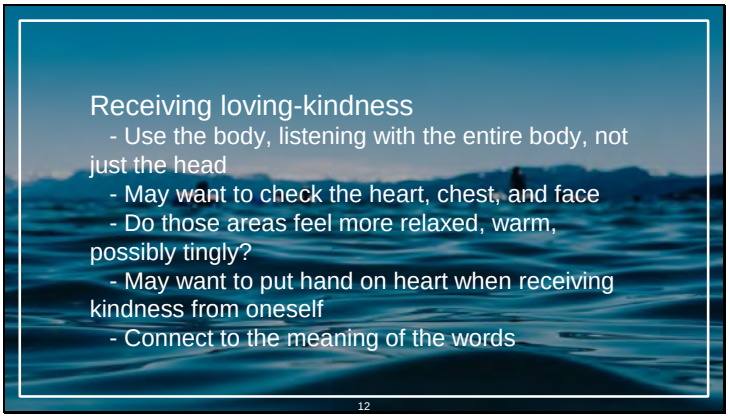

Barriers to the practice
- Is it phony or contrived?
- Is it weakness, self-pity, or selfish?
Empowering tool
- Allows you to be strong, even saying no to things that don't seem right and…
- Come from kindness, not anger or resentment
It will work even if not "buying it." Repeating it over and over and connecting with yourself
7


The Practice of Loving-Kindness
Body practice related to feelings
• Check the area of the heart
• Bring a loved one to mind and send kind wishes by silently repeating 4 phrases
- Safe and protected
- Physically healthy
- Mentally happy
- Ease of well-being
8

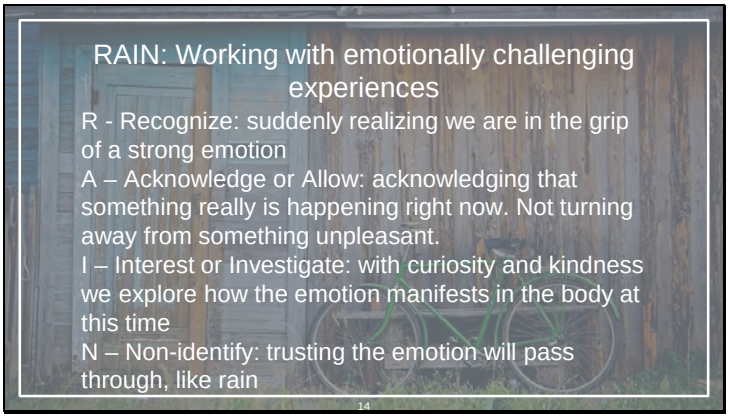

Saying the phrases…
Connect feeling the words while maintaining your intention for friendliness
- May you be safe and protected, free from harm
- May you be healthy and strong
- May you be truly happy and deeply peaceful
- May you live your life with ease
- May you accept yourself completely, just as you are
Phrases are not affirmations, but *wishes* for something that is desirable for all people
9

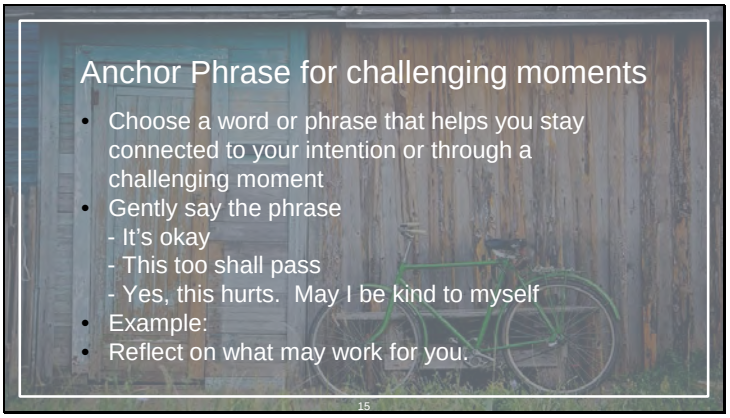

Loving-kindness for a friend
- Call up the image of someone
- Keep working using that someone over time
- Look for changes in your relationship
- Repeat phrases silently several times before moving on
- See if you can get a sense of the meaning of the words, e.g., a sense of “peaceful” or “safe”
10

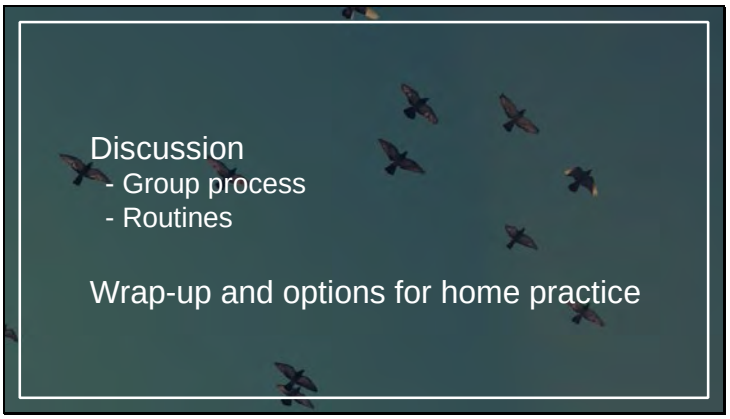

Loving-kindness for oneself
- Yourself as an adult or as a child (picture in mind)
- Or, imagine a loved one (person or pet) sends you the very same wishes
- Practice just receiving the wishes
- Repeat phrases silently several times before moving on
- Feel the meaning of the words
11


Receiving loving-kindness
- Use the body, listening with the entire body, not just the head
- May want to check the heart, chest, and face
- Do those areas feel more relaxed, warm, possibly tingly?
- May want to put hand on heart when receiving kindness from oneself
- Connect to the meaning of the words
12

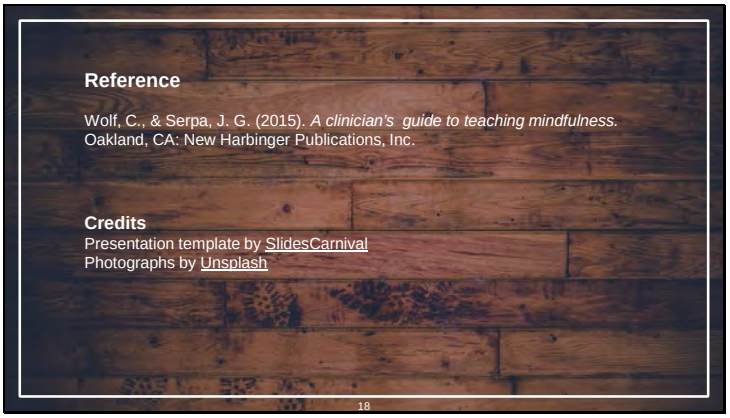

• Practicing loving-kindness
• Discussion
- Processing the practice
- How can you incorporate it?
13


RAIN: Working with emotionally challenging experiences
R - Recognize: suddenly realizing we are in the grip of a strong emotion
A – Acknowledge or Allow: acknowledging that something really is happening right now. Not turning away from something unpleasant.
I – Interest or Investigate: with curiosity and kindness we explore how the emotion manifests in the body at this time
N – Non-identify: trusting the emotion will pass through, like rain
14


Anchor Phrase for challenging moments
• Choose a word or phrase that helps you stay connected to your intention or through a challenging moment
• Gently say the phrase
- It's okay
- This too shall pass
- Yes, this hurts. May I be kind to myself
• Example:
• Reflect on what may work for you.
15


Discussion
- Group process
- Routines
Wrap-up and options for home practice


Be kind, for everyone you meet
is fighting a hard battle.
- Ian Maclaren
17


Reference
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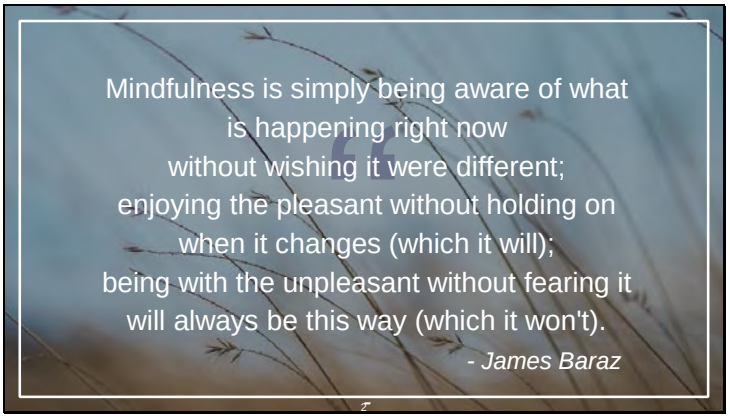
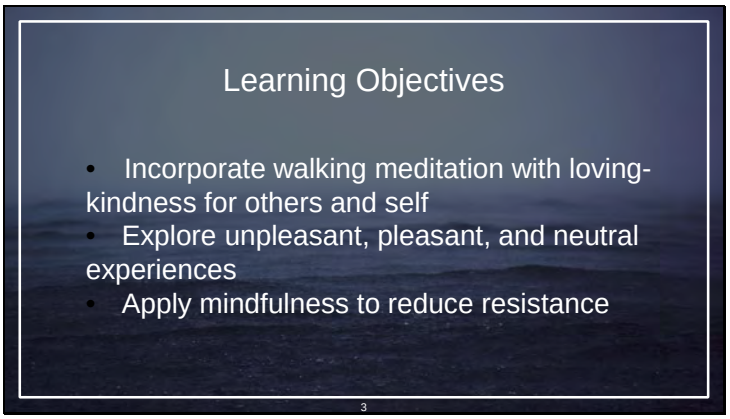
Appendix L:
Mindfulness Intervention Module #5






Checking-in and Following-up
Mindful listening
Mindful talking
4

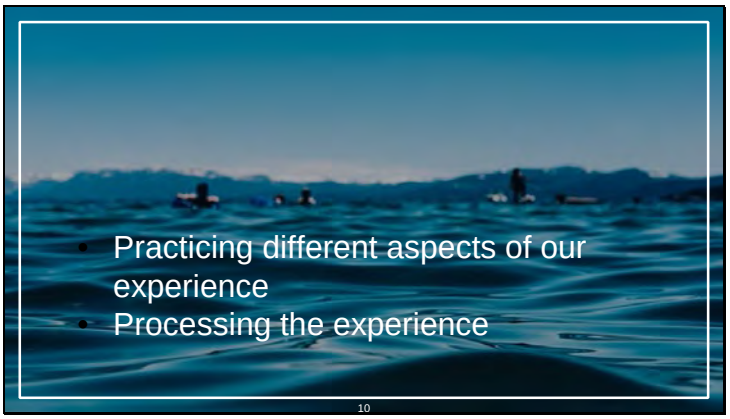

Mindful Walking Meditation…
• Sensations in soles of feet or in lift-move-place
• Naming sequence while walking
5


With Loving-Kindness
• Intention makes this practice work, not the way it feels
• It's okay if you don't feel that you "get it"
• The phrases are wishes, not positive affirmatives
6

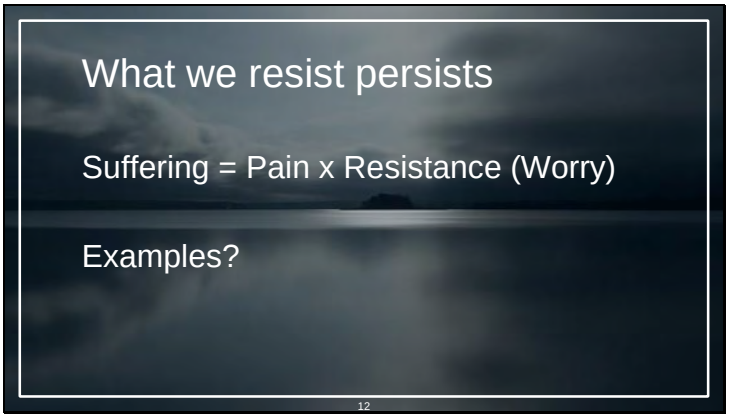

Saying the Phrases
May I (or you, etc.) be…
happy
healthy
peaceful
safe
Koru Mindfulness recorded meditations. Retrieved from https://student.korumindfulness.org/free-guided-meditations.html
7

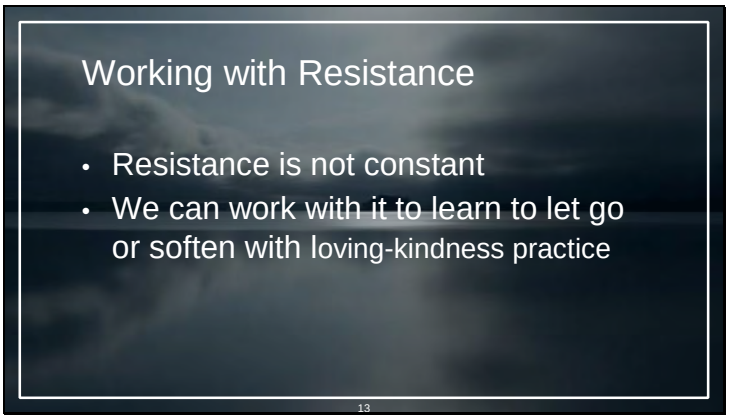

Practicing walking meditation with loving-kindness
Discussion
Processing the practice
How can you incorporate it?
8

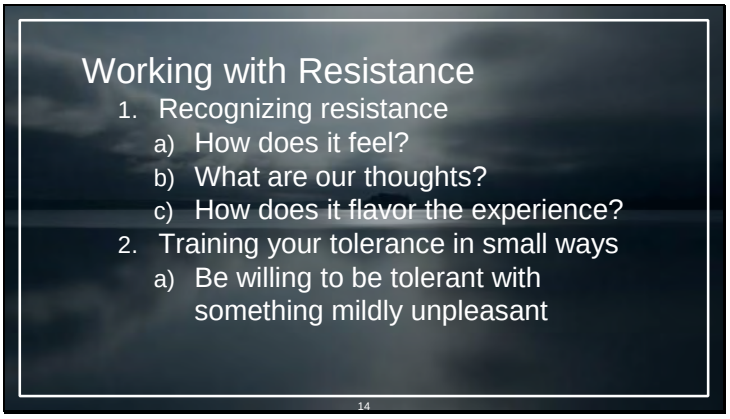

Exploring
Unpleasant – Neutral - Pleasant
9

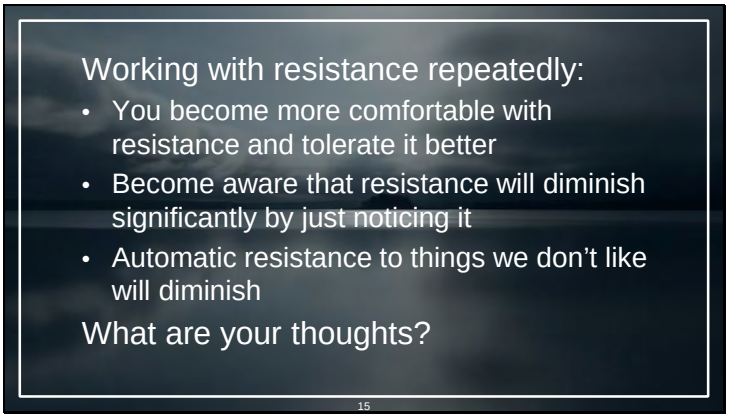

• Practicing different aspects of our experience
• Processing the experience
10


Willingness to Be With things as They Are
• Three feeling states
• Unpleasant
• Pleasant
• Neutral
11

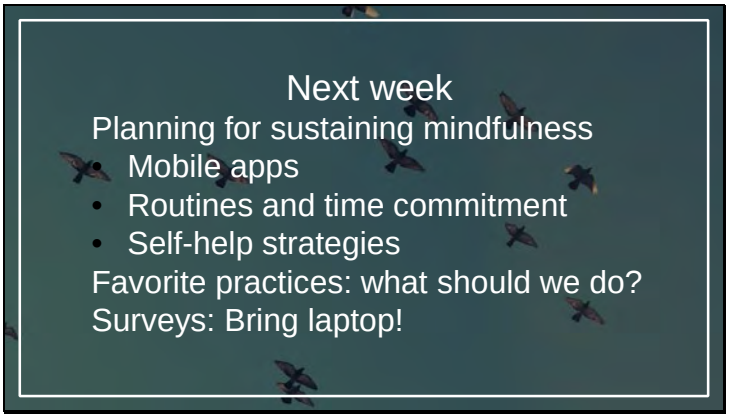

What we resist persists
Suffering = Pain x Resistance (Worry)
Examples?
12

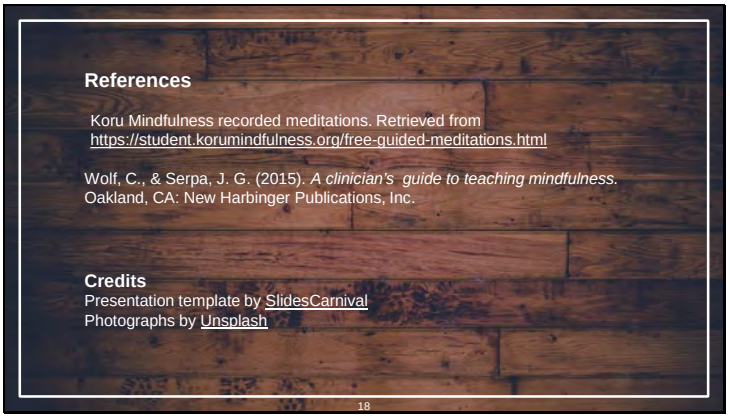

Working with Resistance
• Resistance is not constant
• We can work with it to learn to let go or soften with loving-kindness practice
13


Working with Resistance
1. Recognizing resistance
a) How does it feel?
b) What are our thoughts?
c) How does it flavor the experience?
2. Training your tolerance in small ways
a) Be willing to be tolerant with something mildly unpleasant
14

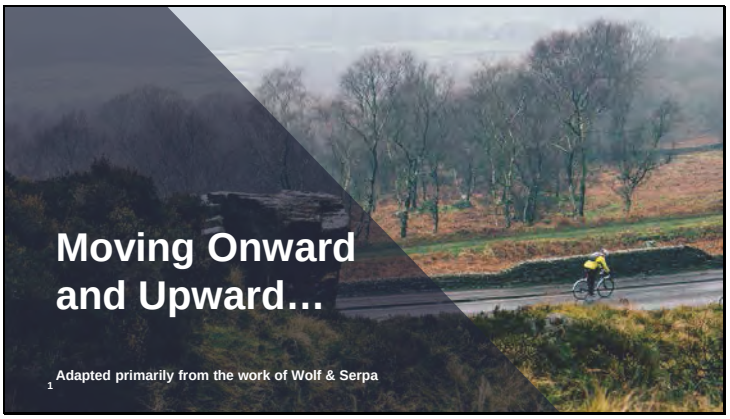

Working with resistance repeatedly:
• You become more comfortable with resistance and tolerate it better
• Become aware that resistance will diminish significantly by just noticing it
• Automatic resistance to things we don't like will diminish
What are your thoughts?
15

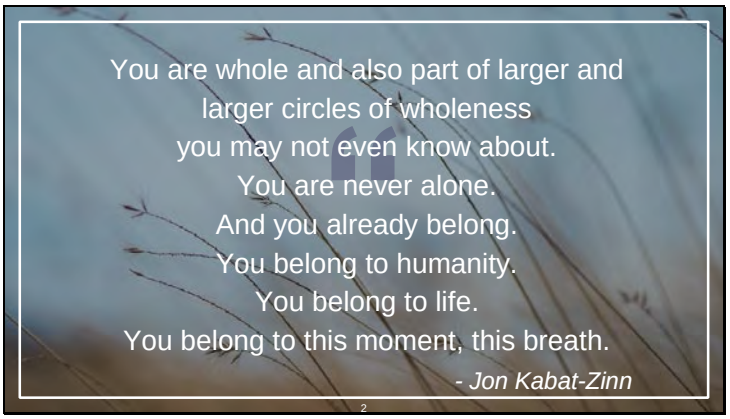

We are not troubled by things,
but by the opinions we have about things.
- Epictetus
16

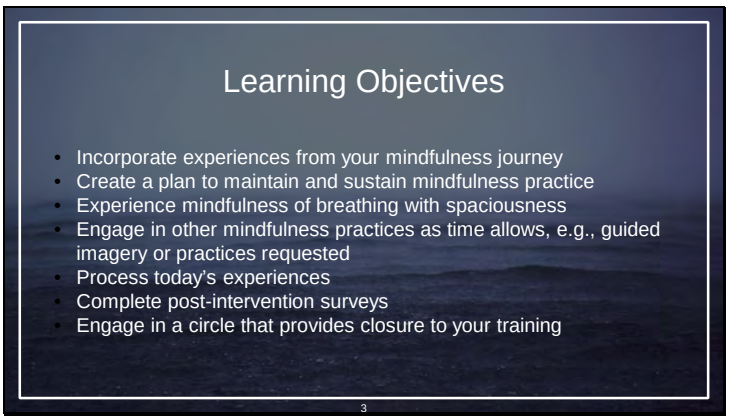

Next week
Planning for sustaining mindfulness
• Mobile apps
• Routines and time commitment
• Self-help strategies
Favorite practices: what should we do?
Surveys: Bring laptop!


References
Koru Mindfulness recorded meditations. Retrieved from https://student.korumindfulness.org/free-guided-meditations.html
Wolf, C., & Serpa, J. G. (2015). A clinician's guide to teaching mindfulness. Oakland, CA: New Harbinger Publications, Inc.
Credits
Presentation template by SlidesCarnival
Photographs by Unsplash
18

Appendix M:
Mindfulness Intervention Module #6





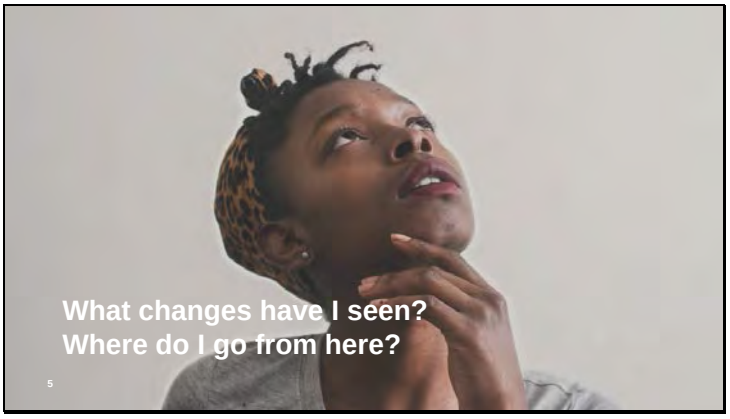


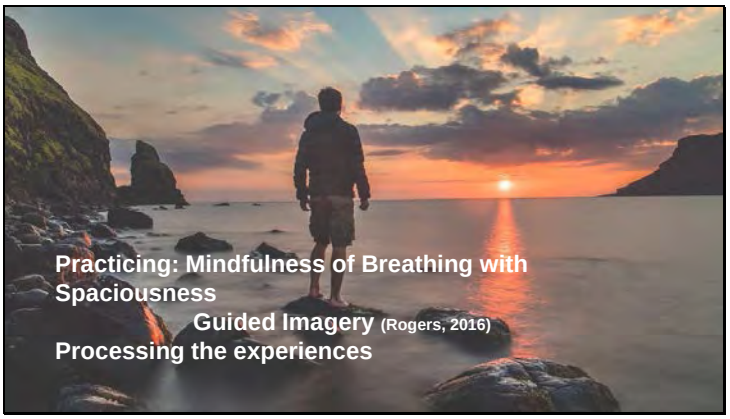
Checking-in and Following-up

Where am I now?
How was my journey?

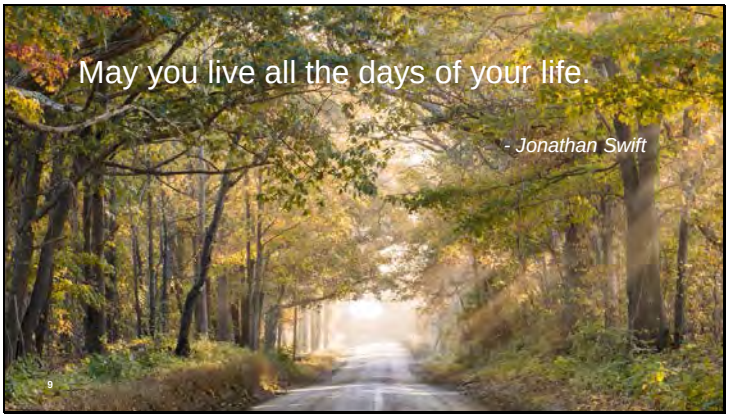
the relationshipblog.net

4

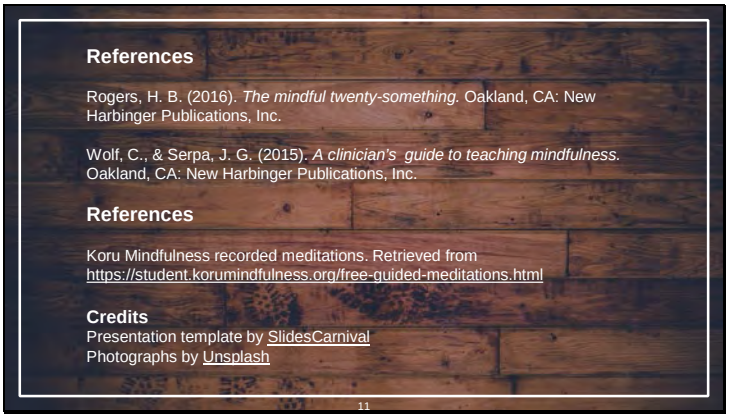



Practicing: Mindfulness of Breathing with Spaciousness
Guided Imagery (Rogers, 2016)
Processing the experiences


Let's move to the research surveys in Qualtrics


May you live all the days of your life.
- Jonathan Swift
9


Closing Circle
10


References
Rogers, H. B. (2016). The mindful twenty-something. Oakland, CA: New Harbinger Publications, Inc.
Wolf, C., & Serpa, J. G. (2015). A clinician's guide to teaching mindfulness. Oakland, CA: New Harbinger Publications, Inc.
References
Koru Mindfulness recorded meditations. Retrieved from https://student.korumindfulness.org/free-guided-meditations.html
Credits
Presentation template by SlidesCarnival
Photographs by Unsplash
11

Appendix N
Letter of Site Permission

UF UNIVERSITY of FLORIDA

College of Public Health and Health Professions
Department of Occupational Therapy

1225 Center Drive
P O Box 100164
Gainesville, FL 32611-0164
352-273-6817
352-273-6042 Fax
www.phhp.ufl.edu/ot

January 29, 2019

To Whom It May Concern:

This letter is to serve as permission for **Emily Pugh** to complete an evidence-based practice capstone project at the **University of Florida Occupational Therapy Department located in the Health Professions Nursing Pharmacy building.** Specifically, **Emily Pugh** will be permitted to implement an evidence-based occupational therapy intervention/program related to **mindfulness training for entry-level occupational therapy students. The proposed weekly program will include a didactic section to introduce basic concepts, e.g., mindfulness benefits, stress theory and prevention, mindfulness techniques. A supervised skills practice component will allow the students to experience a variety of mindfulness approaches to determine which would be most effective for preventing or managing stress and anxiety in different academic and daily situations that they may encounter.** The weekly program sessions will be completed in the **Fall semester of 2019 and is projected to take 6 weeks.** I understand that the purpose of the evidence-based capstone project is to address: **Is mindfulness training useful in reducing perceived levels of anxiety and stress in entry-level occupational therapy students?**

Sherrilene Classen, PhD, MPH, OTR/L, FAOTA, FGSA
Professor and Chair, Department of Occupational Therapy

Appendix O
Koru Certificate

Appendix P:
Mindful Schools Certificate

Appendix Q:
Permission to Use State-Trait Anxiety Inventory for Adults

State-Trait Anxiety Inventory for Adults™

Instrument and Scoring Key

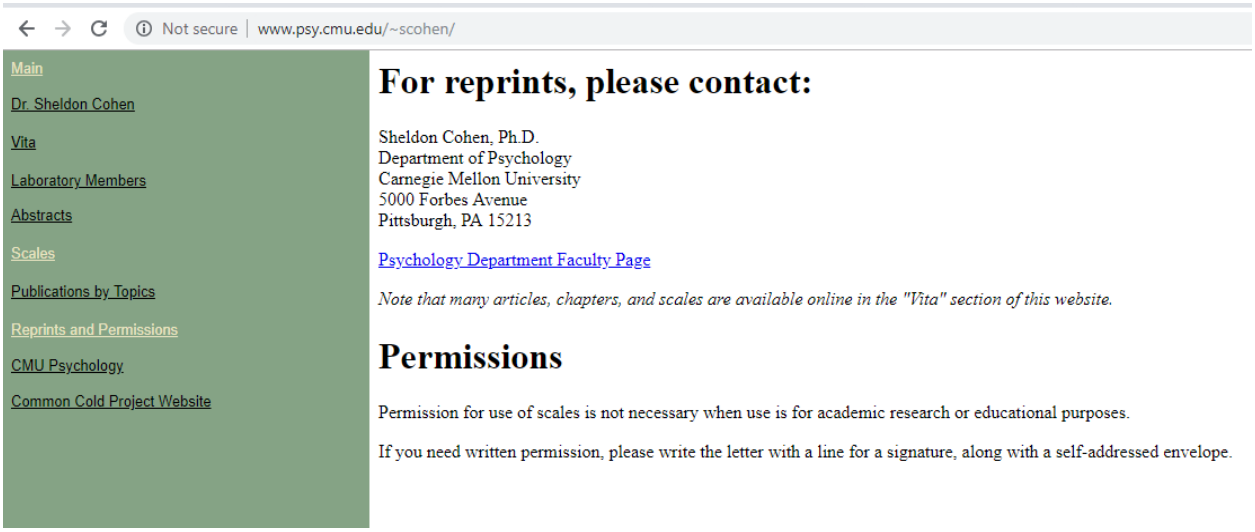
Developed by Charles D. Spielberger
in collaboration with R.L. Gorsuch, R. Lushene, P.R. Vagg, and G.A. Jacobs

Published by Mind Garden, Inc.

info@mindgarden.com
www.mindgarden.com

Appendix R:
Perceived Stress Scale Permission for Use

Permission for use of Perceived Stress Scale for academic research or educational purposes from the personal website of author, Sheldon Cohen, Ph.D. (http://www.psy.cmu.edu/~scohen/)



Appendix S:
Consent Form

UF | Institutional Review Board
UNIVERSITY of FLORIDA

RESEARCH PARTICIPANT INFORMED CONSENT FORM

Please read this document carefully before you decide to participate in this research study. **Your participation is voluntary, and you can decline to participate, or withdraw consent at any time, with no consequences**.

Study Title: Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

Person conducting the research:

Principal Investigator: Emily S. Pugh, MA, OTR/L

Title: Program Director and Associate in Occupational Therapy

Department affiliation: Department of Occupational Therapy

Email address: epugh@phhp.ufl.edu

Phone number: (352) 273-6096

Key information:

- **The purpose of this mindfulness training project is to help occupational therapy students decrease their anxiety and stress.**
- **The project involves participating in once a week group mindfulness training sessions for 6 weeks in the occupational therapy department.**
- **The research study involves taking 2 online confidential surveys in the first and last training sessions to compare your levels of anxiety and stress at the beginning and end of**

the training. One additional short survey in the last session will ask you to provide feedback about your experience and how to improve the training.

- **No more than minimal risk or discomfort is anticipated because you control how much you participate and share in the groups.**
- **You may benefit by learning mindfulness practices to reduce your anxiety and stress levels.**

Purpose of the research study:

The purpose of this research study is to determine if learning and practicing mindfulness skills will help Doctor of Occupational Therapy students reduce their anxiety and/or stress levels.

What you will be asked to do in the study:

You are being invited to volunteer for a mindfulness training research study that will be conducted by the principal investigator. The training will extend over 6 weeks in the Fall semester of 2019. You will be asked to attend 6 mindfulness training group sessions, 1 group training session per week for 6 weeks. This mindfulness training, which will be outside of regularly scheduled class time, is not a part of the regular occupational therapy curriculum. You will not miss any regularly scheduled learning activities or classes. The 6 weekly training sessions will include learning about mindfulness, practicing mindfulness techniques, and, within your comfort level, talking about your thoughts and experiences.

The research will involve your taking 2 online confidential surveys for a total of about 15 minutes during the first training session and again 6 weeks later at the last session. The surveys will ask about your thoughts and feelings so as to measure your levels of anxiety and stress. During the last session you will also be asked to take an additional short, approximately 10-minute, survey to provide your age range, gender identity, ethnicity, education level, and previous mindfulness

practice and to offer feedback about your mindfulness experience and ideas about how to improve the training. You can choose not to answer any or all of the questions on the surveys. This project is in partial satisfaction of the requirements for the principal investigator's doctorate education at Chatham University.

Time required:

Each training session will be held in an occupational therapy classroom once a week for no longer than 1 hour and 30 minutes. You are being asked to make a total time commitment of no longer than 9 hours over the 6 weeks.

Risks and benefits:

Risks: There are no more than minimal risks in your participation. You may feel minimal discomfort, anxiety, or stress during the sessions, which can be minimized if you understand that you need only participate at your comfort level. If your anxiety and/or stress level should become uncomfortable during the study, you will be able to access the University of Florida student resources, i.e., the Counseling and Wellness Center mental health services or "U Matter, We Care" a 24-hour/7 days-a-week program. There will be other members of the occupational therapy department to provide assistance during the training sessions, if needed, and the principal investigator or another faculty member will be available to support you during the hours that the department is open. The principal investigator will also post office hours.

Benefits: Your participation may increase your knowledge of mindfulness practices and decrease your level of anxiety and stress, the results of which have been shown to improve academic performance, mental health, and well-being. In addition, your participation may help you manage anxiety and/or stress during clinical fieldwork.

Alternatives to participating in the study:

If you withdraw from the study, you will have the option to complete the mindfulness training, but your personal data would not be included. There will be no negative consequences if you choose not to participate in the study. Non-participation will not affect your grades or status in the Doctor of Occupational Therapy program.

Confidentiality:

Your consent form will be the only document with your personal identification. It will be kept in a locked file in the University of Florida Occupational Therapy Department in a locked office until it is scanned and saved on a secure server, after which it will be destroyed. When taking the online surveys, you will be asked to use a 4-digit number, one that you choose and is easy for you to recall, as your identifier to protect your confidentiality. All study data will be collected through an online survey-collection program called Qualtrics. Qualtrics is a secure site with SAS 70 certification for rigorous privacy standards. Any data that you provide through this program will be encrypted for security purposes using Secure Socket Layers (SSL). To protect your privacy, all participants' IP addresses will be masked by Qualtrics and will be unavailable to, and unidentifiable by, the principal investigator or others. Qualtrics' privacy policy can be obtained on the Qualtrics Privacy Statement page: (https://www.qualtrics.com/privacy-statement/. **Only the principal investigator, and the Chatham University faculty IRB advisor and capstone advisor will have access to the data. Data will be retained for 5 years and then destroyed.**

The University of Florida Canvas online learning management system, which will be used to provide the training materials, will be password protected. For presentations and/or publications

resulting from this study, any potential identifying information will be removed to support your confidentiality. Your identity will be kept confidential to the extent provided by law.

Compensation:

Upon completion of the training, you will receive a Certificate of Completion as compensation for your participation in the study. This certificate may be used for your professional portfolio and/or resume.

May the researcher benefit from the research?

The researcher may benefit professionally if the results of the study are presented at meetings or in scientific journals.

Withdrawal from the study:

You are free to withdraw your consent and to stop participating in this study at any time without consequence. You can decline to answer any question you don't wish to answer. **If you withdraw, your information will not be used.**

If you wish to discuss the information above or any discomforts you may experience, please ask questions now or contact the principal investigator listed at the top of this form.

If you have any questions regarding your rights as a research subject, please contact the Institutional Review Board (IRB02) office (098 PSY Bldg., University of Florida; Box 112250; (352) 392-0433 or irb2@ufl.edu.)

Agreement:

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

_____

Participant Name

_____ _____

Participant Signature Date

Emily S. Pugh

Name of Person obtaining informed consent

_____ _____

Signature of Person obtaining informed consent Date

Emily S. Pugh

Principal Investigator Name

_____ _____

Principal Investigator Signature Date

Appendix T: IRB Proposal

Study Title and Staff

All items marked with an orange asterisk ( ) are required. Items without an asterisk may or may not be required depending on whether the items are applicable to this study.*

1.0 * IRB Committee:

IRB-02

* **1.1** Is this a multi-institutional research project where the UF IRB will be the single IRB of record for other participating sites OR are you ceding review to another IRB of record? (IAAs are required between UF and other institutions)

○ **Yes** ● **No**

2.0 * Project Title:

Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

3.0 Short Title:

Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

4.0 Provide a summary description or abstract for this study:

The study will investigate levels of stress and anxiety in professional occupational therapy students pre- and post-participation in a 6-week evidence-based mindfulness training program. Most of the evidence for student-targeted mindfulness programs comes from such disciplines as medicine, psychology, and nursing. This study will add to the mindfulness-related body of knowledge for educators in the rehabilitation therapy professions.

* **4.1** Is this a OneFlorida study?

○ **Yes** ● **No**

* **4.2** Is this project a SUS Reciprocity study?

○ **Yes** ● **No**

5.0 * Principal Investigator:

Emily Pugh	**HP-OCCUPATIONAL**	UF

☑ **Interacts or intervenes directly (including "remote" interactions by phone, internet, etc.) with study subjects**

- ☐ Performs study related activities but does not interact directly with the study subjects
- ☑ **Obtains informed consent**
- ☐ Accesses or obtains, for research purposes, any Protected Health Information [PHI] from a paper or Electronic Medical Record [EMR]
- ☐ Enters research related orders into EPIC for subsequent study physician or provider's electronic signature approval
- ☑ **Evaluates any Adverse Events, Unanticipated Events, and Protocol Deviations**
- ☐ UF Student
- ☐ Volunteer (i.e. you are not staff, student or faculty at UF/Shands/VA)
- ☐ OneFlorida Site PI

6.0 Study Staff:

(HDE-ONLY: SEE IMPORTANT HELPTEXT)

Name	Role	Function	Affiliations

7.0 * Is this study a NIH funded clinical trial?

○ **Yes** ○ **No**

Date Page Modified:

ID: IRB201901779 View: Researcher Training Summary

Researcher Training Summary

1.0 Researcher Training Summary

1.1 PI Training:
Emily Pugh:

Course ID	Name	Completed	Course Due
H70	CITI Mandatory IRB Trng-Biomed	1/19/2019	1/11/2049
IRB803	IRB Training	3/24/2019	3/23/2022
IRB800	IRB01 Local Training	1/20/2019	1/19/2022
IRB802	IRB01 Local Training Refresher	1/20/2019	1/19/2022

1.2 Study Staff Training:

Date Page Modified:

ID: IRB201901779 View: Requested Review Type

Requested Review Type

1.0 * Requested Review Type:

- ☐ Non-Human
- ☐ Data/Chart Review
- ☐ Banking Only
- ☐ Exempt
- ◆ **Expedited**
- ☐ Full Board

2.0 * Will you be using Clinical and Translational Science Institute [CTSI] resources (including, but not limited to RedCap, CTSI Biorepository, Healthstreet)? Please see link provided in the help text for a complete list.

○ **Yes** ☐ **No**

3.0 Full Board Agenda Group:
(choose one, if applicable)
Indicate if submissions related to study should be reviewed in a Full Board group category

4.0 * Will information gained from this project result in publication in an ICMJE member Journal?

○ **Yes** ☐ **No**

5.0 * Is this research considered "classified"?

○ **Yes** ☐ **No**

Date Page Modified:

ID: IRB201901779 View: Oncology SRMC Determination

1.0

* Does this study require that patients have a known diagnosis (current or previous) or suspected diagnosis of cancer as part of the eligibility criteria?

☐ Yes ☐ No

2.0 * Is this study looking at cancer relevant aims, endpoints or outcomes (including any studies involving tobacco use,

3.0 * Do you plan to exclusively enroll patients with a known diagnosis (current or previous) or suspected diagnosis of cancer?

☐ **Yes** ☐ **No**

NOTE: If you answered yes to any of the questions above, the UFHCC Scientific Review and Monitoring Committee (SRMC) will need to review this study to determine if SRMC review is required. To submit for SRMC review and

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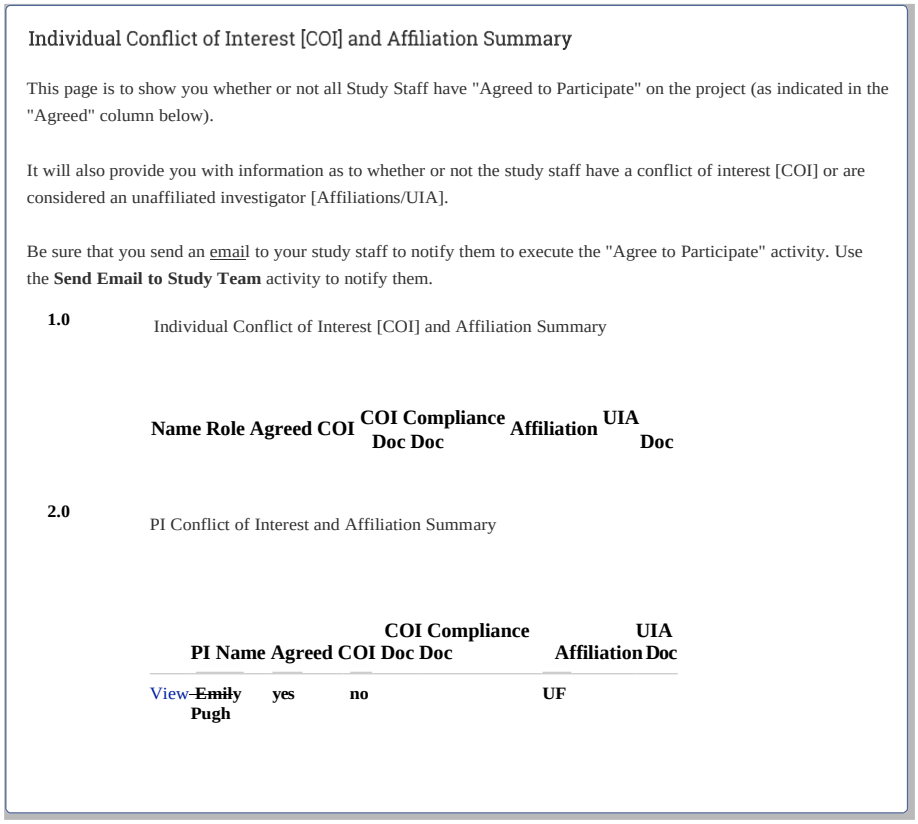

Individual Conflict of Interest [COI] and Affiliation Summary

This page is to show you whether or not all Study Staff have "Agreed to Participate" on the project (as indicated in the "Agreed" column below).

It will also provide you with information as to whether or not the study staff have a conflict of interest [COI] or are considered an unaffiliated investigator [Affiliations/UIA].

Be sure that you send an email to your study staff to notify them to execute the "Agree to Participate" activity. Use the **Send Email to Study Team** activity to notify them.

1.0 Individual Conflict of Interest [COI] and Affiliation Summary

Name	Role	Agreed	COI	COI Compliance Doc	Doc	Affiliation	UIA Doc

2.0 PI Conflict of Interest and Affiliation Summary

PI Name	Agreed	COI Doc	COI Compliance Doc	Affiliation	UIA Doc
View ~~Emily~~ Pugh	~~yes~~	~~no~~		~~UF~~	

ID: IRB201901779 View: Individual COI and Affiliation Summary

Date Page Modified:

ID: IRB201901779 View: Risk Benefit Assessment

Risk Benefit Assessment

1.0 * Risk classification for this study.

1.1 If "Minimal Risk or No Risk", Justify:

There are minimal discomforts and risks that participants may encounter. Students may feel minimal discomfort, anxiety, or stress during mindfulness-based practice sessions, such as meditative breathing exercises or body scan meditation, or during group discussions where they will be offered the opportunity to share their thoughts and experiences. Physically, students will be sitting in a chair, standing, or walking as they would in a regular classroom experience.
They may choose to lie or sit on large therapy floor mats that will be available in the occupational therapy classroom if they wish during mindfulness practices, but there will be no unusual physical demands or posturing introduced or expected during the training sessions. Yoga will not be included in this training. To address potential inconvenience in scheduling, two sessions will be offered each week to accommodate the students.
The principal investigator, a licensed occupational therapist with a Master of Arts degree in Counseling Psychology, has 15 years of experience teaching graduate level occupational therapy students and supporting them through times of distress. During the training sessions, members of the occupational therapy department will be available via phone to provide immediate assistance in the classroom, if needed, and the principal investigator or another faculty member will be available to support students during the hours that the department is open. The principal investigator will also post office hours.
Participants will be informed that if their anxiety and/or stress levels become uncomfortable during the study, they will be assisted in accessing the UF student resources, i.e., the Counseling and Wellness Center mental health services or "U Matter, We Care" the 24-hour/7 days a week program.

1.2 If "Greater than Minimal Risk", are you minimizing Risks to subjects by using procedures already being performed on the subjects for diagnostic or treatment purposes?

☐ **Yes** ☐ **No**

1.2.1 If "Yes", Describe:

2.0 What plans are in place for medical emergency management?

☐ **Public or community emergency services**

On-site medical expert with emergency medication and

equip

2.1 If "Public or community emergency services", Explain why this is adequate:

3.0 The study offers the prospect for direct benefit to: (choose from list)

◆ **all potential subjects**

☐ some potential subjects

☐ no subjects

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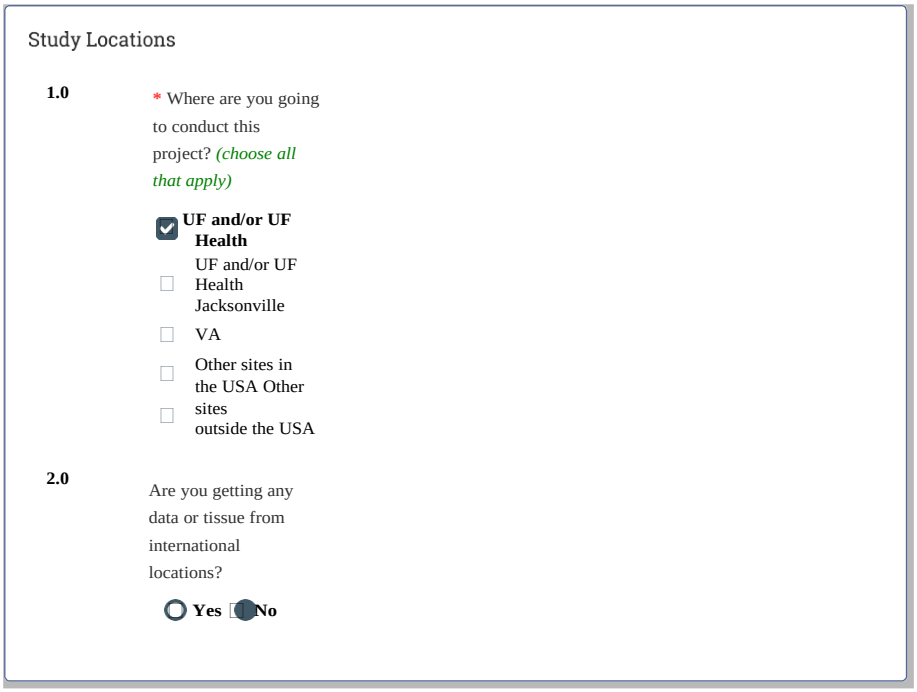

Study Locations

1.0 * Where are you going to conduct this project? *(choose all that apply)*

- [x] **UF and/or UF Health**
- [ ] UF and/or UF Health Jacksonville
- [ ] VA
- [ ] Other sites in the USA Other sites outside the USA

2.0 Are you getting any data or tissue from international locations?

- ○ **Yes**
- ● **No**

ID: IRB201901779 View: Study Locations

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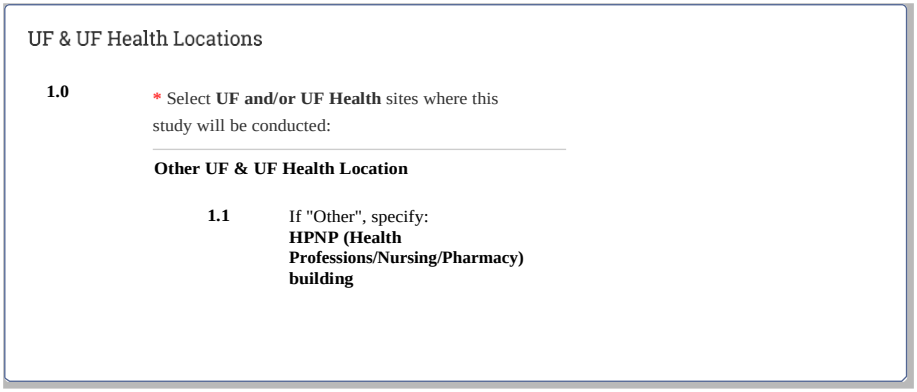


UF & UF Health Locations

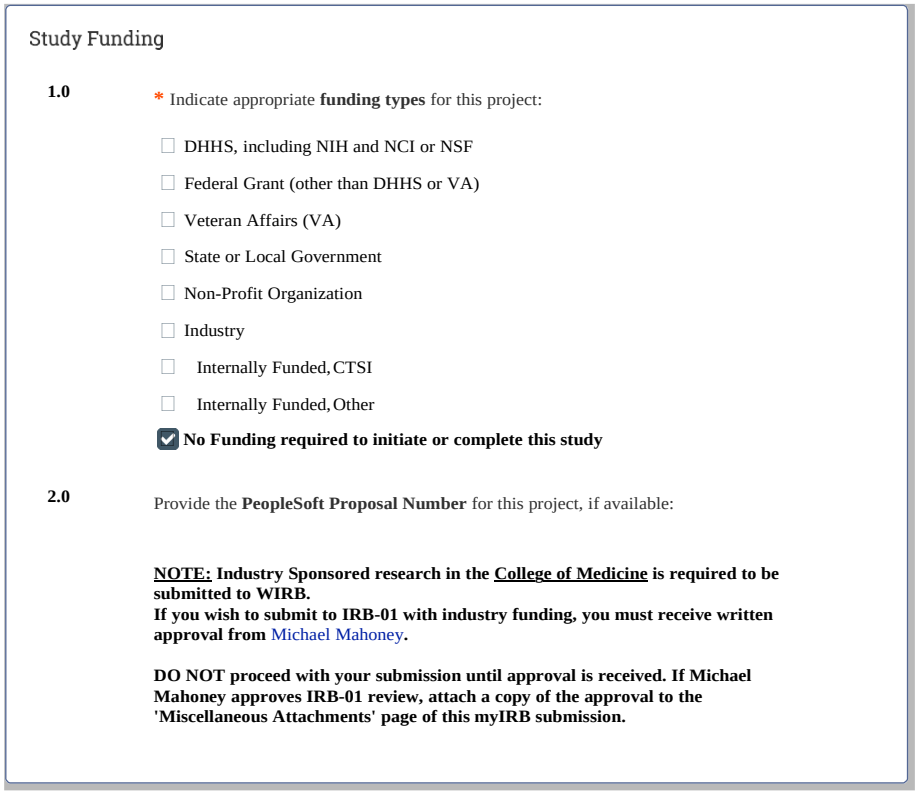
1.0 * Select **UF and/or UF Health** sites where this study will be conducted:

Other UF & UF Health Location

1.1 If "Other", specify: **HPNP (Health Professions/Nursing/Pharmacy) building**

ID: IRB201901779 View: UF & UF Health Locations

Date Page Modified:



Study Funding

1.0 * Indicate appropriate **funding types** for this project:

- ☐ DHHS, including NIH and NCI or NSF
- ☐ Federal Grant (other than DHHS or VA)
- ☐ Veteran Affairs (VA)
- ☐ State or Local Government
- ☐ Non-Profit Organization
- ☐ Industry
- ☐ Internally Funded, CTSI
- ☐ Internally Funded, Other
- ☑ **No Funding required to initiate or complete this study**

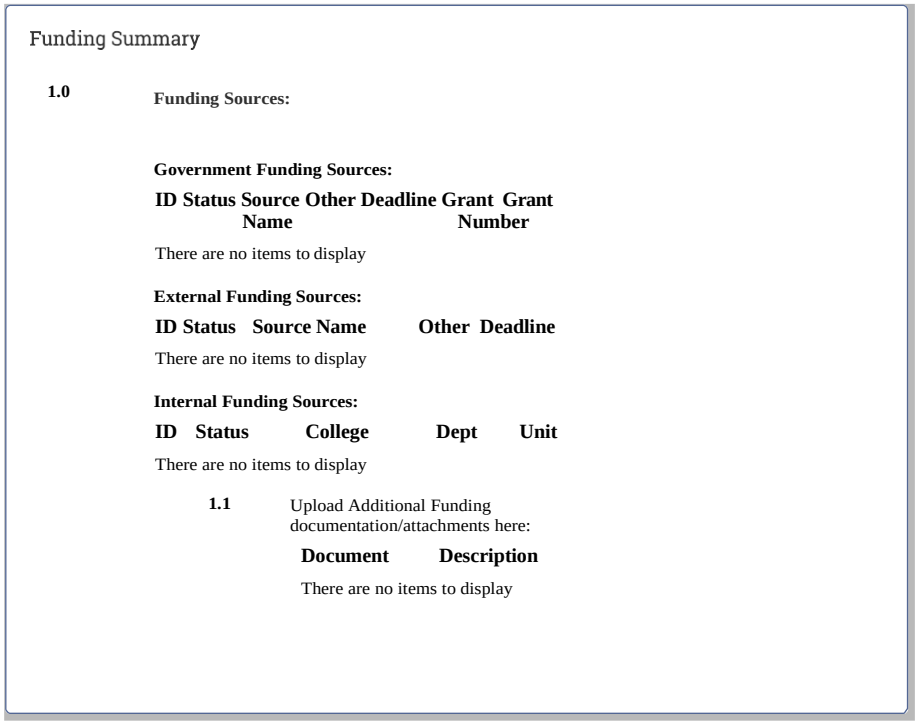
2.0 Provide the **PeopleSoft Proposal Number** for this project, if available:

NOTE: Industry Sponsored research in the College of Medicine is required to be submitted to WIRB.
If you wish to submit to IRB-01 with industry funding, you must receive written approval from Michael Mahoney.

DO NOT proceed with your submission until approval is received. If Michael Mahoney approves IRB-01 review, attach a copy of the approval to the 'Miscellaneous Attachments' page of this myIRB submission.

ID: IRB201901779 View: Study Funding

Date Page Modified:



Funding Summary

1.0 **Funding Sources:**

Government Funding Sources:

ID	Status	Source	Other Name	Deadline	Grant Number

There are no items to display

External Funding Sources:

ID	Status	Source Name	Other	Deadline

There are no items to display

Internal Funding Sources:

ID	Status	College	Dept	Unit

There are no items to display

1.1 Upload Additional Funding documentation/attachments here:

Document	Description

There are no items to display

ID: IRB201901779 View: Funding Summary

Date Page Modified:

Conflict of Interest - Institutional

1.0 * Does the institution (University of Florida, Shands , or NF/SG VHS) hold a patent or license for any material, object, or process used in this project?

☐ **Yes** ☐ **No**

2.0 * Is a patent or license pending or under consideration or is there any intention to file a patent application at a later date?

Yes **No**

3.0 * Does the institution (University of Florida, Shands, NF/SG VHS) own stock in the company sponsoring the project?

Yes **No**

NOTE: **If the answers to any of these questions change from "No" to "Yes" you must inform the IRB I MMEDIATELY.**

This includes any new investigators who are added to the study at a later date.

ID: IRB201901779 View: Conflict of Interest - Institutional

Date Page Modified:

ID: IRB201901779 View: Study Billing: RAC Review Determination

Study Billing: Research Billing Compliance Review Determination

1.0 * Does this study involve a **UF Principal Investigator** and activities conducted in a **Gainesville Health Science Center (HSC) facility**?

Examples of **Gainesville** HSC facilities include, but are not limited to:

- Shands Hospital
- Shands Ancillary Departments (e.g. lab, radiology, etc.)
- Shands/UF

1.1 If "Yes, does this project involve any of the following:

- the use of any **IND drugs** or **IDE devices**
- any **services that generate a charge** in a UF Health patient billing system (e.g. Epic) research-only standalone visits in a **Shands facility or UF clinic**
- research-only activity that **prolongs patient encounters that are billed according to time** (e.g. surgical procedures, anesthesiology services etc.)
- research services that will be

2.0

* Does this study involve a UF Principal Investigator and activities conducted in a **Jacksonville Health Science Center (HSC) facility**?

Examples of **Jacksonville** HSC facilities include, but are not limited to:

Shands
Hospital
Shands

NOTE:

Note: If you answered "Yes" to question 1.1 above, the UF Office of Clinical Research (OCR) will need to assess your study for research billing compliance risk.

For most OCR reviews, you will need to prepare and submit a packet of documents, which includes a billing grid that indicates the location and funding plan for each protocol-required item/activity/service. Depending on the study details, the billing grids can be quite complex, and may require some time to prepare.

Date Page Modified:

Study Type

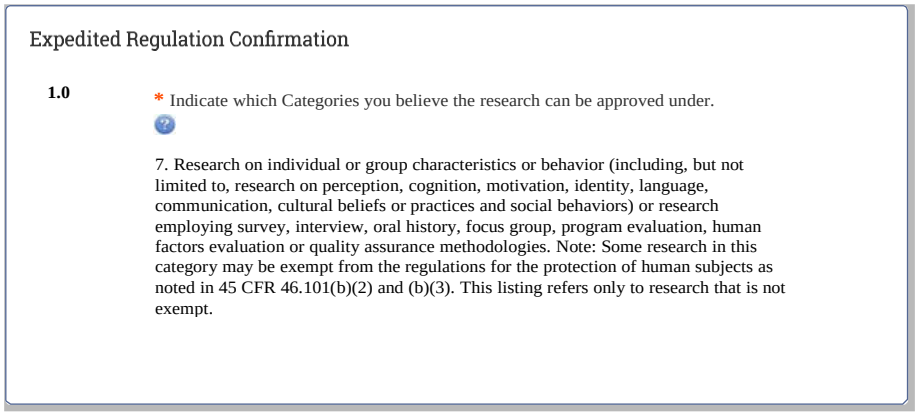
1.0 * Type of study:

☐	**Research only**	**Labs, surgical procedures, other experimental procedures; Tests & Procedures done solely for procedure Research**
☐	**Banking**	**non-local, off-site banking; collection and storage of tissue or data for unknown, future research; Local bank must be submitted as a separate study**
☐	**Deception**	**Deception is defined as purposely omitting information about the study to research participants**
☐	**Placebo**	
☑	**Behavioral / Social Research**	**Questionnaires, surveys, observational; behavioral/psychological; educational research; If your research is restricted to behavioral/psychological research, you may choose to use IRB-02 rather than IRB-01 if the following conditions are met: (1) you are not collecting Protected Health Information (see HIPAA FAQ), and (2) you are NOT a VA or Shands employee.**
☐	**Exercise or nutrition research**	
☐	**Non-therapeutic research**	
☐	**Other**	

1.1 If "Non-Therapeutic research" or "Other", Describe:

ID: IRB201901779 View: Study Type

Date Page Modified:



Expedited Regulation Confirmation

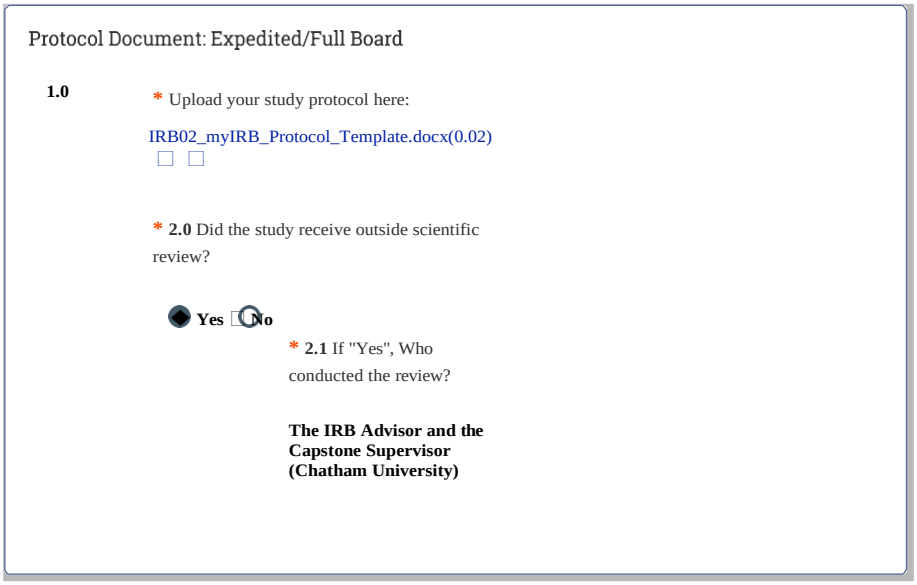
1.0

* Indicate which Categories you believe the research can be approved under.

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behaviors) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies. Note: Some research in this category may be exempt from the regulations for the protection of human subjects as noted in 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.

ID: IRB201901779 View: Expedited Regulation Confirmation

Date Page Modified:



Protocol Document: Expedited/Full Board

1.0

* Upload your study protocol here:

IRB02_myIRB_Protocol_Template.docx(0.02)

* **2.0** Did the study receive outside scientific review?

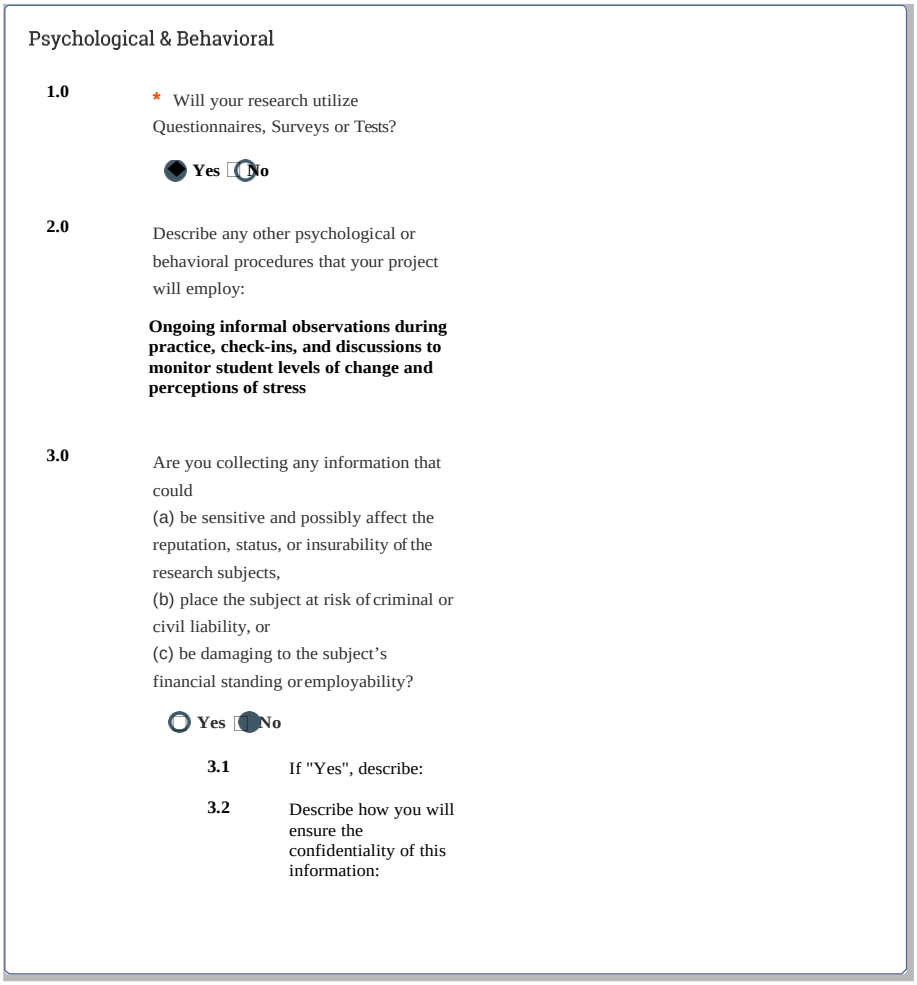
Yes **No**

* **2.1** If "Yes", Who conducted the review?

The IRB Advisor and the Capstone Supervisor (Chatham University)

ID: IRB201901779 View: Protocol Document: Expedited/Full Board

Date Page Modified:7/8/2019



Psychological & Behavioral

1.0 * Will your research utilize Questionnaires, Surveys or Tests?

● **Yes** ○ **No**

2.0 Describe any other psychological or behavioral procedures that your project will employ:

Ongoing informal observations during practice, check-ins, and discussions to monitor student levels of change and perceptions of stress

3.0 Are you collecting any information that could
(a) be sensitive and possibly affect the reputation, status, or insurability of the research subjects,
(b) place the subject at risk of criminal or civil liability, or
(c) be damaging to the subject's financial standing or employability?

○ **Yes** ● **No**

3.1 If "Yes", describe:

3.2 Describe how you will ensure the confidentiality of this information:

ID: IRB201901779 View: Psychological and Behavioral

Date Page Modified:

ID: IRB201901779 View: Questionnaires Surveys Tests

1.0 Please indicate what measures will be used in your research.

Category	Acronym Survey Measure Name	Citation	Description	Use	Potential Harm or Threat
Affective/Psychological	STAI State Trait Anxiety Inventory	Spielberger et al., 1983	Assesses state /trait anxiety symptoms on 4 pt. likert scale	Self-report	Medium: May indicate anxiety disorder

2.0 If using IAPS,International Affective Picture System, please indicate the slide grouping numbers you will be using.

3.0 Are there any additional questionnaires, surveys or tests that are not on the above table?

◆ **Yes** ☐ **No**

3.1 If "Yes", there are additional measures that are not listed, please list these measures below (as described in your Protocol).

Name	Description	Attachment

Questionnaires, Surveys, Tests

View State-Trait Anxiety Inventory for Adults Form Y-1	**The 10 items that make up the State-Trait Anxiety for Inventory for Adults Short Form for State Anxiety are circled**	STAI Form Y1.docx (0.01)
View **Permission to use Perceived Stress Scale**		Permission to use Perceived Stress Scale.docx (0.01)
View **Mindfulness** Training Program Survey	**The Mindfulness Training Program Survey, which was developed by the principal investigator and reviewed by two other faculty members, will be used to obtain the participants' demographic data and feedback on their experience of mindfulness training, actual use of mindful practices, and ways to improve the program. All outcome measures will be administered via UF Qualtrics with participants using self-determined identification codes to support confidentiality and matching of pre- and post- intervention data for analysis.**	Mindfulness Training Program Survey.docx(0.01)
View **Permission** to use the State-Trait for Adults form	**The PSS uses a Likert scale to assess one's perceived stress related to life situations.**	Permission to use STAI for Adults.docx(0.01)
View **Perceived Stress Scale by Sheldon Cohen**		Perceived Stress Scale.docx(0.01)

3.2 If items have NOT been attached for measures/instruments , justify why these items are not attached:

Date Page Modified:

Study Population, Overview

1.0 * Will subjects of a specific race or ethnicity (as defined by NIH) be studied?

○ **Yes** ○ **No**

1.1 Indicate if you will target any of the following ethnic groups:

- ☐ Hispanic
- ☐ Non-Hispanic
- ☐ Will not target a specific ethnic group

1.2 Indicate if you will target any of the following racial groups?

- ☐ American Indian/Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Black or African American
- ☐ White
- ☐ Will not target any specific racial groups

1.3 If any racial or ethnic group has been selected, the justification is:

- ☐ The condition being studied only occurs in the selected group(s)
- ☐ Other

1.3.1 If "Other", Provide rationale for selection of specific groups

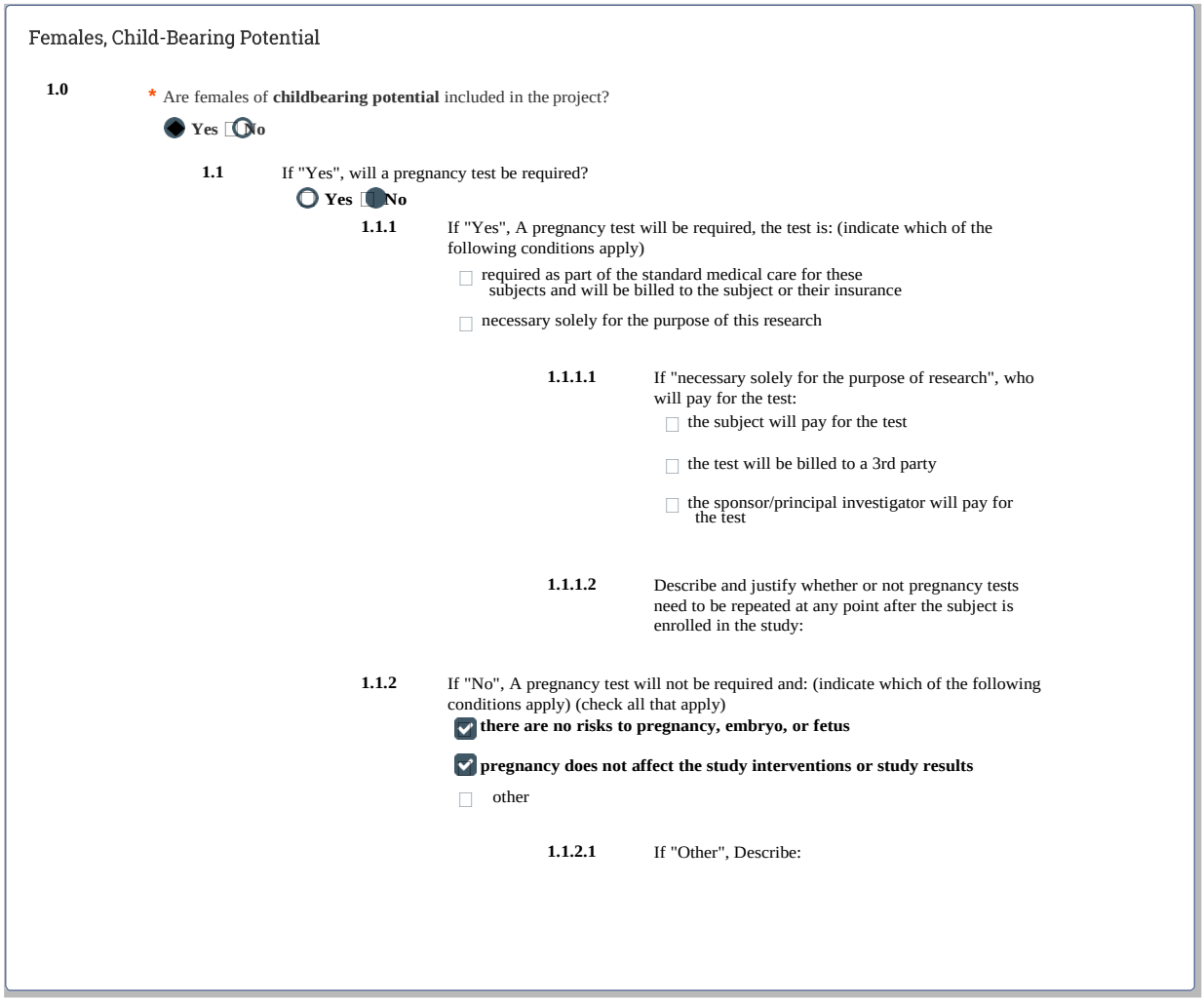
2.0 * Gender:

- ☐ Male
- ☐ Female
- ◉ **Both**

2.1 Provide the rationale for studying a single gender:

ID: IRB201901779 View: Study Population, Overview

Date Page Modified:



Females, Child-Bearing Potential

1.0 * Are females of **childbearing potential** included in the project?

(●) **Yes** ( ) **No**

1.1 If "Yes", will a pregnancy test be required?

( ) **Yes** (●) **No**

1.1.1 If "Yes", A pregnancy test will be required, the test is: (indicate which of the following conditions apply)

- [ ] required as part of the standard medical care for these subjects and will be billed to the subject or their insurance
- [ ] necessary solely for the purpose of this research

1.1.1.1 If "necessary solely for the purpose of research", who will pay for the test:

- [ ] the subject will pay for the test
- [ ] the test will be billed to a 3rd party
- [ ] the sponsor/principal investigator will pay for the test

1.1.1.2 Describe and justify whether or not pregnancy tests need to be repeated at any point after the subject is enrolled in the study:

1.1.2 If "No", A pregnancy test will not be required and: (indicate which of the following conditions apply) (check all that apply)

- [x] **there are no risks to pregnancy, embryo, or fetus**
- [x] **pregnancy does not affect the study interventions or study results**
- [ ] other

1.1.2.1 If "Other", Describe:

ID: IRB201901779 View: Females, Child-Bearing Potential

Date Page Modified:

Subject Description (Expedited/Full Board/Banking)

1.0 * Describe the type(s) of subjects to be studied in this project.

	Type Description	Min Age	Max Age	Participation Time	Screening Required	Screening Description
View	Students enrolled in all the 2019 Fall semester Year 1 courses in the UF Doctor of Occupational Therapy program and who attend classes in August 2019 will be eligible to participate in this evidence-based mindfulness intervention program. Enrollment eligibility will be determined by their presence on the UF roster for 2019 Year 1 Fall semester courses and class attendance by report of teaching faculty members.	18 Years	65 Years	A total of 9 hours over a 6 week period (1.5 hours per week)	no	

ID: IRB201901779 View: Subject Description (Expedited/Full Board/Banking)

Date Page Modified:

Compensation Determination

1.0 * Are research subjects compensated? ☐ Yes ○ No ●

1.1 If "Yes", provide details on each type of compensation:

Type	Amount	Undue Influence	Influence Description	Compensation Schedule

There are no items to display

ID: IRB201901779 View: Compensation Determination

Date Page Modified:

Vulnerable Subjects (Expedited/Full Board/Banking Only Studies)

1.0 * Will vulnerable subjects be considered for participation in this project?

(●) **Yes** ( ) **No**

1.1 If "YES", indicate which of the following vulnerable populations will be considered for this project:

- [x] **Pregnant Women**
- [ ] Human Fetus
- [ ] Neonates
- [ ] Children
- [ ] Prisoners
- [ ] Decisionally Impaired/Comatose Individuals Institutional Residents
- [ ] Terminally Ill Patients
- [ ] UF/Shands/VA/OneFlorida Institution Staff
- [x] **UF/OneFlorida Institution Students**

ID: IRB201901779 View: Vulnerable Subjects (Expedited/Full Board/Banking Only Studies)

Date Page Modified:7/8/2019

Pregnant Women Recruitment Determination

1.0 * Indicate how **Pregnant Women** will be included in the subject Population:

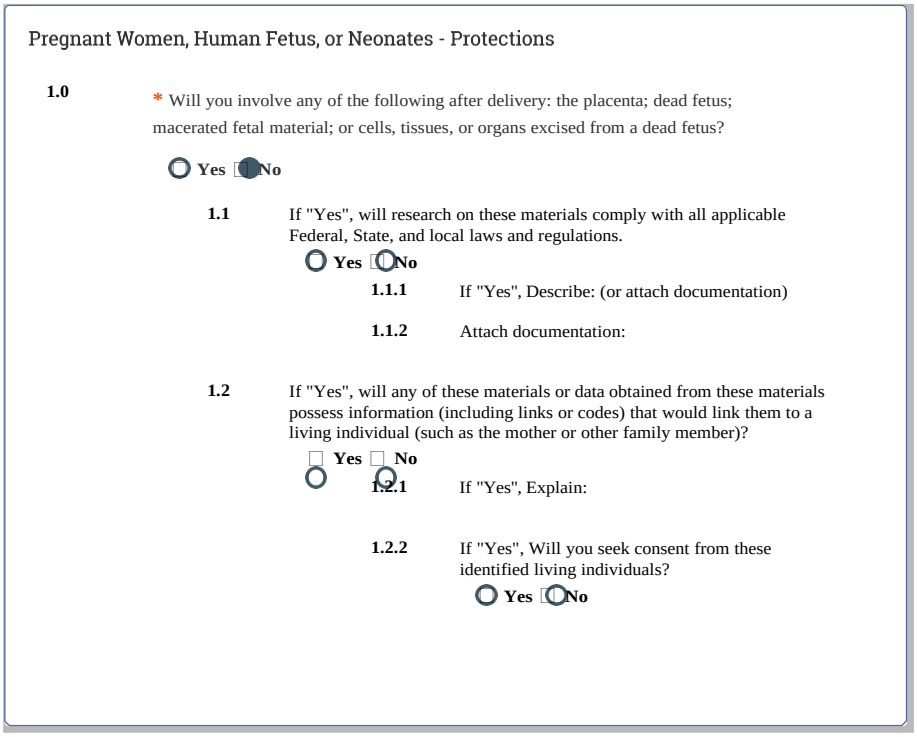
- [ ] Targeted for this project
- [x] **General Subject Population**

2.0 * Explain why it is important to enroll these vulnerable subjects in this project: **Due to age range, recruitment may include pregnant women of which the PI might be unaware. Pregnant women are a part of the general population that the PI is studying.**

3.0 * Describe the additional safeguards that are included in the study to:
(a) protect the rights and welfare of these vulnerable subjects, and
(b) to minimize any coercion or undue influence that could affect subjects ability to voluntarily decide whether or not to participate in the research.
The safeguards for the students, who also are deemed vulnerable, should be adequate for pregnant women. The PI has provided opportunities for each potential subject to speak privately with her prior to enrollment and ask questions about the intervention and study. The PI will explain that the potential subject may withdraw at any time with no consequences. If a woman provides informed consent to this low risk intervention, which is similar to a regular classroom experience for occupational therapy students, there is no reason to believe she could not participate.

ID: IRB201901779 View: Pregnant Women Recruitment Determination

Date Page Modified:7/8/2019



Pregnant Women, Human Fetus, or Neonates - Protections

1.0 * Will you involve any of the following after delivery: the placenta; dead fetus; macerated fetal material; or cells, tissues, or organs excised from a dead fetus?

Yes No

1.1 If "Yes", will research on these materials comply with all applicable Federal, State, and local laws and regulations.

Yes No

1.1.1 If "Yes", Describe: (or attach documentation)

1.1.2 Attach documentation:

1.2 If "Yes", will any of these materials or data obtained from these materials possess information (including links or codes) that would link them to a living individual (such as the mother or other family member)?

Yes No

1.2.1 If "Yes", Explain:

1.2.2 If "Yes", Will you seek consent from these identified living individuals?

Yes No

ID: IRB201901779 View: Pregnant Women, Human Fetus, or Neonates - Protections

Date Page Modified:7/8/2019

UF/OneFlorida Institution Students Recruitment Determination

1.0 * Indicate how **UF/OneFlorida institution Students** will be included in the subject Population:

- [x] **Targeted for this project**
- [ ] General Subject Population

2.0 * Explain why it is important to enroll these vulnerable subjects in this project:

The year-1 cohort of entry-level occupational therapy students was selected for potential study participants because the primary objective of the evidence-based mindfulness training is to decrease students' levels of stress and anxiety, as it has been shown to do in other professional student populations. The desired outcome is that with improved mental health and well-being (Kelley, 2016), students will be able to participate more successfully in both the academic and clinical aspects of the UF occupational therapy program .

3.0 * Describe the additional safeguards that are included in the study to:

(a) protect the rights and welfare of these vulnerable subjects, and

(b) to minimize any coercion or undue influence that could affect subjects ability to voluntarily decide whether or not to participate in the research.

The principal investigator, who is a member of the UF occupational therapy faculty, will not be teaching this cohort during the 2019 Fall semester in which the study intervention will be administered. All study data will be collected using UF Qualtrics. When taking the online surveys, participants will be asked to self-select a 4-digit identifier that they will use to allow pre- and post-data to be compared without identification of the individuals. Participants will be clearly informed that their participation is voluntary, that they should participate at their personal comfort level, and that they can withdraw at any time with no consequences. Students who withdraw will have the option to complete the mindfulness training intervention. Finally, the principal investigator will not be in attendance at Fall semester student orientation session where the program director will invite those who are interested to attend one of two introductory meetings at which the investigator will present and discuss the informed consent form and answer any questions.

ID: IRB201901779 View: UF Students Recruitment Determination

Date Page Modified:

UF/OneFlorida Institution Students Coercion Assessment

1.0 * Is the investigator the Instructor or Advisor?

Yes **No**

1.1 Describe your academic relationship with subjects. **Future instructor: the investigator, who will teach the mindfulness training sessions, will have met very few of the students in this cohort. The study will be administered during 6 weeks of the 2019 Fall semester, one in which the investigator will not be teaching any occupational therapy program classes for this cohort.**

2.0 * Is the research a part of the course curriculum?

Yes **No**

3.0 * Will subjects receive course credit for participation?

Yes **No**

3.1 If "Yes", describe:

4.0 * Are there alternatives to participation in the research?

Yes **No**

4.1 If "Yes", please explain how specific group(s) of subjects will be selected: **Any student subjects who withdraw from the study will have the option to complete the mindfulness training without participating in the data collection.**

ID: IRB201901779 View: UF Students Coercion Assessment

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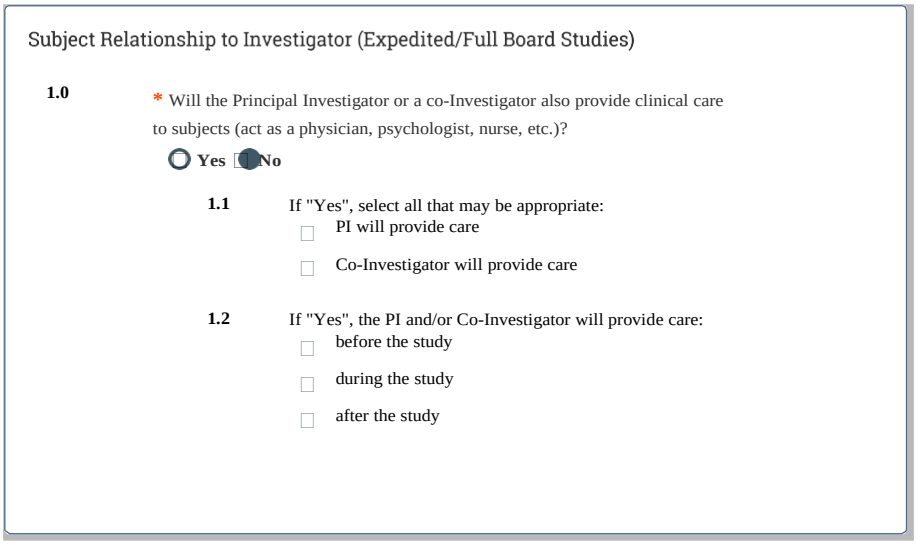


Subject Relationship to Investigator (Expedited/Full Board Studies)

1.0 * Will the Principal Investigator or a co-Investigator also provide clinical care to subjects (act as a physician, psychologist, nurse, etc.)?

Yes No

1.1 If "Yes", select all that may be appropriate:

- PI will provide care
- Co-Investigator will provide care

1.2 If "Yes", the PI and/or Co-Investigator will provide care:

- before the study
- during the study
- after the study

ID: IRB201901779 View: Subject Relationship to Investigator

Date Page Modified:

Enrollment Details

1.0

1.1 * Local enrollment information:

1.2 Will your study include procedures (clinical tests, surveys, etc) being done solely for research purposes in order to determine whether or not the subject meets eligibility requirements (i.e. screening for research purposes)

☐ **Yes** ☐ **No**

	# of Subjects
* a. How many subjects do you need to complete the study?	15
* b. How many additional subjects will be enrolled/included in this project but might discontinue participation in the study before completing all study interventions/interactions (either due to adverse event, withdrawal, etc.)?	3
* c. If 1.1 (above) is "Yes", how many additional subjects do you believe will need undergo these screening procedures and will not count toward the numbers listed in questions a and b above (these subjects would be screen failures)?	0
TOTAL (a+b+c) =	18

NOTE: For **OneFlorida** projects, enter the total number for all sites.

2.0 * How was the sample size determined?

- ☐ Pilot or feasibility study – limited number of subjects, statistical validity not expected
- ☑ Statistical power and sample size analysis - include details in protocol
- ☐ Tissue or data bank
- ☐ Comparison with similar studies
- ☐ Secondary data analysis
- ☐ Treatment protocol
- ☐ Practical considerations - describe below
- ☐ Other - describe below

2.1 If "Practical Considerations" or "Other", describe: Upon completion, this study will partially fulfill the requirements for the

investigator's Doctor of Occupational Therapy degree from Chatham University in Pittsburgh, PA. As such, the number of subjects can be limited and statistical validity is not expected.

3.0

* Describe how you will meet the target accrual. (re: your study “n”; how feasible is the study; provide a statement using clinical data, accrual to other studies, information from clinical practice, prior research experience or other quantitative data):

Results of the National College Health Assessment II Fall 2017 survey of graduate and professional students reveal that anxiety and stress are the two factors that most impact student academic performance (American College Health Association, 2018, p. 5). Of the 4,622 student respondents, 58.9% reported having experienced overwhelming anxiety during the previous 12 months (p. 14), while 63.7% rated their stress levels above average (p. 16), with 13.8% reporting a level of tremendous stress (p. 16). In addition to the above results, the literature supports findings of high levels of anxiety and stress in medical, nursing, and other healthcare professional students (McConville, McAleer, & Hahne, 2017; Stillwell, Vermeesch, & Scott, 2017). Given that

approximately 45 students will make up the 2019 Fall semester cohort, the investigator, who has 15 years of experience teaching occupational therapy students, anticipates that 15 students will be interested in participating in the study.

4.0

* Is this a multi-centered project?

Yes **No**

NOTE: For **OneFlorida** projects, choose "No".

Date Page Modified:7/8/2019

Study Population Complete

You have completed the Subject Population section.

Please continue to the next section.

ID: IRB201901779 View: Study Population Complete

Date Page Modified:

Recruitment Methods
ID: IRB201901779 View: Recruitment Methods

1.0 How do you have access to the subject population? Do you have a prior professional relationship with these subjects?

- [x] General population via advertisements (no clinical relationship)
- [ ] As a part of normal clinical care
- [ ] Instructor / Faculty
- [ ] Other

1.1 If "Other", specify:

2.0 Describe who will identify and recruit subjects for this research:

The students will be members of the incoming 2019 Fall semester cohort in the Doctor of Occupational Therapy program. As a faculty member in the department, the principal investigator will have access to them. The PI will not have a prior professional relationship with the subjects.

Christine Myers, PhD, OTR/L, Program Director for the Doctor of Occupational Therapy Program

3.0 How will the individual(s), listed above, identify and recruit subjects for this research?

The subjects will be identified by their inclusion in the UF roster for the 2019 Fall semester year 1 courses. During the department orientation program for the incoming students that she will be leading, Dr. Christine Myers, Program Director for the Doctor of Occupational Therapy Program, will draw the students' attention to the Recruitment Flier, which will be located in their student orientation packet. She will invite them to the voluntary introductory meetings that the PI will facilitate. The PI will not be present at their orientation program.

4.0 Indicate if you will use any of the following methods to identify and recruit subjects: (check all that apply)

- ☐ Medical Records
- ☐ Clinical Database
- ☐ Inpatient Population
- ☐ Patient care meetings, rounds, tumor board meetings, etc.
- ☐ Outpatient Population: Pre-review of outpatient records or lists or appointments prior to seeing the patient in clinic
- ☐ Outpatient Population: Patients seen in clinics during normal appointments and approached about research
- ☐ Advertising
- ☐ Referrals – clinicians outside your practice cannot send you contact information for their patients without a signed authorization from the subject. Make sure you receive a signed authorization or consent for every subject

  referred
  to you
- ☐ Undergraduate Student Pool (e.g. SONA)
- ☐ Research Database/other IRB approved protocol
- ☐ Healthstreet
- ☐ StudyConnect
- ☐ Consent2Share
- ☐ **Other**

4.1 If "Research Database(s)", provide, Name(s), IRB#(s), Description:

Name	IRB Number	Description

There are no items to display

4.2 If "Other" methods, Specify:

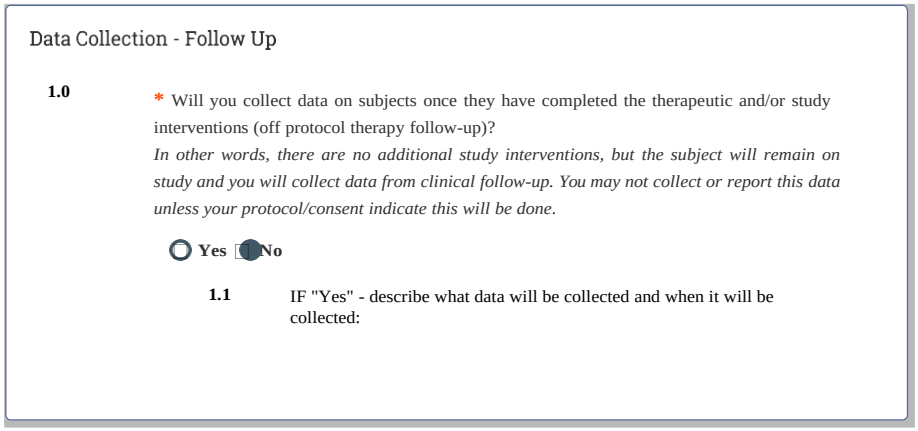
Recruitment fliers will be posted in the occupational therapy department.

5.0

If **Advertising** is used, you must attach copies of everything that will be used, for example, print, audio, video, phone scripts and/or email scripts:

Name	Description
Invitation to Introductory Meetings Script.docx	
Recruitment flier.docx	

Date Page Modified:



Data Collection - Follow Up

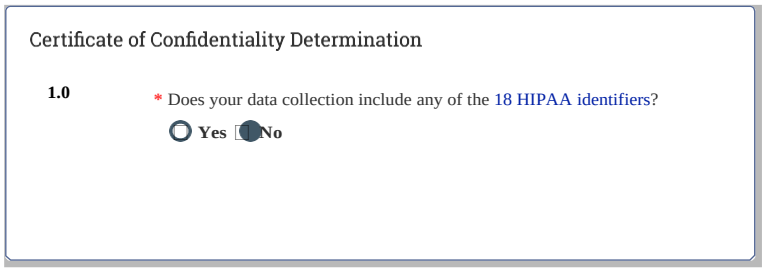
1.0 * Will you collect data on subjects once they have completed the therapeutic and/or study interventions (off protocol therapy follow-up)?
In other words, there are no additional study interventions, but the subject will remain on study and you will collect data from clinical follow-up. You may not collect or report this data unless your protocol/consent indicate this will be done.

○ **Yes** ○ **No**

1.1 IF "Yes" - describe what data will be collected and when it will be collected:

ID: IRB201901779 View: Data Collection - Follow Up

Date Page Modified:



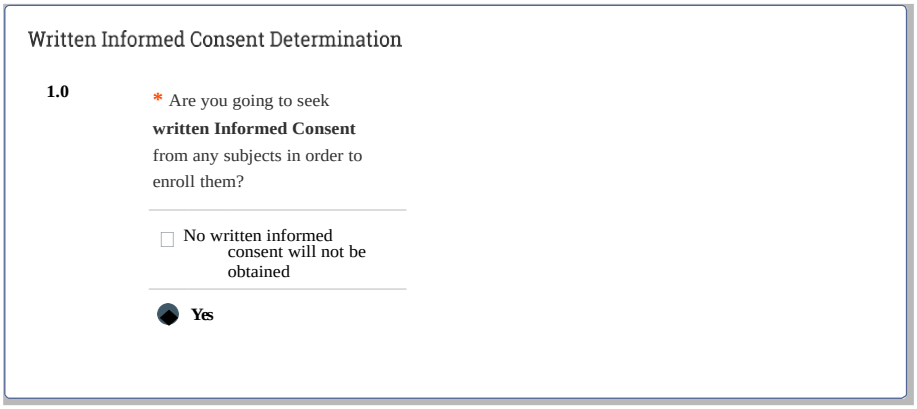
Certificate of Confidentiality Determination

1.0 * Does your data collection include any of the 18 HIPAA identifiers?

○ **Yes** ○ **No**

ID: IRB201901779 View: Certificate of Confidentiality Determination

Date Page Modified:



Written Informed Consent Determination

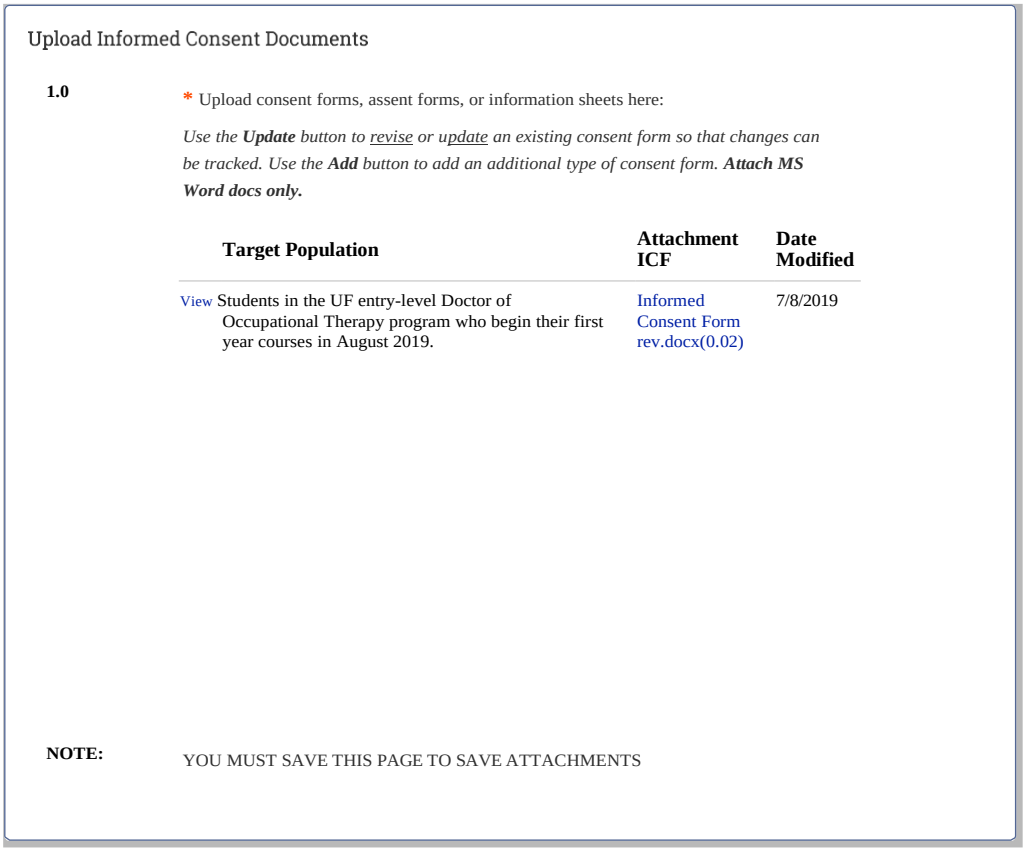
1.0 * Are you going to seek **written Informed Consent** from any subjects in order to enroll them?

☐ No written informed consent will not be obtained

◉ **Yes**

ID: IRB201901779 View: Written Informed Consent Determination

Date Page Modified:



Upload Informed Consent Documents

1.0 * Upload consent forms, assent forms, or information sheets here:

*Use the **Update** button to revise or update an existing consent form so that changes can be tracked. Use the **Add** button to add an additional type of consent form. **Attach MS Word docs only.***

	Target Population	Attachment ICF	Date Modified
View	Students in the UF entry-level Doctor of Occupational Therapy program who begin their first year courses in August 2019.	Informed Consent Form rev.docx(0.02)	7/8/2019

NOTE: YOU MUST SAVE THIS PAGE TO SAVE ATTACHMENTS

ID: IRB201901779 View: Upload Informed Consent Documents

Date Page Modified:7/8/2019

Informed Consent Process

ID: IRB201901779 View: Informed Consent Process

Staff Obtaining Consent

The following staff have been designated to obtain informed consent on this project:

Name		Role
Emily	Pugh	PI

1.0 * Do you certify that all the people seeking Informed Consent are qualified as follows:

Knowledge of the protocol

Knowledge of the condition being studied Knowledge of the informed consent process itself Completion of current training

◆ Yes ◻ No

1.1 If "No", Explain:

2.0 What is the general setting where subjects will be asked to consent?

The UF Department of Occupational Therapy in the HPNP building.

3.0 When will subjects be asked to consent?

Subjects will be asked to consent at the introductory meetings at which the intervention will be described and the consent form presented in full and discussed by the principal investigator. Students will be encouraged to ask questions. Students also may meet with the principal investigator in her office to discuss the study and provide consent. All consent will be obtained prior to implementation of the intervention. Subjects will receive a copy of the consent form.

4.0 * Will you use the Informed Consent form as the summary of your consent discussion?

◆ **Yes ? No**

4.1 If no, explain what is going to be communicated to the subject.

5.0 * Will subjects be given an opportunity to take the consent home to discuss with family members, friends,and/or someone knowledgeable about the protocol?

Subjects needn't be formally asked if they want to take the consent home; just have the opportunity to do so if they wish. Respond 'NO' if there is no written consent document, indicating this as justification.

◆ **Yes ? No**

5.1 If No, Describe and justify:

6.0 Describe the steps you will take to minimize the possibility of coercing or unduly influencing subjects during the consent process:

Consent will be sought by the principal investigator who will not have been, nor will be, their instructor for this first semester in the occupational therapy program. The 2 introductory meetings will introduce the students to the principal investigator and the evidence-based mindfulness training research study. The principal investigator will review the consent form, item by item, and will clearly inform the students that their participation is voluntary, that they should participate at their personal comfort level, and that they can withdraw at any time with no consequences. The principal investigator will objectively explain that there are minimal risks of the research. The students will have an opportunity to ask questions and will be informed of the principal investigator's office hours during which they also will be able to ask questions on an individual basis. Students will be able to sign the Informed Consent Form at the introductory meetings and during individual meetings, if they prefer.

7.0 * Who will provide consent?

(agree to participate on the subject's behalf and sign the consent form)

☑ **Subject**

☐ Parent(s) of a child subject

☐ Legally Authorized Representative (LAR) for the subject

☐ Other

7.1 If Other, specify:

8.0 * Are you targeting subjects who cannot speak/read English?

○ **Yes** ● **No**

8.1 Describe what languages these subjects speak/read:

8.2 Describe how you will communicate with these subjects (the language used by those seeking consent and/or if a translator is needed) (e.g. is a member of the study team who will seek consent fluent in the language, if a translator be used and if so who it is, etc):

8.3 You must attach informed consent forms translated into the languages of the non-English speaking people you seek to enroll. Describe who translated the consent forms, their qualifications:

8.4 Upload the back translation of the consent forms, assent, or information sheets here:

Name	Description
There are no items to display	

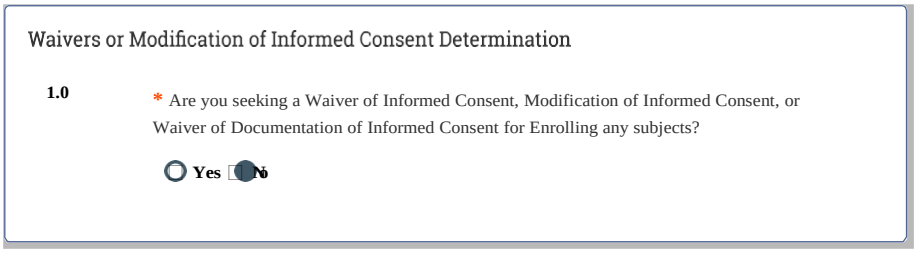
8.5 Who performed the back translation(s)?

8.6 Upload certification of qualifications for performing the translation(s):

Name	Description
There are no items to display	

NOTE:

- If a non-local bank is used in this project, Banking information should be included in your consent document. Refer to the banking consent storage addendum available for download at: http://irb.ufl.edu/wp- content/uploads/st-storage.docx If a local bank is used in this project, you will need to submit a Banking Protocol.
-

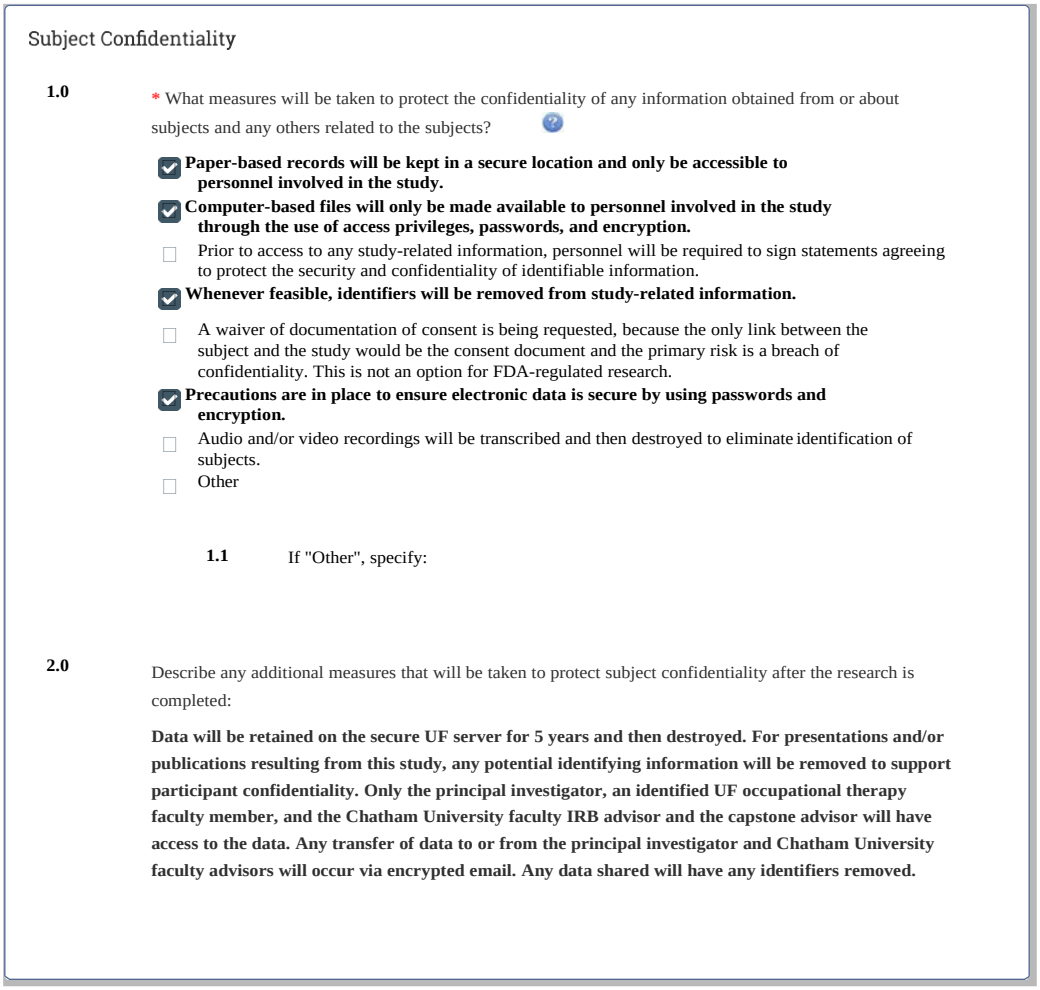

Waivers or Modification of Informed Consent Determination

1.0 * Are you seeking a Waiver of Informed Consent, Modification of Informed Consent, or Waiver of Documentation of Informed Consent for Enrolling any subjects?

Yes No

ID: IRB201901779 View: Waivers or Modification of Consent Determination

Date Page Modified:



Subject Confidentiality

1.0 * What measures will be taken to protect the confidentiality of any information obtained from or about subjects and any others related to the subjects?

- [x] **Paper-based records will be kept in a secure location and only be accessible to personnel involved in the study.**
- [x] **Computer-based files will only be made available to personnel involved in the study through the use of access privileges, passwords, and encryption.**
- [ ] Prior to access to any study-related information, personnel will be required to sign statements agreeing to protect the security and confidentiality of identifiable information.
- [x] **Whenever feasible, identifiers will be removed from study-related information.**
- [ ] A waiver of documentation of consent is being requested, because the only link between the subject and the study would be the consent document and the primary risk is a breach of confidentiality. This is not an option for FDA-regulated research.
- [x] **Precautions are in place to ensure electronic data is secure by using passwords and encryption.**
- [ ] Audio and/or video recordings will be transcribed and then destroyed to eliminate identification of subjects.
- [ ] Other

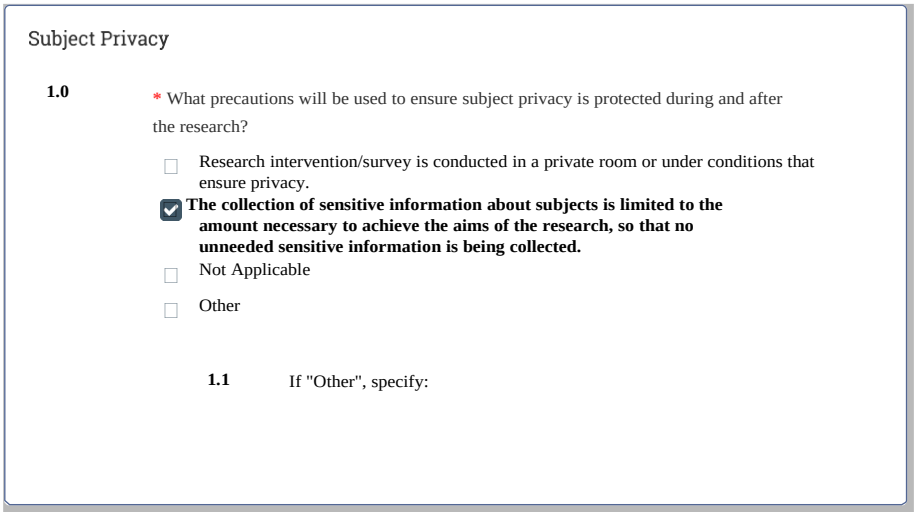
1.1 If "Other", specify:

2.0 Describe any additional measures that will be taken to protect subject confidentiality after the research is completed:

Data will be retained on the secure UF server for 5 years and then destroyed. For presentations and/or publications resulting from this study, any potential identifying information will be removed to support participant confidentiality. Only the principal investigator, an identified UF occupational therapy faculty member, and the Chatham University faculty IRB advisor and the capstone advisor will have access to the data. Any transfer of data to or from the principal investigator and Chatham University faculty advisors will occur via encrypted email. Any data shared will have any identifiers removed.

ID: IRB201901779 View: Subject Confidentiality

Date Page Modified:



Subject Privacy

1.0 * What precautions will be used to ensure subject privacy is protected during and after the research?

- [ ] Research intervention/survey is conducted in a private room or under conditions that ensure privacy.
- [x] **The collection of sensitive information about subjects is limited to the amount necessary to achieve the aims of the research, so that no unneeded sensitive information is being collected.**
- [ ] Not Applicable
- [ ] Other

1.1 If "Other", specify:

ID: IRB201901779 View: Subject Privacy

Date Page Modified:

ID: IRB201901779 View: Information Sources and Identifiers

Information Sources and Identifiers

1.0 Identify the sources where you will get your information/data that is being collected:

- [ ] Mental Health
- [ ] Records
- [ ] Hospital or
- [ ] Medical Records

If "Other", specify:

2.0 Please review the list of forms and/or questionnaire(s) you have already provided:

View STAI Form Y1.docx(0.01)

Attach a copy of any **additional** data collection form(s) or questionnaire(s) that will be used

Document	Description
View STAI Form Y1.docx(0.01)	

2.1 Please describe the method of data collection (ex. paper and pencil, interview, electronic, etc) and storage plan (ex. hard copies kept, servers, etc) for all forms of data collection listed.

The Informed Consent Form will be the only document with participants' personal identification. The original, signed hard copies of these forms will be kept in a

3.0 Check all Identifiers which

- ☐ Social
- ☐ Security
- ☐ Number
- ☐ Telephone
- ☐ Numbers
- ☐ Full Face
- ☐ Certificate/License Numbers
- ☐ Vehicle Identifiers
- ☐ Device Identifiers
- ☐ Web URLs
- ☐ IP Address Numbers
- ☐ Biometric Identifiers
- ☐ Any other unique identifying number, characteristic, or code.

3.1 If Other, specify:

Date Page Modified:

Privacy & Confidentiality Complete

You have completed the Privacy & Confidentiality section.

Please continue to the next section.

ID: IRB201901779 View: Privacy Confidentiality Complete

Date Page Modified:

ID: IRB201901779 View: Miscellaneous Attachments

Miscellaneous

1.0 Certificate of Decedent Information Form:

2.0 Approved Social Security Exception Form:

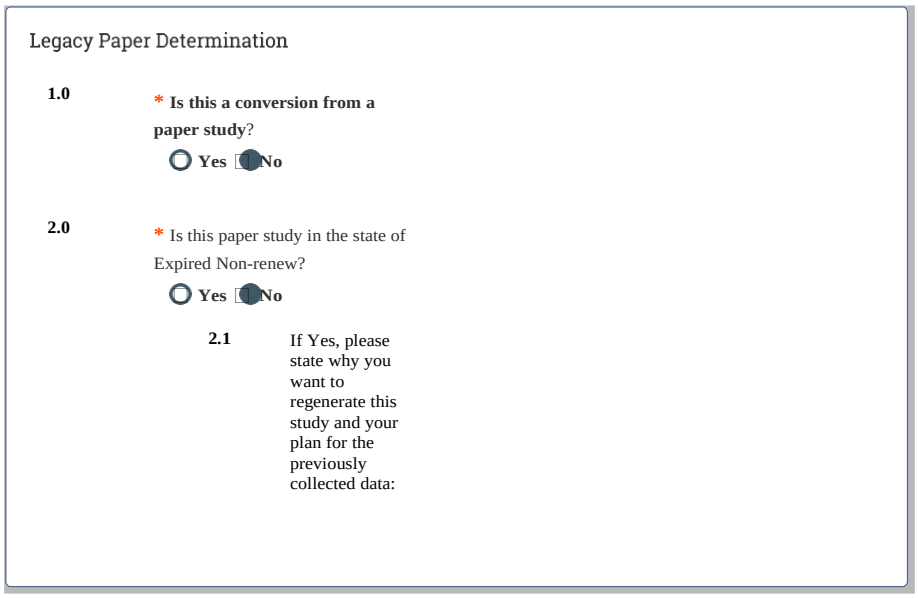
3.0 Upload miscellaneous study attachments below:

Name	Modified	Version
Permission to use Site.docx	6/27/2019 11:36 AM	0.01 Pugh
CV 2019.pdf	6/27/2019 11:30 AM	0.01
References.docx	6/27/2019 11:29 AM	0.01
Training Certificate-Koru Mindfulness.docx	6/27/2019 11:45 AM	0.01
Training Certificate-MIndful Schools.docx	6/27/2019 11:45 AM	0.01

4.0 List any specific information that needs to be included in the IRB approval letter:

NOTE: **YOU MUST SAVE THIS PAGE TO SAVE ATTACHMENTS**

Date Page Modified:7/8/2019



Legacy Paper Determination

1.0 * **Is this a conversion from a paper study**?

○ **Yes** ● **No**

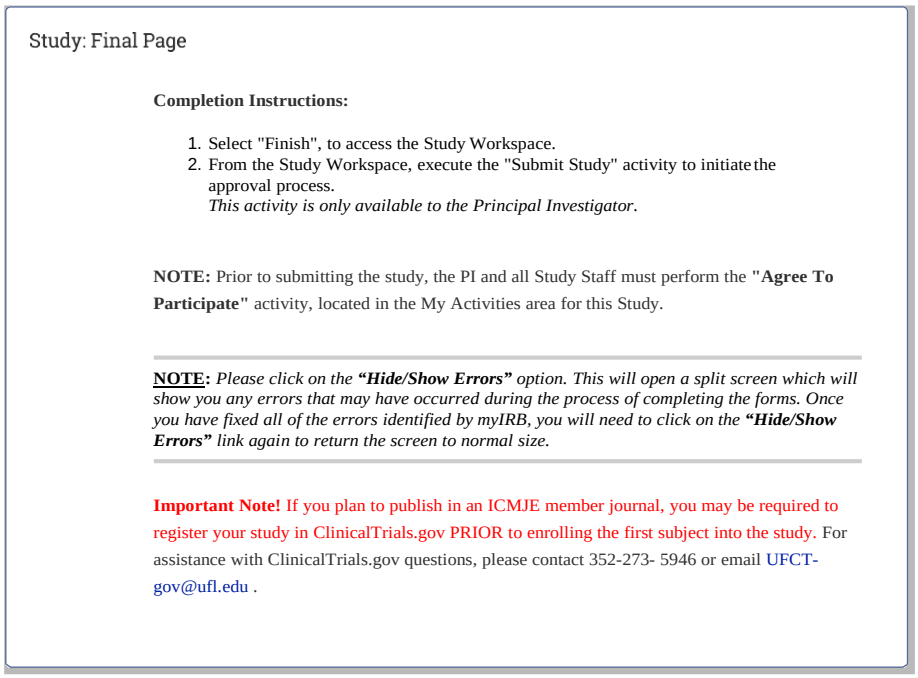
2.0 * Is this paper study in the state of Expired Non-renew?

○ **Yes** ● **No**

2.1 If Yes, please state why you want to regenerate this study and your plan for the previously collected data:

ID: IRB201901779 View: Legacy Paper Determination

Date Page Modified:



Study: Final Page

Completion Instructions:

1. Select "Finish", to access the Study Workspace.
2. From the Study Workspace, execute the "Submit Study" activity to initiate the approval process.
   This activity is only available to the Principal Investigator.

NOTE: Prior to submitting the study, the PI and all Study Staff must perform the **"Agree To Participate"** activity, located in the My Activities area for this Study.

NOTE: *Please click on the **"Hide/Show Errors"** option. This will open a split screen which will show you any errors that may have occurred during the process of completing the forms. Once you have fixed all of the errors identified by myIRB, you will need to click on the **"Hide/Show Errors"** link again to return the screen to normal size.*

Important Note! If you plan to publish in an ICMJE member journal, you may be required to register your study in ClinicalTrials.gov PRIOR to enrolling the first subject into the study. For assistance with ClinicalTrials.gov questions, please contact 352-273- 5946 or email UFCT-gov@ufl.edu .

ID: IRB201901779 View: Study: Final Page

Date Page Modified:

University of Florida IRB-02

Protocol Template Guidelines

The “protocol” is similar in form to a brief research proposal. It should be as concise as possible. It should, however, contain all information relevant to the proposed research project not specifically covered in the SmartForms. (Not every item will be relevant for every project, of course, and you may limit responses as appropriate in such cases, but if you’re uncertain as to what to include, be “inclusive” as that makes it less likely we’ll have requests for additional information.)

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1. Background:

- Describe in a few sentences the scientific or scholarly context in which the work is situated.

Within the past few years, faculty members in the UF graduate occupational therapy program have expressed concern about student behaviors that indicate an increasing amount and intensity of anxiety and stress. Results of the National College Health Assessment II Fall 2017 survey of graduate and professional students reveal that anxiety and stress are the two factors that most impact student academic performance (American College Health Association, 2018, p. 5). In addition to the above results, the literature supports findings of high levels of anxiety and stress in medical, nursing, and other healthcare professional students (McConville, McAleer, & Hahne, 2017; Stillwell, Vermeesch, & Scott, 2017).

- Include a synopsis of the *most immediately relevant* previous studies, if any, that have been conducted.

Six of the nine studies chosen to provide direct support of the mindfulness training intervention were systematic reviews. Four support the effects of mindfulness-interventions on reducing levels of both anxiety and stress. Two systematic reviews found that mindfulness programs significantly decreased symptoms of anxiety and stress when compared to controls (McConville et al., 2017; Regehr, Glancy, & Pitts, 2013). The Halladay et al. (2018) review reported significant reductions in anxiety symptoms and perceived stress when comparing mindfulness interventions to passive controls. One mixed-methods study reported significant reductions in perceived stress and state anxiety (Kinser, Braun, Deeb, Carrico, & Dow, 2016).

When considering the studies that focused on only one of the project outcomes, the two measuring anxiety reported that mindfulness interventions significantly decreased anxiety in college students: Bamber and Morpeth's (2018) meta-analysis and the Guillaumie, Boiral, and Champagne's (2017) review. Of the three studies supporting interventions to reduce perceived stress, the Stillwell et al. (2017) review of a wide variety of mindful approaches showed a reduction in stress in all eight included studies. In addition, two individual trials also reported significant decreases in stress. Greeson, Juberg, Maytan, James, and Rogers (2014) investigated the effectiveness of the Koru Mindfulness program for young adults. Yang, Schamber, Meyer, and Gold (2018) researched the effects of the use of a mindfulness program delivered via a mobile application. In conclusion, although there were differences among the nine studies in their definition of mindfulness and in mindfulness-related programs, delivery methodologies, frequency, dosage, and outcome measurements, all concluded that the evidence supported the effectiveness of mindfulness-based interventions in reducing perceived anxiety and/or stress in the studied student populations.

- State how your research project is a logical step in studying the topic.

Occupational therapy students have been included in very few studies of the effectiveness of mindfulness-based interventions to improve the mental health of university student populations. Therefore, a logical step is to study whether evidence-based mindfulness training helps the UF occupational therapy students manage their levels of anxiety and stress.

2. Specific Aims:

- State the purpose, hypotheses or objectives of the project. What do you hope to learn from the research?

The purpose of the research is to determine if mindfulness training is effective in reducing perceived levels of anxiety and stress in entry-level occupational therapy students. The primary objective of the evidence-based mindfulness training is to decrease students' levels of perceived stress and anxiety, as it has been shown to do in other student populations, so they can engage more successfully in the academic and clinical aspects of the occupational therapy program. Other objectives include identification of barriers to mindfulness practice for students and enhancements to the training program related to content and operational considerations. A broader objective is to contribute to the evidence so that occupational therapy educational programs can support the mental health and well-being of their students more effectively. This project is in partial satisfaction of the requirements for the principal investigator's doctorate education at Chatham University.

3. Research Plan / Study Description:

- Provide a detailed description of what you intend to do throughout the course of the study, and with particular participants or datasets, in a logical and sequential format.

This group-formatted evidence-based mindfulness training intervention research study will be administered in the 2019 Fall semester for a total of 6 weeks. Students will attend one face-to-face group training session per week that will last no longer than 90 minutes for a total commitment of 9 hours within 6 weeks. The principal investigator will be the instructor for all sessions. The training sessions, which are not part of the regular curriculum, will occur outside of regular class time but will be located within the occupational therapy department to provide easy accessibility for the students. An anticipated total of 15-18 participants will be distributed between two groups to support smaller training group sizes and meet students' differing schedule needs.

Two pre- /post-intervention outcome measures will be used to assess if mindfulness training is useful in reducing perceived levels of anxiety and stress in occupational therapy students: the 10-item State-Trait Anxiety Inventory for Adults Short Form for State Anxiety (STAI S-Anxiety Short Form) from the State-Trait Anxiety Inventory for Adults Form Y-1 and the Perceived Stress Scale (PSS) form. The rationale for selecting the shorter 10-item version of the STAI State-Anxiety Y-1 subscale was taken from Spielberger (2015), who suggested that when time was limited, the STAI S-Anxiety Short Form was a "reasonable valid measure" of state anxiety that could be used for research (p.13). The PSS, which has demonstrated reliability and internal consistency specifically for student and young adult populations (Cohen, & Janicki-Deverts, 2012), is a widely used self-report tool that measures the level of stress that is assigned to situations in one's life.

The pre-intervention STAI S-Anxiety Short Form and PSS assessments will be administered electronically at the beginning of the first intervention module (i.e., Week 1) and at the conclusion of the final (i.e., Week 6) module. In addition at the post-intervention administration, the Mindfulness Training Program Survey, which was developed by the

principal investigator, will be used to obtain the participants' demographic data and feedback on their experience of mindfulness training, use of mindful practices, and ways to improve the program. All outcome measures will be administered via UF Qualtrics with participants using self-determined identification codes to support confidentiality and matching of pre- and post-intervention data for analysis. Table 1 outlines the data collection points.

- Provide a clear and concise description of any intervention or observation to be carried out in the study. If there is a control group, describe its nature.

Table 1 also outlines the six weekly modules that make up the mindfulness training intervention program along with the expected time commitments for participants. Participants will be provided options for practicing mindfulness techniques outside of class time; however, no additional "homework" time will be required. Each module includes didactic presentations, active participation in mindfulness practices, and group discussions to support learning. The PowerPoint slides and supplemental resources to enhance understanding and individualize mindfulness practice to meet needs of individual students will be accessed using the password-protected UF Canvas course management system. Examples of supplemental resources include journal articles, hyperlinks to videos, TED Talks, mindfulness-related websites, and information about mindfulness-based mobile applications.

The intervention modules have been organized and sequenced using the framework of the Transtheoretical Model of Health Behavior Change. This model also has informed the selection of early stage-specific intervention techniques for students in the contemplation or preparation stage of change (Prochaska & Velicer, 1997). Module content and design have been guided by the findings from studies that directly supported the evidence-based intervention (Greeson, Juberg, Maytan, James, & Rogers, 2014; Guillaumie, Boiral, & Champagne, 2017; Halladay et al., 2018; Kinser, Braun, Deeb, Carrico, & Dow, 2016; McConville, McAleer, & Hahne, 2017; Regehr, Glancy, & Pitts, 2015; Stillwell, Vermeesch, & Scott, 2017; Yang, Schamber, Meyer, & Gold, 2018) and the work of Wolf and Serpa (2015). The work of Rogers (2016) was used to inform the focus on the needs of emerging adults.

Table 1: Mindfulness Intervention Modules

Week	**Intervention**	**Assessment**	**Subjects' Time Commitment**
1	What Is Mindfulness? • Welcome • Pre-intervention Assessments • Class Overview (Expectations, reassurances, ground rules,) • Participant Introductions o Why am I here? • Learning Objectives • Discussion: Applying Prochaska's Stages of Change • Break	Immediately after the Welcome: Pre-intervention Assessments • STAI S-Anxiety Short Form • PSS	1.5 hours

	• Didactic: What Is Mindfulness?
	  o Foundational attitudes
	  o Research
	• Practice: Body Scan
	• Group Process and Discussion
	• Wrap-up/ Options for homework		

2	Being Where You Are • Introduction to Small Group Check-in (mindfully listening/ talking): Where am I now? • Group Process: Follow-up • Didactic: Being Where You Are • Break • Practice: Mindfulness of Breathing • Group Process and Discussion: Routines • Wrap-up/ Options for homework	• Ongoing informal observations during check-ins, practice, and discussions to monitor student levels of change and perceptions of stress	1.5 hours
3	Stream of Thoughts and Stress • Small Group Check-in: Where am I now? • Group Process: Follow-up • Practice: Mindful Walking Meditation • Group Process • Break • Didactic: Stream of Thoughts and Stress and STOP Technique • Practice: Mindfulness of Sound • Group Process • Wrap-up/ Options for homework	• Ongoing informal observations during check-ins, practice, and discussions to monitor student levels of change and perceptions of stress	1.5 hours
4	Kindness for Oneself and Others • Small Group Check-in: Where am I now? • Group Process: Follow-up • Didactic: What is Loving-Kindness About? • Practice: Loving-Kindness for Others and Self • Group Process • Break • Techniques: RAIN or Anchor Phrases (dealing with challenging moments) • Group Process • Wrap-up/ Options for homework	• Ongoing informal observations during practice, check-ins, and discussions to monitor student levels of change and perceptions of stress	1.5 hours
5	Willing to Be With Things as They Are	• Ongoing informal observations during	1.5 hours

	• Small Group Check-in: Where am I now? • Group Process: Follow-up • Practice: Walking Meditation with Loving-Kindness for Others and Self • Group Process • Break • Technique: Exploring the Unpleasant-Neutral-Pleasant • Group Process • Didactic: Willingness to Be With Things as They Are • Discussion • Wrap-up/ Options for homework	practice, check-ins, and discussions to monitor student levels of change and perceptions of stress	
6	Moving Onward and Upward • Small Group Check-in: Where am I now? How was my journey? • Group Process: Follow-up • Creating my Plan (maintain/ sustain) o Time commitment o Mobile applications o Self-help strategies • Break • Practice: Mindfulness of Breathing With Spaciousness • Group Process • Post-intervention Assessments • Wrap-up	Before the Wrap-Up: Post-intervention Assessments • STAI S-Anxiety Short Form • PSS • Mindfulness Training Program Survey	1.5 hours
			TOTAL time commitment for each participant: 9 hours

- Describe the rationale for any inclusion and exclusion criteria for participants over and above membership in the target population.

All students enrolled in 2019 Fall semester Year 1 courses in the UF entry-level occupational therapy program and who attend classes in August 2019 will be eligible to participate in this evidence-based mindfulness intervention program. Enrollment will be determined by presence on the UF roster for 2019 Year 1 Fall semester courses and class attendance by report of teaching faculty members.

- If you intend to use a vulnerable population, describe the reasons for including them and what, if any, additional safeguards are needed to protect them.

The Year 1 student cohort was selected for potential study participants because the principal investigator, who is a member of the UF faculty, will have been introduced to very few of the students and will not be teaching them during the 2019 Fall semester in which the study intervention will be administered.

Recruitment of participants will begin with the inclusion of a flier in the materials provided to the incoming cohort at their formal departmental orientation. With the principal investigator not in attendance, the Program Director will briefly draw the students' attention to the flier and invite those who are interested to attend one of two voluntary introductory meetings that will be led by the principal investigator in the upcoming few weeks. The meetings will introduce the students to the principal investigator and the evidence-based mindfulness training research study. The principal investigator will review the informed consent form, item by item, and emphasize the voluntariness of their participation and the supports for confidentiality. The students will have an opportunity to ask questions and will be informed of the principal investigator's office hours during which they also will be able to ask questions on an individual basis. Students will be able to sign the Informed Consent Form at the introductory meetings and during individual meetings if they prefer.

- Briefly outline the data analyses that are proposed and who will do the analysis.

Upon completion of the evidence-based mindfulness training project, pre- and post-intervention data from the STAI S-Anxiety Short Form and the PSS will be described, analyzed, and compared using descriptive statistics. Scoring will be performed using the instructions for each tool and then coded. The demographic data also will be calculated and evaluated. Microsoft Excel and the Excel add-in Toolpak will be used to calculate differences in means and percentage differences in means of the Likert-scale data to determine amount of change in pre- and post-intervention results. Success will be determined by comparing the differences in anxiety (i.e., STAI S-Anxiety Short Form data) and perceived stress (i.e., PSS data) pre- and post-intervention at group as well as individual levels. Descriptive statistics will also be used to analyze data from the Mindfulness Training Program Survey, which uses a Likert scale and open-ended questions to obtain participants' feedback on their perceived success in the use and valuation of the mindfulness training.

The principal investigator will analyze the data sets and collaborate with an identified member of the UF occupational therapy faculty to corroborate and support the credibility of the findings. The two Chatham University faculty members serving as advisors for this study, i.e., Ingrid Provident, Ed.D, OTR/L, and Jennifer Lape, OTD, OTR/L, will review and provide the principal investigator feedback on data analysis and interpretations.

4. Possible Discomforts and Risks:

- Identify any discomforts and risks (physical, psychological, social, and/or economic or financial) that study participants may encounter, listing more common risks first, then less common risks.

There are minimal discomforts and risks that participants may encounter. Students may feel minimal discomfort, anxiety, or stress during mindfulness-based practice sessions, such as meditative breathing exercises or body scan meditation, or during group discussions where they will be offered the opportunity to share their thoughts and experiences. Physically, students will be sitting in a chair, standing, or walking as they would in a regular classroom experience. They may choose to lie or sit on large therapy floor mats that will be available in the occupational therapy classroom if they wish during mindfulness practices, but there will be no unusual physical demands or posturing introduced or expected during the training sessions. Yoga will not be included in this training. To address potential inconvenience in scheduling, two sessions will be offered each week to accommodate the students.

- Describe whether disclosure of identifiable information about the participants presents any additional risks to them.

Additional risks to participants due to disclosure of identifiable information is not anticipated. However, the principal investigator will make every effort to assure that privacy and confidentiality will be respected and protected as fully as possible.

- Describe procedures to protect against or minimize potential discomforts and risks.

Participants will be clearly informed that their participation is voluntary, that they should participate at their personal comfort level, and that they can withdraw at any time with no consequences. Students who withdraw will have the option to complete the mindfulness training intervention. Data from students who withdraw will not be used. Students will be educated about the issues of confidentiality in group formats and reminded that confidentiality, although the responsibility of the group facilitator and group members to support, cannot be assured. They will be encouraged to share their thoughts and experiences judiciously. Students will also be informed that if they feel uncomfortable closing their eyes during meditation practices, they may keep their eyes open or partially open with their gaze downward to support the comfort of others.

The principal investigator, a licensed occupational therapist with a Master of Arts degree in Counseling Psychology, has 15 years of experience teaching graduate level occupational therapy students and supporting them through times of distress. During the training sessions, members of the occupational therapy department will be available via phone to provide immediate assistance in the classroom, if needed, and the principal investigator or another faculty member will be available to support students during the hours that the department is open. Participants will be informed that if their anxiety and/or stress levels become uncomfortable during the study, they will be assisted in accessing the UF student resources, i.e., the Counseling and Wellness Center mental health services or “U Matter, We Care” the 24-hour/7 days-a-week program. If students are physically uncomfortable, they will be provided different seating options and will have the option to lie down or walk around, as needed for comfort. Mid-session bathroom breaks will be provided.

5. Possible Benefits:

- Describe the potential benefits to subjects or to others that may be reasonably expected to result from the research. If there is no potential for direct benefits, state this in the informed consent form/script.

Participation in the evidence-based mindfulness training study is expected to increase participants' knowledge of and skill in mindfulness practices and decrease their levels of anxiety and stress while engaged in learning in the classroom. Reduction in levels of anxiety and stress have been shown to improve students' mental health and well-being (Kelley, 2017). In addition, the students should be able to use mindfulness practices to manage anxiety and/or stress during their clinical fieldwork experiences and ideally to help support their transition to professional practice as occupational therapists.

- Discuss why the risks to subjects are reasonable in relation to the anticipated benefits and in relation to the importance of the knowledge that may reasonably be gained. Will the research study benefit future populations?

While the risks of evidence-based mindfulness training to participants are minimal, the findings from this study will be used to improve the training program, which then will be offered to support the mental health of future students in the UF occupational therapy department. The results also will be shared professionally via presentation and/or publication.

6. Conflict of Interest:

- Describe any real or potential conflict of interest you or any other investigators may have with regard to this specific research project.

The principal investigator has no real or potential conflict of interest in regard to this research project.

- Real or potential COI's should be specified in all consent forms/scripts.
- When deciding whether a conflict may exist, consider the following:
  - o Do you, the University of Florida, or any of the sub-investigators hold, or under review for, a patent, copyright or license for any material, object, or process used in this project?
  - o Do you, the University of Florida, or any of the sub-investigators own stock in or have a relationship with a company or agency sponsoring or hosting the project?
  - o Do you or any of the sub-investigators have any other possible conflict of interest, or any relation with agencies or organizations that may be sponsoring, or be the topic of, the research? If there are such organizations identified in the consent, either describe your relationship with them or state that you have no relationship with them other than that of researcher.

Invitation to Voluntary Introductory Meetings Script

During the department orientation program for the incoming students, Dr. Christine Myers, Program Director for the Entry-Level Doctor of Occupational Therapy Program, will draw the students' attention to the Recruitment Flier, which will be located in the student orientation packet. Emily Pugh, the principal investigator will not be present at their orientation.

Script for Dr. Myers:
(Dr. Myers will show students the flier from their packet.)
One of our faculty members, Ms. Pugh, will be conducting a research study to see if training in mindfulness practices can help occupational therapy students lower their levels of stress and anxiety. Mindfulness training has been shown help medical, nursing, and other professional students decrease stress and anxiety, but very few studies have included OT students. You all are invited to attend a meeting where Ms. Pugh will tell you about the study, what it will offer you, and what it will involve. She will answer any questions that you may have. Information about the time and place of the two meetings are indicated on this flier. Ms. Pugh also has included how to contact her. This is an opportunity to learn about and volunteer for a project that may benefit you as you start the occupational therapy program.

Are you stressed or anxious about school or daily life situations?

You have the opportunity to be part of a research study that may help you manage stress and anxiety

What is the purpose of the research? To determine if mindfulness training helps occupational therapy students reduce their levels of stress and anxiety, like it has for students in other professional programs

What would I have to do?

- Participate in 6 weekly mindfulness training sessions outside of regular class time
- Take a confidential survey to rate your level of stress and anxiety at the beginning of the first session. Then retake the survey during the last session and offer your thoughts about mindfulness and the training program

Where will the training sessions be held? In the Occupational Therapy Department

How might I benefit? Learn how to use mindfulness practices to reduce levels of anxiety and stress, which has been shown to improve students' academic performance, mental health, and well-being

How can I learn more about the study?

- Attend an introductory meeting with the primary investigator, Ms. Emily Pugh, faculty member of the Occupational Therapy Department, scheduled for
  - Date, time, location
  - Date, time, location
- Contact Ms. Pugh personally
  - Email her at epugh@phhp.ufl.edu or call (352) 273-6096
  - Visit her during posted office hours in the Occupational Therapy Department, Room 2110

UF IRB protocol number: IRB201901779

Informed Consent Form

UF | Institutional Review Board
UNIVERSITY of FLORIDA

RESEARCH PARTICIPANT INFORMED CONSENT FORM

Please read this document carefully before you decide to participate in this research study. **Your participation is voluntary, and you can decline to participate, or withdraw consent at any time, with no consequences**.

Study Title: Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

Person conducting the research:

Principal Investigator: Emily S. Pugh, MA, OTR/L

Title: Program Director and Associate in Occupational Therapy

Department affiliation: Department of Occupational Therapy

Email address: epugh@phhp.ufl.edu

Phone number: (352) 273-6096

Key information:

- **The purpose of this mindfulness training project is to help occupational therapy students decrease their anxiety and stress.**
- **The project involves participating in once a week group mindfulness training sessions for 6 weeks in the occupational therapy department.**
- **The research study involves taking 2 online confidential surveys in the first and last training sessions to compare your levels of anxiety and stress at the beginning and end of**

the training. One additional short survey in the last session will ask you to provide feedback about your experience and how to improve the training.

- **No more than minimal risk or discomfort is anticipated because you control how much you participate and share in the groups.**
- **You may benefit by learning mindfulness practices to reduce your anxiety and stress levels.**

Purpose of the research study:

The purpose of this research study is to determine if learning and practicing mindfulness skills will help Doctor of Occupational Therapy students reduce their anxiety and/or stress levels.

What you will be asked to do in the study:

You are being invited to volunteer for a mindfulness training research study that will be conducted by the principal investigator. The training will extend over 6 weeks in the Fall semester of 2019. You will be asked to attend 6 mindfulness training group sessions, 1 group training session per week for 6 weeks. This mindfulness training, which will be outside of regularly scheduled class time, is not a part of the regular occupational therapy curriculum. You will not miss any regularly scheduled learning activities or classes. The 6 weekly training sessions will include learning about mindfulness, practicing mindfulness techniques, and, within your comfort level, talking about your thoughts and experiences.

The research will involve your taking 2 online confidential surveys for a total of about 15 minutes during the first training session and again 6 weeks later at the last session. The surveys will ask about your thoughts and feelings so as to measure your levels of anxiety and stress. During the last session you will also be asked to take an additional short, approximately 10-minute, survey to provide your age range, gender identity, ethnicity, education level, and previous mindfulness

practice and to offer feedback about your mindfulness experience and ideas about how to improve the training. You can choose not to answer any or all of the questions on the surveys. This project is in partial satisfaction of the requirements for the principal investigator's doctorate education at Chatham University.

Time required:

Each training session will be held in an occupational therapy classroom once a week for no longer than 1 hour and 30 minutes. You are being asked to make a total time commitment of no longer than 9 hours over the 6 weeks.

Risks and benefits:

Risks: There are no more than minimal risks in your participation. You may feel minimal discomfort, anxiety, or stress during the sessions, which can be minimized if you understand that you need only participate at your comfort level. If your anxiety and/or stress level should become uncomfortable during the study, you will be able to access the University of Florida student resources, i.e., the Counseling and Wellness Center mental health services or "U Matter, We Care" a 24-hour/7 days-a-week program. There will be other members of the occupational therapy department to provide assistance during the training sessions, if needed, and the principal investigator or another faculty member will be available to support you during the hours that the department is open. The principal investigator will also post office hours.

Benefits: Your participation may increase your knowledge of mindfulness practices and decrease your level of anxiety and stress, the results of which have been shown to improve academic performance, mental health, and well-being. In addition, your participation may help you manage anxiety and/or stress during clinical fieldwork.

Alternatives to participating in the study:

If you withdraw from the study, you will have the option to complete the mindfulness training, but your personal data would not be included. There will be no negative consequences if you choose not to participate in the study. Non-participation will not affect your grades or status in the Doctor of Occupational Therapy program.

Confidentiality:

Your consent form will be the only document with your personal identification. It will be kept in a locked file in the University of Florida Occupational Therapy Department in a locked office until it is scanned and saved on a secure server, after which it will be destroyed. When taking the online surveys, you will be asked to use a 4-digit number, one that you choose and is easy for you to recall, as your identifier to protect your confidentiality. All study data will be collected through an online survey-collection program called Qualtrics. Qualtrics is a secure site with SAS 70 certification for rigorous privacy standards. Any data that you provide through this program will be encrypted for security purposes using Secure Socket Layers (SSL). To protect your privacy, all participants' IP addresses will be masked by Qualtrics and will be unavailable to, and unidentifiable by, the principal investigator or others. Qualtrics' privacy policy can be obtained on the Qualtrics Privacy Statement page: (https://www.qualtrics.com/privacy-statement/. **Only the principal investigator, and the Chatham University faculty IRB advisor and capstone advisor will have access to the data. Data will be retained for 5 years and then destroyed.**

The University of Florida Canvas online learning management system, which will be used to provide the training materials, will be password protected. For presentations and/or publications

resulting from this study, any potential identifying information will be removed to support your confidentiality. Your identity will be kept confidential to the extent provided by law.

Compensation:

Upon completion of the training, you will receive a Certificate of Completion as compensation for your participation in the study. This certificate may be used for your professional portfolio and/or resume.

May the researcher benefit from the research?

The researcher may benefit professionally if the results of the study are presented at meetings or in scientific journals.

Withdrawal from the study:

You are free to withdraw your consent and to stop participating in this study at any time without consequence. You can decline to answer any question you don't wish to answer. **If you withdraw, your information will not be used.**

If you wish to discuss the information above or any discomforts you may experience, please ask questions now or contact the principal investigator listed at the top of this form.

If you have any questions regarding your rights as a research subject, please contact the Institutional Review Board (IRB02) office (098 PSY Bldg., University of Florida; Box 112250; (352) 392-0433 or irb2@ufl.edu.)

Agreement:

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

_____

Participant Name

_____ _____

Participant Signature Date

Emily S. Pugh

Name of Person obtaining informed consent

_____ _____

Signature of Person obtaining informed consent Date

Emily S. Pugh

Principal Investigator Name

_____ _____

Principal Investigator Signature Date

Permission to Use Site

UF UNIVERSITY of FLORIDA

College of Public Health and Health Professions
Department of Occupational Therapy

1225 Center Drive
P O Box 100164
Gainesville, FL 32611-0164
352-273-6817
352-273-6042 Fax
www.phhp.ufl.edu/ot

January 29, 2019

To Whom It May Concern:

This letter is to serve as permission for **Emily Pugh** to complete an evidence-based practice capstone project at the **University of Florida Occupational Therapy Department located in the Health Professions Nursing Pharmacy building.** Specifically, **Emily Pugh** will be permitted to implement an evidence-based occupational therapy intervention/program related to **mindfulness training for entry-level occupational therapy students. The proposed weekly program will include a didactic section to introduce basic concepts, e.g., mindfulness benefits, stress theory and prevention, mindfulness techniques. A supervised skills practice component will allow the students to experience a variety of mindfulness approaches to determine which would be most effective for preventing or managing stress and anxiety in different academic and daily situations that they may encounter.** The weekly program sessions will be completed in the **Fall semester of 2019 and is projected to take 6 weeks.** I understand that the purpose of the evidence-based capstone project is to address: **Is mindfulness training useful in reducing perceived levels of anxiety and stress in entry-level occupational therapy students?**

Sherrilene Classen, PhD, MPH, OTR/L, FAOTA, FGSA
Professor and Chair, Department of Occupational Therapy

Pugh CV

CURRICULUM VITAE

Emily S. Pugh, MA, OTR/L, FAOTA

University of Florida, College of Public Health and Health Professions
Department of Occupational Therapy
Box 100164, JHMHC
Gainesville, FL 32610
(352) 273-6017

EDUCATION:

Chatham University, Pittsburgh, PA
Doctor of Occupational Therapy, anticipated December 2019

M.A. Rollins College, Winter Park, Florida
Master of Arts Degree in Counseling Psychology, 1991

B.H.S. University of Florida, Gainesville, Florida
Bachelor of Health Science Degree in Occupational Therapy, 1985

PROFESSIONAL CREDENTIALS:

1986 to Present - State of Florida, Agency for Health Care Administration, Department of Health, Occupational Therapist License #OT0001705

1986 to present - AOTA/ ACOTCB/ NBCOT Certification #AA464008

1983 to present - American Occupational Therapy Association membership #464008

1983 to present - Florida Occupational Therapy Association membership #71008

2000 to 2013 - State of Florida, Agency for Health Care Administration, Division of Health Quality Assurance, Health Care Risk Manager License #5502509

PROFESSIONAL EXPERIENCE:

2003-present Program Director and Associate in, University of Florida, College of Public Health and Health Professions, Department of Occupational Therapy, Gainesville, FL

- Program clinical and financial management and administration; curriculum design and instruction
- Course coordination, curriculum development, and instruction for on-campus courses
- Academic advisement and counseling of graduate students
- Clinical service contract negotiation, management, and clinical supervision

1999-2003 Adjunct Faculty**,** University of Florida, College of Health Professions, Department of Occupational Therapy, Gainesville, FL

- Course development and instruction for distance learning advanced master's students: Leadership and Independent Practice (OTH6707), Trends and Issues in Health Care (OTH6720), and Professional Development (OTH6097)

1998-2003 Director of Quality Management, Shands Rehabilitation Hospital and Shands at Vista Behavioral Health Hospital, Gainesville, FL

- Oversight of continuous quality improvement and regulatory compliance programs
- Risk management designation
- Health Information Management, Diagnostic Services, and Pharmacy department management
- Staff orientation and training and clinical project initiatives

1996-1998 Associate Director of Rehabilitation Services, Shands HealthCare, Gainesville, FL

- Strategic planning and operations for organizational redesign of network Rehab Services: human resource management, staff development, regulatory survey compliance, accessibility of care, standards of care and competencies
- Oversight of subacute care and preparation for the Medicare PPS reimbursement transition
- Realignment of budgets of redesigned cost centers

1993-1996 Director of Occupational Therapy, Shands Hospital at the University of Florida, Gainesville, FL

- Management of the Occupational Therapy and Recreational Therapy departments and the contracted speech pathology services from the University of Florida College of Health Professions
- In collaboration with the Director of Employee Health, design and development of a work injury prevention program
- Representation of the Rehab departments on the Shands AvMed-Santa Fe due diligence work group, Pediatric Executive committee, Children's Hospital Within a Hospital steering committee, Geropsychiatry Unit Administrative committee, Shands HomeCare Operations committee, Cancer Center Advisory committee, and other operational committees

1990-1993 Associate Director of Physical Medicine and Rehabilitation, Florida Hospital Medical Center, Orlando, FL

- Management of the Occupational Therapy Department, providing services for pediatric and adult acute care, acute adult inpatient rehabilitation unit, multi-site outpatient adult rehab services, adult cognitive day treatment program, and subacute care units
- Management of the Head Injury/NeuroRehabilitation Program for the 50-bed rehabilitation unit
- Collaboration with stakeholders to plan, open, and operate two rehabilitation outpatient facilities and three subacute care facilities

- Consultation services to develop hospital-wide ADA compliance and education program

1989-1990 Senior Occupational Therapist, Brain Injury Rehabilitation Center, Orlando Regional Medical Center at Sand Lake Hospital, Orlando, FL
- Provision of direct patient care and caregiver services
- Design, implementation and evaluation of clinical and educational programs
- Orientation, training, supervision of professional and support staff and assurance of adequate staffing
- Development and coordination of the student affiliation program for the ORMC system

1987-1988 Director of Program Development, NMS Rehabilitation, Inc., Maitland, FL
- Development, implementation and monitoring of clinical services, risk management and injury prevention programs, staff orientation and training, including policies and procedures for physician clinic

1986-1987 Staff Occupational Therapist, Brain Injury Rehabilitation Center, ORMC at Sand Lake Hospital, Orlando, FL
- Provision of direct patient care services and student supervision
- Development and implementation of interdisciplinary community reintegration programs for cognitively and physically impaired clients
- Coordination of Volunteer Services

CURRENT TEACHING RESPONSIBILITIES (both MASTER and DOCTOR OF OCCUPATIONAL THERAPY PROGRAMs):

Course instructor and co-designer
- OTH6324 Psychosocial Occupational Therapy Evaluation and Intervention (3 credits; 44 students)
- OTH6850 Psychosocial Level 1 Fieldwork (2 credits; 22 students)
- OTH6437 Occupation-based Practice and Rehabilitation: Physical Domain Lecture (4 credits; 44 students)
- OTH6437L Occupation-based Practice and Rehabilitation: Physical Domain Lab (2 credits: 44 students)
- OTH6539 Occupational Therapy Theory (3 credits; 45 students)
- OTH6726 Occupational Therapy Service Delivery and Organization (2 credits; approximately 44 students)

CAPSTONE PROJECTS SUPERVISED (MASTER DEGREE):

2010 Kapuakehau, Kristy. Committee member. Master of Health Science. Leading with questions: Developing advanced communication skills with managers in a learning organization. University of Florida.

2008 Rizzo, Colleen. Committee member. Master of Health Science. Designing and evaluating an assistive technology clinic for a non-profit agency. University of Florida.

2006 Lai, Brian. Committee member. Master of Health Science. Developing a business plan for a private pediatric occupational therapy clinic in the greater Vancouver area. University of Florida.

HONORS AND RECOGNITIONS:

2017 Roster of Fellows for Exemplary Leadership, Education and Facilitating Client Safety. American Occupational Therapy Association in Philadelphia, PA, April 1, 2017
2017 Service Commendation Award. American Occupational Therapy Association
2014 Service Commendation Award. American Occupational Therapy Association
2010 David Clark Award of Excellence for loyal dedication, unwavering commitment, and outstanding contributions to promote excellence in Occupational Therapy. Florida Occupational Therapy Association
2008 Service Commendation Awards (2). American Occupational Therapy Association
1997 Award of Service for longstanding contributions to the promotion of Occupational Therapy in Florida. Florida Occupational Therapy Association
1996 Award of Recognition for outstanding contributions to Occupational Therapy in Florida and for outstanding service to FOTA. Florida Occupational Therapy Association
1992 Hope and Light Award for your inspiration and dedicated commitment to our victims, caregivers, and staff. Hope and Help Center of Central Florida, A non-profit AIDS Resource Agency. Orlando, FL
1991 Judith M. Ziffer Award in recognition of significant contributions to AIDS treatment. Rollins College, Winter Park, FL

PROFESSIONAL VOLUNTEER SERVICE:

1983-present American Occupational Therapy Association
2005-2017 Representative Assembly
- 2014-2017 Recorder
- 2011-2014 Agenda Chair
- 2011-2017 Representative Assembly Leadership Team/Committee
- 2012-2013 Chair, Ad Hoc Committee on Motion Management
- 2008-2011 Member, Agenda Committee
- 2010-2011 Task Group Leader
- 2008-2010 Assistant Task Group Leader
- 2007-2011 Florida Representative
- 2005-2007 Florida Alternate Representative
- 1994-1996 Member, Commission on Education
- 1984-1985 Student Member, Commission on Education

2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 Annual conference proposal reviewer (25-30 reviews annually)
Sept. 2007 Participant (expertise: risk management), Driving Experts Meeting, Bethesda, MD

1996-1997 Chair, Student Affairs Subcommittee of the Local Conference Committee, 1997 American Occupational Therapy Annual Conference and Expo; Orlando, FL

1983-present Florida Occupational Therapy Association

2005-2011 Member, Executive Board as Florida Alternate and Representative to the American Occupational Therapy Association Representative Assembly

- 2009 Chair, Lela Llorens Research Award Ad Hoc Committee
- 2008 Co-chair, Strategic Plan Development Ad Hoc Committee

2007-2008 Chair, Local Conference Committee for 2008 Annual FOTA Conference, Gainesville, FL

1991-1998 Member, Executive Board

- 1995-1998 Coordinator, Special Interest Sections
- 1991-1996 Chair, Physical Disabilities Special Interest Section
- 1995 Member, Ad Hoc Continuing Education Task Force to advise the State of Florida legislative staff charged with developing rules and regulations for continuing education hours for occupational therapy licensure

1993-present North Central Florida Occupational Therapy Forum, Gainesville, FL region (mentoring, planning and operational assistance and support)

2000-2011 State of Florida Brain and Spinal Cord Injury Program, Tallahassee, FL

2009-2011 Member, Research, Data Collection and Evaluation Committee

2008, 2009 Reviewer, grant applications
2000-2004 Member, Inpatient and Outpatient Rehabilitation Committee

2000-2004 Administrative site surveyor for program accreditation

2008 Invited guest reviewer for Topics in Geriatric Rehabilitation special issue on Public Health, Disability and Aging

2001-2003 Member, North Central Florida Community Forum on End of Life issues, Gainesville, FL

Interdisciplinary collaboration on developing an end-of-life packet containing acomprehensive advanced directives form and train-the-trainer educational program on its use

1989-1993 Hope and Help Center of Central Florida, A not-for-profit AIDS Resource Agency, Orlando, FL

1989-1993 Facilitator, weekly support group for individuals with HIV/AIDS
1989-1993 Pro bono occupational therapist, home-based services for clients and families
1991-1993 Facilitator, biweekly caregivers support group

1991-1993 National Multiple Sclerosis Society, Orlando, FL
Member, Professional Advisory Board, Central Florida Chapter

UNIVERSITY OF FLORIDA SERVICE:

2010-present Presidential appointment to the Board of Directors of Oak Hammock Continuing Care Retirement Community at the University of Florida, Gainesville, FL
2018-Present Advisor, Strategic Planning Committee
2016-2017 Chair, Strategic Planning Committee
2015-2016 Vice-Chair
2015-2016 Member, Executive Committee
2015-2016 Chair, Search Committee for President and CEO (national search)
2016-2017 Member, Transition Committee for new President and CEO
2015-2016 Chair, Social Responsibility Committee (outreach to improve well-being of older adults living in the county)
2010-2018 Member, Health Pavilion Oversight Committee (quality and safety of care provided in Skilled Nursing, Memory Support, Assisted Living units)
2010-2018 Member, Compliance Committee (Medicare compliance)

2009-2012 Senator, Faculty Senate
2004-2012 Member, Distance, Continuing and Executive Education Advisory Committee

HEALTH SCIENCE CENTER SERVICE:

2010-2011 Member, Search Committee for Distance Learning Librarian
2005-2009 Member, Library Advisory Committee

COLLEGE OF PUBLIC HEALTH AND HEALTH PROFESSIONS SERVICE:

2019-Present Member, Teaching Excellence Committee
2014-present Member, Diversity and Inclusion Committee
2011-2014 Member, Collaboration Committee
2008-2013 Faculty Council, Department of Occupational Therapy Representative
2009-2010 Chair
2008-2009 Vice-Chair

2009 Member, Search Committee for Dean of College
2009 Member, College Strategic Planning Committee

2004-2008 Appointed by Dean to oversee development of Rehabilitation Services for Oak Hammock Continuing Care Retirement Community at the University of Florida, Gainesville, FL
2004-2005 College liaison for contract negotiations, planning, and equipment purchases

2004	Chair, Search Committee for inaugural Director of Rehabilitation Services
2004-2008	Mentor for Director of Rehabilitation Services
2004	Member and Workshop Facilitator, College Strategic Planning Committee
2004	Member, Cultural Enhancement Committee

DEPARTMENT OF OCCUPATIONAL THERAPY SERVICE:

2019-present	Member, Department of Defense Recruitment Team
2019-present	Member, Awards Committee
2017-present	Faculty Advisor, Student-Run Equal Access Occupational Therapy Clinic
2017-2019	Chair, On-Line Education Task Force
2012-2018	Faculty Leader of Adult and Seniors Coursework
2003-2014	Member, Occupational Therapy Leadership Committee
2010-2018	Member, Proposed OTD Program Planning Committee
2013-2018	Member, Master of Occupational Therapy Program Admissions Committee
2013	Member, Search Committee for Clinical Assistant Professor and Academic Fieldwork Coordinator
2004-2009	Chair, Search Committees for two contract Occupational Therapists
2008	Coordinator for The Complete Shoulder continuing education course
Feb. 2008	Co-Coordinator, International Conference on Aging, Disability and Independence

REPRESENTATION OF PAST PROFESSIONAL SERVICE:

Shands HealthCare and University of Florida College of Health (Related) Professions Collaborative Activities

1996-2003	Member, UF/Shands HealthCare Subcommittee on Credentialing Non-Physician Staff
1995-1998	Member, UF Health System Rehabilitation Network Strategic Planning Committee
1995-1998	Member, UF Health System Behavioral Health Network Strategic Planning Committee
1996	In collaboration with University of Florida Occupational Therapy Chair, initiation of a Shands Occupational Therapy Department funded grant program to support faculty research
1995	In collaboration with University of Florida Occupational Therapy Chair, initiation of a faculty practice plan at Shands HealthCare
1994-1998	Negotiation and management of Shands HealthCare clinical contract with the University of Florida Department of Communicative Disorders

GRANTS AND RESEARCH:

2019-present Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students, PI
2015-2017 Safety Education and Safety Culture in a Master of Occupational Therapy Educational Program in collaboration with George Hack, PhD, PI.
2008-2010 An Online Continuing Education Program for Occupational Therapy and Physical Therapy Clinicians; Shands Health Care Quasi Endowment Fund. $62,000
2005-2006 Internationalizing the Curriculum of the Trends and Issues Course in the Distance Learning Master's Program; University of Florida Transnational and Global Studies Center. $3000

PUBLICATIONS:

Non-peer Reviewed:
Nonaillada, J. & **Pugh, E**. (2016). How occupational therapy practitioners can promote an environment of safety. *OT Practice, 21*(19), 15-16.

PRESENTATIONS:

Peer Reviewed
Pugh, E. Supporting College Student Mental Health to Enhance Occupational Performance in Classroom, Lab, and Fieldwork. Florida Occupational Therapy Association Annual Conference, Orlando, FL, October 2018.

Pugh, E., Young, M.E. & Lutz, B.J. The Role of Occupational Therapy in Stroke Caregiver Readiness Assessment and Intervention to Enhance Discharge Outcomes. American Occupational Therapy Annual Conference, Salt Lake City, UT. April 2018.

Pugh, E. & Young, M.E. The Role of Stroke Caregiver Readiness to Enhance Discharge Outcomes. Florida Occupational Therapy Association Annual Conference, Orlando, FL, November 2017.

Pugh, E. & Hack, G. Creating a Culture of Safety Through the Use of Clinical Reasoning. American Occupational Therapy Annual Conference, Philadelphia, PA. April 2017.

Pugh, E. Teaching Structured Reasoning to Create a Culture of Safety in the Clinic. Florida Occupational Therapy Association Annual Conference, Orlando, FL, November 2016.

Crowley, S.J. & **Pugh, E**. Opportunities to Impact Practice Through AOTA Standards and Policy Development. Florida Occupational Therapy Association Annual Conference, Orlando, FL. November 2016

Nonaillada, J. & **Pugh, E**. How Occupational Therapy Practitioners Can Promote an Environment of Safety in Their Healthcare Facility. American Occupational Therapy Annual Conference, Nashville, TN. April 2015

Baxter, M. F., Chisholm, D., Sonnier, D., **Pugh, E**. & Ikiugu, M. Impact AOTA Policy: Take a Notion and Make it a Motion. American Occupational Therapy Annual Conference, Baltimore, MD. April 2014

Watson, L. & **Pugh, E.** Gear Up Your Teaching Skills: An evidence-based workshop on best teaching practices. Florida Occupational Therapy Association Annual Conference, Tampa, FL. November 2012

Pugh, E. The AOTA Representative Assembly Motions and Strategic Plan. Florida Occupational Therapy Association Annual Conference, Sarasota, FL. February 2011

Pugh, E. The Role of Occupational Therapy Practitioners in Patient Safety and Medical Error Prevention. American Occupational Therapy Annual Conference, Orlando, FL. May 2010

Inkel, B. & **Pugh, E**. Ethics: Exploring a Personal and Professional Journey. Florida Occupational Therapy Association Annual Conference, Orlando, FL. February 2009

Pugh, E. & Gwin, C. Hot Professional Issues Being Addressed by AOTA. Florida Occupational Therapy Association Annual Conference, Orlando, FL. February 2009

Pugh, E. Preventing Medical Errors. Florida Occupational Therapy Association Annual Conference, Ft. Lauderdale, FL. November 2006

Pugh, E. Advanced Medical Error Prevention for PTs and PTAs. Florida Physical Therapy Association Meeting, Gainesville, FL. May 2006

Pugh, E. Is Distance Learning Right for Me? Florida Occupational Therapy Association Annual Conference, Ft. Myers, FL. May 2005

Pugh, E. First Do No Harm: Patient Safety and Medical Errors for PTs and PTAs (State of Florida Board of Physical Therapy required and approved 2-hour Continuing Education for Physical Therapy practitioners). Florida Physical Therapy Association Meeting, Gainesville, FL. May 2002

Pugh, E. Pediatric Reimbursement: Balancing cost, quality and ethics, an interactive workshop. Florida Occupational Therapy Association Annual Conference, Jacksonville, FL. November 1996

Pugh, E. Clinical Pathway Development: Reaching your destination with minimal wear and tear. Florida TriAlliance Annual Conference, Orlando, FL. January 1995

Pugh, E. Developing an Interdisciplinary Clinical Pathway for Managing Patients with Schizophrenia. Florida Occupational Therapy Association Annual Conference, Tallahassee, FL. November 1995

Pugh, E. Managing a Culturally Diverse Occupational Therapy Department. Great Southern Occupational Therapy Conference, Destin, FL. October 1992

Pugh, E. TBI Orientation and Cognitive Groups: An interdisciplinary model. Great Southern Occupational Therapy Conference, Norfolk, VA. October 1991

Pugh, E. Sexuality and the Brain Injured Adult. Great Southern Occupational Therapy Conference, Savannah, GA. October 1989

Pugh, E. Effective Use of Groups in the Treatment of Brain Injury. Great Southern Occupational Therapy Conference, Orlando, FL. October 1988

Pugh, E. Personal Growth Group: A Bridge from Inpatient Rehab to the Community. Great Southern Occupational Therapy Conference, Orlando, FL. October 1988

Nelson, V. & **Pugh, E**. Developing an Interdisciplinary Group Model for the Cognitive Treatment of Brain Injury. Florida Language, Speech and Hearing Association Annual Conference. Daytona Beach, FL. May 1988

Pugh, E. Cognitive and Psychosocial Sequelae of Traumatic Brain Injury. Florida Occupational Therapy Association Annual Conference. Orlando, FL. November 1987

Invited (non-University of Florida)

Pugh, E. Update on the AOTA Representative Assembly. Region 7 South Occupational Therapy Forum. Ft. Lauderdale, FL. March 2011

Pugh, E. What's New at AOTA? Region 7 South Occupational Therapy Forum. Ft. Lauderdale, FL. March 2010

Pugh, E. AOTA Representative Assembly Duties and Current Issues. 2nd Annual Occupational Therapy on the Emerald Coast. Pensacola, FL. October 2009

Pugh, E. How is AOTA Helping me? Region 7 South Occupational Therapy Forum. Ft. Lauderdale, FL. March 2009

Pugh, E. First Do No Harm: *Prevention of Medical Errors for OTs and OTAs.* State of Florida Board of Occupational Therapy required and approved 2-hour Continuing Education for Occupational Therapy practitioners. Shands Hospitals and Outpatient Clinics, Gainesville, FL. July 2002. Also provided online.

Pugh, E. Preparing Students for the Changing Health Care Environment: The impact of managed care on education. AOTA Annual Meeting of the Commission on Education. Denver, CO. April 1995

Invited (University of Florida)

Pugh, E. Risk Management and Patient Safety for Nurses. College of Nursing, Gainesville, FL. November 2011

Pugh, E. Best Practices When Teaching Online. Rehabilitation Science Program. Gainesville, FL. October 2011

Pugh, E. Safety Concerns when Caring for Elderly Family Members with Dementia. Department of Clinical and Health Psychology. Gainesville, Fl. October 2006, rev. 2008, and rev. 2010

Pugh, E. Organizational Ethics and Health Care Risk Management. Bachelor of Health Science Program. Gainesville, FL. November 2004

References

American College Health Association. (2018). *American College Health Association-National College Health Assessment II: Graduate/professional student reference group executive summary fall 2017.* Retrieved from: https://www.acha.org/documents/ncha/NCHA-II_FALL_2017_REFERENCE_GROUP_EXECUTIVE_SUMMARY_GRADUATE_STUDENTS_ONLY.pdf

Cohen, S., & Janicki-Deverts, D. (2012). Who's stressed? Distributions of psychological stress in the United States in probability samples from 1983, 2006, and 2009. *Journal of Applied Social Psychology, 42*(6), 1320-134. https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1559-1816.2012.00900.x

Greeson, J. M., Juberg, M. K., Maytan, M., James, K., & Rogers, H. (2014). A randomized controlled trial of Koru: A mindfulness program for college students and other emerging adults. *Journal of American College Health, 62*(4), 222-233 https://doi.org/10.1080/07448481.2014.887571

Guillaumie, L., Boiral, O., & Champagne, J. (2017). A mixed-methods systematic review of the effects of mindfulness on nurses. *Journal of Advanced Nursing, 73*(5), 1017-1034. https://dx.doi.org/10.1111/jan.13176

Halladay, J. E., Dawdy, J. L., McNamara, I. F., Chen, A. J., Vitroroulis, I., McInnes, N., & Munn, C. (2018). Mindfulness for the mental health and well-being of post-secondary students: A systematic review and meta-analysis. *Mindfulness, 9,* 1-18. https://doi.org/10.1007/s12671-018-0979-z

Kelley, M. (2017). Essays and debates in mental health: Does mindfulness practice improve the mental health and wellbeing of healthcare students? *Journal of Psychiatric and Mental Health Nursing, 24*(1) 84-89. http://dx.doi.org/10.1111/jpm.12348

Kinser, P., Braun, S., Deeb, G.M., Carrico, C., & Dow, A. (2016). Awareness is the first step: An interprofessional course on mindfulness and mindful-movement for healthcare professionals and students. *Journal of Complementary Therapies in Clinical Practice, 25,* 18-25. https://doi.org/10.1016/j.ctcp.2016.08.003

McConville, J., McAleer, R., & Hahne, A. (2017). Mindfulness training for health profession students - The effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: A systematic review of randomized and non-randomized controlled trials. *Explore: The Journal of Science and Healing, 13,* 26-45. http://dx.doi.org/10.1016/j.explore.2016.10.002

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion, 12*(1), 38-48. https://doi.org/10.4278/0890-1171-12.1.38

Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders, 148*(1), 1-11. https://doi.org/10.1016/j.jad.2012.11.026

Rogers, H. B. (2016). *The mindful twenty-something.* Oakland, CA: New Harbinger Publications, Inc.

Spielberger, C. D. (2015). *State-Trait Anxiety Inventory for Adults manual.* Retrieved from http://www.mindgarden.com

Stillwell, S. B., Vermeesch, A. L., & Scott, J. G. (2017). Interventions to reduce perceived stress among graduate students: A systematic review with implications for evidence-based practice. *Worldviews on Evidence-Based Nursing, 14*(6), 507-513. https://dx.doi.org/10.1111/wvn.12250

Wolf, C., & Serpa, J. G. (2015). *A clinician's guide to teaching mindfulness.* Oakland, CA: New Harbinger Publications, Inc.

Yang, E., Schamber, E., Meyer, R. M., & Gold, J. I. (2018). Happier healers: Randomized controlled trial of mobile mindfulness for stress management. *Journal of Alternative and Complementary Medicine, 24*(5), 505-513. https://dx.doi.org/10.1089/acm.2015.0301

Training Certificate - Koru

Training Certificate – Mindful Schools

Appendix U: IRB Approval

UF | Institutional Review Board
UNIVERSITY of FLORIDA

Behavioral/NonMedical Institutional Review Board
FWA00005790

PO Box 112250
Gainesville FL 32611-2250
Telephone: (352) 392-0433
Facsimile: (352) 392-9234
Email: irb2@ufl.edu

DATE: 7/10/2019

TO: Emily Pugh
PO Box 100164
Gainesville, Florida 32610-0164

FROM: Ira Fischler, Ph.D., Professor Emeritus
Chair IRB-02

IRB#: **IRB201901779**

TITLE: Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

Approved as Exempt

You have received IRB approval to conduct the above-listed research project. Approval of this project was granted on 7/9/2019 by IRB-02. This study is approved as exempt because it poses minimal risk and is approved under the following exempt category/categories:

1. Research, conducted in established or commonly accepted educational settings that specifically involve normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction.
2. Research that includes only interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of 3 criteria are met: (i) the information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects; (ii) any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; OR (iii) the information obtained is recorded by the investigator in such a manner that the identity of human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited review to make the determination required by 45 CFR 46.111(a)(7) (which relate to there being adequate provisions for protecting privacy and maintaining confidentiality) AND the research is not subject to subpart D.
3. Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met: (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects; (ii) Any disclosure of the subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; OR (iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subject, and an IRB conducts a limited IRB review to make the determination required by 45 CFR 46.111(a)(7)

Special Note(s) to Investigator:

In the myIRB system, exempt approved studies will not have an approval stamp on the consents, fliers, emails, etc. However, the documents reviewed are the ones to be used. If you need to modify the document(s) in any manner then you'd need to submit to our office for review and approval prior to implementation.

Principal Investigator Responsibilities:

The PI is responsible for the conduct of the study.

- Using currently approved consent form to enroll subjects (if applicable)
- Renewing your study before expiration
- Obtaining approval for revisions before implementation
- Reporting Adverse Events
- Retention of Research Records
- Obtaining approval to conduct research at the VA
- Notifying other parties about this project's approval status

Should the nature of the study change or you need to revise the protocol in any manner please contact this office prior to implementation.

Study Team:

Appendix V:

Participant Suggestions to Improve the Program

Operational Suggestions	**Content Suggestions**
Follow-up sessions after initial training	More practice where we do the techniques on our own
Lunchtime meetings vs. morning	Recording of the instructor providing a guided body scan and other techniques
Meet in different mindful places like a nature trail or lake	List of apps/audio recordings/sheets that incorporate the research behind mindfulness
Increase program length or expand it to more students	Guest speakers
Full semester of training	
Continue advertising to first year students	
Mid-week reminder to encourage us to practice mindfulness	

Final PowerPoint Presentation

Mindfulness Training to Reduce Anxiety and Stress in Occupational Therapy Students

An Evidence-Based Capstone Project

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UF UNIVERSITY of FLORIDA

College of Public Health and Health Professions
Department of Occupational Therapy

The Setting:

- 60 year history
- 1st Florida public university with an entry-level OTD program
- 100% pass rate on NBCOT exam for consecutive years
- Program ranked 4th for Association of American Universities (AAU) public university members

Rationale for the Evidence-Based Project

- Faculty concern about increase in students' anxiety and stress
- National survey indicating anxiety and stress significantly impact graduate students' academic performance (American College Health Association, 2018)
- Literature supporting high levels of anxiety and stress in medical, nursing, other healthcare professional students (McConnville et al., 2017; Stillwell et al., 2017)
- A need to support the mental health of UF OT students

PIO Question

Is mindfulness training (Intervention) useful in reducing perceived levels of anxiety and stress (Outcomes) in entry-level occupational therapy students (Population)?

Literature Review

Search:

- 397 articles, published between 2009-2018
- Exclusion criteria: diagnosed mental illness, college-credit
- Mindfulness studies often small and very diverse
- Gap in the literature related to OT students

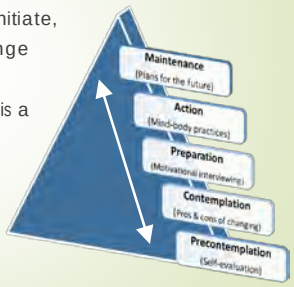
Results:

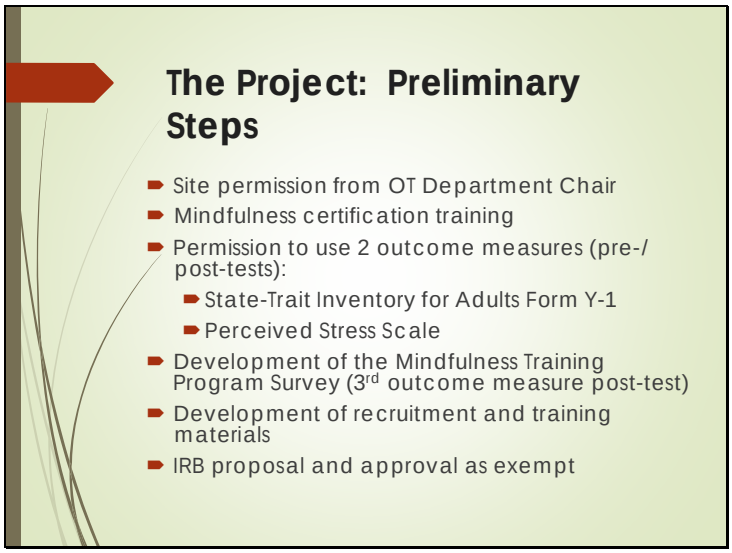
- Level I: 3 systematic reviews & 2 RCTs
- Level II: 3 systematic reviews
- Level III: 1 mixed methods
- 1 Qualitative
- 9 studies offered direct evidence & all 10 gave indirect support to the project

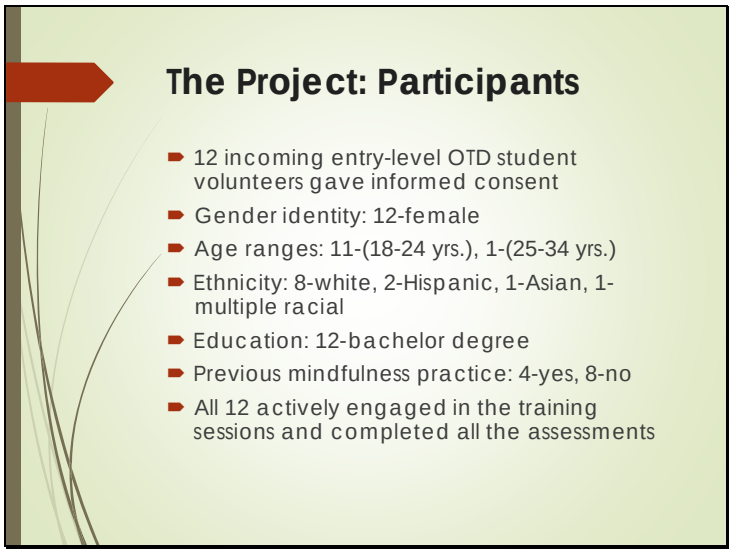
Summary Results: All studies supported mindfulness interventions for reducing student anxiety and/or stress

Conceptual Model for the Project: Transtheoretical Model of Health Behavior Change (Prochaska & Velicer, 1997)

- Stages individuals use to initiate, implement, and sustain change
- Movement may be up or down with regression, which is a part of the process
- Interventions provided at each stage can inform OT practice




The Project: Preliminary Steps
Site permission from OT Department Chair
Mindfulness certification training
Permission to use 2 outcome measures (pre-/ post-tests):
State-Trait Inventory for Adults Form Y-1
Perceived Stress Scale
Development of the Mindfulness Training Program Survey (3rd outcome measure post-test)
Development of recruitment and training materials
IRB proposal and approval as exempt


The Project: Participants
12 incoming entry-level OTD student volunteers gave informed consent
Gender identity: 12-female
Age ranges: 11-(18-24 yrs.), 1-(25-34 yrs.)
Ethnicity: 8-white, 2-Hispanic, 1-Asian, 1-multiple racial
Education: 12-bachelor degree
Previous mindfulness practice: 4-yes, 8-no
All 12 actively engaged in the training sessions and completed all the assessments

The Project: Implementation

- Group format
- Six consecutive weeks in fall semester
- 90 minute extra-curricular sessions
- All modules included: (McConville et al., 2017; Stillwell et al., 2017; Wolf & Serpa, 2015)
  - Didactic presentation
  - Focus: Mindful skills practice
  - Discussion/ self-reflection
- Homework optional (Bamber & Morpeth, 2018; Greeson et al., 2014; Stillwell et al, 2017)

The Project: Implementation

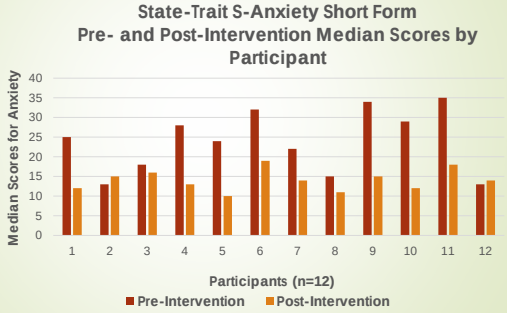
(Rogers, 2016; Stillwell et al., 2017; Wolf & Serpa, 2016)

- **Wk. 1:** What is Mindfulness? (2 pre-intervention assessments)
- **Wk. 2:** Being Where You Are
- **Wk. 3:** Stream of Thoughts and Stress
- **Wk. 4:** Kindness for Oneself and Others
- **Wk. 5:** Willing to Be With Things as They Are
- **Wk. 6:** Moving Onward and Upward (3 post-intervention assessments)

The Project: Assessments

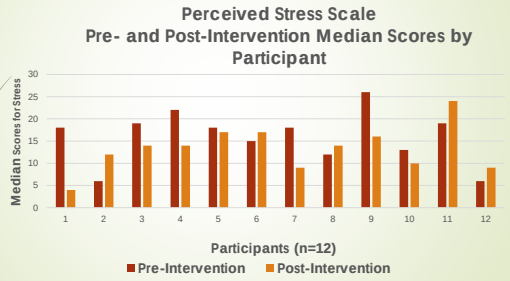
- **Pre-/ post-intervention surveys**
  - State-Trait Anxiety Inventory for Adults Short Form (4-point Likert scale)
  - Perceived Stress Scale (5-point Likert scale)
- **Post-intervention additional survey: Mindfulness Training Program Survey**
  - Participant demographics
  - Quantitative and qualitative data to inform sustainability efforts for the program

Results: Anxiety Quantitative Outcome



Statistically significant (p=<0.05)

Results: Stress Quantitative Outcome

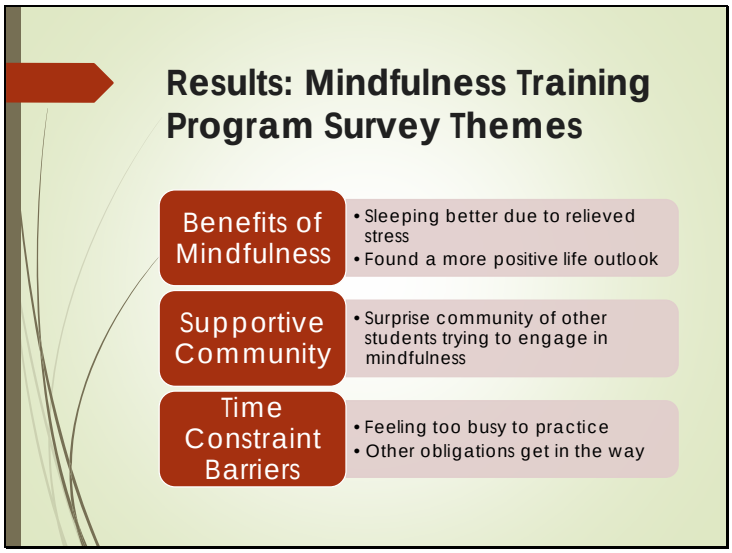


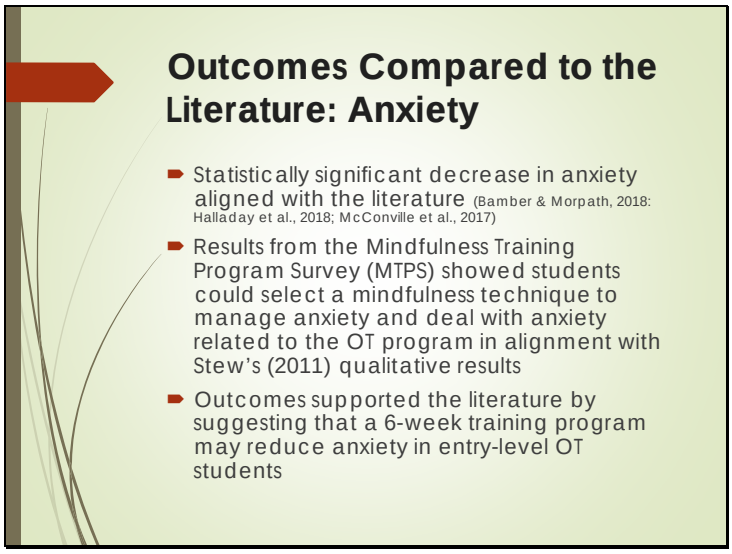
Overall positive, but not statistically significant

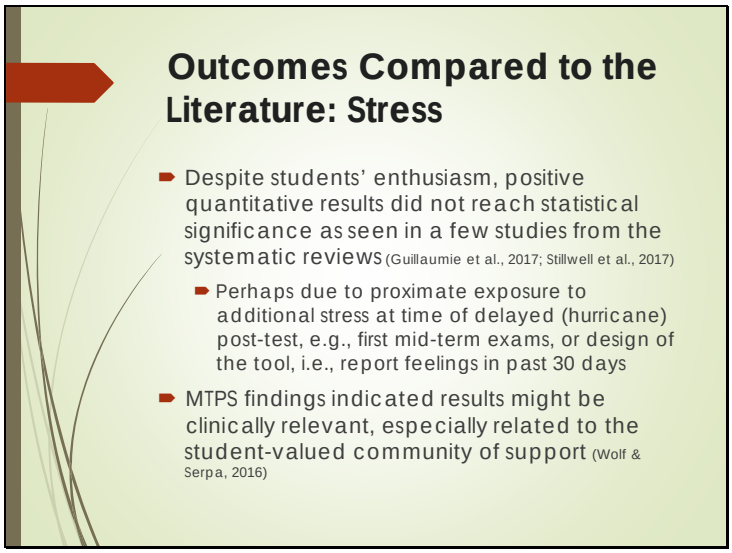
Results: Mindfulness Training Program Survey (n=12)

Items	Mean Rating
1. I know how to select a mindfulness technique to help manage anxiety	3.83
2. I use mindfulness to help manage stress or anxiety related to OT graduate program	3.5
3. I feel more in control of my emotions	3.83
4. I would recommend this training to future OTD students	3.75

Rating scale: 1=Strong disagree, 2=Disagree, 3=Agree, 4=Strongly agree


Results: Mindfulness Training Program Survey Themes
Benefits of Mindfulness
• Sleeping better due to relieved stress
• Found a more positive life outlook
Supportive Community
• Surprise community of other students trying to engage in mindfulness
Time Constraint Barriers
• Feeling too busy to practice
• Other obligations get in the way


Outcomes Compared to the Literature: Anxiety
Statistically significant decrease in anxiety aligned with the literature (Bamber & Morpath, 2018: Halladay et al., 2018; McConville et al., 2017)
Results from the Mindfulness Training Program Survey (MTPS) showed students could select a mindfulness technique to manage anxiety and deal with anxiety related to the OT program in alignment with Stew's (2011) qualitative results
Outcomes supported the literature by suggesting that a 6-week training program may reduce anxiety in entry-level OT students

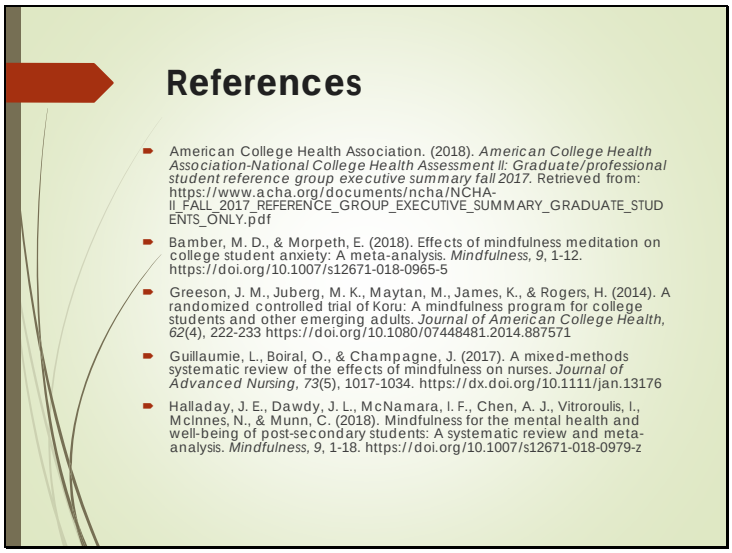

Outcomes Compared to the Literature: Stress
Despite students' enthusiasm, positive quantitative results did not reach statistical significance as seen in a few studies from the systematic reviews (Guillaumie et al., 2017; Stillwell et al., 2017)
Perhaps due to proximate exposure to additional stress at time of delayed (hurricane) post-test, e.g., first mid-term exams, or design of the tool, i.e., report feelings in past 30 days
MTPS findings indicated results might be clinically relevant, especially related to the student-valued community of support (Wolf & Serpa, 2016)


Outcomes: Program Evaluation and Improvement
Time: biggest barrier to mindfulness practice (Guillaumie et al.; Rogers, 2016)
Frequent engagement in informal (vs. formal) practice (Stew, 2011)
Forgetting to practice
Unique role of the Transtheoretical Model of Health Behavior Change (Prochaska & Velicer, 1997)
Organization of program
Informed content
Alignment with mindfulness foundational concepts (Wolf & Serpa, 2016)
May have facilitated development of community of support (Wolf & Serpa, 2016)

The Future: Plans and Recommendations

Overall findings suggest that mindfulness training is effective in reducing anxiety and stress in OT students

- Improve and sustain the program at UF (Fall 2020)
- Advocate for and support development of mindful-based programs for students, educators, and practitioners (Zemen & Harvison, 2017)
- Further fill the literature gap with an evidence- and theory-based project with follow up at 3 and 6 months (post-FW level 1)
- Develop an EB project on the impact of mindfulness training on academic occupational performance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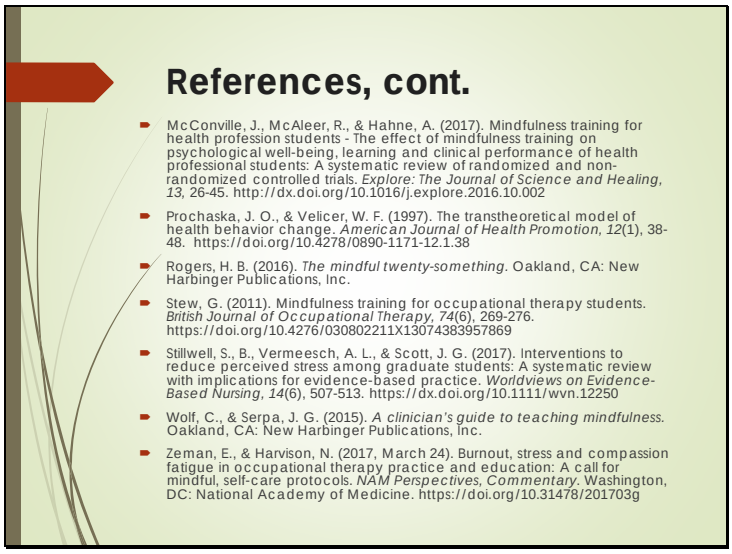
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