Mindfulness in Education: Utilizing Mindfulness as a Tool to Cultivate Stress Coping Skills in K-12 Teachers through a Mindfulness Virtual Online Course (MVOC)

by

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ABSTRACT

The purpose of this study was to investigate how to decrease teacher stress and burnout by a virtual online mindfulness practice intervention with cognitive apprenticeship, self-determination, and self-efficacy theory as the frameworks. Teaching in the United States K-12 public school system is a stressful occupation because of the higher level of responsibility within schools that requires resilient stress coping skills for overall well-being. My research project's purpose was to examine instruction and training in mindfulness practice as a tool to cultivate stress coping skills in K-12 teachers through a six-week mindfulness virtual online course (MVOC). This study involved 5 participants with the methodology employed was an explanatory sequential mixed-methods approach which included quantitative data collection with pre-and post-surveys, which included the Perceived Stress Scale (PSS), the Kentucky Inventory of Mindfulness Skills Questionnaire (KIMS - Short), and the Philadelphia Mindfulness Scale (PHMS) with Linkert scale questions. Subsequently, followed by three qualitative interviews over six weeks to facilitate a case study consideration. The action research study results exhibited reduced stress following an increase in awareness from developing a personal mindfulness practice. Furthermore, the MVOC intervention helped the participants build a daily personalized mindfulness practice that improved their stress coping skills and was also beneficial in specific ways, which promises teachers whom routine mindfulness practice will cultivate progressively effective stress coping skills and assist K-12 teachers to enjoy increased job satisfaction and reducing the leading cause of burnout.

DEDICATION

To the Buddha who brought to the world the techniques of meditation and mindfulness to reduce stress, anxiety, and suffering.

My King Bhumibol Adulyadej The Great, of Thailand. I wish to expand his work in education to develop each teacher's full human potentiality.

Pha Ajahn Dr. Geelatdo Talat (Monk Father Swing), my dhamma teacher who showed me the direct path of practice of being in everyday life.

Maha Upasika Dr. Bongkot Stithipol, one of my dhamma teachers who is full of loving-kindness and compassion, who taught me to apply dhamma along with mindfulness in everyday life to gain greater insight wisdom to develop myself.

My parents, Mr. Tee Pinthong and Mrs. Umpon Nundee, who gave me life, education, support.

And

My husband, Dr. Michael Little Crow, who shows how being a teacher has high responsibility in various circumstances and how it is essential for students' development and well-being that teachers stay physically and emotionally healthy for the benefit of education, and who supported me in everything with patience, loyalty, and respect.

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I would also like to thank: Dr. Eric Hass my previous statistics and research methods professor from the Psychology Department at Scottsdale Community College, who provided expert review and confirmation of the statistical analysis and reporting of quantitative data. Dr. Michael Eaton Gutherless from the Mathematics and Science Department of Maverick University of Arizona, who provided tutoring in graduate level writing and editing suggestions in smoothing out several rounds of revisions in the reporting of statistical data and results. Also, my best friend Mr. Phobsan Ngamusawan who supported me with recruiting participants and my cohort's members who shared their knowledge, information, and encouragement throughout this three-year program.

I am also grateful to O.P.E.N. Global Village, Original Peoples' Education Network, Inc. for providing financial support and free use of their online learning management system to deploy the MVOC in a format accessible on computers, tablets, and smartphones.

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CHAPTER 1

Introduction

Teaching in the K-12 public school system in the United States is known as a stressful occupation because of the higher level of responsibility in the schools that requires resilient coping skills for overall well-being. “Stress results when an individual appraises the magnitude of demands he or she encounters as exceeding available resources” (Lambert, McCarthy, Fichett, & Eyal, 2018, p.2) and responds to heavy workloads, lack of support, and the pressure of high stakes tests. Additionally, the teacher must respond to a variety of problems which involves overcrowded class size, heavy administrative duties, and substandard salary (Anderson, Levinson, Barker, & Kiewra, 1999; Herman, Hickmon-Rosa, & Reinke, 2018). The stress teachers face is one of the leading factors that results in disengagement, health issues, dissatisfaction with the job, and burnout fostering a desire to leave the profession. Teacher occupational stress has been a concern among researchers for many years. It has impacted educational systems and resulted in the development of teacher stress scales with various approaches to address the negative effects of stress and burnout (Oberle & Schonert-Reichl, 2016).

A report published by the Robert Wood Johnson Foundation in 2016, *Teacher Stress and Health,* states that teaching is among the highest stressful occupations in the United States, affecting teacher retention rates while creating a workforce with fewer years of experience. The report also states that school districts who recognize the importance of addressing teacher stress through a wellness program experience a cost-saving of $3.60 for each dollar invested in such programs (Robert Wood Johnson Foundation, 2016). One such region, the K-12 schools in the Phoenix metropolitan area,

which are investing in developing future leaders from within their employee base, was the site of this research study.

Stress and Burnout Definition and Identifiers

Stress is identified as a person's physiological, biological, and psychological response to tension caused by a stressor arising from within an environmental condition (Csaszar, Curry, & Lastrapes, 2018). Another definition conceptualizes "stress as the experience of negative or unpleasant emotions resulting from aspects of work. Thus, teachers may experience stress if the job demands do not fit their perceived capacity to meet the demands or their educational values" (Skaalvik & Skaalvik, 2015, p. 182).

Occupational stress can be distinct as the damaging physiological and psychological responses that appear when the requirements of the job do not balance the proficiencies, sources, or demands of the worker (CDC-NIOSH, 2014). Nevertheless, occupational stress can be a problematic construct to describe. Understandably, it is stress on the job, but stress on the job emerges within a person. Now is where we run into difficulties since every worker carries to the occupation a horizon of the tendency to be stressed (Greenberg, 1990).

Burnout is described as a symptom and reaction to stress consisting of exhaustion, depersonalization, and diminished personal fulfillment (Maslach & Jackson, 1981; Maslach & Leiter, 2008) and is conceptualized as resulting from unaddressed long-term professional stress (Jennett, Harris, & Meisbov, 2003). Moreover, burnout progresses slowly and is characterized as the end stage of various negative reactions to stress accompanied by the appearance of emotional exhaustion, which is considered as the key symptom of burnout (Sifferlin, 2016). In the first three years of entering the profession,

between 40 to 50 percent of new teachers are leaving their teaching career with burnout from chronic occupational stress cited as the most probable cause in North America (Oberle & Schonert-Reichl, 2016). One form of intervention that can be especially effective for teacher general and occupation stress leading to burnout, is called mindfulness.

Mindfulness as a Potential Solution

The first history of the word mindfulness being used in English language academic literature was in 1910 by Rhys Davids who stated the Pali word *sati* usually translated as mindfulness carried the meaning of *memory* (Brown, Creswell., & Ryan, 2016). In the context of mindfulness practice, *sati* refers to the awareness that allows one "to remember what is otherwise too easily forgotten, the present moment" (Anãlayo, 2003, p. 48). Kabat-Zinn (2013) developed mindfulness as a science on rigorous and systematic training in stress reduction in 1982, which is a form of meditation incipiently developed in the Buddhist traditions of Asia, to decrease the adverse effects of stress. As of 2013, there were over 780 centers worldwide that were successfully applying the practice of mindfulness to reduce stress (Kabat-Zinn, 2013). Furthermore, mindfulness training in awareness and acceptance that the present moment experience of an activity is as essential as the result of the activity has "growing evidence that this form of mental training can promote teacher well-being" (Csaszar, Curry, & Lastrapes, 2018, p. 96).

The research literature demonstrates that the benefits of mindfulness practices in promoting teachers' increased awareness, being in the present moment, and being engaged with compassion are well documented (Brown, Creswell, & Ryan, 2016; Brown, Ryan, & Creswell, 2007; Anderson et. al, 1999, Meiklejohn et. al, 2012). Greeson et al.,

(2014) demonstrated that mindfulness practice is associated with decreased emotional distress, increased positive states of mind, and improved quality of life. Furthermore, the study showed that the practice of mindfulness has a positive influence on the brain and the autonomic nervous system with reduced production of stress hormones, increased functioning of the immune system and healthier behaviors in the areas of eating, sleeping, and use of substances for relaxation (Greeson et al., 2014). These benefits of mindfulness provide the motivation for my examination of how to utilize mindfulness to assist K-12 teacher's stress coping skills.

Personal Context

I have been developing skills in my meditation and mindfulness practice from the Buddhist traditions of Southeast Asia since 1999.The first multi-day residential practice I experienced was at Daen Mahamongkol, International Meditation Center, foundation to support the world, established by Dr. Bongkot Sitthipol, located in Kanchanaburi, Thailand. In 2010, I further refined and expanded my practice during a non-sectarian ten-day retreat at S.N. Goenka Vipassana Meditation Center in Kanchanaburi, Thailand. My practice was influenced and further developed by receiving instruction from a superior forest monk Dr. Phaathikan Sawing Phalcharoen from Chantaburi, Thailand, in 2015. In 2016, I undertook a deeper meditation experience in Shravasti, Uttar Pradesh, India, for three months at a branch of Daen Mahamongkol Meditation centers. During the day, I practiced mindful working as I assisted with the construction of the stupa and kitchen. In the evening, I practiced walking meditation and quiet reflection on the day’s activities. When I returned to the United States, I studied the science of mindfulness by taking EXW 540 Mindfulness, Stress and Health from Dr. Ann Sebren, EdD, CMT-P in the

College of Health Solutions at Arizona State University. All these experiences increased my interest in exploring how to use mindfulness in education for the benefit of students and teachers.

Additionally, I co-founded O.P.E.N. Global Village, Original Peoples' Education Network, Inc. Non-Profit Organization (NGO) to organize and fund educational professional development projects for educators. My work with Thai government schools and public schools in the U.S.A. has allowed me to observe various teacher's responses to stress. Furthermore, my two-year internship experience of online teaching for a private international university has allowed me to gain a comprehensive understanding of how teachers' responsibilities in professional tasks can lead to increased levels of stress. This has led me to utilize mindfulness which is the preeminent process for keeping something in mind through the four designated places or objects of mindfulness the body, feelings, states of mind, and mental qualities (Brown, Creswell., & Ryan, 2016,) to address teacher occupational stress.

Moreover, my first major project to explore the power of mindfulness and meditation practice to assist pre-service teachers by the NGO, began in 2010 as the collaborative Thailand education abroad project comprising the Pathum Thani Educational Service Area Office in Thailand and Scottsdale Community College in Arizona. One of the signature activities that I developed and implemented was a one-night excursion to a meditation center in Kanchanaburi, where I instructed the pre-service teachers in mindfulness practices. First, I modeled showing respect and centering all thoughts and intentions on walking to the top of the mountain. They silently followed my lead during the two-hour mindful walk up to the stupa, where I instructed them in

walking and sitting meditation. The participants expressed how this experience assisted them in dealing with the stress and anxiety of international travel, culture shock, and teaching in an environment where they did not speak the local language. All of the projects that we conduct in Thailand and the U.S.A. involve instruction in mindfulness practices that highlight the benefits of mindfulness in education to help teachers experience inner reflection. This instruction helps participants to have less stress in all they do.

Recently, I had a conversation with a previous participant who had been on the education abroad program in 2011 and had been following my current mindfulness work published on my organization's page. This reminded her of the experience and inspired her as a school director in applying mindfulness at her school site. Furthermore, one of our program directors returned from a project teaching in Kazakhstan where the extreme stress, pressure and demoralization that he experienced caused him to contemplate leaving teaching. I instructed him on how to use mindfulness techniques to deal with the stress in his life and convinced him to participate in an intensive 10-day meditation retreat to deal with the negative emotions he was feeling and gain a realistic insight into the source and cause of his stress. The result was that he recovered from the burnout, was able to reboot positive energy, focus on the present and find success and joy in teaching again. When he returned to his position at the community college, this positive experience inspired him to use mindfulness techniques in his classroom to address student stress and math anxiety.

In July 2017 when I went back to Bangkok, Thailand, I created a science of mindfulness three-day residential program for international students who had no

experience with the science of mindfulness. From the workshop experience, they were able to improve their learning through increased concentration and focus while alleviating the negative effects of stress in their life such as school tasks, personal situations, and various circumstances. One student related how mindfulness practice at home became an important part of her daily routine as she became able to see how all her negative emotions affected her. By seeing both the intrinsic and extrinsic characteristics of a situation before any emotions would arise, she was able to control them and release the tension before it became stressful. Feedback from another participant demonstrated that the workshop experience assisted him to recognize what was essential and which feelings from others he ought not attach to. This course has led me to employ mindfulness in education as my master's thesis to address the topic of math anxiety as well as continuing on to my doctoral dissertation with the topic of teacher occupational stress.

Problem of Practice and Purpose of Study

The problem of practice was K-12 teacher's general and occupational stress, which leads to burnout. Addressing teacher stress by providing coping skills is vital for creating a beneficial working condition that reduces burnout.

The study intervention consisted of a six- week online mindfulness training course with five participants who had no experience with online mindfulness courses. This includes information on the comprehensive understanding of the physiology of the stress response by the nervous system along with mindfulness techniques to develop a daily mindfulness practice. The weekly instructional sessions were followed by daily guided practice on the mindfulness techniques highlighted for that week to progressively

aid the participant in developing their self-directed mindfulness at home. At the end of the week, participants were prompted to complete a mindfulness reflection log to record the amount of mindfulness practice completed as well as responses to open-ended questions that allow them to discuss the progress and quality of their personal mindfulness practice. The course was started by participants between September and October 2020. Subsequently, all five participants have completed initial and follow-up interviews for open-ended exploration of each participant's psychological and cognitive response to sensations while coping with the stress they were experiencing.

The theoretical frameworks which were employed were self-determination, self-efficacy, and cognitive apprenticeship theories to build teacher's coping skills to address general and occupational stress, which assists teachers in becoming healthy first. The mindfulness intervention examined through pre-post quantitative and qualitative data including an interview and the concept of self-report. The research questions concentrated on determining the level of occupational stress and how mindfulness activities built coping skills.

Situation Context for Study

Due to the impact of COVID -19, Arizona State University required all research to be conducted by virtual intervention. This situation also impacted the institutional review board (IRB) approval and recruitment as teachers who had previously agreed to participate in the study faced difficult situations which caused them not to proceed with the study. After implementing required revisions to the proposed methods to accommodate the COVID-19 protocols, this study continued as a case study with five participants from various school locations, referred to by pseudonyms, who each

completed the six-week Mindfulness Virtual Online Course (MVOC).

From a previous cycle of action research to interviewing a diversity coordinator for one of the districts involved in the study stated that "teachers who are teaching in diverse cultural environments are having to address different values, attitudes, behaviors, and perceptions of what education is and is not and other things related to diversity. So, on top of having to teach the content matter this can create a stressful work environment for our teachers" (Participant, personal communication, October 12, 2018). This established that teaching is an occupation with high levels of stress. The Community Diversity Advisory Committee (CDAC) "is comprised of persons who have an interest in ensuring that students of the district receive an equitable education and realize positive social experiences" (Moon, 2019, p.4). As a member serving on the CDAC, to address teacher stress I have been invited to facilitate mindfulness training for teachers to help them employ mindfulness practices as a tool for developing stress coping skills for workplace well- being.

Research Questions

This action research study explored four questions. The first question identified the level of teacher occupational stress. The second focused on the levels of reduction of stress following a mindfulness intervention. The third and fourth questions provided evidence for the validation of the theories involving mindfulness, namely self-determination, and self-efficacy. The following research questions framed this study:

RQ1: What is the level of teacher general and occupational stress?

RQ2: What level of reduction in the effects of occupational stress are achievable through establishing a mindfulness practice for teachers?

RQ3: What level of change does a mindfulness intervention have on mindfulness sub-constructs which include observing, describing, acting with awareness, accepting (or allowing) without judgement, and awareness?

RQ4: How do participants utilize mindfulness activities in daily life to cope with stress?

CHAPTER 2

Literature Review

Various sources concede that teaching is an occupation that involves a high level of stress (Roeser et al., 2013; Anderson, Levinson, Barker & Kiewra, 1999). Determining where teacher occupational stress originates is a pre-requisite to developing a program that addresses this national problem. Some of the causes linked to this issue are excessive demands placed on teachers with insufficient resources to successfully address those demands (Herman, Hickmon- Rosa, & Reinke, 2018), overcrowded classrooms, student behavioral problems which include aggression, drug use, apathy, and excessive administrative workload (Anderson, Levinson, Barker, & Kiewra, 1999). It is not likely that any of these causes of stress will be eliminated or even reduced in the foreseeable future. Nevertheless, there are theoretical frameworks that can be employed through interventions to assist teachers in gaining coping skills that can serve as a protection against the negative effects of teacher stress.

In this chapter, the information presents a review of the literature on three theoretical frameworks that are illustrative for the cause of general and occupational teacher stress which provide insight for designing interventions aimed at building stress coping skills. One is the social cognitive theory of Albert Bandura which incorporates the sub-theories of perceived control, self-efficacy, and social support (Yeh, Chan, Wayne, & Conboy, 2016). Second to be considered is self-determination theory (SDT) which incorporates the concepts of intrinsic versus extrinsic motivation when considering ways to ensure that the required psychological nutriments of autonomy, competence, and

relatedness is addressed for each individual in the educational system (Martela, DeHaan, & Ryan, 2016). The third framework is the cognitive apprenticeship model which takes a constructivist approach to examine human learning using the ideas of situated learning and enculturation (Brown, Collins & Duguid, 1989). These frameworks will be discussed in research exploring teacher stress, followed by implications for designing an intervention that uses the frameworks to address stress and burnout in teachers.

Social Cognitive Framework

The first of three theoretical frameworks that are explanatory for the causes of teacher stress and illuminating for designing interventions aimed at addressing these causes is Albert Bandura's social cognitive theory. This framework integrates the concepts of self-efficacy, perceived control, and social support as protective factors from the negative effects of workplace stress (Bandura, 1994). Additionally, Bandura's theory "highlights bidirectional interplays among three sets of variables: the environment, individual factors, and behavior" which are used to explain how increasing the level of self-regulation is one of the prime mechanisms in assisting humans to adapt to their environment (Shoji et al., 2014, p. 832).

Self-Efficacy Beliefs

According to social cognitive theory (SCT), self-efficacy mirrors a sense of control over the environment and refers to the perceived ability to master challenging demands (such as major stressful events) employing adaptive actions (Bandura, 1994). Self-efficacy allows for individuals to build self-regulation of emotions that forms a key role in anxiety arousal (Bandura, 2012). Having a belief that control over threats can be

implemented by an individual prevents them from engaging in negative thought patterns. Whereas people who do not have this belief focus on their coping deficiencies which leads them to view their situations as filled with danger as they magnify the severity of outcomes and worry about events that rarely occur. Distress and an impaired level of functioning result from the negative thought patterns that occur for those without mindful self-efficacy. Higher levels of self-efficacy coping beliefs regulates both anxiety arousal and avoidance behavior, leading to a greater willingness to face taxing and threatening situations (Bandura, 1994).

Bandura (1994) states that ". . . perceived self-efficacy is concerned with people's beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives" (p. 16). This includes personal ambition setting, which is influenced by self- evaluation of capabilities; the greater the observed self-efficacy, the more ambitious the challenges people set for themselves and the firmer is their commitment to them (Bandura, 1994). Teacher self-efficacy is defined as teacher observed proficiency to cope with challenges with inconveniences which accumulate within the teaching profession (Schwarzer & Hallum, 2008).

One avenue to increase the level of general self-efficacy beliefs is through recurring successful experiences in any field, with subject specific beliefs being developed through competently completing specific tasks. General self-efficacy exhibits long term stability as it becomes integrated within an individual's personality characteristics. Through consistent accumulation of competence, a person's belief in their own self-efficacy grows slowly over their life course (Gecas, 2003; Gurin & Brim, 1984). Within the field of teaching, several components of the school environment can affect

teacher self-efficacy which includes level of team cooperation, circumstances within the classroom, and length of teaching experience (OECD, 2014). The research literature provides sufficient evidence that both general and teacher-specific self-efficacy beliefs play an important factor in determining job satisfaction, student achievement, and "perception of teachers' job stress and strain" (Troesch & Bauer, 2017, p. 390). Additional areas positively impacted by high levels of teacher self-efficacy are teacher ability to recover quickly from difficulties and protection from factors leading to burnout (Beltman, Mansfield, & Price, 2011; Aloe, Amo, & Shanahan, 2014).

Related Studies on Social Cognitive Theory (Self-Efficacy)

Attempting to address teacher stress, physical mindfulness activities have been shown to increase self-efficacy and when administered within a community setting, they can also increase both perceived and actual social support. For example, in a study by Yeh et al. (2016) with 100 participants who had suffered a cardiac emergency, mindfulness routines involving breath and body awareness resulted in greater self-efficacy in dealing with stressful situations and increased their perceived control over negative emotions. The participants reported that the mindfulness activities created a feeling of the link to themselves with increased feelings of compassion toward others in the study.

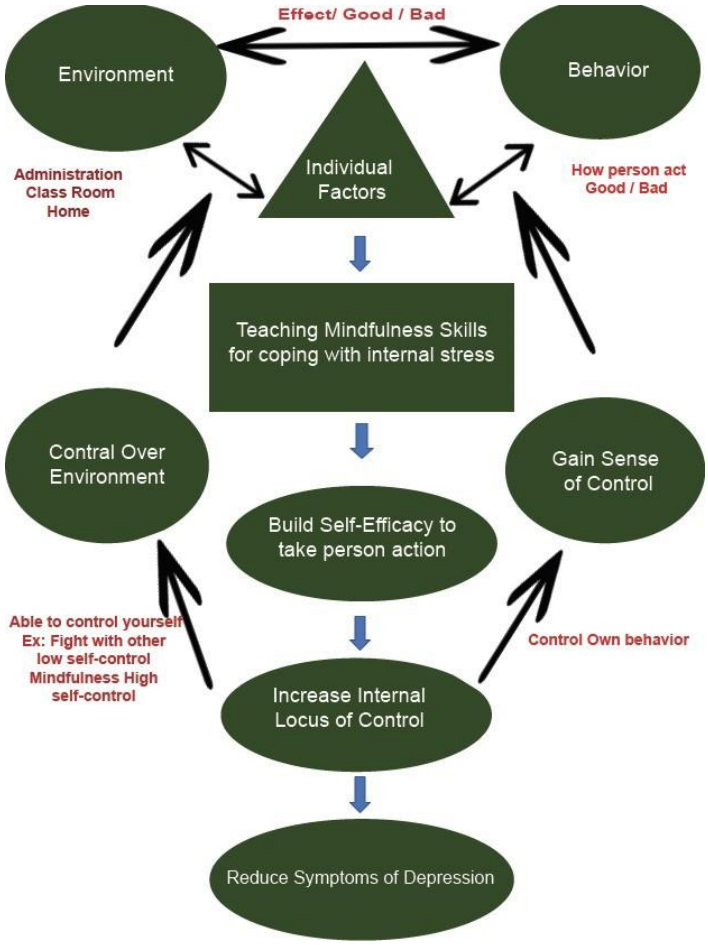
A study by Troesch and Bauer (2017) found that teachers with higher self-efficacy reported higher job satisfaction along with greater stress coping skills. There are many factors which influence teacher self-efficacy such as ". . . years of experience, challenging classroom circumstances, aspects of school climate, and cooperation in the school team" (p. 390). One of the most important factors in developing high levels of

self-efficacy are mastery experiences in any domain. As mentioned in the study by Yeh et al. (2016), developing a successful mindfulness practice can increase self-efficacy.

The association with my proposed problem of practice is that stress is a primary factor in the incidence of heart failure which was confirmed in the Yeh study. Quantitative measures included biometric readings related to health along with self-report questionnaires to assess psychosocial functioning and self-efficacy. After the 12-week intervention, 32 participants were randomly selected to participate in qualitative interviews. One of the themes that emerged from this last component of the study was that those in the tai chi exercise group experienced greater self-efficacy through exhibiting an internal locus of control. Additionally, these participants reported developing "awareness of the breath, of their bodily sensations, body signals, and symptoms" (Yeh, et al., 2016, p. 10).

Figure 1

Self- Efficacy Theory Flow Chart



Adapted from "On the Functional Properties of Perceived Self-Efficacy Revisited," by Albert Bandura, 2012, *Journal of Management, vol. 38* No. 1, p.12 – 14.

Self-Determination Theory

Another framework, self-determination theory (SDT) presents a broad framework that mediates aspects of teacher occupational stress by addressing the fundamental psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 1985). This theory is related to self-efficacy in that SDT posits building mindfulness through awareness activities is essential in building autonomy which ". . . is to act with a full

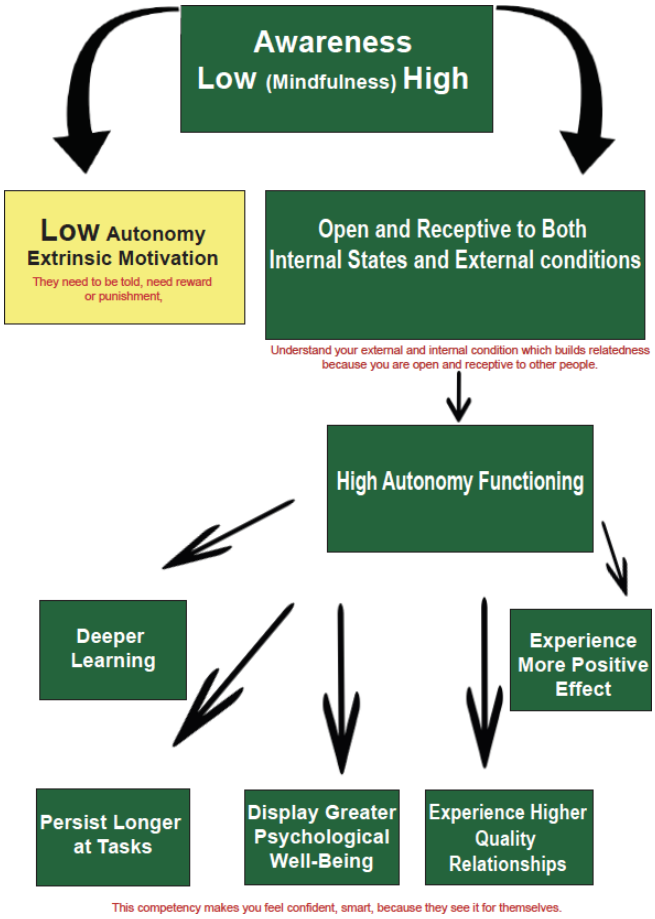
sense of volition, willingness, and choice" (Deci, Ryan, Schultz & Niemiec 2015, p.112). SDT additionally provides a structure for examining the efficacy of methods of motivation for providing long term action, engagement, and development while creating optimal conditions for increasing the level of satisfaction of these three basic psychological needs (Nie, Chua, Yeung, Ryan & Chan, 2015; Shih, 2012; Raufelder et al., 2013). At one extreme is intrinsic motivation characterized by autonomous functioning arising from personalized enjoyment of and innate interest in performing a task for its own sake with the other extreme consisting of extrinsic motivation which results from external rewards or fear of punishment leading to lower autonomy accompanied by negative wellness outcomes (Nie et al., 2015).

Autonomous self-regulation is an internal process involving lowering of inhibition and control and results in less depletion of energy accompanied by greater individual vitality than processes that apply controlling forces (Martela, DeHaan, & Ryan, 2016). These effects are long- lasting as the greater an activity feels forced due to controlling circumstances, the more vital energy is drained from an individual. When a person feels motivated towards goal completion from positive and heart-centered feelings leading to self-regulation, there is an increase in both physiological and psychological measurements of personal vitality which includes evidence of electrophysiological data and even increased levels of glucose in the blood (Martela, DeHaan, & Ryan, 2016). Goudreau and Knight (2018) concur that self-determination creates an incorporation of abilities, knowledge, and tenets that result in goal-directed, self-regulated, autonomous functioning.

According to Deci et al (2016), it is essential to build mindful awareness for autonomous functioning to develop. In SDT, mindfulness is defined "as a state of allowing, relaxed, and receptive attention to oneself and one's surroundings in the present moment" (p. 120; Brown & Ryan, 2003; Kabat-Zinn, 2003). The mechanisms through which awareness works is that it allows for ego-detachment and a state of allowing rather than controlling of an experience. Following are several studies which have explored the use of mindfulness to build stress coping skills through the lens of SDT. (See Figure 2).

Figure 2

Self-Determination Theory Flow Chart



Adapted from "Intrinsic Motivation and Self-Determination in Human Behavior" By E. L. Deci and R. M. Ryan, 1985, *Plenum*.

Related studies on Self-Determination Theory

Examining an investigation of the interrelated aspects of school engagement, perceived stress, and self-determination, a study by Raufelder el al. (2013) supported the hypothesis that higher levels of stress resulted in greater disengagement along with alienation and passive behavior leading to behavioral displays of negative emotions which included blame, anger, and denial. This was contrasted with a positive association between self-determination and engagement and emotional behaviors suggesting that self-determination may be an efficient opening point for blocking interruption initiatives within schools to address stress and lack of engagement as it "fully mediated the association between perceived stress and school engagement" (Raufelder et al., 2013).

Looking directly at teacher work conditions, a study by Nie et al. (2015) noticed that support of autonomy was a predictor of engaged motivation to perform tasks and was positively related to intrinsic motivation while being negatively connected to external regulation and motivation. Teachers who experienced greater levels of autonomy also reported greater job satisfaction along with workplace-related well-being. Increased stress and symptoms of illness were predicted based upon increased application of techniques leading to extrinsic motivation. Shih (2015) discovered that indicators of engagement at work such as vigor, dedication, and absorption were negatively correlated with burnout and that autonomy support was related to lower levels of "emotional exhaustion, cynicism, and feelings of incompetence" (p.203).

Martela, et al. (2016) examined studies that included the concept of psychological vitality and ego depletion through the application of self-determination theory's autonomous regulation. The studies concurred that when self-control was the dominant

means of interaction and presented a controlling nature, ego depletion followed quickly with a reduction in vital energy to engage. Contrarily, participants with a high level of autonomous motivation exhibited increased vitality without ego depletion. Some of the sources that provide greater autonomous functioning are settings in nature, mindfulness, and benevolence. The studies examined suggested the mechanism that allows mindful activities to increase vitality is multi-faceted involving both the calming characteristic and the inner awareness of one's intrinsic needs that enhance autonomous actions leading to increased vitality (Martela et al., 2016).

Another study by Warner-Griffin, Cunningham, and Amber (2018) found a relationship between teachers' perceived autonomy and measures of job satisfaction such as feelings of job security, plans to remain in teaching, and whether they would become a teacher again. For the 2011–2012, cohort of teachers who felt low autonomy, 57% worried about job security, compared to 42% of moderate autonomy and 29% of high autonomy teachers. On the question of job satisfaction, 19% of low autonomy teachers felt low satisfaction, compared to 7% of moderate autonomy and 4% of high autonomy teachers. Only 69% of low autonomy teachers planned to remain in teaching compared with 78% of moderate and 81% of high autonomy teachers (Wallace, 2003). This data suggests that using a mindfulness intervention to move teachers to a higher level of autonomous self-regulation and teaching style could create a lowering of teacher attrition rates in the double digits (Csaszar, Curry, & Lastrapes, 2018; Deci, Schwartz, Sheinman, & Ryan, 1981).

Cognitive Apprenticeship Model as a Theoretical Framework

Learning is a co-production of knowledge created through activities that cannot be removed from the social, physical, and cultural contextual situations from which they are an integral part of the substance of learning (Brown et al., 1989). While in a traditional apprenticeship, the skills and content to be learned are physically visible to the learner. However, in a cognitive apprenticeship, these items are invisible to the eye as the content of the learning are the thought processes and procedures that have been mastered by experts, with the intent of sharing them with novices. This requires the interweaving of the three required elements of "methods, content, and social aspects of learning" (Kopcha & Alger, 2014, p. 49). When these elements are present and applied to the solution of real-world problems in a situational learning environment, this allows for a rich connection between the intended knowledge and the location of its application through the dimensions of "content, method, sequencing, and sociology" (Akondy & Murthy, 2015, p. 54).

Along with these four items present in every learning situation, the Cognitive Apprenticeship Model's six techniques to arrange the learning activities of a curriculum include modeling, coaching, scaffolding, articulation, reflection, and exploration (Akondy & Murthy, 2015). When an expert performs the skill to be learned in an authentic setting while the learner is observing and building a conceptual idea, modeling is going on. Coaching occurs when the expert provides feedback, tips, and reminders so that the learner can make successive approximations of the skill as they grow closer and closer to that of the expert. When the tasks are too difficult to be performed alone, then scaffolding support is provided by the expert until the learners can proceed on their own.

Articulation involves heuristic understanding and application of problem-solving techniques to examine what and why of a skill. Through reflection, the learner internalizes the process and through exploration they apply the skill to novel real-world situations (Bates, Dolce & Waynor, 2012; Woolley & Jarvis, 2007; Darabi, 2005;).

For example, the learning of a first language by a child occurs within a situational context involving natural learning. Academic learning of vocabulary from dictionaries abstracts this process by stripping away the authentic situations from which language is connected to its culture (Brown et al., 1989). Thus, for learning to be successful and authentic, it needs to be situated within an environment for which the future performance of the skill will take place (Darabi, 2005). For enculturation to have an effect on authentic activity, it is very important for the student to experience and observe all activities within the various situation involving the cultural use and application of the skill, so that they will naturally become familiar with the action and terminology of the people that developed the skill, as well as be able to replicate these patterns (Brown et al., 1989).

Through immersing learners in situational contexts that create close approximations to the real-world settings of their use, cognitive apprenticeship "provides systematic preparation, focused guidance, explicit feedback, and socialization" with improved enculturation with the ethics and values which are part of a profession (Bates et al., 2012, p. 6; Akondy & Murthy, 2015). Furthermore, the authentic activity generates intensely greater educational value over instruction with textbook illustrations and likewise makes explicit the commonplace performance of the culture. This idea is applied to authentic classroom activities that from their context inescapably transforms the learning process. The triad tools of activity, concept, and culture must all be present for

learning to occur for one cannot be understood unless the other two are present. This requires the learner to participate in the community from which ideas are derived (Brown et al., 1989).

Another advantage that cognitive apprenticeship fosters advantages for learning is its natural affiliation with collaborative learning. In this model, groups of students work together, not because it is merely an expedient way to aggregate the collective knowledge of all the members, but due to the authentic synergistic insight into solutions and processes that naturally arise from such collaborations (Brown et al., 1989). Additionally, each student in a group is called upon to observe other members' actions, examine their own, and carry out the actions of multiple roles that are inherent in any cognitive task. As students are allowed to compare and contrast their own performance with the modeling of an expert and the approximations performed by their colleagues, reflective learning occurs through cooperation based on the triangle comprised of "…student teamwork, teacher's active involvement, and client interest and commitment" (Darabi, 2005, p.53; Brown et al., 1989)

Related Studies on Cognitive Apprenticeship Model.

The cognitive apprenticeship model has been the subject of numerous research studies. Darabi (2005) found that instruction of a complex subject was more effective, meaningful, and increased the preparation of students for tasks they would carry out in their future careers by the use of cognitive apprenticeship methods. Kopcha and Alger (2014) reported that after three iterations of using technically enhanced cognitive apprenticeship instructional techniques that communication between student teachers, their faculty mentors, and their cooperating field teachers was enhanced and the

performance of the student teachers who participated in the clinical experience was better than those who did not. Some other benefits that have resulted from the use of the cognitive apprenticeship model are an "increase in the self-efficacy of participants" (Akondy & Murthy, 2015, p. 59). It allows instructional designers greater flexibility to match the curriculum to the needs of the local situation (Pinelli et al., 2018), and beginners are able to observe best practices of experienced experts as they work through real-world problems (Akondy & Murthy, 2015).

The study by Pinelli et al. (2018) compared the components present in the curriculum they were using with cognitive apprenticeship themes. Their study involved learning teams composed of an attending pharmacist, postgraduate residents, and previous year students in a professional program. Through collection of qualitative data from study participants, they determined that their approach contained the same principles as programs using the cognitive apprenticeship model. This provides evidence for flexibility of design when implementing an intervention based on either of these learning designs as they provide "a more consistent approach to experiential training while preserving flexibility across practice environments" (Pinelli et al., 2018, p.26).

Implications for Mindfulness

This literature review of the three amalgamated theories of social cognitive, self-determination, and cognitive apprenticeship provide support that their application to the proposed problem of practice can work to support teachers in acquiring coping skills to deal with stress and burnout along with procuring the capability to develop a classroom environment more conducive to joyful and successful student learning (Yeh et al., 2016; Brown et al., 1989; Martela et al., 2016). Operationalizing the use of social cognitive

theory in my study, I discuss the emotional draining work conditions of teachers through integrating the concept of self-efficacy, perceived control, and social encouragement. These act as protective factors from the negative effects of school-based stress using coping skills to transform them into positive opportunities for growth and satisfaction.

According to my problem of practice, the strategy for this framework to help teachers increase the perception of self-efficacy which is able to be accomplished when individuals develop self-regulation to improve their aptitudes, capability, and self-confidence to proficiently interpret and adjust personal actions within their environment. The theory of social encouragement requires that teachers work toward building confidence and open-mindedness to be able to successfully develop a mindfulness practice. The related studies address mindfulness activities that involved breath and body awareness which increased self-efficacy through increased self-regulation. Additionally, these were associated with feelings of compassion and the appearance of beneficial teacher coping skills for stress. This would lead to an increased capacity to manage and control emotions as well as improve the operative classroom environment (Yeh et al., 2016; Shoji et al., 2014; Cieslak et al., 2013).

Employing self-determination theory within the intervention including training in mindfulness techniques is able to support teachers to enhance their self-motivation and confidence in the use of mindfulness by fostering intrinsic motivation, which is when an activity is initiated and enjoyed for its own sake because a person finds it interesting and satisfying in itself. This is opposed to doing an activity to obtain an external reward or avoid a punishment which is called extrinsic motivation. Mindfulness practice develops more fully when a participant feels satisfaction in the use of mindfulness experience

learned due to intrinsic motivation. This leads to the highest level of success with the processes and the participants receive the greatest benefits from the practice (Herman, et al., 2018; Anderson, et al., 1999; Nie et al., 2015; Shih, 2015; Raufelder et al., 2014).

The Theory of Cognitive Apprenticeship is interconnected to my problem of practice of teacher stress and anxiety (TSA) through building a collective experience with comprehension of mindfulness. Using natural social, physical, and cultural situations, a rich learning process results leading to the acquisition of knowledge and perceptive skills about mindfulness from an instructor who has mastered these skills. By receiving coaching in an authentic learning situation, the hidden internal processes become openly visible so that novices can observe, emulate, and successfully engage in the practice through assistance from the expert. The expectation is an increased comprehension of situations and improved ability to cope with circumstances Additionally, through cognitive apprenticeship, participants receive feedback and guided direction on how to appropriately apply these skills to their personal situations at school (Brown et al., 1989; Kopcha & Alger, 2014).

Benefits of Mindfulness Training.

A study by Crowley and Monk (2017) began with the premise that stress "is often produced by a future oriented thought process" (p. 92) so that if a practitioner learns how to focus concentration on the present, this will reduce negative reactions because mindfulness has taken away the stress of the unknown forthcoming events which are the object of concern. The main point of this research study was to use a qualitative methodology to examine how a "15-week meditation course which blended techniques from the Buddhist and mindfulness traditions" (p. 91) could impact participant well-

being. The meditation practice used in the study, helps to expose and enlarge one's consciousness and awareness of thoughts and feelings through observing the mind, without aiming on a single object. The study found three major areas where participant's outlook on life and relationships were impacted with 86% reporting an increase in reflective thinking which forms "the bridge between experience and learning"; 96% reporting greater psychological well-being; and 79% describing an increase in compassion (Crowley & Munk, 2017, p. 94, 95). Csaszr, Curry, and Lastrapes, 2018, completed a study on how loving kindness meditation (LKM) affected reported levels of teachers' stress and empathy. LKM includes the components of intention, attention, and attitude which are part of mindfulness meditation with the added component of *connectedness*. There was a significant relationship between both the quality and time spent in loving kindness meditation with increased empathy and reduced stress. Other studies have shown that reducing stress through meditation is correlated with lower mental health symptoms and increased overall wellness (Baer, 2003; Beddoe & Murphy, 2004; Brown et al., 2007). The importance of building empathy is that it acts as a mediating factor in reducing classroom induced stressful situations as empathetic teachers are able to show understanding for the difficulties a student is facing and respond with compassion and kindness to foster a stronger bi-directional learning relationship (Csaszr et al., 2018; Beddoe & Murphy, 2004).

Mindfulness Training for Teachers.

Mindfulness can be thought of as both a process (practice) and an outcome (awareness) (Shapiro & Carlson, 2009). Although there are different definitions of mindfulness, a predominant one is:

> mindfulness is moment to moment, nonjudgmental awareness… cultivated by purposefully paying attention to things we ordinarily never give a moment's thought to. It is a systematic approach to developing new kinds of agency, control, and wisdom in our lives, based on our inner capacity for paying attention and on the awareness, insight, and compassion that naturally arise from paying attention in specific ways. (Kabat-Zinn, 2013, p. *xlix*).

Mindful awareness or the outcome of mindfulness practice, has also been described as bare attention, or "simply knowing what is arising while it is arising without adding anything to it" (Shapiro and Carlson, 2009, p. 5) such as conditioned patterns of perceiving, reacting, evaluating or other conceptual interpretations. While this way of being and knowing is inherent in everyone, it can be cultivated and deepened through practice.

Mindfulness practice, or the process of mindfulness, has been conceptualized as the self-regulation of attention on the components of experience (e.g., sensation, thoughts, emotions) in the present moment with an orientation toward experience that includes openness, receptivity, and kindness (Bishop et al, 2004; Carmody, 2015). In most mindfulness-based programs, the modes of instruction for helping participants learn how to practice mindfulness vary from practice at home, facilitator lead group discussions, and guided training in mindfulness practice that includes "meditation, breath work, body scans, walking, and visualization exercise all intending to bring awareness to the present moment" ((Zarate, Maggin, & Passmore, 2019, p. 1703).

Klingbeil and Renshaw (2018) examined 29 studies employing different mindfulness training methods for use in teachers' occupational settings. Their meta-analysis "suggests that mindfulness interventions are effective in reducing psychological distress and increasing educator wellness" (Zarate, Maggin, & Passmore, 2019, p. 1702). Mindfulness interventions help develop teachers' insight into working conditions and

provides a means for them to manage stress to improve retention rates as well as supporting the effective delivery of instruction for a more positive classroom environment. Additionally, mindfulness is correlated with "improved mental and physical health outcomes and reductions in stress, anxiety, and depression" (Zarate, Maggin, & Passmore, 2019, p. 1703). These positive results have been documented to occur over diverse training regimens which include programs with daily meetings to those that have group practice at intervals that are weeks apart.

Conclusion

This study incorporated mindfulness training aimed at increasing teachers' stress coping skills guided by the theoretical frameworks of Cognitive Apprenticeship, Self-Efficacy Theory, and Self-Determination Theory. Developing a mindfulness practice will help teachers to create self-efficacy to gain control over their behavior as well as individual and environmental factors. Regular mindfulness practice increases awareness leading to greater autonomous functioning allowing teachers to bring the feeling of personal choice to each of their decisions and act within their setting through a heart that is intrinsically motivated. The six components of cognitive apprenticeship of modeling, coaching, scaffolding, articulation, reflection, and exploration allow teachers to learn mindfulness from a qualified expert. Applying these three theories can help teachers create more connected and caring classroom environments where both teachers and students can learn and grow intellectually while experiencing improved well-being.

The review of literature has identified limitations and gaps noted in previous studies this study attempts to address. I have examined tracking the amount of mindfulness practice and attendance through a daily mindfulness log which aided in

determining “which particular aspects of [this] intervention [were] effective” (Zarate, Maggin, & Passmore, 2019, p. 1712). Using two mindfulness instruments, one composed of four sub-constructs along with a two sub- construct measure I was able to analyze “the specific components of mindfulness that are effective in producing positive health outcomes for teachers” (p. 1712). The next chapter provides the details on the intervention and methods of data collection and analysis.

CHAPTER 3

Methods

I co-founded O.P.E.N. Global Village to support my work with Thai government schools and public schools in the U.S.A. which has allowed me to observe various teachers' responses to stress. Teaching in the United States in the K-12 public school system has been documented as a highly stressful occupation because of the responsibility within schools that requires resilient coping skills for overall well-being. "Stress results when an individual appraises the magnitude of demand he or she encounters as exceeding available resources" (Lambert, McCarthy, Fichett, & Eyal, 2018, pg. 2). The purpose of this action research study was to utilize mindfulness as a tool to cultivate stress coping skills in K-12 teachers which focus on the problem of practice for teacher's general and occupational stress that leads to burnout. The research questions explored include:

RQ1: What is the level of teacher general and occupational stress?

RQ2: What levels of reduction in the effects of occupational stress from school are achievable through establishing a mindfulness practice for teachers?

RQ3: What level of change does a mindfulness intervention have on mindfulness sub-constructs which include observing, describing, acting with awareness, accepting (or allowing) without judgement, and awareness?

RQ4: How do participants utilize mindfulness activities in daily life to cope with stress?

These four questions were investigated during the action research which involved the theoretical framework supported by the literature review from chapter two. Due to

the pandemic, this action research was conducted by a Mindfulness Virtual Online Course (MVOC) intervention of six- weeks which ran from September to November 2020. Data collection included surveys, self-reports, and individual interviews. This chapter provides details of the mixed methods used, the setting, and participant selection. The intervention section presents the timeline and details of how the study was conducted which includes the intervention overview, role of the researcher, and procedures for each week of the virtual course. The data collection and analysis section offer details about the quantitative and qualitative data sources and collection, as well as the methods and analysis strategies.

Setting and Recruitment of Participants

This research studied five participants taking a virtual course who were recruited from K-12 teachers. Some had previous experience in different meditation practices, but none had prior experience taking an online mindfulness training course. I created the course presentations to contain images, video content, and research-based information from previous education abroad programs and mindfulness retreats that I have conducted. The teachers who registered for this virtual training course demonstrated an interest in increasing occupational stress coping skills through the mindfulness experience. A snowball technique was used by gaining referrals from previous workshop attendees to recruit teachers who were interested in mindfulness training within the metro-Phoenix area.

Informed consent of the participants was obtained before they were given access to the virtual mindfulness training course. The consent form (see Appendix G) contained full information about the study. Those who agreed became participants in the six-week

virtual mindfulness training course. The participants received a $50 gift card to participate in the course and a completion certificate for personal mindfulness training. The gift cards and certificates were provided by O.P.E.N. Global Village (Original Peoples' Education Network, NGO).

Description of Participants

The sample five participants' self-identified gender and racial demographics consisted of two males (one Native American and one Asian), two white females, and one multi-racial female. They are represented in the study by pseudonyms to protect the confidentiality and anonymity of each participant.

The first participant, given the pseudonym of Lora, is a white 35-year-old female who had been teaching on a Native American reservation for about nine years with two years previous experience teaching second grade at a rural school outside Tucson, Arizona while she completed her doctorate. Also, she is an expert in early education specializing in guiding and sculpting K-8 students' minds. Before becoming involved in the study, Lora had no previous mindfulness experience and started becoming interested in mindfulness when she participated in my presentation during a graduate school conference. Furthermore, she continued to stay in contact through LinkedIn and once she received full details about this study, agreed to participate in this MVOC to gain guidance in developing a personal practice.

The second participant, pseudonym Smit, is a 58-year-old Native American male who had been teaching for 21 years. Due to debilitating effects from high stress, he left his initial high school teaching position after only one year, returning to the teaching profession 15 years later. During the study, he was involved with an alternative high

school program in the Phoenix, Arizona metropolitan area, and as an adjunct instructor at an online technical institute. Since the pandemic lockdown in March 2020, he had to convert instructional delivery for all his courses to remote methods using Zoom to conduct classes with students, Smit mentioned this as a source of increased stress. He had meditation experience on and off for eight years and participated in a mindfulness teacher workshop presentation a couple of times, yet he had not developed a regular mindfulness practice.

The third participant, referred to as Alex, is a 48-year-old Asian male, who has worked the last three years as an assistant high school teacher in the metropolitan Phoenix, Arizona area. Alex also works as the project coordinator for a summer enrichment program. This year, his work in school and summer projects have been canceled because of the pandemic. Alex is currently working at a beverage shop to replace lost income until the school where he worked reopens. This situation has created increased stress and concern for him. Alex had a one-time experience with mindfulness training through a multi-day retreat, yet he has not regularly employed mindfulness in daily life. He became interested in this study due to a friend's recommendation.

Madison was the fourth participant, who is a 45-year-old multi-racial female working as a resource and program development specialist at a four-year high school in the south Phoenix, Arizona area. She applies methods of cultural understanding while teaching students to improve their personal learning to believe in personal success. Madison was interested in the MVOC because her school district announced that all teaching would switch to remote learning and she felt that experience with mindfulness could help her gain additional coping skills to deal with the extraordinary circumstances.

Simultaneously, the frustration caused by the pandemic impacted her teaching by increasing her level of stress while teaching and in her personal life at home. Furthermore, the challenges of remote learning have required longer hours than before, affecting aspects of her physical health and happiness and leading Madison to contemplate leaving the profession. Madison received a recommendation from a college professor who had mindfulness experience and had taken a virtual mindfulness course without previous mindfulness experience. Her involvement in this study was motivated by the desire to gain coping skills so that she can continue working in the high school setting. Madison attended a mindfulness workshop presentation for teachers a couple of times but has not developed a routine of daily practice.

The last participant's pseudonym is Pan. She is a 61-year-old white female with 36 years of teaching orchestra for the tenth grade in a metropolitan Phoenix, Arizona area public high school. Having all her classes completely online is a big challenge for a music teacher because she cannot distinguish individual students as they play their instrument and music instruction is all about hearing distinct notes by location of the sounds. Pan has faced some extraordinary emotional changes this year with the loss of her husband, diagnosis of cancer, and dealing with isolation while trying to be an effective teacher remotely removed from her students.

Intervention

The intervention for the action research study was an adaptation of a learning strategy developed over many centuries in the Buddhist tradition. This tool for the direct observation of mind and actions, provides a method of inquiry bringing accurate, philosophically logical analysis and scientific experimental investigation (Brown,

Creswell, & Ryan, 2016) according to the science of mindful education and mindful life to improve the cultivation of stress coping skills. The intervention provided a six-week MVOC which included information on the comprehensive understanding of the physiology of the stress response by the nervous system along with mindfulness techniques to develop a daily mindfulness practice. There were mindfulness logs provided for participants to discuss their experiences of using mindfulness each week. The course concluded with instructions for continuing the personal mindfulness practice on their own. Every three-weeks, follow-up interviews with Zoom remote meeting were conducted in November and December 2020 with the five participants for the case study to discuss the progress and quality of their personal mindfulness practice that they persisted in on their own.

Role of the Researcher

During, the intervention, I instructed, guided and worked in partnership with participants by creating the MVOC content and being available for individual coaching sessions through E-mail and Zoom online meeting platform. The content and instructional methods for online mindfulness training course were based on academic research on mindfulness and personal training I received from skilled mindfulness masters. Participants were able to contact me through phone or email during the six-week training course to address questions or concerns that arose about their personal practice.

This case study employed qualitative data consisting of individual interviews conducted using Zoom Meeting with audio and video recording, interview transcripts created from these recordings. Coding analysis was completed with the use of Hyper Research for all five participants. Initial interviews were completed as participants

completed the MVOC, with two follow-up interviews conducted at approximately three-week intervals to gain insight into the participants continuation of mindfulness practice.

All quantitative data was collected online through Qualtrics a web-based survey tool provided by ASU. Participants provided demographic and contact information for study purposes only. The Perceived Stress Scale (PSS) was a pre-survey of their stress. The questions in the instrument ask participants to rate their feelings and thoughts during the previous month and to indicate how often they felt or thought a certain way (Cohen, Kamarck, & Mermelstein, 1983). The Kentucky Inventory of Mindfulness Skills Questionnaire (KIMS - Short) with four sub-constructs was completed as a pre-survey of their mindfulness level (Hofling et. al, 2011). The Philadelphia Mindfulness Scale (PHMS) with two sub-constructs was completed as an additional measure of mindfulness level (Cardaciotto et. al, 2008). On the weekly basis, participants completed a daily mindfulness log designed to gather information on both the quantity (number of minutes practiced per day) and quality (open-ended comments) of each participants mindfulness practice

Procedure

The timeline and details of how the action research was conducted is included in Table 1.

Table 1

Timeline of the actions undertaken to conduct the MVOC.

Sequence	Actions	Procedures	Data Collected
Week 1 Sept. 7, 2020	• Participants complete pre-course survey forms. • Introduction to the benefits of Mindfulness and Instruction in Sitting focus on breath awareness • Six days of guided sitting awareness practice	• The listed surveys were completed through Qualtrics to establish an initial measure of stress and mindfulness • The MVOC was housed in a commercial Learning Management System (LMS) (DigitalChalk.com) with secure password protected access. • Participants engaged with the one-hour instructional content on mindfulness and sitting breath awareness. • Three days of guided practice in sitting breath awareness provided through the LMS • Three days of self-directed sitting breath awareness • On day 7 completed Mindfulness Daily Log in Qualtrics	**Quantitative data** PSS, KIMS-Short, PHLMS and Mindfulness log **Qualitative data** Mindfulness log
Week 2 Sept. 14, 2020	• Instruction in Mindful Walking • Six days of guided mindful walking practice	• Participants engaged with the one-hour instructional content on mindful walking. • Three days of guided practice in mindful walking provided through the LMS • Three days of self-directed mindful walking LMS prompt • On day 7 completed Mindfulness Daily Log in Qualtrics	**Quantitative data** Mindfulness log (number of practice minutes a day) **Qualitative data** Mindfulness log (comments)

Week 3 Sept. 21, 2020	• Instruction in Laying / Body Scan • Six days of guided Laying / Body Scan	• Participants engaged with the one-hour instructional content on Laying / Body Scan. • Three days of guided practice in Laying / Body Scan provided through the LMS • Three days of self-directed Laying / Body Scan LMS prompt • On day 7 completed Mindfulness Daily Log in Qualtrics	**Quantitative data** Mindfulness log (number of practice minutes a day) **Qualitative data** Mindfulness log (comments)
Week 4 Sept. 28, 2020	• Instruction in Mindful Eating • Six days of guided practice in mindful eating.	• Participants engaged with the one-hour instructional content on mindful eating. • Three days of guided practice in mindful eating activities provided through the LMS • Three days of self-directed mindful eating LMS prompt • On day 7 completed Mindfulness Daily Log in Qualtrics	**Quantitative data** Mindfulness log (number of practice minutes a day) **Qualitative data** Mindfulness log (comments)
Week 5 Oct. 5, 2020	• Instruction in Mindful Listening and Talking • Six days of activities involving mindful listening and talking.	• Participants engaged with the one-hour instructional content on mindful listening • Three days of guided practice in mindful listening activities provided through the LMS • Three days of self-directed mindful listening LMS prompt • On day 7 completed Mindfulness Daily Log in Qualtrics	**Quantitative data** Mindfulness log (number of practice minutes a day) **Qualitative data** Mindfulness log (comments)
Week 6 Oct. 12, 2020	• Instruction in Mixed Methods of Mindfulness • Six days of guided Mixed Methods of Mindfulness • Participants	• Participants engaged with the one-hour instructional content on mixed methods of mindfulness • Three days of guided practice in mixed methods of mindfulness provided	**Quantitative data** PSS, KIMS-Short, PHLMS and Mindfulness log **Qualitative data** Mindfulness log

	completed post-course survey forms.	through the LMS • Three days of self-directed mixed methods of mindfulness LMS prompt • On day 7 completed Mindfulness Daily Log in Qualtrics along with post-course survey forms	
Course follow-up November through December 2020	• MS Excel Analysis Survey data • Arrange an appointment time to interview each of the participants by Zoom with two follow up interviews three weeks later and six weeks later	• Invitation letter to conduct interviews sent by e-mail • Arithmetic calculation • Coding and develop qualitative data themes	**Audio Record Individual Interviews** **PSS, KIMS Short and PHLMS**

Week 1: Sept. 14, 2020 (Total Time 2.5 Hours)

Prior to the first workshop, participants received study numbers to use as identification on all future study forms so there was a link between the participants' names and the study number until all data was collected. All quantitative data was collected online through Qualtrics a web-based survey tool provided by ASU. Participants provided demographic and contact information for study purposes only. The Perceived Stress Scale (PSS) was administered for participants to complete as a pre-survey of their stress (5 minutes). The questions in the instrument ask participants to rate their feelings and thoughts during the previous month and to indicate how often they felt or thought a certain way (Cohen, Kamarck, & Mermelstein, 1983). The Kentucky Inventory of Mindfulness Skills Questionnaire (KIMS - Short) with four sub-constructs was completed as a pre-survey of their mindfulness level (10 minutes) (Hofling et. al, 2011). The Philadelphia Mindfulness Scale (PHMS) with two sub-constructs was

completed as an additional measure of mindfulness level (5 minutes) (Cardaciotto et. al, 2008).

The first week's module provided information on the benefits of mindfulness with instruction in sitting breath awareness. Participants engaged in a 15-minute guided sitting breath awareness. For each of the next three days, a guided breath awareness video provided to assist participants in further developing their sitting breath awareness for 15 minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed sitting breath awareness for a period of time that they chose. On the seventh day of the week, participants complete the Qualtrics Daily Mindfulness Log.

Week 2: Sept. 21, 2020 (Total Time 2.5 Hours)

The second week's module provided information on the benefits of moving mindfulness with instruction in mindful walking. Participants engaged in a 15-minute guided mindful walking. For each of the three next days, a guided mindful walking video was provided to assist participants in further developing their mindful walking for 15 minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed mindful walking for a period of time that they chose. On the seventh day of the week, participants completed the Qualtrics Daily Mindfulness Log.

Week 3: Sept. 28, 2020 (Total Time 2.5 Hours)

The third week's module provided information on the benefits of laying mindfulness with instruction in laying / body scan. Participants engaged in a 15-minute guided laying / body scan. For each of the three next days, a guided meditation video provided to assist participants in further developing their laying / body scan for 15

minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed laying / body scan for a period of time that they chose. On the seventh day of the week, participants completed the Qualtrics Daily Mindfulness Log.

Week 4: Oct. 5, 2020 (Total Time 2.5 Hours)

The fourth week's module provided information on the benefits of mindful eating with instruction in mindful eating. Participants engaged in a 15-minute guided mindful eating activity. For each of the three next days, a guided mindfulness video provided to assist participants in further developing their mindful eating for 15 minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed mindful eating for a period of time that they chose. On the seventh day of the week, participants completed the Qualtrics Daily Mindfulness Log.

Week 5: Oct. 12, 2020 (Total Time 2.5 Hours)

The fifth week's module provided information on the benefits of mindful listening and speaking with instruction in mindful listening and speaking. Participants engaged in a 15-minute guided mindful listening and speaking activity. For each of the three next days, a guided mindfulness video was provided to assist participants in further developing their mindful listening and speaking for 15 minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed mindful listening and speaking for a period of time that they chose. On the seventh day of the week, participants complete the Qualtrics Daily Mindfulness Log.

Week 6: Oct. 19, 2020 (Total Time 2.5 Hours)

The fifth week's module provided information on the benefits of mixed methods of mindfulness with instruction in mixed methods of mindfulness. Participants engaged in

15-minutes of guided mixed methods mindfulness. For each of the three next days, a guided mindfulness video provided to assist participants in further developing their mixed methods of meditation for 15 minutes. On each of the remaining three days of the week, participants were prompted to engage in self-directed mixed methods of mindfulness for a period of time that they chose. On the seventh day of the week, participants complete the Qualtrics Daily Mindfulness Log.

The Perceived Stress Scale (PSS) was administered for participants to complete as a post-survey of their stress (5 minutes). The questions in the instrument ask participants to rate their feelings and thoughts during the previous four weeks and to indicate how often they felt or thought a certain way (Cohen, Kamarck, & Mermelstein, 1983). The Kentucky Inventory of Mindfulness Skills Questionnaire (KIMS - Short) with four sub-constructs was completed as a post-survey of their mindfulness level (10 minutes) (Hofling et. al, 2011). The Philadelphia Mindfulness Scale (PHMS) with two sub-constructs was for participants to complete as an additional measure of mindfulness level (5 minutes) (Cardaciotto et. al, 2008).

Oct 26, 2020 Data Analysis and Open-Ended Interviews

Three follow up interviews were conducted with the five participants. Participants were contacted by email after completing the six weeks course.

First Follow-Up Interview November 2nd

The individual interviews were conducted with each of the five participants during the week of November 2nd by Zoom. The interview was audio and video recorded so that responses could be transcribed and analyzed.

Second Follow-Up Interview November 23rd

The participants continued mindfulness practice and the second follow-up interview was conducted by Zoom. The individual participants from the November 2nd follow-up interview communicated their responses to additional questions on the improvement and quality of their personal mindfulness practice since November 2nd. The interview was audio and video recorded and later transcribed and analyzed.

Final Interviews Conducted During the Week of December 15th.

All participants participated in a final individual interview by Zoom that was audio and video recorded. Each participant received a certificate to signify completion of the personal mindfulness practice training from O.P.E.N. Global Village.

Data Collection and Analysis

This study used explanatory sequential mixed methods design "that applies to individuals with a strong quantitative background or from fields relatively new to qualitative approaches. It involves a two-phase project in which the researcher collects quantitative data in the first phase, analyzes the results, and then uses the results to plan (or build on to) the second, qualitative phase. The quantitative results… inform the types of questions that [were] asked of the participants" (Creswell, 2014, p. 224). Interviews with qualitative data explain in additional detail the reasons for the quantitative results. The procedure includes collecting survey data in the first phase and analyzing the data followed by the qualitative open-ended interviews to explain the survey responses.

Quantitative Data Collection

There were three instruments employed in this study with each administered as a pre- and post-test measure. The PSS (See Appendix A) was used to measure teacher

stress with 10 items each answered with a seven-point Likert scale. For example, the first item is: "In the last month, how often have you been upset with your job because of something that happened unexpectedly?" with responses 1 = never (0%), 2 = rarely (less than 10%), 3 = occasionally (about 30%), 4 = sometimes (about 50%), 5 = frequently (About 70%), 6 = usually (about 90%), 7 = always (100%) to measure the level of stress including participants feelings and thoughts during the last month (Cohen, Kamarck, & Mermelstein, 1983). The research literature identifies that different levels of stress is experienced by teachers at different times of the school year (Herman, Hickmom-Rosa & Reinke, 2018). The timing of this study was based on new research requirement due to the pandemic, availability schedule, and the need for teachers to have the time to complete the training. As the action research study's focus was on cultivating stress coping skills for teachers the data results on levels of stress should not be skewed by the timing of the study. The second instrument, KIMS Short (See Appendix B) consists of four main sub- constructs with five items for each sub-construct (20 questions total). These items measure teacher experience of the level of mindfulness according to self-determination theory, with awareness as the essential mechanism for building autonomy. The concept of awareness was defined as the clear perception and insightful understanding of an event, in a comprehensive or most optimal manner paired with relaxed attention and interest in what is occurring (Brown, Creswell & Ryan, 2016, p. 112). The components of mindful awareness include:

1. Observation: Mindfulness involves observing, noticing or attending to various stimuli including internal phenomena (cognitions, bodily sensations) and external phenomena (sounds, smells).

2. Describing: Involves participant describing. Labeling, or noting of observed phenomena by applying words in a nonjudgmental way.
3. Acting with awareness: Being attentive and engaging fully in one's current activity. Includes the DBT skill of ‘participating' and ‘one-mindfully'.
4. Accepting (or allowing) without judgment: To allow reality or what is there, to be as it is without judging, avoiding, changing, or escaping it (Hofling et. al, 2011). These items are designed with a five-point Likert scale with responses of 1 = Never or very rarely true, 2 = Rarely true, 3 = Sometimes true, 4 = Often true, and 5 = Very often or always true. This instrument was designed to measure general mindfulness in daily life along with components of mindfulness.

Some of the questions describe the absence of mindfulness and were reversed scored. These include the following questions under Describing 2) It’s hard for me to find the words to describe what I’m thinking. 3) I have trouble thinking of the right words to express how I feel about things. 4) When I have a sensation in my body, it’s difficult for me to describe it because, I can’t find the right words. The reversed scored questions under Acting with awareness are: 3) I tend to do several things at once rather than focusing on one thing at a time. 5) When I do thing, my mind wanders off and I’m easily distracted. The other questions assess direct factors of mindfulness (Baer, Smith, & Allen, 2004, p. 194). This instrument has been validated through various research studies and shown to be responsive in measuring short term changes in mindfulness (Bergomi, Tschacher, Kupper, 2012; Baer, Smith & Allen, 2004; Hofling et. al, 2011).

The third instrument was PHLMS (The Philadelphia Mindfulness Scale) the questionnaire was developed by Cardacitto et al. 2008. The instrument consists of two

main sub-constructs with ten items for each sub-construct (20 questions total) (See appendix C). These items measure teacher experience of the level of mindfulness, awareness and acceptance. Awareness characterized as a continuous monitoring of experience. Acceptance as been defined as "experiencing events, fully and without defense as they are" (Cordacitto et al. 2008, p. 2).

These items are designed with a five-point Likert scale with responses of 1 = Never or very rarely true, 2 = Rarely true, 3 = Sometimes true, 4 = Often true, and 5 = Very often or always true. This instrument was designed to measure general mindfulness in daily life along with components of mindfulness. The odd number question which includes questions such as 1) I am aware of what thought are passing my mind, 3) When talking with other people, I am aware of their facial and body expressions and 5) when I shower, I am aware of how the water is running over my body. The even number question and reverse score which include questions such as 2) I try to distract myself when I feel unpleasant emotions, 4) There are aspects of myself I don't want to think about and 6) I try to stay to keep thoughts or feelings from coming to mind. This instrument has been validated through various research studies and shown to be responsive in measuring short term changes in mindfulness (Cordacitto et al. 2008).

Daily Mindfulness Log

The daily mindfulness log was a data collection instrument designed to gather information on both the quantity and quality of each participants mindfulness practice (See Appendix D). Participants were asked to complete the daily mindfulness log each week. The quantitative data consists of number of minutes of mindfulness practice each day as well as five questions answered with a 5-point Likert scale with responses of 1 =

Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, and 5 = Strongly Disagree. Consistency of the mindfulness practice is addressed by the time of day that the participant chooses to complete mindfulness activities in either morning, mid-day, or evening. The daily mindfulness log also elicits qualitative responses with the open-ended question of "How was it?" along with space for comments. The data from this form will be analyzed along with the PSS, KIMS Short, and PHLMS data to provide explanatory information for any changes between the pre- and post-tests.

Qualitative Data Collection

All of the participants were invited for open-ended interviews (see Appendix E). The initial interview had nine semi-structured questions designed to gather information related to the two main research questions on occupational stress and mindfulness based on their experience of mindfulness practice through the MVOC. The purpose of the individual interviews was to allow the participants to answer questions about their virtual course experiences in a confidential setting to maintain their privacy and allow for greater openness and candor in their responses than might happen if other participants were present. Second and third interview consisted of six questions each the purpose of these follows up interview was to gain information about the participants continued practice of mindfulness.

Data Analysis

The analysis of each of the three quantitative survey instruments, the Perceived Stress Scale (PSS), the KIMS Short (Kentucky Inventory of Mindfulness Skills) and PHLMS (Philadelphia Mindfulness Scale) began with arriving at scores in accordance with the calculation methods contained in the literature regarding each instrument. On

Daily Mindfulness Log the mean and standard deviation for the number of minutes practice per week were calculated using a formula in Microsoft Excel. See Table 2 for an overview of the data analysis process.

Table 2

Data Analysis by Research Question

Research Question	Data Collection Instrument	Type of Analysis
1. What is the level of teacher general and occupational stress?	Pre- PSS / Survey	Arithmetic Calculation
2. What level of reduction in the effects of occupational stress are achievable through establishing a mindfulness practice for teachers?	Pre-& Post- PSS, KIMS Short & PHLMS / Survey Daily Mindfulness Log Open ended individual Interviews	Arithmetic Calculation & Paired t-Test Arithmetic Calculation & Coding Coding
3. What level of change does a mindfulness intervention have on the four sub- constructs of mindfulness which include observing, describing, acting with awareness, and accepting (or allowing) without judgement.	Pre-& Post- KIMS Short & PHLMS / Survey Daily Mindfulness Log Open ended Individual Interviews	Arithmetic Calculation & Paired t-Test Arithmetic Calculation & Coding Coding
4. How do participants utilize mindfulness activities in daily life to cope with stress?	Daily Mindfulness Log Open ended Individual Interviews	Arithmetic Calculation & Coding Coding

Quantitative Data Analysis

To address RQ #1 the score for the PSS an arithmetic calculation was performed by adding the indicated score for each of the 10 items to obtain a total stress rating score between 10 to 70 points with a higher score indicated a higher level of stress. This score was then divided by 10 to arrive at an average score which can then be compared to the meanings of the seven Likert score labels. An average score of five to seven indicates

high stress, three to four is moderate stress, and one to two is low stress (Cohen, Kamarck, & Mermelstein, 1983).

When addressing RQ #2, the pre-test PSS average score was subtracted from the post-test PSS average score to arrive at the level of change in perceived stress. To score the KIMS Short, certain questions need to be reversed scored as their descriptions indicate the absence of the mindfulness component being measured. These include questions 2, 3, and 4 from the Describing sub construct; questions 3 and 5 from the Acting with awareness sub-construct; and questions 1, 2, 3, 4, and 5 from the Accepting without judgement sub-construct. Then the values from each sub-construct was added together for a total sub-construct score ranging from five to 25 with the higher values indicating higher mindfulness. Each of the four sub-construct total scores are added together to arrive at a total mindfulness score ranging from 20 to 100. Then, the four sub-construct scores and the total mindfulness score are divided by five to arrive at an average score for comparison to the Likert score labels. The coding analysis from the daily mindfulness logs and open-ended individual interviews were examined to provide corroborating evidence.

Qualitative Data Analysis

To address RQ#3 and RQ#4 the open-ended recorded interviews were transcribed with the data analysis done using Hyper Research to apply provisional, focused, and axial coding methods to maintain the focus on participants' perspectives of experiencing mindfulness.

Provisional coding was the first cycle of coding which categorizes the data according to a "predetermined start list of codes prior to fieldwork" (Saldana, 2016, p.

168). The list of codes contained in Appendix H were developed from a review of the literature on mindfulness interventions and represent anticipated categories of responses that might arise during the study. The second cycle of coding began with focused coding by searching "for the most frequent or significant codes to develop the most salient categories in the data corpus" (p. 240). The goal was to further refine and develop categories without giving attention to distractions such as properties or dimensions. Applying the first two coding methods can result in the data becoming fractured. Axial coding restores meaning through reassembling the coded data along an axis category. The purpose of axial coding was "to determine which codes in the research are the dominant ones and which are the less important ones … [and to] reorganize the data set: synonyms are crossed out; redundant codes are removed, and the best representative codes are selected" (p. 244).

More accurate data analysis was conveyed by ascertaining the frame of reference, forming categories that emerged from the data, and ascertaining the specificity or generality of the categories. The narrative form is in categories with operational definitions and self-report. This information was cross-referenced with the daily mindfulness logs to ascertain patterns between the quantity and consistency of practicing mindfulness techniques and the perceived quality of the benefits received from the mindfulness practice.

To improve the rigor when determining reliability and validity of qualitative data, the paradigm of trustworthiness was used to establish "four criteria: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability" of the questions (Tripken & Allegrante, 2011, pg. 75). Additional contextual questions were asked during the

interview process. The theoretical framework of SDT and self-efficacy theories were used during analysis.

To address RQ#3 the differences between pre- and post-test PSS, KIMS Short and PHLMS along with the correlational analysis of the relationship between level of mindfulness and level of stress was cross reference with the qualitative analysis discussed above under the qualitative data analysis.

To address RQ#4 the inductive analysis of the open-ended individual interviews along with the mindfulness logs as mentioned in the section above were examined for both confirmatory and "contradicting or conflicting patterns or trends that have emerged" (Mertler, 2017, p. 174). The combined analysis focused on finding patterns in the data to ascertain how mindfulness is able to help cope with stress in daily life.

Conclusion

The expected relationship between the dependent and independent variables was a negative correlation indicating that higher mindfulness scores are predictive of a lower stress score. This action research study explored the difference in magnitude of each of the four sub-components as the research literature does not indicate which of the four components would be most highly correlated with stress. The open-ended interviews provided data on which components of the intervention were most successful in building mindfulness and informative on their effect in building stress coping skills for the educators. The new knowledge this study seeks to add to the literature was the relationship between deeper experience in mindfulness and the levels of experience stress reduction (Baer, Smith, & Allen, 2004). The participants in this study gained an increased comprehensive understanding of natural human stress and learned how to lighten its

effects by mindfulness techniques.

CHAPTER 4

Results

This action research study takes a case study approach in examining the experience of five K-12 teachers participating in the mindfulness virtual online course during the COVID-19 pandemic. During this unprecedented time, the level of occupational stress for teachers was increased due to of the high level of responsibility in schools that demanded resilient coping skills for establishing and maintaining overall well-being. “Stress results when an individual appraises the magnitude of demands he or she encounters as exceeding available resources” (Lambert, McCarthy, Fichett, & Eyal, 2018, p.2). Providing teachers with accessible online resources to meet this demand and combat the effects of the general and occupational stress on their well-being was the goal of this intervention.

This mixed-methods study employed the theoretical frameworks of self-determination, self-efficacy, and cognitive apprenticeship theories with the objective of building teacher's coping skills to address general and occupational stress and to provide front-line supports to put teachers first in becoming and staying both psychologically and physiologically healthy. The six-week Mindfulness Virtual Online Course (MVOC) provided instruction and guidance in assisting participants in developing a daily personal mindfulness practice and examined the effects of mindfulness in building stress coping skills through pre-post quantitative and qualitative data including individual interviews and self-reports. The goal of the action research study was to concentrate on understanding the initial level of occupational stress, the reduction of stress through the

intervention, and the mechanisms of mindfulness involved in creating greater efficacy of coping skills. In order to accomplish these goals, the research study explored the following four questions:

RQ1: What is the level of teacher general and occupational stress?

RQ2: What level of reduction in the effects of occupational stress are achievable through establishing a mindfulness practice for teachers?

RQ3: What level of change does a mindfulness intervention have on mindfulness sub-constructs which include observing, describing, acting with awareness, accepting (or allowing) without judgement, and awareness?

RQ4: How do participants utilize mindfulness activities in daily life to cope with stress?

Explanatory Sequential Mixed Methods

The study employed a sequential mixed method design where quantitative data was collected pre-and post-intervention using the Perceived Stress Scale (PSS), Kentucky Inventory of Mindfulness Survey Short (KIMS Short), and Philadelphia Mindfulness Survey (PHLMS) and analysis prior to collection of qualitative data by interviews, mindfulness logs and participants communication from emails during the course. The quantitative data analysis informed the creation of the follow-up interview questions which were used in collecting the qualitative data. This data was then analyzed using provisional, focused, and axial coding through Hyper Research software, then combined with the quantitative data analysis for final interpretation (see Figure 3).

Figure 3

Explanatory Sequential Mixed Methods

Perceived Stress Scale (PSS) Pre-Post Survey Data Analysis and Results.

The PSS had10 questions which demonstrated participants feelings and thoughts during the month prior to starting the MVOC. The following analysis was organized by research questions (RQ), with quantitative results presented first, supported by the analysis of qualitative results. Then followed by the section with comments and participants' opinions along with a concluding summary.

Quantitative Data Analysis Supported by Qualitative Data to Address RQ1 and 2:

RQ1: What is the level of teacher general and occupational stress? The PSS had 10 items with response choice ranging from 1 *(Never)* to 7 *(Always)* some questions were reversed score which values are obtained by reversing responses (e.g., 1 = 7, 2 = 6, 3 =5, 4 = 4, 5 = 3, 6 = 2, 7=1) to the four positively stated items indicating low stress (4, 5, 7, and 8) summing across all scale item which then displays the level of stress with a maximum score of 70. The calculation of adding all scores together results in a higher level of stress being indicated by a greater score as I discussed in Chapter 3. From a norming study of 2,387 participants in the U.S. the mean PSS score was 28.15 (SD 13.8) for males and 30.55 (SD 14.7) for females (Cohen, 1983). Percentile score were calculated using the standard normal distribution after calculating the z score with the formula $z - score = \frac{score - mean}{standard\ deviation}$ and the unit normal table (Gravetter & Wallnau,

2011). The percentile score represents the percent of the population with lower stress scores than participant score thus, a percentile value greater than 50% represents a higher level of stress in comparison with the normed population.

The pre-intervention level of stress demonstrated before the MVOC intervention was higher than the national average for four participants: Lora, Smit, Madison, and Pan and at the average for one of the participants, Alex. This result addresses RQ1 on the initial level of stress before the six-week MVOC as being higher for these teachers. Smit exhibited the highest level of stress with a percentile of 91.5 %, second highest was Madison with 89.6%, followed by Lora with 81.9%, and Pan 59.1%. Alex was the only participant slightly below the mean with 49.6% (see Table 3).

Table 3

Perceived Stress Scale (PSS) scores, Pre-intervention with percentile comparison to norm.

Pseudonym	Pre-intervention Score	National Mean (SD)	z-score	Percentile
Lora	44	30.55 (14.7)	0.91	81.9%
Smit	47	28.15 (13.8)	1.37	91.5%
Alex	28	28.15 (13.8)	-0.01	49.6%
Madison	49	30.55 (14.7)	1.26	89.6%
Pan	34	30.55 (14.7)	0.23	59.1%

Note: Likert scale scoring (7) = *Always 100%* (6) = *Usually about* 90% (5) = *Frequently about 70%* (4) = *Sometimes about 50%* (3) = *Occasionally about 30%* (2) = *Rarely less than 10%* (1) = *Never 0%*

In looking at the results from data analysis, the PSS pre-intervention level of stress Likert scale scores based on participants perceptions during the month before becoming involved in the MVOC was a mean of 40.4 out of a high score of 70 (see Table 2). The percentile analysis examined in comparison with normed scores along with the analysis of PSS questions and responses reported in Tables 3, 4, and 5 below, revealed that the five participants experienced stress at a higher level than the US national norm. The qualitative data identified the primary source of stress to be occupational with Smit commenting that "teaching was a very stressful job" (Smit, personal communication, October 16, 2020), Lora mentioned "my work is very stressful" (Lora, personal communication, November 2, 2020), and Madison stated, "I have stress from how to help students understand the subject I am teaching" (Madison, personal communication, October 27, 2020),

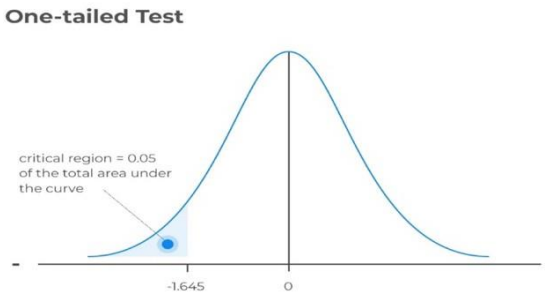
Additionally, the overall mean score of 40.4 from the PSS showed the participants had a high level of stress which was interconnected to the literature review, teachers' high occupational stress can be distinct as the damaging physiological and psychological responses that appear when the requirements of the job do not balance the proficiencies, sources, or demands of the worker (NIOSH, 1999). These levels of occupational stress can lead to burnout and over time develop to the stage of negative reaction to stress, emotional exhaustion, and consideration of leaving the teaching profession (Oberle & Schonert-Reichl, 2016).

RQ2: What Level of Reduction in the Effects of Occupational Stress are Achievable Through Establishing a Mindfulness Practice for Teachers? A paired t-test was used to ascertain if there is statistical evidence that the mindfulness intervention

resulted in reduction of the level of stress. To address RQ2 a paired two sample (Pre-Post) t-test with a one tailed alpha level of 0.05 was conducted. Figure 4 below indicates by the light blue shaded area in the left "the critical region defined in terms of sample values that provide '*convincing evidence'* that the treatment really does have an effect" (Gravetter & Wallnau, 2011, p. 226).

Figure 4

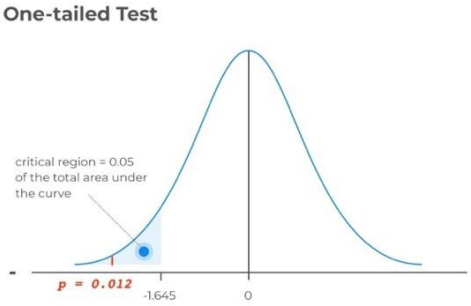
One-Tailed t-Test



This alpha level of 0.05 and the statistical formulas for t-test, mean, and standard deviation in Microsoft Excel were used for all statistical tests. There was a significant decrease in the level of stress after the six-week intervention (M = 22.2, SD = 9.63) compared to before the intervention (M = 40.4, SD = 9.02), $t(4) = 3.57$, p = .012 and (n=5). The t-test statistics used 4 degrees of freedom (n – 1= 4) which "describes the number of scores in the sample that are independent and free to vary" (Gravetter & Wallnau, 2011, p. 253), so this result was significant even with the limited number of participants. This demonstrated that the calculated p value of 0.012 was in the critical region providing "convincing evidence" that the MVOC training being the only difference between the pre-and post-measures was the likely reason for the reduction of stress (see figure 5).

Figure 5

One-Tailed t-Test Pre- and Post-Intervention Stress Score



For RQ 2, I compared the pre- and post-intervention score data analysis using descriptive statistics calculations with Microsoft Excel, the result demonstrated an overall 44 % significant reduction of the level of stress which means that after developing a mindfulness practice from the MVOC intervention, the participants were better able to cope with stress (see Table 4). For examples of three questions from PSS and responses by each participant see Tables 5, 6, and 7.

Table 4

Perceived Stress Scale (PSS) scores, Pre- and Post-intervention with percent change

Pseudonym	Pre-intervention score	Post-intervention score	% Reduction
Lora	44	34	23%
Smit	47	30	36%
Alex	28	21	25%
Madison	49	13	73%
Pan	34	13	62%
Mean	40.4	22.2	44%

Note: Likert scale scoring (7) = *Always 100%* (6) = *Usually about* 90% (5) = *Frequently about 70%* (4) = *Sometimes about 50%* (3) = *Occasionally about 30%* (2) = *Rarely less than 10%* (1) = *Never 0%*

Table 5

Responses to Question1: In the last month, how often have you been upset with your job because of something that happened unexpectedly?

Pseudonym	Pre-intervention how often? - % of the time	Post-intervention how often? - % of the time
Madison	70%	10%
Smit	70%	30%
Pan	50%	10%
Alex	30%	10%
Lora	100%	100%

Table 6

Responses to Question 2: In the last month, how often have you felt that you were unable to control the important things in your working area?

Pseudonym	Pre-intervention how often? - % of the time	Post-intervention how often? - % of the time
Madison	50%	0%
Smit	70%	50%
Pan	50%	10%
Alex	10%	10%
Lora	70%	50%

Table 7

Responses to Question 3: In the last month, how often have you felt nervous with job related stress?

Pseudonym	Pre-intervention how often? - % of the time	Post-intervention how often? - % of the time
Madison	70%	10%
Smit	90%	70%
Pan	50%	0%
Alex	10%	0%
Lora	100%	100%

This was interconnected with the study by Csaszar, Curry, & Lastrapes (2018), which found evidence that mindfulness training encourages teachers' well-being. Additionally, mindfulness supports teacher health and increases positive and immune system enhancement (Greeson et al., 2013). In this case study only one participant stated direct health benefits, for example, after the MVOC Smit stated that "the stress level is much lower, my blood pressure is consistently at a safe level now" (Smit, personal communication, December 2, 2020). Madison was considering leaving the teaching but "after practiced mindfulness and gain benefit from the course" she decided to "continue on with my profession" (Madison, personal communication, October 27, 2020).

While Lora responses to the three PSS questions did not change much, she stated "Use mindfulness coping with stress that occurs during my working situation, it helps me calm and goes through all the stress" (Lora, personal communication, November 13, 2020) showed that she applied mindfulness to increased stress coping skills. The data communicates that according to example questions above the participants experienced fewer instances of work relate stress which may indicate the benefit of increased stress coping skills that can reduce burnout and lead to increased retention.

Quantitative Results Addressing RQ3 Supported by Qualitative Analysis

RQ3: What level of change does a mindfulness intervention have on mindfulness sub-constructs which include observing, describing, acting with awareness, accepting (or allowing) without judgement, and awareness? While analyzing this survey response, I noticed inconsistent responses of one participant, Lora, while processing the reverse score questions. This demonstrates that the participant chose the same response pattern on both mindfulness questionnaires choosing the high response for all questions that

impacted the trustworthiness of the data. In analyzing the course attendance data there was a start and stop pattern of attendance for three days and multiple assignments completed in one day. This result along with communication for arranging the interview meetings through e-mail confirmed that the participant rushed through the questionnaire process. For this reason, Lora's mindfulness scores were not included in the t-test calculations. Additionally, Lora's data does not appear in Tables 8 and 9.

To address RQ3 the survey was analyzed for each participant pre- and post-intervention with an example question selected to illustrate the component of mindfulness being measured and how each participant responded. A paired two sample t-test with a one tailed alpha level of .05 was used for all statistical tests, for each of the four sub-components of the KIMS Short questionnaire See Appendix B. The analysis of the t-test was presented with standard statistical language and a figure of normal distribution with the critical region indicated for explanation of the test results. This similar pattern of analysis was applied for PHLMS See Appendix C. Tables 8 and 9 report the descriptive statistics of mean, standard deviation and percent change.

Observe

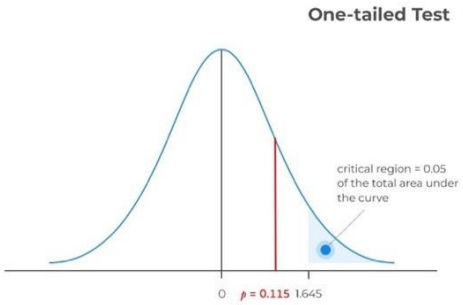
Mindfulness involves observing, noticing or attending to various stimuli including internal phenomena (cognitions, bodily sensations) and external phenomena (sounds, smells). Question 3 from the KIMs Short illustrated that related to Observe; *I pay attention to sensations, such as the wind in my hair or sun on my face.* Pan's response to question 3 going from pre-MVOC Often True (4) to post-MVOC Very Often True (5), with an overall 20 % increase for this component was supported through an email on how

mindfulness practice increased noticing of bodily sensations “I notice the heat, smells, feel of the surface where I walk” (Pan, personal communication, October 14, 2020). Additionally, the question level data analysis showed that both Alex and Madison responded to question 3 going from pre-MVOC Sometimes True (3) to post-MVOC Very Often True (5), Smit response went from Sometimes True (3) to Often True (4). This result shows participants experienced a gain in Observe component as characterized by the analysis above correspondingly the t-test analysis is presented below.

The t-test on this component displays a non-significant increase in the level of this mindfulness component after the six-week intervention (M = 4.2, SD = 1.04) compared to before the intervention (M = 2.45, SD = 0.55), $t(3) = 2.20$, p = .115 and (n=4). While the average score for Observe did increase by 1.75 Likert units, the p value of 0.115 was not in the critical region, meaning the data did not provide evidence that the increase can be attributed to the MVOC intervention (see Figure 6).

Figure 6

One-Tailed T-Test Pre- and Post-Observe Score



Describe

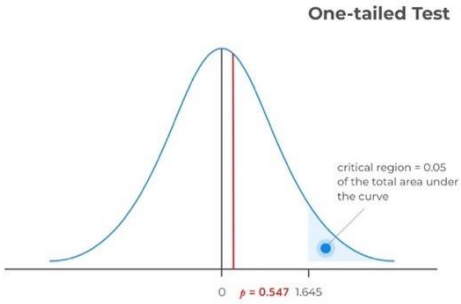
Involves participant describing, labelling, or noting of observed phenomena by applying words in a nonjudgment way. An example of the Describe component comes

from question 9 and was assessed with reversed scoring was provided as a standard to perceive participants ability to describe sensation; *When I have a sensation in my body, it's difficult for me to describe it because, I can't find the right words.* Considering how Madison and Pan responded Never or very rarely true (1), which exhibited high level of mindfulness for both pre- and post-intervention surveys which aides in establishing participants trustworthiness in answering the survey questions. Furthermore, Alex and Smit were consistent in their responses with mid-level for Alex, Rarely true (2) and lower for Smit, Often true (4), this was supported during the interview when Smit often repeated himself and had difficulty finding the right words to express his feelings such as when he explained about "when I practice, I'm not sure how to describe my sensation" (Smit, personal communication, November 10, 2020). According to the descriptive statistics in Table 6 Smit had the lowest Describe score. While participants did not experience much change in Describe a t-test was still performed with the result reported below.

The t-test on this component shows a non-significant change in the level of this mindfulness component after the six-week intervention (M =3.60, SD = 1.15) compared to before the intervention (M = 3.45, SD = 0.77), $t(3) = 0.676$, $p = .547$ and (n=4). While the average score for Describe did increase by 0.15 Likert units, the p value of 0.547 was not in the critical region, meaning the data did not provide evidence that the increase can be attributed to the MVOC intervention (see Figure 7).

Figure 7

One-Tailed t-Test Pre- and Post-Describe Score



Accept: (or allowing) without judgment*: To allow reality or what is there, to be as it is without judging, avoiding, changing, or escaping it.*

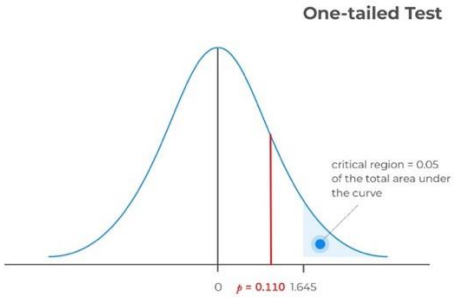
As an example of this component, question 14 states; *I tell myself that I shouldn't be thinking the way I'm thinking.* As this question indicates non-acceptance it was a reversed score question to determine how often participants apply self-judging before and after MVOC. In the individual question data analysis, three participants presented an increased level of Accept, Smit pre was Often true (4) and post Sometime true (3); Madison pre was Very often or Always true (5) and post Sometime true (3); and Pan pre-Often true (4) and post Rarely true (2) while one participant Alex answered Rarely true (2) for both pre and post. For example, Pan's remark "acceptance of this is my new life and I have to embrace it instead of fight it" (Pan, personal communication, December 16, 2020) which corroborated the analysis in Table 6 that she had the highest increase in this component. The t-test result is listed below and was calculated to determine the level of evidence to connect the increase to the intervention.

The t-test on this component displays a non-significant increase in the level of this mindfulness component after the six-week intervention (M = 3.75, SD = 0.47) compared

to before the intervention (M = 3.05, SD = 0.89), *t*(3) = 2.25, p = 0.110 and (*n*=4). This result demonstrated that the change was consistent with the null hypothesis. While the average score for Accept did increase by 0.70 Likert units, the p value of 0.110 was not in the critical region, meaning the data did not provide evidence that the increase can be attributed to the MVOC intervention (see Figure 8).

Figure 8

One-Tailed t-Test Pre- and Post-Accept Score



Acting with awareness

Being attentive and engaging fully in one's current activity. Includes the skills of 'participating 'and 'one-mindedness'. Question 16 models this component; *When I'm doing something, I'm only focused on what I'm doing, nothing else.* For this item participants responded as follows, Madison pre was Never or Very rarely true (1) and post Very often or Always true (5); Smit pre was Sometime true (3) and post Often true (4); Pan Often true (4) and post Very often true (5); finally, Alex same score for both pre- and post-Often true (4). For instance, Madison views mindfulness practice as something that allows a person "to pay attention, concentrate on what you are doing" (Madison, personal communication, October 27, 2020). Overall, there was a slight increase in this component with the t-test calculated and explained in the paragraph beneath.

The t-test on this component displays a non-significant change in the level of this

Mindfulness component after the six-week intervention (M =3.5, SD = 0.20) compared to before the intervention (M = 3.25, SD = 0.41), $t(3) = 1.99$, $p = 0.141$ and (n=4). While the average score for Acting with awareness did increase by 0.25 Likert units, the p value of 0.141 was not in the critical region, meaning the data did not provide evidence that the increase can be attributed to the MVOC intervention (see Figure 9).

Figure 9

One-Tailed t-Test Pre- and Post-Acting with Awareness Score

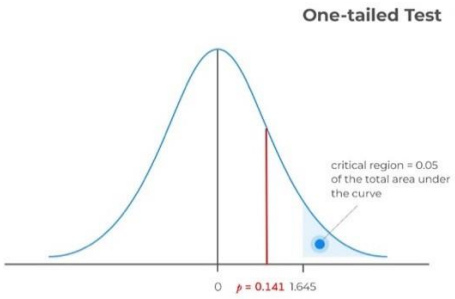


Table 8

KIMS – Short Questionnaire (Kentucky Inventory of Mindfulness Skills)

	Smit		Alex		Madison		Pan	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Observing-Pre	2.8	0.45	3.2	0.84	3.8	0.84	4	0.00
Post	2.6	0.89	4.6	0.55	4.8	0.45	4.8	0.45
% Change	-7%		44%		26%		20%	
Describing-Pre	2.4	0.55	3.8	0.45	3.4	1.52	4.2	1.79
Post	2.2	0.45	3.8	0.45	3.4	1.67	5	0.00
% Change	-8%		0%		0%		19%	
Acting-Pre	2.4	0.55	4	0.71	2.2	1.10	3.6	0.89
Post	3.4	0.55	3.8	0.45	3.4	0.89	4.4	0.55
% Change	42%		-5%		55%		22%	
Accepting-Pre	3.2	0.75	3.2	1.03	3.8	1.63	2.8	1.10
Post	3.4	0.55	3.4	1.22	3.8	1.03	3.4	1.37
% Change	6%		6%		0%		21%	

Note: Likert scale scoring (5) = *Very often or always true* (4) = *Often true* (3) = *Sometime true*(2) =*Rarely true*(1) = *Never or very rarely true*

To address RQ3 a paired two sample t-test with a two tailed alpha level of .05 was used for each of the two sub-components of the PHLMS questionnaire.

Awareness

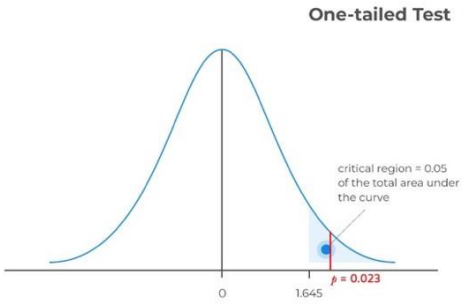
"*Is characterized as a continuous monitoring of experience with a focus on current experience rather than preoccupation with past or future events:* (Cardaciotto et al., 2008, p. 2). In this PHLMS the ten odd questions addressed this component, with questions 5, 7, and 11 showing an increase for three out of four participants. I reviewed question 5 and focused on the participant with the highest pre to post increase; When *I shower, I am aware of how the water is running over my body*, the response from

Madison pre- Sometime (3) and post Very often (5) interconnected with her interview comment “even when I shower and focus on warm water that relaxes and reduces stress” (Madison, personal communication, November 18, 2020). Next question 7; *When I am startled, I notice what is going on inside my body,* Smit showed the highest increase score with pre Rarely (2) and post Often (4) according to the interview data he stated that when he felt startled “my stomach feels it like there’s electric in there” (Smit, personal communication, October 16, 2020). Finally, question 11; *When someone asks how I am feeling I can identify my emotions easily,* Alex had the highest change with pre Sometime (3) and post Often (4) related to his comment identified that “when I feel stress my emotions always raise up and down to bad mood” (Alex, personal communication, October 26, 2020). This result showed increased awareness connected with the results of the KIMS Short subscale Observe validated in a study by Cardaciotto et al., 2008. The results of the t-test analysis are presented below.

The t-test on this component displayed a significant change in the level of this mindfulness component after the six-week intervention (M = 4.28 SD = 0.62) compared to before the intervention (M = 3.30, SD = 0.68), $t(3) = 4.26$, $p = .023$ and (n=4). The average score for Awareness did increase by 0.98 Likert units and the p value of 0.023 was in the critical region, meaning the data did provide convincing evidence that the increase can be attributed to the MVOC intervention (see Figure 10).

Figure 10

One-Tailed t-Test Pre- and Post-Awareness Score



Accept

Defined as "experiencing events fully and without defense, as they are, during which one is open to the reality of the present moment without being in a state of belief or disbelief" (Cardaciotto et al., 2008, p. 2). From question 14 which was reverse scored to measure the absence of Accept; *I tell myself I shouldn't feel sad,* Madison who showed the highest increase from pre Very often (5) and post Never (1), stated "when I feel angary my heart beats faster than usual and feeling heat arise, I just closed my eyes and feel that emotion, notice it and then let it go" (Madison, personal communication, October 27, 2020). This result gives indication that participants experienced a gain in the component of Accept as illustrated by the analysis above. Correspondingly the t-test analysis is offered below.

The t-test on this component displays a non-significant change in the level of this Mindfulness component after the six-week intervention (M =3.68, SD = 0.74) compared to before the intervention (M = 2.65, SD = 0.52), $t(3) = 1.83$, $p = 0.164$ and (n=4). While the average score for Accept did increase by 1.03 Likert units, the p value of 0.164 was not in the critical region, meaning the data did not provide evidence that the increase can be

attributed to the MVOC intervention (see Figure 11).

Figure 11

One-Tailed t-Test Pre- and Post-Accept Score

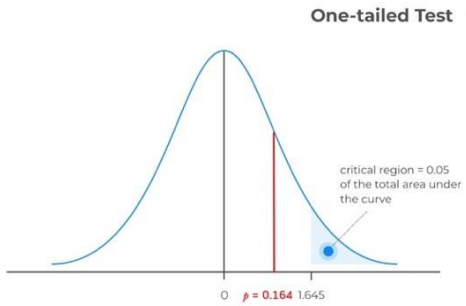


Table 9

PHLMS (Philadelphia Mindfulness Scale)

	Smit		Alex		Madison		Pan	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Awareness-Pre	2.3	0.48	3.6	0.84	3.5	1.51	3.8	0.32
Post	3.6	0.70	3.9	0.99	4.7	0.95	4.9	0.32
% Change	57%		8%		34%		29%	
Accepting - Pre	2.5	0.53	2.5	1.08	2.2	0.92	3.4	0.52
Post	3.7	0.48	3	1.25	4.7	0.67	3.3	1.16
% Change	48%		20%		114%		-3%	

Note: Likert scale scoring (5) = *Very often* (4) = *Often* (3) = *Sometime* (2) =*Rarely* (1) = *Never*

The analysis of the data in table 8 and 9 above showed an increase in the level of mindfulness for each of the components measured from the pre to post- survey which includes observing, describing, acting with awareness, and accepting (or allowing) without judgment from the KIM short questionnaire and awareness and accepting from PHLMS. Additionally, as shown in table 2 there was an overall reduction in the level of stress for each participant. Moreover, the t-test analysis confirms that there was

convincing evidence that the increased awareness measured by the PHLMS and the decreased level of stress measured by the PSS resulted as a consequence of participation in the MVOC. This means the level of change in mindfulness due to the MVOC intervention was substantiated for the sub construct of awareness as measure by PHLMS alone. This result of increased awareness from the MVOC was corroborated with in the research literature which validates the benefits of mindfulness practices in promoting teachers increased awareness, being in the present moment, and engaged with compassion as being well documented (Brown, Creswell, & Ryan, 2016; Brown, Ryan, & Creswell, 2007; Anderson et al., 1999, Meiklejohn, 2012). To support the importance of PHLMS awareness component for mindfulness qualitative data analysis was integrated with Lora statement after the mindfulness course "Now I'm more aware…my thoughts and inside my head, but also awareness of my body" (Lora, personal communication, November 2, 2020).

Quantitative results address RQ 4 support by qualitative analysis

RQ4: How do participants utilize mindfulness activities in daily life to cope with stress? In the daily mindfulness logs, participants kept track of how much time they were spending directly involved in mindfulness activities as instructed during the course. This information gave an indication of the amount of time that participants were involved in personal practice with the mean number of minutes per day being displayed in Table 10.

Table 10

Average daily minutes of MVOC from the Daily Mindfulness Logs.

	Lora		Smit		Alex		Madison		Pan	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Week 1	10	0.00	11	4.50	28	13.5	26	13.76	17	5.53
Week 2	11	1.89	14	2.44	24	8.02	16	13.36	17	5.67
Week 3	8	3.93	18	8.59	26	7.23	11	1.89	19	2.44
Week 4	10	7.23	18	5.67	15	0.00	14	3.78	19	1.89
Week 5	4	2.31	21	19.02	14	2.44	12	9.79	30	0.00
Week 6	15	8.67	15	1.00	26	5.35	30	0.00	30	0.00
Average	10	3.23	16	3.26	22	5.54	18	7.42	22	5.65

Statistical data analyses performed using self-report scores associated with personal mindfulness practices were completed on weekly mindfulness log data. Due to the limited number of participants in the study, the quantitative analyses consisted of descriptive statistics calculations performed with Microsoft Excel to arrive at mean minutes per day of mindfulness practice and standard deviations. The result for quantitative data on the six-week MVOC according to the mindfulness logs, overall average range of mindfulness practiced was 10 to 22 minutes per day with a standard deviation ranging from 3.23 to 7.42. The participants who had the most variation in daily practice was Madison (SD = 7.42) and the most consistent was Lora (SD = 3.23). The analysis of the amount of daily practice reveals that participants practicing every day was an important factor in building mindfulness. For example, Alex comment “if I do not practice mindfulness, I cannot control my emotions” (Alex, personal communication,

December 10, 2020). This data analysis did not provide evidence that a greater number of minutes practiced was connected to a higher level of mindfulness.

Analysis of Qualitative Data

The purpose of qualitative of data as stated by Ivankova, 2015, is to "focus on a specific problem and professional context and the need to explore all stakeholders' perspective including their attitudes, beliefs, and feelings about the issue of interest…to help create a holistic perspective on the studied problem" (p. 232) on applying mindfulness leading to stress coping skills. Results of qualitative data analysis after combining all the data sources were discuss in the following section. The data sources include (a) first interviews following completion of the six-week MVOC; (b) second interviews approximately three-weeks after the initial interviews; (c) third interviews approximately six-weeks after the initial interviews; and (d) comments from the weekly mindfulness logs (six weeks for each participant) (see Table 11).

Table 11

Description of Qualitative Sources

Data Source	Word Count
First Interviews following completion of MVOC	11,085
Second Interviews 3-weeks after initial interviews	5,592
Third interviews 6-weeks after initial interviews	5,007
Comments from weekly mindfulness logs	1,959
Total Word Count	23,643

Furthermore, I employed Hyper Research to categorize and integrate coding and themes from all data sources to determine how participants experienced occupational stress and how they used mindfulness to assist stress coping skills. The word cloud is a visual representation of word frequency for terms that emerged from the transcripts and were used as a simple implement to identify themes within the data. The illustration of the word cloud presents the word frequency of use of these terms (see Figure 12).

Figure 12

Word Cloud: Hyper Research

The word cloud demonstrated the sum of the number of codes containing the word mindfulness appeared 186 times out of 579 (32%) on the frequency report, followed by the codes for stress, at 110 times out of 579 (19%). The components of mindfulness appeared 15 time for acceptance and 26 time for awareness. Themes are presented for each of the sections within a table that includes the associated theme-related codes, and

an assertion. Following the table are quotes from the data collected during the three interviews and comments from the daily mindfulness logs that support the assertions (see Table 12).

Table 12

Codes, Themes, and Assertions Based on three interviews in November and December following completion of the six-week MVOC and Mindfulness log comments.

codes	Themes	Assertions
1. Sources a. Online teaching b. Students c. Administration d. Politics e. Colleagues 2. Effects of stress on the body 3. Effects of stress on emotions	Sources and Effects of Stress	1. Occupational Stress has negative effects on physical health as well as emotional wellbeing.
1. Sitting 2. Watch my breath 3. Walking 4. Body scan 5. Mindful listening 6. Mindful speaking 7. Mindful eating	Application of mindfulness techniques	2. Participants applied mindfulness techniques from MVOC to daily circumstances.
1. Physical health 2. Manage emotions 3. Increase awareness	Benefits from mindfulness practice	3. Mindfulness helps build stress coping skills with regular practice.
1. Need reminder due to neglecting to employ mindfulness 2. Benefit of mindfulness	Daily practice	4. Participants overcame challenges neglecting to employ mindfulness practices every minute by calling to mind reminders from the course.

Sources and Effects of Stress. Assertion 1 states, *Occupational Stress has negative effects on physical health as well as emotional wellbeing.* Open-ended interviews with participants after they completed the six-week MVOC provided

comprehensions into the effect of different sources of stress. Four theme-related codes embodied the theme that led to Assertion 1: (a) Sources, online teaching, students, administration, politics, colleagues, (b) Physical stress, and (c) Emotional stress.

Sources. All participants experience different sources of workplace stress based upon their context and personality. Having received stress from interacting with people, Alex deliberates that, "my stress is more from working with people. If I receive an order from my instructor that increases stress" (Alex, personal communication, October 26, 2020). Addressing the source of stress coming from students and school administrators, Smit explains how occupational stress comes from students, administration, and politics from school:

> Students often bring a lot of stress to the class and so it's and it's the stress I get out of it is, it's trying to help them be successful. There's stress in the politics of [school]. Oftentimes we as teachers are told by the administration of how to teach also, ethnicity, so I try to be fair to all students and administration doesn't always understand (Smit, personal communication, October 16, 2020).

A workplace can become unpleasant as explained by Lora's experiences where the greatest source of stress comes from the actions of colleagues:

> Before I started practicing mindfulness So, my work is very stressful. It's not the students. It's the coworkers. It's the culture of where I work. It's very stressful. Lots of backstabbing lots of talking about people. It's just not very pleasant but working with the children is rewarding. So that's why I'm still there (Lora, personal communication, November 2, 2020).

Continuing to identify the source of stress for teachers, Madison discusses that online teaching increases stress on top of assisting students to comprehend the subject:

> My occupation situation right now has been more stressful, now that school announced remote, and I haven't set everything for my students about teaching online. Before the pandemic I had stress on how to help students understand the subject I was teaching (Madison, personal communication, October 27, 2020).

Connecting with Pan's statement highlighting online teaching as well and how particular disciplines are more effected by the pandemic protocols for teaching than others:

> And right now, we're about to head back to completely online teaching again. Which is a big challenge as a music teacher because I can't hear my kids play and music is all about hearing so, it's been an interesting year (Pan, personal communication, November 23, 2020).

After incorporating the quantitative data and the word cloud from the qualitative data, participants are seen to have exhibited high occupational stress from the sources of students, administration, politics, coworkers, and online teaching which means that occupational stress had a significant effect on teachers' emotional well-being. The data was supported by the literature review "Stress results when an individual appraises the magnitude of demands he or she encounters as exceeding available resources" (Lambert, McCarthy, Fichett, & Eyal, 2018, p.2).

Effects of stress on the body. Interrogating the effects of stress on the body exhibited by physical symptoms which include fatigue, body aches and pains was the focus of this code. Stress affects the circulatory system as Alex demonstrated, "When I feel stress often times this leads to shaking and feeling cold or hot, with hard pumping blood. When I feel angry my heartbeat becomes rapid" (Alex, personal communication, October 26, 2020). Fatigue and stomach aches are experienced by Smit who replied how stress affects him:

> I always felt tired. The main thing I feel is my stomach when it feels like there's electric in there. It's not like I'm gonna throw up. Yeah, I can almost begin to feel physically ill, in my stomach region. When I get stressful (Smit, personal communication, October 16, 2020).

Knots in the neck and shoulders was what caused Lora to visit her chiropractor:

> I have gone to the chiropractor or physical therapy for my neck and shoulders. They always tell me I have a ton of knots. They say, I can't believe how many

> knots, you have, you must have a very stressful job. Am I right? (Lora, personal communication, November 2, 2020).

Madison, who had the highest initial PSS stress score 49, describes various symptoms which include, “headache, eye pain and gain weight.” Additionally stating “when I feel stress, I like to eat and drink. That helps me reduce my stress” (Madison, personal communication, October 27, 2020). Amplifying the way that stress can lead to weight gain, Pan responded similarly with, “I want to sit and eat when I stress” (Pan, personal communication, November 23, 2020). Interconnected with the word cloud identified physical stress that participants mentioned 26 times which indicated physical stress that affects participants’ health causing the feeling of illness, pain, and weight gain, leading to doctor visits.

Effects of stress on emotions. Compounding the physical effects of stress are the effects it can have on participants emotional well-being. Along with the shaking and rapid heartbeat caused by stress, Alex stated, “when I feel stress my emotions always raise up and swing down to bad mood…I always keep the anger inside” (Alex, personal communication, October 26, 2020).

Several of the participants expressed that hiding emotions was one method they used to attempt to deal with negative feelings. Smit experienced difficulty responding to emotional stress, “My emotions were, you know, I wasn't always in control…I just hide the emotion; I pretend that they're not there and I just tried to push forward with my life” (Smit, personal communication, October 16, 2020). Additionally, Lora stated:

> Just worked on pushing down my emotions to deal with just living a normal life because being there is very toxic. I'm just kind of wanting to disconnect from those feelings, um, you know, when you go home from work and you feel like you did something wrong or stressed out or dirty. That's how I would feel on a daily basis not doing anything wrong (Lora, personal communication, November 2, 2020).

While Madison did not hide or push them down, she stated that, “My emotions are so sensitive and I am thinking too much for everything that happens around me” (Madison, personal communication, October 27, 2020). Rather than hide her emotions Pan stated she, “Let my mindfulness practice slip and I just went into a dark place where I was very sad and depressed and it just kind of hurt” (Pan, personal communication, November 23, 2020).

Emotional effects of stress can have a progressive amplification of body symptoms from occupational stress. Taken together, these codes identified a negative effect on teacher physical health and emotional wellness. Additionally, these factors can lead to burnout, which progresses slowly and is characterized as the end stage of various negative reactions to stress accompanied by the appearance of emotional exhaustion, which is considered as the key symptom of burnout (Sifferlin, 2016).

Application of mindfulness techniques. *Assertion 2, Participants applied mindfulness techniques from MVOC to daily circumstances.* Open-ended interviews with participants after they completed the six-week MVOC provided comprehensions into benefits by developing a personal mindfulness practice leading to assertion two. There are six codes that are integrated in the following section which include (a) sitting (b) watch my breath (c) walking, (d) body scan (e) mindful listening, (f) mindful speaking, and (g) mindful eating.

In this section the techniques from the MVOC course influenced how participants applied an individualized practice in their daily life. Several of the participants found that using multiple techniques throughout the day was helpful such as Alex who uses the techniques of combining every aspect:

> The activities such as sitting, walking and all the sensation to notice mindfulness in everyday life from the beginning of the day. I practice sitting meditation and mindfulness before I go out for work and felt everything around me more visibly and in detail such as taste, smell, and hearing (Alex, personal communication, November 16, 2020).

While the activity of completing one of the techniques may be limited in time, Smit applies focus while practicing sitting techniques along with body scans to bring mindfulness practice into everything he does throughout the day:

> Mindfulness is that something I only did for five minutes, 10 minutes, half an hour whatever it was, while I was sitting, to being something just being aware of everything that was happening with me and bringing it into doing everything in my life. And then as the course went on, at ease, I just emphasized it more. Those body scans. I liked how you did it, and I liked how John Kabat Zinn did it, his was longer, but I think they were very similar (Smit, personal communication, November 10, 2020).

Furthermore, Smit described from the mindfulness log week 2, “The moving from sitting to standing meditation was something new for me. It has helped me to become more aware of the sensations in my body every time I change position now.” (Smit, personal communication, November 13, 2020). Alternatively, another approach was to apply the technique while a stressful situation was occurring such as Lora’s main application on breathing while applying the technique, “When I'm having a stressful conversation or stressful thoughts about work, I'm working more on breathing. I'm also still trying to identify okay that feeling what is what's bothering me” (Lora, personal communication, November 20, 2020). Removing from a situation to practice a technique Madison relates in her application of using sitting technique to stay in the present moment:

> When I noticed stress on my physical body, I just sat and closed my eyes, relaxing my body sometimes I just sit and mediate like you said meditation can be done everywhere I want. I also love to walk when I feel so stressed, be quiet mind and feel the positive around me, stay present in the moment (Madison, personal

communication, October 27, 2020).

Finally, Pan discussed in both mindfulness log week 2 and in the interview that using mindfulness techniques with a spotlight on mindfully applying physical activities:

> There are three different ways to cope with my stress. One is I will take a breath. I will just stop and say, take a moment and that helps. There's also the after the fact, when I at the end of the day when I just stop and just kind of think about the day and you know it's okay to let that thing go or to work on this tomorrow. So, just taking that moment and, for me, the physical helps me (Pan, personal communication, December 16, 2020).

I analyzed comments about how participants were using mindfulness throughout daily life. In the data it appeared that most participants applied all the techniques depending on the situation. When calm and quiet were needed sitting and watching the breath were preferred, while individual physical activities resulted in calming an active mind. Likewise, the mindfulness training activities, such as sitting, watch my breath, walking, body scan, mindful listening, speaking, and eating were used throughout the day. Consequently, participants commented on how they applied mindfulness techniques and practices through various ways to address stress in their daily circumstances.

Benefit from mindfulness practice. Assertion 3 states, *Mindfulness helps build stress coping skills with regular practice.* After participants completed the six-week MVOC, data analysis identified benefits of developing a personal mindfulness practice leading to assertion 3. The four codes include (a) physical health, (b) manage emotions, (c) increase awareness, and (d) increase acceptance.

Physical health. In this section the participants discussed mindfulness assisting in benefits to their physical health from daily practice which allowed them to notice stress sooner. For example, Smit stated:

> So, I noticed things sooner and then I take action to stop the physical harm that

> stress does to my body. Also stress level is much lower my blood pressure is consistently at a safe level now (Smit, personal communication, December 2, 2020).

Prior to mindfulness practice Lora's stress required visits to the "chiropractor or physical therapy for my neck and shoulders." Lora now notices physical stress sooner and was able to apply a mindful body scan in the car:

> Because you know, when you're sitting for two hours in the car, your body gets achy. You're not repositioning. So, for me, it's been really helpful. Doing a scan, like when I'm just sitting there, you know, when you're on cruise control, but you're not in a good position. It's like I have my eyes open, but oh! my shoulder doesn't feel right. So, then I adjust. So, it's definitely helped me physically and definitely I have less stress in the neck. Oh, definitely less stress (Lora, personal communication, November 20, 2020).

***Manage emotions*.** The tool of mindful breath and thought was helpful for Lora who used mindfulness to cope with stress by being "more mindful of my breathing my thinking" (Lora, personal communication, December 1, 2020). Moreover, Lora described on mindfulness log that:

> I thought mindfulness did not assist me in reducing my stress. However, after I continue to practice, I see all my emotions clearly and use mindfulness coping with the stress that occurs during my working situation; it helped me calm and go through all the stress (Lora, personal communication, November 13, 2020).

Moreover, Madison described employing mindfulness to cope with strong emotions:

> Oh definitely, very much gained the benefit from continuing practice, I become a calm person, more control of my emotion and understand more the nature of human. I am also happier than before, more positive even in the problem situation, and I can help more students succeed through online learning. (Madison, personal communication, December 8, 2020).

Additionally, Pan believes that mindfulness can address the emotion of grief. According to Pan mindfulness log for week four:

> My husband's death last December has been hard on me. I feel like I have turned a corner on my grief. I'm not sure if I can attribute it to being more mindful or if time has helped me. Or, more likely, a combination of the two. (Pan, personal

communication, November 13, 2020).

The analysis verified that participants applied mindfulness techniques to stress coping skills in personal life, considering and understanding others through the present moment. The result was better overall emotional well-being for participants and an improved social environment. Furthermore, these were associated with feelings of compassion and the presence of beneficial teacher coping skills for stress. Mindfulness practice could lead to an increased capacity to manage and control emotions as well as improve the operative classroom environment (Yeh et al., 2016; Shoji et al., 2014; Cieslak et al., 2013).

Increase awareness. This component spotlights the biggest impact since starting an individual personal practice. Explanation from Smit stated the biggest impact "With mindfulness to be aware of what you're doing, to be mindful, to be thinking about what you're doing …be aware" (First interview, October 16, 2020). Becoming aware has been the greatest effect for Lora as she discusses how mindful reflection in the moment increased her awareness:

> I think it's helping me become more positive, also more cognizant of my choices. Like I said before, you know, now notice sooner. Oh, I'm making the bad choice like I'm aware of it before I think I would make a choice. And then I was like, oh, the consequences are terrible. But now, at least I know I'm making the choice, but I'm also aware of the consequences. So, I am seeing more of the picture. I think maybe I'm standing back a little bit more and observing what's going on and then making a decision (Lora, personal communication, December 1, 2020).

Madison most significantly applied mindfulness practice, "for more detail and more observing ourselves to have more awareness in everything" (Madison, personal communication, November 18, 2020). Accordingly, this finding adds to the research literature validating the benefits of mindfulness practices in promoting increased

awareness, being in the present moment, and engaged with compassion are well-documented (Brown, Creswell, & Ryan, 2016; Brown, Ryan, & Creswell, 2007; Anderson et. al., 1999, Meiklejohn, 2012).

Daily practice. Assertion 4 states, *4. Participants overcame challenges of forgetting to apply mindfulness practices every minute by calling to mind reminders from the course.* Daily personal mindfulness practice leading to assertion 4 which has two codes: (a) need reminders due to neglecting to employ mindfulness, and (b) benefit of mindfulness for the pandemic.

Need reminders due to neglecting to employ mindfulness. Once participants completed the MVOC, they were instructed to continue to engage in applying a mindfulness practice in their daily lives on their own, without the daily reminders provided during the course. The majority stated that there were not too many difficulties to practice, yet at times, they admitted to neglecting to employ mindfulness in every aspect of their lives. For example, Alex states, "I need more reminders to be mindful about when or how I should speak and more consideration" (Alex, personal communication, November 16, 2020). When things do not go smoothly Lora explains how forgetting to apply mindfulness can cause problems; "I just need to remember when it's like I need like a rubber band on my wrist like okay when you're feeling stressed, remember to do your mindful instead of reverting back to your old behavior" (Lora, personal communication, December 1, 2020). Furthermore, pressures from work without mindfulness, as in Madison's case, when she indicated that inattention was causing emotions which would lead to feeling bad:

> I forgot to apply mindfulness every minute and every time when I feel so stressed or frustrated from work. I was not mindful about speaking, and I let my emotions

> throw out sometimes. After things happened, I just felt bad. I know I should add more practice to look closer at my emotions raising when I feel stress and be more careful about frustration (Madison, personal communication, November 18, 2020).

Sometimes it can take a couple of days to notice when things are not going well as Pan mentions how neglect of mindfulness resulted from a lack of self-discipline in the daily routine:

> Yes, I did. And I'm really disgusted with myself because I was very disciplined about it when I had a class to take and I was doing it and it was making me better, but I do it and then a couple of days later I go, wow, I'm really not feeling good about life. What's different? And then I go, oh yeah, sit down and just be and then I'd be fine. But it being disciplined about doing it. Was not good, and I should probably just set a time and just say do it, but I haven't done that yet, so that's on my agenda, your list of questions, made me start thinking, okay, Joe, get back to it (Pan, personal communication, December 16, 2020).

Often times it is the transition period from being actively involved in training to afterwards when fledgling habits need strong reinforcement. Smit stated the challenge of continuing with a personal practice on his own after finishing the course presented some difficulty:

> It was a transition, something to watch each night and to do something gave me directions after the end of the course. I had to do it on my own. so that was a little difficult (Smit, personal communication, November 10, 2020).

In individual participants' analysis, the biggest challenge was remembering to continue the mindfulness daily and integrate into their occupational routine. However, Lora suggested using the reminder of a rubber band on the wrist to ensure they are applying mindfulness practices every day.

Benefit of mindfulness for the pandemic. The participants experienced benefits using mindfulness during the pandemic. For instance, Alex states that using mindfulness to practice is a protection from the pandemic effect from a different perspective, “You

will see the benefit being mindful of protecting myself and others" (Alex, personal communication, December 10, 2020). Moreover, teaching online with an overloaded course schedule, as mention by Smit causes "all this stress from being online and watching screens all day long and working continuously in front of a computer." Smit stated how mindfulness assists personally throughout, "I'm mindful to take breaks to stretch to watch my breath and keep myself mindful, but also, it's helped me with students." He also discussed how mindfulness assisted efforts with students:

> Mindfulness has allowed me to step in before I send an email to a student, why haven't you gotten this done. I step back and I say, I know they have a sick day have difficult situations, too. So, I'm asking them more questions of, what can I do to help you. What has impeded us, so they come back to me with less stress because they feel supported as well. So, it's helped me support myself and it's helped me support students by understanding what they're going through and working with them in a way that's more compassionate (Smit, personal communication, December 2, 2020).

Additionally, Lora explained how applying mindfulness assisted in reduced stress and depression, and significant usage of mindful listening skills to understand others, "So, during the pandemic, other people are going through a lot, listening to how they're feeling and supporting them in the way they need the support. So, without mindfulness during this pandemic I probably would still be feeling pretty down." She found mindfulness that support as she stated, "I think it's really helped me a lot. And that's good" (Lora, personal communication, December 1, 2020). During the conversation with Madison, she discussed how to corroborate mindfulness assistance with emotion and stress in the circumstances:

> Definitely helped during pandemic! Helped me a lot since I practice from your course. Before I feel so stressed out, and my mood all over the place in my personal life; it is so difficult to work with the students when I feel so stressed because I cannot help my students. But since I involve mindfulness practice, it helps me a lot, calms me down, became mindful of everything, and helps me and

> my students with a happy emotion and being present moment (Madison, personal communication, December 8, 2020).

Focusing on others and attempting to assist them was a benefit that Pan described how to help others go through the pandemic by writing an email and sharing her experience from the course:

> I wrote that most of my stress is because of the pandemic isolation and when I am at my very best. I am helping somebody that's what I do, and I enjoy and being alone. I feel like I can't fulfill what pleases me and makes me, so that I do want to help others. And I do want to share this and actually I write an email every week that goes out to the whole faculties talking about mindfulness and I choose a different topic and I write about it and then we as a school. I mean, not everybody chooses to join in there. There are a lot that do, which I know because I get feedback from the emails I send out. I just came back from every Wednesday at noon, we meet at the track and we walk together and practice mindfulness while walking slow (Pan, personal communication, December 16, 2020).

The Covid-19 pandemic has created unprecedented changes to teaching, which increased the level of stress for participants. Using mindfulness in various ways has allowed them to overcome these challenges and difficulties. To create the benefit from developing a daily personal practice which included protected self, understand others, help students and others, and be aware of emotions.

Case Study Consideration

This action research project incorporated a case study methodology. Therefore, it is essential to focus on participant's individual experiences in developing a personal mindfulness practice through the six-week course. After reviewing all participants' transcripts, I focused on Lora with no prior experience of mindfulness and Pan with mediation experience when she was a child as well as some mindfulness practice as an adult but who had not developed a continuing practice. These personal narratives highlight the occupational stress experienced, and the stress coping skills employed by practicing the mindfulness techniques taught in the MVOC during the participants' daily circumstances.

Lora – Case Study

Lora is a white 35-year-old female teaching on a Native American reservation for about nine years with two years of previous experience teaching second grade at a rural school outside Tucson, Arizona. She is also an expert in early education, specializing in guiding and sculpting K-8 students' minds. Lora had no previous mindfulness experience and started becoming interested in mindfulness when participating in my presentation during a graduate school conference. Furthermore, she continued to stay in contact through LinkedIn and once she received full details about this study, she agreed to participate in this MVOC to gain guidance in developing a personal practice.

Before MVOC – Stress and Mindfulness

Lora's life experience had led to her definition of mindfulness as “just being aware" followed by the thought of “what can I do to alleviate feeling upset” (Lora, personal communication, November 2, 2020). Her focus on just the cognitive aspects of

mindfulness resulted in her addressing stress by pushing it deep inside as she believed she had only two options, to talk about bad situations that would give negative thoughts more energy or to ignore these situations and find something pleasant to talk about with family and friends. She mentioned that this approach to dealing with stress has "definitely taken a toll on my physical and also emotional" well-being, with her chiropractor mentioning that all the knots in her muscles indicated that she must have a very stressful job. The primary source of stress in Lora's life comes from "really horrible coworkers" with a culture of "backstabbing" and talking behind other's backs that results in a very toxic work environment at her school (Lora, personal communication, November 2, 2020). While not having any formal mindfulness training, Lora attempted to apply her belief that being cognitively aware of stressful situations and then trying to find a reason to explain their actions would result in fixing the situation for her.

She gave an example of when another driver cut off her car's path; instead of pushing back, she would think that maybe they had an emergency that required them to drive in such a way. While this may have appeased the mind, this approach to mindfulness did not allow her to address the physiological aspects of the body's nervous system's stress response. Her awareness of this problem was one of the aspects that made her "really excited" about the training in mindfulness techniques "because [she] felt like that would really help" (Lora, personal communication, November 2, 2020).

After MVOC – Stress and Mindfulness

The training Lora received during the six-week MVOC allowed her to add to her definition of mindfulness, being aware of emotions within herself and other people, along with the thoughts that arise. She realized that all the years of stress from her teaching job

had caused her to become “disconnected from [her] body” (Lora, personal communication, November 2, 2020) and stated that she was no longer aware of her feelings because she had just blocked them all out. She mentions how the technique of body scan taught during week three of the MVOC allowed her to reconnect with her body, and she was aware of the feelings from her toes on up to her head as she states, “Now, to me, it is not only my thoughts and inside my head, but also awareness of my body” (Lora, personal communication, November 2, 2020). Mindfulness had helped her address occupational stress in a much more effective way.

With this new insight about mindfulness, Lora was aware that suppressing her emotions about the stress from work affected her breathing and that now she is working through her breath, being aware of her breath, and adjusting her breath. When she encounters a stressful conversation or situation at work, Lora now observes her breathing until the breath becomes a positive experience and knows that will benefit both her mind and body as she recovers control over her breathing. She has integrated this new understanding of mindfulness with her prior definition to address the aspects of stress previously allowed to accumulate through non-action. She attributed her new comfort with mindfulness practice to the MVOC course, which allowed her to “know that [she was] doing correct steps” leading her to "feel less stressed with work" (Lora, personal communication, November 2, 2020).

Compared to the national norming study, Lora's pre-intervention stress level was at the 81.9% percentile, with her post-intervention level being at the 59.1% percentile representing a 23% reduction in stress level. This reduction resulted from an average of 10 minutes of daily direct practice on mindfulness techniques yet allowing the

mindfulness practice to permeate throughout the day by continually being aware of the breath and other body sensations.

She described her application of regularly being mindfully aware during daily encounters as creating this change where "instead of all day long letting those feelings [of stress] fester, [she has] been able to cope with more mindful breathing and thinking" (Lora, personal communication, November 2, 2020). Along with trying to understand others' actions, she applied mindfulness to her own emotions and thoughts about a situation, which she attributes to her increased physical and emotional wellbeing.

Mindfulness Practice in Daily Life

In the two follow-up interviews to ascertain the level of continued mindfulness practice, Lora explained that mindfulness practice was not difficult, but she needed to remember to apply the practice every time throughout the day. She provided an example from a Zoom work meeting where she had a question, raised her hand, and waited to be acknowledged. However, she was never called on and admitted that she had relapsed into her prior behavior of mentally distancing herself from her colleagues without addressing the physical and emotional symptoms of stress. She offered the method of using a rubber band around her wrist to snap her back into her mindful awareness of breathing to prevent "reverting back to [my] old behavior" (Lora, personal communication, November 2, 2020). She also found that some situations were more conducive to mindfulness practice, such as driving, which allowed her to be more focused and mindful. She applied the body scan technique while driving to know when to reposition her body and to readjust her shoulders so that her body can relax and let go of the stress.

Lora still views herself as a beginner with applying mindfulness practice; however, she was motivated “to move up till it is just a permanent part of [her]" as she realizes that mindfulness was “something [she] needs in [her] life" (Lora, personal communication, November 23, 2020). Her experience with the meeting related in the previous paragraph had moved Lora to be vigilant to apply mindfulness “especially when [she was] about to have a meeting or [she's] thinking about work” (Lora, personal communication, November 23, 2020) and now even applying mindfulness techniques in her personal life. The body scan technique from week three of the course was something that Lora applies “right before [going] to sleep" (Lora, personal communication, November 23, 2020) as well as while she applied the sitting technique and has found greater relaxation through greater awareness of body sensations which she credits with stopping headache pain. She concludes by stating, “definitely I have been continuing my mindful practice” (Lora, personal communication, November 23, 2020). She feels that other teachers and students can benefit from developing a personal mindfulness practice to cope with the high level of stress in schools.

Pan – Case Study

Pan is a 61-year-old white female with 36 years of teaching orchestra for the tenth grade in a metropolitan Phoenix, Arizona area public high school. She had taken meditation classes when she was a child and stated that she has “practiced mindfulness on and off for most of [her] life” (Pan, personal communication, November 23, 2020). She learned about this mindfulness study from a flyer that one of my mentors placed in Schoology. Once she became fully informed about the procedures involved, she provided consent and became the final participant to join the study.

Before MVOC – Stress and Mindfulness

Isolation from others was the primary source of stress that affected Pan before starting the study. In the last year, she had lost her husband, was diagnosed with cancer, and switched to remote teaching due to the Covid-19 pandemic. She states that she "had never lived alone in 60 years and all of a sudden, I'm alone" (Pan, personal communication, November 23, 2020). The move to remote teaching exacerbated isolation, which created a considerable challenge for Pan as she could not hear her students play together, and teaching music is all about hearing students play together. While she had used sitting meditation previously in her life, all the changes during this past year created "a dark place where [she] was very sad and depressed," which caused her "mindfulness practice [to] slip," leading to her being "tired, unmotivated, and not doing well with lots of stress" (Pan, personal communication, November 23, 2020). Before taking the course, she defined mindfulness as "just being aware of feelings and an acceptance of feelings, not trying to fight them like saying, 'well, just stop being depressed'" (Pan, personal communication, November 23, 2020).

After MVOC – Stress and Mindfulness

The weekly focus on different mindfulness techniques and daily instruction and reminders allowed Pan to regain and strengthen her mindfulness practice. She experienced feeling very frustrated, so during her prep period, she sat quietly with the lights turned off and closed her eyes to do some deep breathing for about 10 minutes. Afterward, when the students came to her next class, she said, "It was all good. I got to smile and enjoy their presence" (Pan, personal communication, November 23, 2020). She commented on how the training provided in the mindfulness course "has allowed

[her] to find acceptance now as part of [her] coping skills" (Pan, personal communication, November 23, 2020). She had also integrated mindfulness practice into physical activities such as ten-mile bike rides, walking her dog, and exercising. Referring to her bike rides, she says she hits her "Zen moment at about mile five" (Pan, personal communication, November 23, 2020) and that adding mindfulness to her physical activities has made her conscious that she was making the decision to engage in activities rather than withdrawing back into the darkness of isolation.

Compared to the national average, Pan's initial stress level was at the 59.1% percentile, with her post-intervention results at the 11.7% percentile. She mentions three specific ways that she has used mindfulness since participating in the mindfulness course. The first was observing her breath and finding joy at that moment. The other practice she applied daily was to stop at the end of the day and take a moment to reflect on the situations that occurred. Finally, she applied mindfulness in all the physical activities that she engaged in throughout the day. Pan averaged 22 minutes of direct mindfulness practices during the course and found that the daily instruction and reminders in the MVOC provided the framework needed to rediscover the benefits of mindfulness and start applying it in her daily life.

Mindfulness Practice in Daily Life

As was the situation for all the other participants, Pan found that continuing with her mindfulness practice after the daily reminders of the MVOC were over, was a challenge. She stated that she was very disciplined during the course and the daily practice was making everything better. However, after the course, she "would forget to do [mindfulness] and then a couple of days later" (Pan, personal communication,

November 23, 2020), she would reflect on what was different in her life and realize that she had let her mindfulness practice slip again. She found the follow-up interviews' appointments did get her thinking about her mindfulness practice again and the need to set a daily schedule. She related how often she had to multi-task with five projects happening all at the same time and that when the stress of "juggling too many balls in the air, if [she] stops and does one thing at a time after taking that breath" (Pan, personal communication, November 23, 2020) she could get everything completed successfully. One positive outlet that Pan created to keep her mindfulness practice continuing was to share with others at her school. She had started a group activity called Wednesday Mindfulness Moments, where a chime sounds, and at that moment, everyone pauses and takes a breath. Additionally, she writes a weekly mindfulness email that she shares with other teachers.

Participants' Comments

Perspective on MVOC. Individual comments from mindfulness virtual online course depended on the perspective of each participant. For example, Alex's perspective was that more people need mindfulness training:

> Everything is not too difficult to learn and can use in everyday life and will benefit from it. But you need to continue practices. For the comments, all good, we can learn everywhere we want. My suggestion we need to know as a group together and share experiences and then let the professor adjust or suggest all their experience. But this is a limited time for study so people might not like a student simultaneously. But I think that you already to consider this course. Overall mindful need in daily life is vital for any action and any work. It a lot of benefits for all (Alex, personal communication, December 10, 2020).

Comment from Smit's experience:

> Well designed for working teachers in mind. It allows us to, you know, schedule it in when it works best for me it was always the evenings. I would do that. And

> then I would do my practice in the evening, and that would allow me to get the sleep that I needed, before I really wasn't getting good sleep. So, this allowed me to get deep sleep. And then when I wake up to think about it. But then I would know that in the evening, I would have my lesson and I'd have my reminders and I would do my practice.
>
> And as I got doing that. The course was very good. I think the way you have it laid out with the starting with the setting and then going to walking. Those were really good, because then you tied into sitting meditation, I never had that done before in meditation practice of people teaching. They're sitting or walking, or you do them separate. But you were the first teacher (Smit, personal communication, December 2, 2020).

Concluding comment from Lora:

> I thought it was a great class. I like the body scans. I like, when you were instructing us about what you're going to tell us what to do or how to do it. So, you modeled what you wanted us to do. So, those are all like great things as a teacher, you know, modeling is really important. I think it was a really well setup course for us to participate in, I think, for some people it may be too long or too intensive, but definitely during this pandemic. I know a lot of people have plenty of time. And so why not focus. It really wasn't that much time a week on yourself. Instead of watching TV, say. So overall, I thought it was great. And it also, like I said, helped me with coping with meetings at work. I think maybe just a thought, this is not a suggestion, even, but even something where it's interactive with other people in in this class would be kind of cool. But I thought it was great, really. I was like, wow, this is really professional. This is really amazing. So, I was impressed, and I feel like I've greatly benefited from I want to do it again (Lora, personal communication, December 1, 2020).

Comment from Madison:

> The course looks professional, well organized; I like the way you did each day and provide the meaning of each section, a little bit too long, but I like it, and I want to learn more about mindfulness. Do you have another level of mindfulness? If yes, I love to learn more, as you know, I want to help my students be happy the same as I am (Madison, personal communication, December 8, 2020).

Pan’s perspective and comment about difficulty hearing instructors voice at times:

> A technical thing. Sometimes it was hard to hear your voice, it's soft and I would turn my computer up as loud as I could. So, at a technical aspect of it is that, but in terms of the course know it guided me. It helped me figure out what to do and I liked that it was check in every single day because that forced me to be

> disciplined and to take care of doing that (Pan, personal communication, December 16, 2020).

Overall comments on MVOC aspects that participants found significant are that it can be learned everywhere, on a schedule when it works best with daily reminders, modeling techniques, and providing the meaning of every week's content. Each participant found this course beneficial, and some would like another level of mindfulness course to gain, more in-depth experience. However, some suggestions about aspects of the online format were not capable of providing was interaction with others, group learning, social interaction with the professor, and a technical issue with source.

Opinion on making the course available. Participants expressed their opinion on benefits from mindfulness. For instance, Alex suggested the government sees the quality of teachers:

> I think it is very important to let the government become involved because the intention of the worker can be increased with mindfulness and the quality of teaching and work even for the school president, I think it's helpful for everyone and schools should add the program of mindfulness as a curriculum (Alex, personal communication, October 26, 2020).

Additionally, Smit supports that mindfulness practice needs to be considered for all teachers and students with each school supporting this program. Ultimately it depends on government support for administrative approval and funding:

> Oh, definitely a good thing, to let the government know. Yeah, so politicians should be hearing this because this is stressful for teachers, at least from my perspective, is the politicians the government are always trying to control what goes on in schools. And sometimes things like mindfulness they think well that's like a religion or, you know, any kind of teaching of morality, we need a new you want to have good people whether you call it citizenship or something else we need some kind of morals in our schools. We need also to have a society where people are sharing things. We need a society where people are mindful. But I think, in showing what would be nice is like if you could take this program and put it in a whole school and we can get a completely mindful school. That means

> you know with a group of teachers, I think, you know, and you'll see that school have less and less problems (Smit, personal communication, October 16, 2020).

Moreover, Lora agrees that government support for mindfulness would be good for education:

> Yes, I think this would be something that should be practiced at schools and it's something that the government should be aware of because it's a coping skill. So, we are only. Give grades for the most part on the academics, but there's also the social, emotional skills that we are starting to look at and develop more at my school, especially because we're online right now so we're not in person (Madison, personal communication, November 2, 2020).

In a similar discussion from Madison that support from the government is necessary for mindfulness in education to succeed by providing expert instruction for teachers and students by, "I think should let all school know this is very useful and important for our next generations, and all school should to provide mindfulness to all teachers and students by expert" (Madison, personal communication, October 27, 2020).

The opinions from all participants on making governmental policymakers aware about the benefits of mindfulness could lead to the quality of teaching and work, morality and social awareness, social-emotional skills in teacher and students and help the next generations overcome division between the people. They also believe that government funding is essential to support the mindfulness program in each school system to benefit from mindfulness, both virtually online and in-person courses.

Summary

The results presented in this chapter were analyzed using explanatory sequential mixed methods design utilizing a quantitative pre-and post-survey and qualitative interview and mindfulness log and emails. After the six-week MVOC to develop mindfulness practices, participants showed increased mindfulness and reduced

occupational stress. The interview from all participants provided evidence that they continue to practice and apply mindfulness techniques to cope with stress at work. Additionally, the benefit of increasing personal awareness during daily activities such as mindful eating, speaking, listening, walking, and body scan allows participants to manage emotions and experience increase physical health. Furthermore, studies by Yeh et al (2016), Shoji et al (2014), and Cieslak et al (2013) that mindfulness practice could lead to an increased capacity to manage and control emotions. However, to gain the full benefit, mindfulness practice needs to be continued every minute of every day. While benefits are reduced when the practice is not continuous, using the beginners mind, practitioners can start again to build the regular daily practice that brings the greatest benefits. Moreover, the MVOC intervention aided the participants in building a daily personalized mindfulness practice that helped them to gain stress coping skills and was also beneficial in certain other ways. The implications of these findings will be deliberated in Chapter 5.

CHAPTER 5

Discussion

The purpose of this action research study was to investigate how to decrease teacher stress and burnout through a six-week Mindfulness Virtual Online Course (MVOC). The intervention proceeded with self-efficacy, self-determination, and cognitive apprenticeship theories as the frameworks for analysis and explanation. Due to the COVID-19 pandemic, the intervention needed to be changed from an in-person workshop format which had 35 participants enrolled, to a delayed virtual protocol with five participants recruited through a snowball method in the metro Phoenix area who had either some or no experience with mindfulness. Chapter 5 comprises the resulting subdivisions: (a) summary of the findings, (b) discussion of findings, (c) case study consideration, (d) limitations, (e) implications for practice, (f) implications for research, (g) personal lessons learned, and (h) conclusion.

Summary of Findings

This study began by recruiting five teachers who experienced high-level occupational stress and were interested in receiving training on how to apply mindfulness to increase their stress coping skills. These educators committed to participating in a six-week MVOC training in mindfulness techniques that they could use in their daily lives to develop a regular, consistent, and personalized mindfulness practice. In creating the six-week MVOC course, I brought into practice key findings from my own experience of being trained by mindfulness masters in developing a regular practice.

Discussion of Findings Related to Research Questions

To be able to ascertain the level of trustworthiness of qualitative data application of mixed-methods research was used keeping "weight of quantitative and qualitative method in the study- relatively equal" (Ivankova, 2015, p. 124). Moreover, integration is an important tool to intensify the association between both methods and to certify the reported elements "fit together in jointly addressing the study purpose" (Ivankova, 2015, p. 153). Additionally, a discussion will focus on how the results are connected to the theoretical frameworks to explain how they are comparable to previous studies. While this current study was conducted with a reduced number of participants due to the pandemic, which does not allow for a high level of statistical power, the significant quantitative results were found to coincide with the qualitative data. To compensate for the reduced statistical power, a case study approach was used with the qualitative data which allows for an analysis of individual results to provide evidence of the efficacy for the mindfulness factor of awareness to increase stress coping skills.

To improve the rigor when determining reliability and validity of qualitative data, the paradigm of trustworthiness was used to establish "four criteria: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability" of the questions (Tripken & Allegrante, 2011, pg. 75). Additional contextual questions were asked during the interview process to include the theoretical frameworks of SDT and self-efficacy theories during analysis.

The following section discusses the integration of quantitative and qualitative data for research question 1: *What is the level of teacher general and occupational stress?* and research question 2: *What level of reduction in the effects of occupational stress are*

achievable through establishing a mindfulness practice for teachers? Using pre- and post-intervention surveys coupled with the interviews, shows the qualitative data enriched and supported the results of the quantitative data.

Research question 1 was addressed by using the Perceive Stress Scale with comparison to a norming study of 2,387 participants in the U.S. the mean PSS score was 28.15 for males and 30.55 for females (Cohen, 1983) to ascertain the baseline stress score for comparison. This current study demonstrated that the pre-intervention level of stress was higher than the national average for four of the participants (Madison, Smit, Lora, and Pan) and at the average for one of the participants (Alex). This established that the stress level of participants was at or above the national baseline with Smit exhibiting the highest level of stress with a percentile ranking of 91.5%, the second highest was Madison with 89.6%, followed by Lora with 81.9%, and Pan 59.1%. Alex was the only participant at about the mean with a 49.6% percentile ranking. The pre-PSS scores confirmed that four out of five of the participants stress levels were above the national mean and the associated qualitative analysis attributes the source of stress to be both occupational and personal exemplified by Madison's statement that, "My occupation situation right now been more stressful that school announced [moving] to remote and I haven't set up everything for my students about teaching online" (Madison, personal communication, November 23, 2020).

To answer research question 2 a *t*-test was employed with one tailed alpha level of 0.05 with both the pre and post score to determine if the 44% change in the mean stress level was significant. The *t*-test result was significant at this level with value of $t(4) = 3.57$, $p = .012$ and (n=5). This was reflected in the individual percent decrease ranging

from 23 % for Lora, Alex at 25%, 36% for Smit, Pan at 62% and 73% for Madison. Overall, every participant's (n=5) level of stress decreased to the national mean score or below showing that after practice from MVOC the participants were better able to cope with stress. To continue with an example from question 1 after completing the MVOC intervention, post-PSS results exhibited a 44% reduced level of mean stress among the participants and substantiated by interview comments such as Madison's about how she applied mindfulness to cope with stressful situations, "I sit and walk mediate and be quiet and mindful, feel positive around me…I feel reduced stress, I never believed mindfulness alone will help me reduce stress but now I think so" (Madison, personal communication, November 23, 2020). This exhibits a corroboration between both methods and confirms data trustworthiness.

The data from all sources were analyzed to address research question 3: *What level of change does a mindfulness intervention have on mindfulness sub-constructs which includes observing, describing, acting with awareness, accepting (or allowing) without judgement, and awareness?* The data showed a statistically significant increase in the mindfulness factor of awareness at the 0.05 level (t (3) = 4.26, p = .023 and (n=4)). According to the literature review from Cardaciotto et. al., 2008 "awareness is characterized as a continuous monitoring of experience (Deikman, 1996) with a focus on current experience rather than preoccupation with past or future events (Roemer & Orsillo, 2003)" (p. 2). The analysis of the data showed an increase in the level of mindfulness for each of the components measured from the pre to post- surveys which includes observing, describing, acting with awareness, and accepting (or allowing) without judgment from the KIM short questionnaire and awareness and accepting from

the PHLMS. Additionally, there was an overall reduction in the level of stress for each participant. Furthermore, the *t*-test analysis confirms that there was convincing evidence that the increased awareness measured by the PHLMS and the decreased level of stress measured by the PSS resulted as a consequence of participation in the MVOC. Incidentally, awareness corresponds with the training experience I received from various mindfulness masters, personal practice, and teaching students to stay in the present moment. Throughout the course, I mentioned for participants to "stay in the present moment and make it a wonderful day" (Pinthong, personal communication, September 9, 2020). This analysis focused on coding with participant case study interviews who discuss awareness or being in the present moment consistently, such as Lora's comment about mindfulness, "is just being aware" (Lora, personal communication, November 20, 2020); Smit replied that "mindfulness is to be aware of what you're doing" (Smit, personal communication, October 16, 2020); and Alex stated the need to, "be aware of my speaking and listening" (Alex, personal communication, November 16, 2020). In this study, both quantitative and qualitative data were integrated to produce identification of themes and fruitful data implications even accounting for the reduced number of participants. The following section will provide a more robust explanation of the deductions.

In research question 4, *How do participants utilize mindfulness activities in daily life to cope with stress?* data presented in chapter 4 indicated that during the study participants average daily number of minutes in practicing mindfulness ranged from 10 to 22 minutes over the six-weeks virtual mindfulness course. To determine how participants applied the techniques in daily life to cope with stress the interview employed the follow-

up questions: *Have you continued mindful practice in everyday life? Do you feel you have gained greater benefit from continuing mindfulness practice?* and *What happens when you do not practice mindfulness?*

The next theme of managing stress emerged in forming Assertion 1: *Occupational stress has negative effects on physical health as well as emotional well-being.* Four participants, Lora, Alex, Madison and Pan, commented on negative effects of stress, for instance Madison indicated that "I noticed when I feel so stressed, I started to feel headache and tightness pain in my shoulders and eyes" (Madison, personal communication, December 8, 2020).

Moreover, research question 4 was addressed by application of mindfulness techniques being confirmed through assertion 2: *Participants applied mindfulness techniques from MVOC to daily circumstances.* The finding that emerged was the participants used mindfulness every day to deal with stresses effects on bodily physical heath. For example, Lora applied techniques of mindfulness in her daily circumstances: "I've also tried doing a scan while washing my hair in the shower and that got rid of a headache" (Lora, personal communication, December 1, 2020). Additionally, all participants applied mindfulness for schoolwork before meetings and determined the benefit of mindfulness as being able to help their students. For instance, Pan commented in her mindfulness log that "mindfulness is a very important part of my life. I am now part of a mindfulness committee at school" (Pan, personal communication, November 13, 2020). Madison's stated, "I see the benefit from it, and I want all my student to be happy and get the benefit from mindfulness as I am" (Madison, personal communication, December 8, 2020).

Furthermore, assertion 3 *Mindfulness helps build stress coping skills with regular practice* was achieved through participants staying in the present moment, applying increased awareness, and dealing with multiple demands was commented on by Smit who stated, “Mindfulness is to be aware of what you are doing” (Smit, personal communication, October 16, 2020). The last assertion 4 emerged from the qualitative data analysis that *Participants overcame challenges neglecting to employ mindfulness practices every minute by calling to mind reminders from the course*. All five participants mentioned the challenge of remembering to apply mindfulness every minute throughout the day after they no longer had the daily course reminders to guide their practice.

Explanation of the Results

This study provided evidence that a virtual online mindfulness course (MVOC) can provide assistance for teachers to assemble stress coping skills to aid in alleviating the adverse effects of occupational and personal stress. Additionally, the six-week format with daily activities provided consistent and timely guidance to help participants build a personal daily mindfulness practice through the theoretical frameworks of cognitive apprenticeship, self-efficacy, and self-determination theory as explanatory concepts that were employed during the intervention.

Efficacy of Course Design

The foundational aspects for building a long term, permanent, lifelong mindfulness practice that I implemented into the MVOC course design were:

1. Daily virtual contact with my participants through a beginning of week instructional video that provided an understanding of the connected network of mind, body, and spirit that produced and regulated physical and emotional well-

being along with guidance on how to perform mindfulness activities to gain an inner understanding of the workings of these systems within their own lives, followed by guided practice of 15 to 20 minutes. On each of days two to four, additional daily videos provided further instruction in the mindfulness techniques for that week and how to make personal application of these techniques within their daily schedules. For the last three days of the week, participants were provided with brief virtual contact as reminders to set aside time for their weekly mindfulness technique's continued personalized practice. After day seven, they would reflect on and record their week's experience in a weekly mindfulness log. On the first day of the new week, the process would begin with a new mindfulness technique. This course design allowed participants to fit the daily course instruction and activities into their busy schedules over six weeks.

2. This course design was a crucial component in creating a successful training program that allowed participants to learn and apply mindfulness techniques, develop their personalized variations, and come to enjoy practicing mindfulness daily.
3. Additionally, after completing the six-week MVOC course, participants continued to contact me with questions and comments about their mindfulness practice during the follow-up interviews. This extended contact over the six-weeks following the course provided the participants with additional reminders and motivation to continue their mindfulness practice as they experienced the benefits of reduced stress.

Support of Theoretical Frameworks

Cognitive Apprenticeship. Accordingly, this section discusses the result associated to the theory which requires the interlinking of the three required foundations of "methods, content, and social aspects of learning" (Kopcha & Alger, 2013, p. 49). In the MVOC, I provided guidelines from over 20 years of experience in meditation to model effective application of the mindfulness techniques while creating the six-week virtual online modules that contained the element of content and methods. Much of the social aspects of learning were absent due to the constraint of following the pandemic IRB protocol. Regular social aspects of learning are important for social support.

Furthermore, toward continuing to provide guidance for practice, the Cognitive Apprenticeship Model's six components were applied to assemble the MVOC course's learning activities includes modeling, coaching, scaffolding, articulation, reflection, and exploration (Akondy & Murthy, 2015). In the course, I was modeling and coaching the instructions provided each week in the videos for gaining a comprehensive understanding of stress, impacting physical, emotional, and behavioral actions of participants. Additionally, I used scaffolding by applying step by step practice, including mindful sitting, standing, walking, lying, eating, and listening, each week for four days and allowing participant exploration on their own to perceive inner experience from their practice for the remaining three days of the week. After, participants finished each week, the mindfulness log provided an opportunity for personal reflection.

As supplementary explanation, modeling was occurring when I performed the skill to be learned in an authentic setting while the participant observed and built a conceptual idea. I was coaching when I provided feedback, tips, and reminders so that the participants could make successive approximations of the skill as they grew closer and

closer to my implementation. When the tasks were too challenging to perform alone, I provided scaffolding support until the participants could proceed independently. Through reflection, the participants internalized the process, and through exploration, they applied the skill to novel real-world situations (Bates, Dolce & Waynor, 2012; Woolley & Jarvis, 2006; Darabi, 2005;). For example, Pan sent an email to discuss on how she felt with a question about her practice:

> I don't think I am as successful with walking mediation as my mind wanders so easily. Or maybe that is okay? My senses are so busy that I am not sure I am finding my quiet place as I found when doing a sitting meditation. Is this normal? Is this truly meditation? Do I need to just keep doing more until I can stop feeling so much or am I supposed to feel a lot? Is walking meditation generally done barefoot? Again, thank you for your thoughtful videos and including me in your study. I am happy to be participating (Pan, personal communication, October 14, 2020).

In this example the participant expressed the novel real-world circumstances that she was exploring and reflecting on during her practice. In review, participants were successful with MVOC practice involving two more theories which were self-efficacy and self-determination discussed below.

Self-Efficacy. This theory established that developing a personal mindfulness practice through guidance was necessary in order for participants to achieve self-belief in their ability to practice on their own. This was supported by social cognitive theory (SCT), which proposed that self-efficacy reflects a sense of administration over the environment and refers to the distinguished ability to master challenging demands (such as major occupational and personal stressful events) (Bandura, 1994). The MVOC gave participants the skills to apply adaptive actions such as mindfulness of thought, speaking, listening, and awareness of breath in a daily situation to achieve command over their environment. Moreover, self-efficacy allowed all individuals to build self-regulation of

emotions that forms a key role in anxiety arousal (Bandura, 2012). This allowed participants to arrive at a belief that control over intimidations can be achieved by preventing engagement in negative thought patterns. Although, participants who do not have this belief focus on their coping deficiencies, view their situations as filled with pressure as they magnify the severity of outcomes, and worry about events that rarely occur. Accordingly, Bandura (1994) stated that ". . . perceived self-efficacy is concerned with people's beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives" (p. 16). For example, Lora displayed self-efficacy by her belief that she was able to manage stressful situations:

> I still have stress. I'm not going to say I'm perfect. I'm amazing. It's a work in progress, but I'm definitely noticing improvement, and this is something important to me because before I even took this [course], the whole reason I signed up for it is because mindfulness is something that's interested me, and I try to be a mindful person. So, practicing mindfulness seemed like it goes hand in hand for me. And now I have the tools that helped me understand what I want to do and how to do it. So, it's kind of like giving me the roadmap to get to where I want to be (Lora, personal communication, December 1, 2020).

Throughout the virtual online course, Lora demonstrated improvement of personal practice in a challenging situation. These interviews were associated with the self-efficacy theory, in which Lora attempted to apply what she learned from the MVOC as a tool for stress coping skills. Additionally, self-efficacy correlates to self-determination theory, which supports participants in building awareness through activities.

Self-Determination Theoretical Framework. The MVOC intervention design addressed the fundamental psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 1985). Interconnected to self-efficacy in that SDT hypothesizes that building mindfulness through awareness of accomplishments was essential in building autonomy, which improved the participant's development of daily

personalized mindfulness practice. The MVOC practice enriched stress coping skills in occupational and personal settings providing benefits to participants in specific ways allowing them "...to act with full sense of volition, willingness and choice" (Deci, Ryan, Schulz & Niemiec 2015, p. 112; Raufelder et al.,2013). The implications of these findings were deliberated through quantitative and qualitative data analysis using the theoretical framework. For instance, Smit who had the second highest stress level from the pre-PSS score of 47 out of 70, was able to reduce his level of stress after MVOC by a 36% change, discussed the connection between mindfulness and awareness:

> So, when I think about mindfulness, I usually stay more aware. I keep on a regular breathing awareness and that helps me stay more relaxed to deal with things when stressful situations come, I'm able to just keep my breathing focused on that (Smit, personal communication, October 16, 2020).

Another example from Alex's explanation about gaining awareness that he has a choice about speaking:

> I have to consider the conversation that I should respond or keep quiet if I reply back is that helpful? Mindfulness helps me a lot by considering the benefit of speaking to others or causing them suffering; this is to tell me how I will talk to them. The most impact of the reason because I was not aware of speaking. Sometimes I need more practice speaking. I noticed that I need more training, wait and listen is better than reply back when I am not mindful. This was the biggest impact on me (Alex, personal communication, November 16, 2020).

These statements show both choice and intrinsic motivation for continued practice and training to develop their mindful thinking, speaking, and listening. Participants circumstances associated with SDT which additionally provided a structure for examining the efficacy of methods of motivation for long term action, engagement, and development while creating optimal conditions for increasing the level of satisfaction (Nie, Chua, Yeung, Ryan & Chan, 2015; Shih, 2012; Raufelder et al., 2013). The succeeding section describes limitations to this study.

Limitations

The three limitations in this action research study include (a) reduced number of participants which prevented quantitative statistical power; (b) the virtual online course did not allow for social aspects of learning; and (c) not all the participants were from the same school to build a mindfulness community. The description of each limitation and its components is further discussed below.

First, there was a limitation related to having a reduced number of participants for analysis of quantitative data, which had an impact on the KIMS Short statistics questionnaire that demonstrated the factors did not fully harmonize with PHLMS. Moreover, this limitation was primarily due to the pandemic's immense impact on recruitment. Before the pandemic, I had previously recruited 35 participants for a physical workshop along with being able to provide professional development hours for participant involvement in the study. Furthermore, because of the reduced number of participants, analysis was completed with the added method of a case study approach to complement the mixed methods protocol.

The second limitation involved the virtual online course environment which did not allow participants to engage on a social level to build community support, which is an important aspect under construct of SDT theory. For example, Alex commented:

> All good, we can learn everywhere we want. My suggestion is we need to know as a group together and share experiences and then let the professor adjust or suggest all their experience. (Alex, personal communication, December 10, 2020).

Another comment from Lora further expands on this suggestion:

> I think maybe just a thought, something where it's interactive with other people in this class would be kind of cool. But I thought it was great, really. I was like, wow, this is really professional. This is really amazing. So, I was impressed, and I feel like I've greatly benefited from it and I want to do it again (Lora, personal

communication, December 1, 2020).

These comments demonstrated participants' desires to engage in shared experiences and that they were looking for interaction with other participants to gain social support and relatedness only possible with in-person physical workshops.

The third limitation was that the arrangement of mindfulness training was not at a single school to build a mindfulness community to support each other. Each participant also had a different home environment and were not able to perceive development of their mindfulness practice from shared experience with other participants. Additionally, mindfulness practices, such as mindful speaking and listening would be strengthened by community corroboration.

Implications for Practice

This action research study recommends three implications for future practice, which include (a) that an online mindfulness course with daily instruction and reminders for practice is effective in assisting participants in developing a daily mindfulness practice to increase their stress coping skills; (b) that in-person professional mindfulness workshops where participants are physically present to allow “social aspects of learning” (Kopcha & Alger, 2013, p. 49) through direct communication with an expert are an aspect of training that should be made available as soon as the health threat of the pandemic is brought under control; and (c) a program which includes both online and in person components would provide the widest path for participants to benefit from all aspects of an integrated mindfulness training course of study.

The first implication involves professional online mindfulness instruction to develop a consistent and long-term mindfulness practice with qualified instructors who

have had extensive experience with mindfulness practice. The virtual instruction provided every day along with reminders and resources for participants to guide their daily practices, are convenient for K-12 teachers to fit into busy schedules and provide the ability to participate from home so that they have more time with their families. Furthermore, online mindfulness allows participants to manage their own time for building their practice either in the morning, afternoon, or evening. K-12 teachers who develop a regular mindfulness practice are more likely to cultivate improved stress coping skills leading to an improved working environment with reduced burnout and increased job satisfaction leading to higher retention rates. However, with all the online format benefits, participants in this first cohort mentioned the desire and benefits of having in-person instruction.

The second implication associates in-person professional development workshops with increased participant opportunity to communicate directly with a mindfulness expert when they have questions about the practice or any challenges that may arise. The need for this option became clearly evident when the thirty-five participants who had been recruited previously for in-person workshops did not express interest in the online course. Several school administrators expressed skepticism regarding online training efficacy in mindfulness, which complicated the online-only training impact. Moreover, the in-person format allows the participants to gain essential knowledge from the physical environment and build community support through interaction with other participants to help them develop a continuing mindfulness practice. It is easier for participants to develop a two-way relationship with the instructor, which allows them to have greater comfort and freedom to ask questions about challenging aspects of developing and

applying a mindfulness practice. However, one significant difficulty with in-person instruction is scheduling a convenient time for participants and motivating them to continue their practice in between workshops.

Finally, the third implication for practice is that for the greatest benefits of all participants, a hybrid program that includes online instruction and daily reminders and in-person practice sessions at locations convenient for participants. Which type of training program is best depends on each participant's individual needs. Some participants may prefer the anonymity of developing a mindfulness practice at home, while others would do better with the social motivation to practice with others and directly discuss their questions and concerns with instructors and colleagues. This study's findings and prior workshop experience indicate that this hybrid approach can allow for both greater depth of instruction and wider reach to more participants. Hopefully, the current improvement in combating the pandemic will make this online and in-person approach achievable soon.

Implications for Research

Similar to the implications for practice that I have made above, one implication for future action research is the need to study both virtual and in-person methods after removing pandemic restrictions to ascertain the role of social aspects in building a larger mindfulness community cohort in the same work sites. The research should examine how utilizing mindfulness as a tool to cultivate stress coping skills in K-12 teachers is affected by different personal techniques, instructional delivery methods, and community practice experience.

Furthermore, this would allow researchers to explore how mindfulness impacts

participants' daily lives while being able to recruit more participants with a hybrid approach. This future research study could apply additional statistical tests which require a larger sample size for the results from the quantitative data analysis of both the KIMS – short questionnaire and the PHLMS to examine the components of mindfulness in greater detail and depth. The larger number of participants could allow for the statistical power needed by researchers to investigate confirmatory and more robust research to make credible inferences from quantitative and qualitative data.

Additionally, as some cohorts may still prefer online-only instruction while others participate only in the in-person portion, examining these two different instructional methods would consist of three different self-selected groups. Using comparison groups, one group consisting of online-only participants, one group of in-person workshop participants, and one group of participants engaging in the hybrid approach involving online and in-person instruction. Furthermore, the differences in quality and longevity of practice would be measure with additional instruments designed to understand the role the social aspects of learning play in developing a mindfulness practice.

Personal Lessons Learned

During this action research involving changing circumstances along with the huge challenge of the COVID-19 pandemic, I have learned several important personal lessons. Four important rational lessons learned are (a) strength to go through difficult situations (pandemic); (b) the mechanics of creating a virtual online mindfulness course; (c) the power and importance of using theory; and (d) gaining an understanding of how to provide instruction in mindfulness during a pandemic. Since this study occurred during the pandemic, the most significant aspect that I had to change was moving the workshop

from in-person to online. I had to encourage myself as a form of training to apply mindfulness during difficult times and muster up the strength to go through the various situations. Additionally, I communicated back and forth with my committee to ensure my study moved forward. This pandemic situation led me to employ previous technical experience I gained from undergraduate and master level courses to create my online course through the application of professional technical tools.

Another lesson learned was the benefit of using theoretical frameworks in research. While creating the story board and daily content for the online course the organizing power of applied theories allowed the course development to stay on track and result in an effective final product. I was having to communicate with participants through email conversations and conduct interviews via Zoom. These were both new experiences for me that allowed me to observe the power of theories to assist participants through MVOC and personal practice.

Also, I have learned much about instruction and training during the pandemic, with most participants having experienced increased stress from remote teaching during this situation. I have gained greater skills in how to help K-12 teachers employ mindfulness to cultivate their occupational and personal stress coping skills through developing personal applications of mindfulness techniques.

Additionally, I benefited from studying in the leadership innovation program at ASU. This program allowed me to explore my work and to furnish me with more compressed engagement through research activities based on literature of prior research. Moreover, I understand how to apply both mixed methods and case studies simultaneously in one study.

Conclusion

Teaching in the United States K-12 public school system is a stressful occupation because of the higher level of responsibility within schools that requires resilient stress coping skills for overall well-being. The purpose of my research project was to examine instruction and training in mindfulness practice as a tool to cultivate stress coping skills in K-12 teachers through a mindfulness virtual online course (MVOC). The results of this action research study exhibited that reduced stress was experienced following an increase in awareness from developing a personal mindfulness practice.

Furthermore, the MVOC intervention helped the participants build a daily personalized mindfulness practice that improved their stress coping skills and was also beneficial in specific ways. Using quantitative and qualitative data, this study presented that participants experienced reduced levels of stress and increased awareness after the MVOC which holds promise for teachers whom routine mindfulness practice will cultivate progressively effective stress coping skills. Along with assisting K-12 teachers to enjoy increased job satisfaction the leading cause of burnout will also be reduced. Following up this study after the pandemic with the planned ancillary of in-person mindfulness professional development workshops is already in the planning stages.

REFERENCES

Akondy, V., & Murthy, S. (2015). From novice to expert instructional designer: a training based on cognitive apprenticeship model. *Technology for Education (T4E), 2015 IEEE Seventh International Conference on,* 53-60.

Aloe, A., Amo, L., & Shanahan, M. (2014). Classroom management self-efficacy and burnout: A multivariate meta-analysis. *Educational Psychology Review*, 26,101e126. http://dx.doi.org/10.1007/s10648-013-9244-0.

American Federation of Teachers. (2017). *2017 Educator Quality of Work Life Survey*. *2017 Educator Quality of Work Life Survey* (pp. 1–14). Washington, DC.

Anālayo (2003). Satipaṭṭhāna: The direct path to realization. Windhorse Publications. Birmingham, UK.

Anderson, V., Levinson, E., Barker, W., Kiewra, K., & Gutkin, Terry B. (1999). The Effects of Meditation on Teacher Perceived Occupational Stress, State and Trait Anxiety, and Burnout. *School Psychology Quarterly*, 14(1), 3-25.

Baer, R. A., Smith, G. T., Allen, K. B. (2004). Assessment of mindfulness by self-report the Kentucky inventory of mindfulness skills. *Assessment*, Volume 11, No. 3, 191-206 DOI: 10.1177/1073191104268029.

Baer, R. A., (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. Clinical Psychology: Science and Practice, 10(2), 125-143. Doi:10.1093/clipsy. bpg015

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), Encyclopedia of human behavior (Vol. 4, pp. 71-81). New York, NY: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego, CA: Academic Press, 1998).

Bandura, A. (2012). On the Functional Properties of Perceived Self-Efficacy Revisited. *Journal of Management, 38(1),* 9-44.

Bates, F. M., Dolce, J. N., & Waynor, W. R. (2012). The cognitive apprenticeship model: implications for its use in psychiatric rehabilitation provider training. *Journal of Rehabilitation, 78*(1), 5-10.

Beddoe, A. & Murphy, S. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *Journal of Nursing Education, 43*, 305-312.

Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, 6, 185e207. http://dx.doi.org/10.1016/j.edurev.2011.09.001.

Bergomi, C., Tschacher, W., & Kupper, Z. (2012). The Assessment of Mindfulness with Self- Report Measures: Existing Scales and Open Issues. *Mindfulness*, *4*(3), 191–202. doi: 10.1007/s12671-012-0110-9

Bishop, S., Lau, M., Shapiro, S., Carlson, L., Anderson, N., Carmody, J., Segal, Z., Abbey, S., Speca, M., Velting, D., Devins, G., (2004). Mindfulness: A proposed operational definition. *Clin Psychol Sci Prac*, 11, 230-241.

Brown, J., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, *18*(1), 32-42.

Brown, K. W., Creswell, J. D., & Ryan, R. M. (2016). *Handbook of mindfulness: Theory, research, and practice.* New York, NY: Guilford Press.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18, 211 – 237.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822–848. doi: 10.1037/0022-3514.84.4.822

CDC - NIOSH Publications and Products - STRESS...At Work (99-101). (2014, June 6). Retrieved November 12, 2019, from https://www.cdc.gov/niosh/docs/99-101/default.html.

Cardaciotto, L., Herbert, J. D., Forman, E. M., Moitra, E., & Farrow, V. (2008). The Assessment of Present-Moment Awareness and Acceptance. *Assessment*, *15*(2), 204–223. doi: 10.1177/1073191107311467

Carmody, J. (2015). Reconceptualizing mindfulness: The psychological principles of attending in mindfulness practice and their role. In K. Brown, D. Creswell, & R. Ryan (Eds.), Handbook of mindfulness: Theory, research, and practice (pp. 62-78). Guilford Press.

Cieslak, R., Shoji, K., Luszczynska, A., Taylor, S., Rogala, A., Benight, C., & Reynolds, C. R. (2013). Secondary trauma self-efficacy: concept and its measurement. *Psychological Assessment, 25*(3), 917-928.

Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.

Contrada, R., & Baum, A. (2011). *The handbook of stress science biology, psychology, and health*. New York, NY: Springer Pub.

Creswell, J. W. (2014). *Research Design Qualitative, Quantitative, and Mix Methods Approaches.* Los Angeles, CA: SAGE Publication, Inc.

Crowley, C., & Munk, D. (2017). An Examination of the Impact of a College Level Meditation Course on College Student Well Being. College Student Journal, 51(1), 91-98.

Csaszar, I., Curry, J., & Lastrapes, R. (2018). Effects of loving kindness meditation on student teachers' reported levels of stress and empathy. *Teacher Education Quarterly, 45*(4), 93- 116.

Dahal, P. P., & Pradhan, B. (2018). Effect of 1-month cyclic meditation on perceived stress, general health status, and cardiovascular parameters in school teachers. *Advances in Mind-Body Medicine, 32*(2), 4-9.

Darabi, A. (2005). Application of cognitive apprenticeship model to a graduate course in performance systems analysis: A case study. *Educational Technology Research and Development, 53*(1), 49-61.

Deci, E. L., Ryan, R. M., Schultz, P. P., & Niemiec, C. P., (1985). Being aware and functioning fully, Mindfulness and interest taking within self-determination theory. In Mindfulness Handbook

Deci, E. L., Ryan, R. M., (1985). Intrinsic Motivation and Self-Determination in Human Behavior. *Plenum*, New York, NY.

Deci, E. L., Schwartz, A. J., Sheinman, L., & Ryan, R. M. (1981). An instrument to assess adults' orientations toward control versus autonomy with children: Reflections on intrinsic motivation and perceived competence. *Journal of Educational Psychology, 73,* 642-650.

DeGraff, G. (2017). Handful of Leaves volume four: An Anthology from the Anguttara Nikaya. Valley Center, CA: Sati Center for Buddhist Studies & Metta Forest Monastery.

Gecas, V. (2003). Self-agency and the life course. In J. Mortimer, & M. Shanahan (Eds.), *Handbook of the life course* (pp. 369e388). New York, NY: Springer.

Gurin, P., & Brim, O. G. (1984). Change in self in adulthood: The example of sense of control. In P. B. Baltes, & O. G. Brim (Eds.), *Life-span development and behavior* (Vol. 6, pp. 281e334). New York, NY: Academic Press.

Goudreau, S., & Knight, M. (2018). Executive function coaching: assisting with transitioning from secondary to postsecondary education. *Journal of Attention Disorders, 22*(4), 379- 387.

Gravetter, F. J., & Wallnau, L. B. (2011). *Essentials of statistics for the behavioral sciences*. Wadsworth, Cengage Learning.

Greenberg, J. S. (1990). Comprehensive Stress Management (3rd ed.) Dubuque, IA: Wm. C. Brown Publishers.

Greeson, J., Juberg, M., 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.

Herman, K., Hickmon-Rosa, J., & Reinke, W. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, 20(2), 90-100.

Höfling, V., Ströhle, G., Michalak, J., & Heidenreich, T. (2011). A short version of the Kentucky Inventory of Mindfulness Skills. *Journal of Clinical Psychology, 67*(6), 639-645.

Ivankova, N. V., (2015). Mixed Method Applications in Action Research: From Methods to Community Action. Los Angeles, Sage.

Jennett, H., Harris, S. L., & Mesibov, G. B. (2003). Commitment to Philosophy, Teacher Efficacy, and Burnout Among Teachers of Children with Autism. Journal of Autism and Developmental Disorders, 33(6), 583–593. https://doi.org/10.1023/B:JADD.0000005996.19417.57

Kabat-Zinn, J. (2013). Full catastrophe living: using the wisdom of your body and mind to face stress, pain, and illness; the mindfulness-based stress reduction (Mbsr) program used in medical centers worldwide. New York, NY: Bantam Books.

Klingbeil, D. A., & Renshaw, T. L. (2018). Mindfulness-based interventions for teachers: A meta-analysis of the emerging evidence base. *School Psychology Quarterly, 33(4),* 501– 511. doi: 10.1037/spq0000291

Kopcha, T.J., & Alger, C. (2014). Student teacher communication and performance during a clinical experience supported by a technology-enhanced cognitive apprenticeship. *Computers & Education*, *72*, 48-58.

Lambert, R., McCarthy, C., Fitchett, P., & Eyal, M. (2018). Examining elementary teachers' risk for occupational stress: associations with teacher, school, and state policy variables. *Teachers College Record*, 120(12), 1.

Martela, F., DeHaan, C.R., & Ryan, R.M. (2016). Chapter 4 - On enhancing and diminishing energy through psychological means: research on vitality and depletion from self- determination theory. *In Self-Regulation and Ego Control* (pp. 67-85).

Maslach, J. & Jackson, S. E. (1981). The Measurement of Experienced Burnout. Journal of Occupational Behaviour, 2(2), 99–113.

Maslach, L. & Leiter, M. P. (2008). Early Predictors of Job Burnout and Engagement. Journal of Applied Psychology, 93(3), 498–512. https://doi.org/10.1037/0021-9010.93.3.498

McCann, K., & Davis, M. (2018). Mindfulness and self-efficacy in an online doctoral program. *Journal of Instructional Research*, *7*(1). doi: 10.9743/jir.2018.2

Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., Saltzman, A. (2012). Integrating mindfulness training into K-12 education: fostering the resilience of teachers and students. *Mindfulness,* 3(4), 291-307. doi:10.1007/s12671-012-0094-5

Mertler, C. A. (2017). *Action research: improving schools and empowering educators*. Thousand Oaks, CA: SAGE Publications, Inc. Moon, C. (2019) November 2019 Meeting Handout.

Nie, Y., Chua, B., Yeung, A., Ryan, R., & Chan, W. (2015). The importance of autonomy support and the mediating role of work motivation for well‐being: Testing self‐determination theory in a Chinese work organisation. *International Journal of Psychology*, *50*(4), 245-255.

Oberle, E., & Schonert-Reichl, K. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science & Medicine,* 159, 30.

OECD. (2014). Teacher self-efficacy and job satisfaction: Why they matter. In TALIS 2013 Results: An international perspective on teaching and learning. Paris, France: OECD Publishing. http://dx.doi.org/10.1787/9789264196261-10-en.

Pinelli, N., McLaughlin, J., Khanova, J., Eckel, S., Vu, M., Weinberger, M., & Roth, M. (2018). Identifying the presence of cognitive apprenticeship in the layered learning practice model. *American Journal of Pharmaceutical Education, 82*(1), 20-27.

Raufelder, D., Kittler, F., Braun, S.R., Lätsch, A., Wilkinson, R.P., & Hoferichter, F. (2014). The interplay of perceived stress, self-determination and school engagement in adolescence. *School Psychology International, 35*(4), 405-420.

Robert Wood Johnson Foundation. (2016, September). *Teacher stress and health effects on teacher, students, and schools* (Issue Brief). Penn State. Retrieved from: https://www.earlychildhoodwebinars.com/wp-content/uploads/2017/04/Teacher-Stress-and-Health-PENNSTATE-2016.pdf

Roeser, R. W., Schonert-Reichl, K., Jha, A., Cullen, M., Wallace, L., Wilensky, R., . . .Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology*, 105(3), 787-804. doi:http://dx.doi.org.ezproxy1.lib.asu.edu/10.1037/a0032093

Saldaña, J. (2016). *The coding manual for qualitative researchers*. Los Angeles: SAGE.

Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology-an International Review psychologie Appliquee-revue Internationale,* 57, 152e171. http://dx.doi.org/10.1111/j.1464-0597.2008.00359.x.

Shapiro, S. & Carlson, L. (2009). *The art and science of mindfulness*. American Psychological Association.

Shih, S. (2015). An investigation into academic burnout among Taiwanese adolescents from the self-determination theory perspective. *Social Psychology of Education, 18*(1), 201-219.

Shoji, K., Bock, J., Cieslak, R., Zukowska, K., Luszczynska, A., & Benight, C. (2014). Cultivating secondary traumatic growth among healthcare workers: The role of social support and self-efficacy. *Journal of Clinical Psychology, 70*(9), 831-846.

Sifferlin, A. (2016, June 27). Stress is contagious in the classroom. Retrieved from https://time.com/4384135/stressburnoutteachers/?fbclid=IwAR1CoekYPmYlIIJi7 oElT1Ayln86lsDMS03 9KspWxRKXN9RTYha-N-rPz0.

Skaalvik, E. M., & Skaalvik, S. (.)2015*Job satisfaction, stress and coping strategies in the teaching profession-what do teachers say*? *International education studies,* (8, 3-181.192)

Tripken, J. & Allegrante, J. P. (2011). An analysis of stress, burnout, and coping in a sample of secondary public school teachers. ProQuest Dissertations Publishing.

Troesch, L. M., & Bauer, C. (2017). Second career teachers: job satisfaction, job stress, and the role of self-efficacy. *Teaching and Teacher Education* 67 389-98.

Wallace, K. (2003). Autonomous "I" of an Intersectional Self. The Journal of Speculative Philosophy, 17(3), 176–191. https://doi.org/10.1353/jsp.2003.0047

Warner-Griffin, C., Cunningham, B. C., & Amber, N. (2018). Public School Teacher Autonomy, Satisfaction, Job Security, and Commitment: 1999-2000 and 2011-12 (Rep.). Washington, DC: US Department of Education.

Woolley, N.N., & Jarvis. Y. (2007). Situated cognition and cognitive apprenticeship: A model for teaching and learning clinical skills in a technologically rich and authentic learning environment. *Nurse Education Today, 27*(1), 73-79.

Yeh, G., Chan, C., Wayne, P., & Conboy, L. (2016). The Impact of tai chi exercise on self- efficacy, social support, and empowerment in heart failure: Insights from a qualitative sub-study from a randomized controlled trial. *PLoS One, 11*(5), E0154678.

Zarate, K., Maggin, D. M., & Passmore, A. (2019). Meta-analysis of mindfulness training on teacher well-being. *Psychology in the Schools*, *56*(10), 1700–1715. doi: 10.1002/pits.22308

APPENDIX A

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_____

1 = Never	2 = Rarely	3 = Occasionally	4 = Sometimes	5 = Frequently	6 = Usually	7 = Always
0%	Less than 10%	About 30%	About 50%	About 70%	About 90%	100%

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

APPENDIX B

KENTUCKY INVENTORY OF MINDFULNESS SKILLS (KIMS SHORT)

The questionnaire was developed by Kentucky inventory of Mindfulness Skills, Ruth A. Baer, Ph.D. University of Kentucky by the following these authors: Ruth A. Bear, Gregory T. Smith & B. Allen. The questionnaire involves total 20 questions along with 4 sub constructs which include observing, describing, acting, and accepting. This survey will take about 15 minutes to complete.

Observing: Mindfulness involves observing, noticing or attending to various stimuli including internal phenomena (cognitions, bodily sensations) and external phenomena (sounds, smells). Please rate each of the following statements using the scale provided. Please circle the number that best describes your own opinion of what is generally true for you.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
hen I'm walking, I deliberately notice the sensations of my body moving.	1	2	3	4	5
hen I take a shower or bath, I stay alert to the sensations of water on my body.	1	2	3	4	5
ay attention to sensations, such as the wind in my hair or sun on my face.	1	2	3	4	5
ay attention to sounds, such as clocks ticking, birds chirping, or cars passing.	1	2	3	4	5
5. I notice the smells and aromas of things.	1	2	3	4	5

Describing: Involves participant describing, labelling, or noting of observed phenomena by applying words in a nonjudgmental way. Please rate each of the following statements using the scale provided. Please select the response option that best reflect your own opinion of what is generally true for you.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
1. I'm good at finding the words to describe my feelings.	1	2	3	4	5
2. It's hard for me to find the words to describe what I'm thinking.	1	2	3	4	5
3. I have trouble thinking of the right words to express how I feel about things.	1	2	3	4	5
4. When I have a sensation in my body, it's difficult for me to describe it because, I can't find the right words.	1	2	3	4	5
5. Even when I'm feeling terribly upset, I can find a way to put it into words.	1	2	3	4	5

Kentucky inventory of Mindfulness Skills KIMS Short (page 2)

Acting with awareness: Being attentive and engaging fully in one's current activity. Includes the DBT skills of 'participating' and 'one-mindfully'. Please circle the number that best describes your own opinion of what is generally true for you.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
1. When I'm doing something, I'm only focused on what I'm doing, nothing else.	1	2	3	4	5
2. When I do things, I get totally wrapped up in them and don't think about anything else.	1	2	3	4	5
3. I tend to do several things at once rather than focusing on one thing at a time.	1	2	3	4	5
4. I get completely absorbed in what I'm doing, so that all my attention is focused on it.	1	2	3	4	5
5. When I do things, my mind wanders off and I'm easily distracted.	1	2	3	4	5

Accepting (or allowing) without judgment: To allow reality or what is there, to be as it is without judging, avoiding, changing, or escaping it. Please rate each of the following statements using the scale provided. Please circle the number that best describes your own opinion of what is generally true for you.

	Never or very rarely true	Rarely true	Sometimes true	Often true	Very often or always true
1. I criticize myself for having irrational or inappropriate emotions.	1	2	3	4	5
2. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.	1	2	3	4	5
3. I make judgments about whether my thoughts are good or bad.	1	2	3	4	5
4. I tell myself that I shouldn't be thinking the way I'm thinking.	1	2	3	4	5
5. I think some of my emotions are bad or inappropriate and I shouldn't feel them.	1	2	3	4	5

APPENDIX C

PHLMS (PHILADELPHIA MINDFULNESS SCALE)

The questionnaire was developed by Cardaciotto et al. 2008.
Please rate each of the following statements using the scale provided. Please circle the number that best describes your own opinion of what is generally true for you.

	Never	Rarely	Some times	Often	Very often
1. I am aware of what thoughts are passing through my mind.	1	2	3	4	5
2. I try to distract myself when I feel unpleasant emotions.	1	2	3	4	5
3. When talking with other people, I am aware of their facial and body expressions.	1	2	3	4	5
4. There are aspects of myself I don't want to think about.	1	2	3	4	5
5. When I shower, I am aware of how the water is running over my body.	1	2	3	4	5
6. I try to stay busy to keep thoughts or feelings from coming to mind.	1	2	3	4	5
7. When I am startled, I notice what is going on inside my body.	1	2	3	4	5
8. I wish I could control my emotions more easily.	1	2	3	4	5
9. When I walk outside, I am aware of smells or how the air feels against my face.	1	2	3	4	5
10. I tell myself that I shouldn't have certain thoughts.	1	2	3	4	5
11. When someone asks how I am feeling, I can identify my emotions easily.	1	2	3	4	5
12. There are things I try not to think about.	1	2	3	4	5
13. I am aware of thoughts I'm having when my mood changes.	1	2	3	4	5
14. I tell myself that I shouldn't feel sad.	1	2	3	4	5
15. I notice changes inside my body, like my heart beating faster or my muscles getting tense.	1	2	3	4	5
16. If there is something I don't want to think about, I'll try many things to get it out of my mind.	1	2	3	4	5
17. Whenever my emotions change, I am conscious of them immediately.	1	2	3	4	5
18. I try to put my problems out of mind.	1	2	3	4	5
19. When talking with other people, I am aware of the emotions I am experiencing.	1	2	3	4	5
20. When I have a bad memory, I try to distract myself to make it go away.	1	2	3	4	5

APPENDIX D

DEMOGRAPHICS

Demographics

Gender / Identification: Please select one option. ( ) Male ( ) Female ( ) Prefer not to answer Please write in your age in years. Age___	Race /Ethnicity: Please select one option. ( ) Asian / Pacific Islander ( ) Black or African American ( ) Hispanic or Latino ( ) Native American or American Indian ( ) White ( ) Other
Years of Teaching Experience: _____	Years of practicing Mindfulness: _____

APPENDIX E

DAILY MINDFULNESS LOG

Daily Mindfulness Log Week #_____Participant ID# _____

Practicing the brief mindfulness exercise paying attention to your breathing for at least 5 minutes may help you manage anxiety and feel better. Please keep track of your daily practice using this form and at the end of the week on Friday, answer the three questions below. Your participation in this study and your comments about your experience with mindfulness may help us improve the training for others. THANK-YOU!

Mindfulness Practice	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Amount of Time	☐ None _____minutes	☐ None _____ minutes	☐ None _____ minutes	☐ None _____minutes	☐ None _____minutes	☐ None _____minutes	☐ None _____ minutes
When	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening	☐ morning ☐ mid-day ☐ evening
How was it?							

Please answer the following questions on Friday _.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I enjoyed the mindfulness training	1	2	3	4	5
The mindfulness training has helped me cultivate stress coping skill.	1	2	3	4	5
I am likely to continue the mindfulness practice on my own.	1	2	3	4	5
I like using the mindfulness technique in my daily life.	1	2	3	4	5
I am likely to apply mindfulness in each of my actions.	1	2	3	4	5

Comments:

APPENDIX F

INTERVIEW QUESTIONS

First Interview November 2nd (Open-Ended Questions)

1. Please introduce yourself and tell me about your occupational situation?
2. Think of before you practiced mindfulness, please explain your physical, emotional, and cognitive feelings and thinking when you notice stress.
3. How would you define mindfulness from your perspective before you began practicing, and how is that different now?
4. How has mindfulness cultivated stress coping skills for general and occupational stress?
5. How has mindfulness benefited your physical and emotional well-being?
6. Would you tell me more, how do you feel with your physical and emotions when your mindfulness?
7. How has mindfulness been helpful for you as a teacher?
8. Do things mindfulness is important for teaches trainings and practice?
9. Do you think we should let government know about the benefit of mindfulness for education and teachers?

Second Interview November 23rd Follow up question (Open-Ended Questions)

1. Did you experience any difficulties in continuing your mindfulness practice in everyday life?
2. Did you experience any benefits from your personal mindfulness practice?
3. What is the biggest impact from your use of mindfulness in daily life?
4. What difference in feelings of stress is there between situations where you are mindful and situations where you are not?
5. Does practicing mindfulness help you cope with stress?
6. How do you use mindfulness to help cope with high stress situations?

Final Interview December 14th (Open-Ended Questions)

1. Have you continued mindfulness practice in everyday life?
2. What happens when you do not practice mindfulness?
3. Do you feel you have gained greater benefit from continuing mindfulness practice?
4. After practicing mindfulness for a few months, were you able to notice stress and then apply mindfulness to cope with stress immediately?
5. Dose practicing mindfulness help you cope with pandemic situation?
6. Do you have any comments about these practice?

APPENDIX G

CONSENT FORM

Mindfulness in Education: Utilizing Mindfulness as a Tool to Cultivate Stress Coping Skills in K-12 Teachers

Dear Participant:

My name is Uraipanyawan Pinthong, I am a student in the Doctor of Education, Mary Lou Fulton Teacher College Studies at ASU.

We are conducting a study to investigate whether practicing mindfulness technique can reduce general and occupational stress, which leads to burnout. Addressing teacher stress by providing coping skill is vital for creating a beneficial working condition that reduces burnout.

If you agree to participate, you will be asked to complete the following:

1. Completing the Kentucky Inventory Mindful Skills Short (KIMS Short), Philadelphia Mindfulness Scale (PHLMS) and Perceived Stress Scale (PSS) (15 minutes).
2. Participating in two mindfulness training workshops over a two-week time period in April 2020.
3. Completing the post-workshop KIMS Short, PHLMS and PSS (15 minutes).
4. Recording daily mindfulness practice in an activity Mindfulness Log for the duration of the study.
5. Participants will be invited to participate in Zoom meetings to be scheduled in late November and December for open-ended interviews.

Your participation in this study is strictly voluntary and will have no effect on your employment. It is OK for you to say no. If you say YES, then your participation will last for six weeks of mindfulness practice, and three follow-up meetings by Zoom. All workshops and follow up meetings will be video, and audio recorded for data collection purposes only of this study. After transcription, the video and audio files will be securely deleted. You will be asked to complete all of the above items, but you will have the opportunity to skip questions on any of the surveys or assessments. Even if you say yes now, you are free to say no later and withdraw from the study at any time, and there will be no penalty for you in doing so. If you have any questions about this study, you can contact me at upinthon@asu.edu or Dr. Cyndi Giorgis at Cyndi.Giorgis@asu.edu Tel. 602-543-6075

All information obtained in this study is strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researchers will not identify you. In order to maintain confidentiality of your records, you will be assigned an identification code to be used on all study collection forms and your name will not be used. All research data will be stored in a secure and locked room at Arizona State University, West Campus in Glendale, AZ. No identifying information will appear on data or on the final report. Office of Research Integrity and Assurance IRB, (480-965-6788), research.integrity@asu.edu

Risks

There are no foreseeable risks associated with participating in this study. When participating in the two-hour workshops, you may experience some slight physical discomfort while sitting or walking during the extended mindfulness activities. You are

always free to adjust your position to maintain your personal level of comfort. The workshops in this study are optional valuations used for research purposes only. Information about you and your survey scores will not be disclosed to any other faculty or to District administrative officers. Your identity will remain confidential. You have the right not to answer any question, and to stop participation at any time. You must be 18 years or older to participate.

Benefits

Participating in this study may not have any direct benefit to you, other than learning a deep mindfulness technique. By participating in this study, you are helping us to learn about K-12 teachers experience with general and occupation stress and to test a possible way to help them. The information collected in this study may be used to create a program to help K-12 teachers to utilize mindfulness as a tool to gain ability to cope with general and occupational stress. This knowledge may bring important changes in how to help K-12 teacher experience less stress, burnout and greater retention. Tempe High School District is providing four professional development hours for participants who complete the two workshops. These hours are available for other activities for those who opt out of the study. Additionally, you will receive a $50 gift card to defray your expenses in connection with attending the workshops and a completion certificate for personal mindfulness training. The gift cards and certificates will be provided by O.P.E.N. Global Village (Original Peoples' Education Network, NGO).

The consent form and the study assessments forms are filed in separate folders. To protect your confidentiality there will be no personal identifiers in the assessment forms and other information collected, all the information from the study will be linked by the study ID only. To collect your official mindfulness and stress score we will create a master list file that will have your name and participant ID. The Doctoral list file will be password protected and will be stored separately from the data. Once all the survey scores have been collected and appropriately linked to study data; the doctoral list will be destroyed. The results of this study may be used in reports, presentations, or publications but your name will not be used. The results will only be presented in aggregated form.

If you have any questions concerning the research study, please contact Dr. Cyndi Giorgis at Cyndi.Giorgis@asu.edu Tel. 602-543-6075. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the ASU Chair of the Human Subjects Institutional Review Board, through the office of Research Integrity and Assurance, at (480) 965-6788 or Dr. Maja Aleksic, Tempe Union High School District, Director of Assessment, Accountability & Research (480) 839-0292 x12021

I understand the information provided. Project Representative has answered my questions about the study. By signing below, you are agreeing to be part of the study.

Print Name: _____

Signature:_____Date:_____

APPENDIX H

CODES

Predetermined Provisional Codes

MINDFULNESS	AWARENESS	BENEFIT
BURNOUT	OBSERVING	EFFECT
EMOTION	SENSATIONS	INTERVENTION
SELF-EFFICACY	STRESS	RESULT
		TECHNIQUES

Focus Codes

MINDFULNESS	AWARENESS	COPE WITH STRESS
OCCUPATION STRESS	NOTICE STRESS	TYPE OF TECHNIQUES
PHYSICAL STRESS	FORGET	BENEFIT
REDUCE STRESS	MANAGE EMOTION	ONLINE TEACHING

Axial Coding

APPENDIX I

INSTITUTIONAL REVIEW BOARD APPROVAL DOCUMENTS

ASU Knowledge Enterprise Development

APPROVAL: MODIFICATION

Cynthia Giorgis
Division of Educational Leadership and Innovation - West Campus
602/543-6075
Cyndi.Giorgis@asu.edu

Dear Cynthia Giorgis:

On 8/4/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Modification / Update
Title:	Mindfulness in Education: Utilizing Mindfulness as a Tool to Cultivate Stress Coping Skills in K-12 Teachers.
Investigator:	Cynthia Giorgis
IRB ID:	STUDY00011687
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Consent Form-revised8-01.pdf, Category: Consent Form; • IRB Social Behavioral 2019 -Revise-8-01.docx, Category: IRB Protocol; • Supporting Documents.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

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

Sincerely,

IRB Administrator

cc: Uraiwan Pinthong
Cynthia Giorgis
Uraiwan Pinthong