A Dissertation

entitled

Effects of Zen Mindfulness Meditation on Student Counselor’s Stress, Attention, and Self-Compassion Levels

by

Mansi Brat

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Doctor of Philosophy Degree in Counselor Education

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The University of Toledo

August 2017
An Abstract of

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Abstract

Research suggests that meditation is an effective and efficient modality for reducing psychological distress and enhancing individual health and wellbeing (Sedlmeier, Eberth, Schwarz, Zimmermann, Haarig, Jaeger, & Kunze, 2012). In the last decade meditation has become a popular psychotherapeutic approach (e.g., MBSR, MBCT) in the field of mental health. Furthermore, empirical research on meditation and its effects on counseling practitioners demonstrate positive results for improving counselor self-efficacy (Greason & Cashwell, 2009), shown reductions in stress, anxiety, and depression (Elder et al., 2011; Kemeny et al., 2012), increase in attention (Chan & Woollacott, 2007), and emotion regulation (Kemeny et al., 2012). More recently researchers are studying the effects of meditation on student counselors.

Counselor education literature is replete with evidence suggesting that stress is an inherent issue amongst graduate counseling students, leading to psychological distresses, decreased job satisfactions and eventually burnout (Roach & Young, 2007). Thus, it is essential that counselor educators endorse and employ wellness strategies that support...
student counselors in maintaining their psychological health (Meyers & Sweeney, 2008). Past research studies on counselor trainees have popularly examined the use of mindfulness-based interventions (e.g., MBSR, MBCT). There are studies noting the effects of mantra-based and loving-kindness based meditations on counselor trainees as well. However, traditional mindfulness meditations such (e.g., Zen mindfulness meditation) have never been employed for enhancing student counselor wellness by studying changes in their psychological distresses. Consequently, the current study examined the effects of Zen mindfulness meditation on student counselor’s stress, attention, and self-compassion levels (pre-to-post changes). In addition, the researcher investigated if the frequency of meditation was related to these changes when participant demographics were co-varied.

The researcher conducted a one group pre-test post-test experimental design. Participants of this study (n = 11) were part of a Zen meditation-training group for six weeks. All student counselors completed self-report measures at the beginning and end of the six-week intervention and recorded their meditation frequency every week. The researcher conducted an Analysis of Covariance (ANCOVA) to measure pre-to-post test changes in the outcome variables (i.e. stress, attention, and self-compassion). In addition, hierarchical multiple regression analyses were conducted to note the variances in the outcome variables, as meditation frequency and participant demographics were co-varied. The results of the study demonstrated the following: (a) changes in stress, attention, and self-compassion levels from pre-to-post intervention, causation of which is not known; (b) ANCOVAs reported that meditation was not a predictor of these changes; (c) the regression analyses demonstrated that meditation frequency and participant demographics
also did not have a role in pre-to-post changes in the outcome variables. The implications and limitations of these findings are discussed herein.

*Keywords*: meditation, Zen mindfulness meditation, stress, attention, self-compassion
For Mom and Dad!

Words can’t describe my love and gratitude for you both.

Thank you for believing in me from day one.
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Chapter 1

Introduction

Meditation is a synthesis of self-regulatory practices that direct individuals to focus their attention on a chosen field or object of awareness (Shapiro, 1982; Wallace, Benson, & Wilson, 1971). The foundations of the practice originate from spiritual and religious traditions; however, long-term research in social and behavioral sciences has shown meditation’s applicability and effectiveness in enhancing both physiological and psychological human health since the early 1970’s (McGee, 2008; Sedlmier, Eberth, Schwartz, Zimmermann, Haarig, Jaeger, & Kunze, 2012; Wallace, Benson, & Wilson, 1971). Meditative practices may vary in the nature of their technique, but most include a self-regulatory process of channeling attention, increasing awareness and mental silence, and decreasing ruminating thought patterns that lead to negative psycho-physiological arousals (Walsh & Shapiro, 2006; Bond et al., 2009). Overall, meditation allows practitioners to reduce stress levels (Kabat-Zinn, 1990), cope with psychological distresses like anxiety and depression (Burns, Lee, & Brown, 2011), increase positive emotions (Frederickson, Cohn, Coffey, Peck & Finkel, 2009), and improve cardiovascular health (Ospina et al., 2007).

Meditation theories originate from an amalgamation of a dense body of research literature (Sedlmier et al., 2012). Academicians studying the discipline of meditation in
Western psychology focus primarily on its psychotherapeutic effects (Sedlmier et al., 2012). The types of meditation theories that repeatedly appear in academic literature are rich in both psychological and spiritual traditions. Meditation scholars suggest that it is nearly impossible to categorize all kinds of meditation practices due to their multiple overlapping features (Ospina et al., 2007). This next section highlights one of the most researched and widely practiced types of meditation as western therapeutic means of enhancing physiological and psychological wellness.

**Mindfulness Meditation**

Mindfulness is a process used to cultivate a trait or state of human mental awareness (Germer, Siegel, & Fulton, 2005). It is the awareness that arises through “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4). The integration of mindfulness in Western psychology can be traced back to the 1950’s and 60’s when practices such as Zen were on the rise in North America. Mindfulness is an ancient Buddhist practice. Yet American versions have emerged that does not have any religious connotations attached to it such as those of becoming a Buddhist. It is simply waking up to one’s surroundings and living in harmony with what arises in day-to-day life (Kabat-Zinn, 2001). A seated practice of mindfulness, formerly known as mindfulness meditation (MM), is an adaptation of Buddhist traditional forms of Vipassana or Insight meditation and Zen meditation or Zazen (Kutz, Borysenko, & Benson, 1985).

In various forms, mindfulness-based interventions (MBIs), are widely used as psychotherapeutic interventions (e.g., Mindfulness-Based Stress Reduction (MBSR) (Kabat-Zinn, 1990), Mindfulness-Based Cognitive Therapy (MBCT) (Segal, Teasale, &
Wilson, 2004), Acceptance and Commitment Therapy (ACT) (Hayes et al., 2006), and Dialectical Behavioral Therapy (DBT) (Linehan & Dawkins, 1995). Specific to counselors and counselors in training, MBIs have demonstrated prevention of compassion fatigue, burnout, anxiety, and other psychologically distressing events (Shapiro, Brown, & Biegel, 2007). MBIs have also been associated with higher levels of life satisfaction (Brown & Ryan, 2003), shown increase in self-esteem (Rasmussen & Pidgeon, 2010), empathy (Dekeyser, Raes, Leijssen, Leysen, & Dewulf, 2008), and optimism (Brown & Ryan, 2003). Therefore, it can be concluded that mindfulness is a significant contributor to counselor self-care and wellness.

**Meditation and CACREP Student Counselors**

Counselor personal wellness has a direct impact on therapeutic alliance and client treatment outcomes (Ackerman & Hillenroth, 2003; Norcross, 2002; Roach & Young, 2007; Rogers, 1957). Despite its benefits, mindfulness based interventions are sparingly used in the training curricula of Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2016) as forms of student wellness. Additionally, mindfulness meditation (MM), a seated awareness practice distinguishable from other mindfulness-based interventions is very sparsely used in promoting CACREP student counselors’ wellness. In comparison to other MBIs, a seated meditation practice does not require any special equipment, continual instruction, or large spaces for training. As practitioners learn this technique (i.e. concentration on breath with open, non-judgmental awareness of present moment experiences), they can practice this form of wellness in a personal space of their choice (e.g. private office, empty classroom, quiet break room, etc.). This particular advantage makes a seated meditation practice highly accessible,
personable, and experiential especially under stressful college environments (Berghoff, Wheeless, Ritzert, Wooley, & Forsyth, 2017).

**Zen mindfulness meditation.** Zen meditation is a traditional Buddhist approach for cultivating mindfulness (Marchand, 2012). Unlike other group based mindfulness interventions like MBSR and MBCT that utilize mind-body techniques (such as Yoga, Qigong, etc.), Zen meditation is a secular modality. It primarily involves developing mindfulness by practicing seated meditation (Marchand, 2012). The seated meditation period is referred to as Zazen. During Zazen, practitioners are trained to sit silently and focus their awareness on their breathing patterns. Beginning meditators are given instructions to count their breaths (1-10 and then repeat), while advanced meditators simply sit without any counting, focusing their awareness on the here and now. This type of meditation can be practiced alone or with a group (Marchand, 2012).

**Meditation Frequency.** Studies on mindfulness meditation and the quantity of time spent meditating report that the duration of time in personal meditation practice has a direct relationship with improved individual health outcomes (e.g., Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Keane, 2014). However, meditation literature lacks the demonstration of how a consistent practice beyond initial training can impact a student counselor’s overall wellness (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Consequently, the current study proposes to explore the impact of Zen mindfulness meditation on master’s level CACREP student counselors’ perceived stress, attention, and self-compassion levels, in order to determine its effectiveness as a self-care modality.

**Constructs of Interest**

The constructs of interest in the present study were: (a) stress, (b) attention, and
(c) self-compassion.

**Stress.** Scholarly research suggests that stress and stress-related symptoms are a major concern for students in various academic settings, especially at graduate level training (Abel, Abel, & Smith, 2012). Students in counselor preparatory programs are inundated with numerous challenges making them highly susceptible to stress. It is likely that counselor trainees carry the same level of stress response while engaging with a client therapeutically, ultimately hindering the alliance that they are aiming to create. These negative consequences originating from stress may lead to depression, anxiety, reduced self-esteem, and feelings of alienation in counselor trainees (Pruitt & McCollum, 2010). As previously stated, wellness and self-care related activities are essential for counselors to maintain positive emotion regulation and to avoid burnout (Roach & Young, 2007; Young & Lambie, 2007). Counselor education scholars have advocated for comprehensive mentoring on wellness related initiatives in the past (Myers & Sweeney, 2008). To avoid psychological, academic, and social impairment in counselor trainees it is crucial that they be trained to adopt stress management strategies as tools of wellness and self-care (e.g., Zen meditation techniques) at the onset of their training (Myers & Sweeney, 2008).

**Attention.** The profession of counseling requires its practitioners to develop a therapeutic presence with clients in distress (McCollum & Gehart, 2010). This skill of therapeutic presence includes an open, non-judgmental awareness to what the client is experiencing in the moment. The foundation of presence is rooted in focusing conscious attention towards the client (McCollum & Gehart, 2010). Rogers (1980), founder of client-centered therapy, described the ability of maintaining presence in a counseling
session as the fourth ‘characteristic’ of the three core conditions of congruence, unconditional positive regard, and empathic acceptance. He referred to this skill as a powerful healing component for individuals undergoing therapy (Rogers, 1980).

Studies on mindfulness meditation and stress have proven to boost skills necessary for sustaining the quality of attention in a counseling room, altering distractions into moment-to-moment awareness and redirecting the mind into maintaining complete focus on a given subject, person or place (Kabat-Zinn, 2003). Strategically managing attention is essential in a counseling room, and so, counseling students must master this experience to hone in the ability to stay present with their clients (e.g., Wei, Yi, Carrera, Botello, & Sung). Research findings support the relationship between mindfulness and the ability to strategically control attention (McCollum & Gehart, 2010; Shapiro et al., 2007). In a qualitative study on Zen mindfulness meditation amongst clinical social work practitioners, Brenner (2009) noted that the participants reported a consisted theme of focused attention as a result of meditation and valued the maintenance of present moment awareness in order to be with the client. Despite meditation’s role in enhancing attention in a counseling room, actual trainings to cultivate this skill seem to be missing in counselor education programs preparing future counselors (Greason & Cashwell, 2009). Thus, it becomes imperative for CACREP accredited programs to incorporate comprehensive and experiential trainings that prepare student counselors not only to apply the theoretical knowledge base but develop core skills that ultimately will have a positive impact on their relationship with a client.

**Self-Compassion.** As previously stated, intense pressures faced by college students during graduate level training lead to high levels of stress (Abel, Abel, & Smith,
College level stress may appear in various forms, for example, pressures accumulating from maintaining academic scores, the need to ‘fit in’ in a particular peer group, body image, concerns with sexual and gender identity, and many more, leading to unfavorable and distorted perceptions of the self. Negative self-judgments are strongly indicative of high rates of anxiety, depression, and attempted suicide for college students (Neff & McGhee, 2009). In the recent decade, the science of self-compassion, a form of directing compassion inward, has been popularly adapted for enhancing psychological health and wellness (Neff, 2003; Soloman & Barden, 2016). Researchers have confirmed that enriching self-compassion as a means of self-care can provide an alternative model of thinking to promote resilience and build positive self-views, which ultimately impacts the overall psychological well-being of college students (Neff, 2012, Neff & McGehee, 2009). Considering that college students face intense pressures, specifically at graduate level work, focusing compassion towards self will support students in cultivating this alternative form of wellness. Mindfulness is a key construct of self-compassion (Neff, 2003). Hence, this study proposes to promote self-compassion in student counselors by training them in Zen mindfulness meditation.

**Summary of Constructs**

In sum, the constructs measured for this study were: stress, attention, and self-compassion, each has a pivotal role in counselor wellness and training. A review of the literature demonstrates that mindfulness meditation influences the three constructs in its unique way (e.g., mindfulness reduces stress levels and increases individual attention). Inherently tied to self-compassion, mindfulness enhances individual ability to relate to oneself from a compassionate lens (Neff, 2003). Preliminary research demonstrates that
when mindfulness is incorporated in counselor development, the results of counselor therapeutic alliance are more pronounced (McCollum & Gehart, 2010). However, what is sparingly investigated in counselor education literature is, (a) the applicability of Zen mindfulness meditation (seated meditation) in CACREP counselor trainees, and (b) the direct influence of the quantity of time spent meditating in enhancing CACREP counselor trainees’ wellness (e.g., changes in stress, attention, and self-compassion levels).

Therefore, the aim of this study was to bridge these gaps in the literature by investigating the effectiveness of Zen mindfulness meditation on a master’s level student counselor’s perceived stress, attention span, and self-compassion experiences.

Statement of the Problem

Beginning counselors experience high levels of anxiety and stress (Abel, Abel, & Smith, 2012). Anxiety and stress in a therapeutic relationship can impede a counselor’s performance and treatment outcomes (McCollum & Gehart, 2010). Counselors are trained to be empathic, compassionate, and unbiased towards clients (American Counseling Association, 2014), but at the same time are highly susceptible to compassion fatigue, burnout, and prone to countertransference if chronically stressed (Young & Lambie, 2007). Researchers suggest that counselor education programs should not only highlight the importance of self-care but also teach students the necessary tools that support them in maintaining their overall wellness (Myers & Sweeney, 2008).

Empirical studies have demonstrated that wellness oriented counselors who are less stressed have a better grasp at identifying emotions in others (i.e. emotional intelligence) (e.g., Gutierrez & Mullen, 2016). Such counselors tend to be more aware of their internal states (i.e. countertransference) and report to have a stronger therapeutic
alliance with their clients (e.g., Brown & Ryan, 2003), both crucial skills to be an
effective and successful counselor (American Counseling Association, 2014). Students
can employ wellness strategies early in the process of their training. One such self-care
mechanism is meditation (Christopher, Christopher, Dunnagan, & Schure, 2006).

The practice of meditation is gaining momentum in the field of counseling
(Shapiro et al., 2007). Scholars have promoted it as an effective tool for increasing
wellness, preventing burnout, coping and reducing anxiety, and stress (Shapiro et al.,
2007; Sedlmier et al., 2012). Moreover, meditation studies have shown that the practice
influences compassion, emotion regulation, and empathy in therapeutic relationships
(Greason & Cashwell, 2009). Meditation must be incorporated in counselor training
programs with the objective of teaching students a means of coping with overwhelming
occupational demands, in addition to the salient characteristics of becoming a
professional counselor.

Gaps in the Literature

Although research on mindfulness meditations has shown remarkable success in
enhancing individual emotional states and the overall psycho-physiological well-being of
practitioners (Keng, Smoski, & Robins, 2011), explicit gaps continue to exist in research
literature. Studies exploring the effects of mindfulness on counselor trainees getting
trained in a CACREP curriculum are sparse. In fact, most studies continue to document
the beneficial effects of mindfulness-based interventions on their selected sample group
(e.g., mental health therapist trainees) (Shapiro, Brown, & Biegel, 2007). Research
endeavors exploring the efficacy and duration of traditional mindfulness meditations,
such as Zen meditation, have never been conducted amongst student counselors.
Additionally, while preliminary studies on mindfulness have been successful in reducing the stress response of therapists in training (e.g., Shapiro, Brown, & Biegel, 2007), only a handful of studies illustrate the effects of mindfulness and its relevance to self-compassion (a form of wellness) amongst counselor trainees of CACREP programs (e.g., Raab, Sogge, Parker, & Flament, 2015; Unsworth, 2016). Therefore, the current study was designed to examine the effects of Zen mindfulness meditation on graduate student counselors in a CACREP program.

**Significance of Study**

Wellness has been defined as an integration of mind, body, and spirit, for the purpose of achieving optimal individual health (Myers, Sweeney, & Witmer, 2000). Counselor preparatory programs emphasize the importance of wellness in new professionals as well as seasoned clinicians (Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2016). However, wellness strategies that promote the integration of individual physiological, as well as psychological health (e.g., Zen mindfulness meditation), are not well addressed in counseling curriculums (e.g., CACREP). Consequently, the purpose of this study was to endorse a mind-body-spirit integration approach of wellness for enhancing optimal health in future counseling professionals. By doing so the study tested, (a) Zen meditation’s ability to decrease stress responses in counselor trainees of a CACREP program, (b) changes in counselor trainees’ attention levels, and finally (c) changes in counselor trainees’ self-compassion levels. A reduction in stress, and improvement in attention and self-compassion was directly related to enhancing student counselor wellness.
An integral part of any meditation practice is to establish a consistent practice usually assigned as homework (Kabat-Zinn, 1990; Segal, Williams, & Teasdale, 2002). Unless practiced for a certain length of time an individual may not reap the long-term effects of meditation as specified by research scholars (Kabat-Zinn, 1990; Segal, Williams, & Teasdale, 2002). Therefore, by employing an experimental design, the researcher tested the effectiveness of meditation frequency outside of the formal training group on the study variables (i.e. stress, attention, and self-compassion). Positive results from this study will serve as an argument for inclusion of Zen mindfulness meditation practices, as a means of promoting wellness in emerging counselors and counselor educators in CACREP programs.

**Research Questions and Hypotheses**

The following research questions and hypotheses were answered based on this study’s outcomes:

Research Question 1: Is there a statistically significant difference between self-reported stress levels (as measured by the Perceived Stress Scale [Cohen, Kamarck, & Mermelstein, 1988]), in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research Question 2: Is there a statistically significant difference between self-reported attention span (as measured by Mindful Attention Awareness Scale [Carlson & Brown, 2005]), in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research Question 3: Is there a statistically significant difference between self-reported self-compassion levels (as measured by Self-Compassion Scale [Neff, 2003a])
in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research Question 4: Is there a statistically significant relationship between the amount of time reported meditating and changes in stress in a counseling student sample?

Research Question 5: Is there a statistically significant relationship between the amount of time reported meditating and changes in attention span in a counseling student sample?

Research Question 6: Is there a statistically significant relationship between the amount of time reported meditating and changes in self-compassion levels in a counseling student sample?

Research Hypotheses

Hypothesis 1: There will be a statistically significant ($p < .05$) decrease in counseling students’ level of stress, from Time 1 to Time 2, as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988) when controlling for students’ experience with mindfulness meditation.

Hypothesis 2: There will be a statistically significant improvement ($p < .05$) in counseling students’ attention spans, from Time 1 to Time 2, as measured by Mindful Attention Awareness Scale (Carlson & Brown, 2005) when controlling for students’ experience with mindfulness meditation.

Hypothesis 3: There will be a statistically significant improvement ($p < .05$) in counseling students’ perceived self-compassion, from Time 1 to Time 2, as measured by Self-Compassion Scale (Neff, 2003) when controlling for students’ experience with mindfulness meditation.
Hypothesis 4: The amount of time spent meditating will account for unique variance in counseling students’ level of stress, as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988), over and above the amount of variance accounted for by their gender and race/or ethnicity.

Hypothesis 5: The amount of time spent meditating will account for unique variance in counseling students’ attention span as measured by the Mindful Attention Awareness Scale (Carlson & Brown, 2005), over and above the amount of variance accounted for by their gender and race/or ethnicity.

Hypothesis 6: The amount of time spent meditating will account for unique variance in counseling students’ perceived self-compassion as measured by the Self-Compassion Scale (Neff, 2003), over and above the amount of variance accounted for by their gender and race/or ethnicity.

**Operational Definitions of Variables**

Mindfulness is “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p. 4).

Meditation refers to “self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity, and concentration” (Walsh & Shapiro, 2006, p. 228).

Zen meditation “primarily involves the practice of developing mindfulness by means of seated meditation. During meditation periods, known as Zazen, practitioners sit silently without moving on either a cushion or in a chair.” (Marchand, 2012, p. 235).
Stress is “a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation” (Merriam Webster’s collegiate dictionary, 1999).

Attention is “the component of mindfulness that facilitates awareness of moment-to-moment experience” (Marchand, 2012, p. 235).

Self-Compassion “…involves being touched by and open to one’s own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one’s suffering and to heal oneself with kindness” (Neff, 2003, 87). It entails three core components, (a) self-kindness, (b) common humanity, and (c) mindfulness (Neff, 2003).

**Conclusion**

Empirical research supports that meditation significantly affects the physical and psychological health of human beings. Zen, a sect of Buddhism promotes a form of meditation that has shown significant results in terms of individual health and well-being. This study proposed to examine the effects of Zen mindfulness meditation on student counselors’ perceived stress, attention, and self-compassion levels. The findings of the study significantly contributed to the counseling literature. First, it provided evidence on how Zen mindfulness meditation is a beneficial tool for enhancing counseling students’ wellness and development as a future counselor. Second, it added to the scarcity of meditation literature in counseling. Third, it described the frequency with which meditation must be practiced on a daily basis to see significant results in individual health and well-being. And, finally, it provided an argument for incorporating traditional mindfulness meditations, such as Zen meditation, in training future professional counselors.
Chapter 2

Review of Literature

Introduction

Many philosophical, spiritual and psychological traditions have emphasized the importance of meditation for the maintenance of overall well-being (Sedlmeier et al., 2012; Walsh & Shapiro, 2006). Despite the fact that experienced scholars and practitioners assert that meditation is an all-encompassing, enduring and well-established method for healing the mind and body (Pruitt & McCollum, 2010; Sedlmeier et al., 2012; Walsh & Shapiro, 2006), this phenomenon has received little empirical attention (Ricard, Lutz & Davidson, 2014).

Researchers define meditation as a means of self-regulation through which practitioners suspend involvement in their habitual stream of thoughts (Sedlmeier et al., 2012; Bond et al., 2009). The goal of meditation is to reach a state of “thoughtless awareness,” during which an individual is passively aware of bodily sensations in the present moment (Sedlmeier et al., 2012; Walsh & Shapiro, 2006). Meditation embodies several different approaches to produce this awareness (e.g., attention, visualization, bodily sensations, etc.) (Sedlmeier et al., 2012). For the practitioner, meditation creates a clear and vivid stream of awareness, in contrast to the less awake states of the mind,
which often result in redundant and distressful thought patterns (Brown & Ryan, 2003; Ricard, Lutz & Davidson, 2014).

**Meditation**

In Eastern traditional practices meditation is an ancient discipline, dating back to at least 3500 B.C.E, known for its benefits in the recovery and maintenance of overall health and well-being (Sampaio, Lima, & Ladeia, 2016). Although its origins are spiritual or religious, there are a number of different approaches to practicing meditation, not all of which involve a spiritual or religious orientation (Walsh & Shapiro, 2006). There are those that specifically embody religious traditions, those that seek connection with a spiritual self without any religion attached to it and those that purely train the mind, regardless of its connection to a religious or spiritual counterpart (Sampaio et al., 2016). The basic foundation of every meditative practice is the idea of withdrawing one’s attention from the outside world and bringing it to the chosen field or object of awareness. The common aim is to silence and harmonize the internal conflicts permeating the human mind in the form of distressful thoughts and judgments (Sampaio et al., 2016).

The discipline of meditation involves building a system of self-regulation practices. By training individual attention and awareness for greater voluntary control, practitioners can foster overall well-being and development in addition to specific qualities of calmness, clarity, and concentration. It is the practice of training the mind that is distinct from other therapeutic and self-regulation strategies such as self-hypnosis, visualization, and past life regression (Sedlmeier et al., 2012; Benson & Klipper, 1976).

Some meditators train their focus to become attentive to a single object, mantra or
image by disengaging their mental processes using the flow of their breath (Sedlmeier et al., 2012). By learning to stay focused on each breath, these meditators are able to become conscious to how the mind jumps (often said, “like a monkey”) from one thought to another. With consistent practice and time, such individuals learn to disengage their responses towards their thoughts, emotions, actions, and other cognitions that they are experiencing in the moment. Consequently, experienced meditators are able to maintain the calming effects acquired through the sitting practice and extend them to their everyday activities by retaining their focus on the breath (Sedlmeier et al., 2012).

Benefits of Meditation

**Cognitive and Behavioral.** Meditation disciplines attest that all individuals suffer from attention deficit tendencies to a certain degree (Walsh & Shapiro, 2006). Researchers studying the effects of meditation on attention unequivocally claim that it can be trained to the point of unbroken continuity for hours with proper guidance and practice (Greason & Cashwell, 2009). Concentrative meditation techniques use an object of focus (e.g., mantra, breathing, a picture or even an experience) to build the practitioner’s attention (Helber, Zook, Immergut, 2012; Tang et al., 2009). In some forms of meditation, this concentrative form involves staring into the darkness without visualizing to experience inner light. One of the earliest known accounts from the Hindu Rig Veda says, “We meditate on that desirable light of the Divine, who influences our pious rites” (Rigveda: Mandala-3, Sukta-62, Rcha-10; Singh, 2012).

**Attention Control & Uniformity.** Research findings support the relationship between meditation and the ability to strategically control attention (e.g., Chan & Woollacott, 2007). In Chan and Woollacott’s study, long-term meditators were recruited
from six diverse meditation centers to determine the effects of long-term meditation on
attention networks of the mind. Study participants were divided into two groups:
meditators and non-meditators. All participants were asked to complete standardized
measures (e.g., Stroop Task, Global-Local Letters Task) to determine the efficacy of
executive attention and oriental attention for both groups. A statistical analysis of the
study groups showed that long-term meditation produced increases in the executive
attention network (anterior cingulate/prefrontal cortex) (Chan & Woollacott, 2007). In
fact, it was noted that meditators were faster in responding to tasks that involved visual-
motor abilities and had a greater ability to focus their attention in comparison to non-
meditators (Chan & Woollacott, 2007).

Similar to adult populations, preliminary studies on meditation and children have
shown positive effects. Meditation training (e.g., Mindfulness Meditation) is determined
to be an effective strategy for enhancing self-regulatory skills of attention in children
suffering from psychiatric disorders, such as attention-deficit hyperactivity disorder
(ADHD). Practicing meditation has proven to give children and adolescents more control
over their attentional skills and the ability to make choices on how to respond to impulsive
stimuli, rather than reacting on auto-pilot (Singh et al., 2010).

**Neurological.** Neuroscientific research on the effects of meditation proves that
the adult brain is deeply transformed through experiences of inner connectedness (Tang,
Ma, Fan, Feng, Wang, Feng, et al., 2009). By centering their thoughts to present moment
awareness, meditators regulate their mental states to achieve a form of inner enrichment.
Although nothing changes in the surrounding environment during a meditative state, the
experience still demonstrates positive effects on the brain’s cognition as well as
emotional functioning (Tang et al., 2009). A meta-analysis conducted by Tang et al. (2009) on meditation and its effects on the brain structure demonstrated that eight brain regions were consistently altered in meditators: the frontopolar cortex - an area that enhances the meta-awareness, the sensory cortices and insula - areas that are associated with body awareness, hippocampus - the region associated with memory processes, the anterior cingulate cortex (ACC), mid-cingulate cortex and the orbitofrontal cortex - areas that monitor the self, and emotional regulation; and the superior longitudinal fasciculus that involves the intra-and inter-hemispherical communication. Researchers, however, reported that such changes would remain unimportant until scholars gain a better understanding of how the alterations are linked to improvements in affect, and cognitive and social functions of the brain structure (Tang et al. 2009).

**Physiology and Immune System.** Research also indicates that meditation helps strengthen the immune system. Creswell, Myers, Cole, and Irwin, (2009) conducted a study on the effects of meditation on the T CD4+ lymphocytes of adults infected with HIV-1. The T CD4+ lymphocytes are responsible for cell immunity in patients with HIV-1 and can decline to low levels, causing the infection to become more frequent and difficult to treat. After an 8-week training in meditation, participants in the control group showed significant declines in the T CD4+ lymphocyte counts whereas those in the treatment group remained unaltered from the beginning of the intervention to post-completion of treatment. As stated in the study, this effect was irrespective of antiretroviral medications that the participants were on (Creswell, Myers, Cole, and Irwin, 2009).

**Emotion Regulation.** Since emotional changes play an important role in
arbitrating long-term effects of meditation on physical and mental health, it is imperative that emotional effects are studied separately from the attentional, perceptual and neuro-physiological effects of meditation. As a result, several research studies have shown meditation to be an effective modality in enhancing positive emotions and reducing negative emotions (Kemeny, Foltz, Cullen, Jennings, Gillath, Wallace, Cavanagh, Giese-Davis, Rosenberg, Shaver, & Ekman, 2012). Kemeny et al. (2012) conducted a study with a sample of female schoolteachers and noted that high levels of self-reported negative effects (particularly depression) significantly declined as the teachers received meditation training. In addition, the intervention enhanced positive states of the mind as well as social behaviors among the treatment group.

**Emotional Intelligence.** One of the curative factors of meditation is its ability to generate positive emotions and enhance an individual’s ability to cope with negative emotional states (Fredrickson, 2001; 2009). According to Fredrickson’s (2001) broaden-and-build model, positive emotions promote cognitive repertoire by encouraging individuals to build alternative coping strategies. Therefore, those who experience positive emotions rely on more creative methods of coping than those who tend to experience neutral or negative emotions on a continuum (Fredrickson, 2001). Meditation has shown to have a positive influence on individual pro-social behavior, compassion, and empathy levels (Fredrickson, 2001; Kemeny et al., 2012) and so, it supports in effectively facilitating coping processes through emotional monitoring. Because meditation promotes emotion regulation and aims to increase individual self-awareness, it is fair to infer that the practice will have an effect on emotional intelligence. Emotional Intelligence (EQ) as defined by Salovey and Mayer (1990) is “the ability to monitor one’s
own and other’s feelings and emotions to discriminate among them and use this information to guide one’s thinking and actions (p. 189).” Scholars studying the effects of meditation on positive emotions, coping mechanisms and emotional intelligence have demonstrated that meditation substantially increases individual abilities of emotional intelligence (e.g., Gutierrez, Conley & Young, 2016).

**Psychological Distress.** Meditation has been linked to reduction in psychological distresses for a wide variety of student populations (Elder et al., 2011; Kemeny et al., 2012). Poor academic achievement and negative school behaviors commonly lead to stressors causing anxiety and depression amongst students. Social-environmental stressors, such as acculturation, language barriers, and performance pressures, are some other factors that affect students’ psychological health (Elder et al., 2011). Research illustrates that meditation reduces psychological distress, contributing to reductions in feelings of anxiety, depression, marginality, and alienation, as well as psychosomatic symptoms of identity confusion (Elder et al., 2011).

Elder et al. (2011) conducted a study with 106 secondary school students who were taught the Transcendental Meditation (TM) technique in a seven-step course. Instructions of the TM technique are as follows: (a) close the eyes, think of a mantra and repeat consistently, (b) eventually “let go” of the mantra allowing the mantra to change itself - letting it become louder, softer, or fainter in your mind, (c) allow all kinds of thoughts to come to the mind and try not to suppress them, (d) let the mantra override the thoughts, (e) as the mantra disappears and the thoughts take over your sense of awareness, bring yourself back to the mantra and repeat again, (f) finally to conclude the meditation, stop thinking of the mantra, wait for 2 minutes and then slowly open the eyes.
The students practiced the technique for 10-15 minutes during their quiet time at school, twice daily. Participants were encouraged to maintain their practice at home and over the weekends as well. A within group analysis among TM students showed significant improvements on the Strengths and Difficulties Questionnaire’s (SDQ) emotional symptoms scale (M= -1.26 ± 2.10; t(66) = -4.93, p < .001), on trait anxiety (M= -4.91 ± 6.73); t(67) = -6.01, p < .001) and on Mental Health Inventory’s (MHI-5) depression index (M= +1.76 ± 4.60); t(66) = 3.13, p=.003). Consequently, the study’s findings reported that TM was effective in reducing psychological distresses in racial and ethnic minority secondary school students.

**Summary of Research on the Effects of Meditation**

From the research findings mentioned above, it was inferred that meditation has positive effects on improving individual physiological and psychological well-being. It has shown to be effective in reducing negative psychological states, such as depression, anxiety, and stress; improve cardiovascular and neurological health; and significantly affect an individual’s emotion regulation system. The next section highlights meditation’s origin in the Western psychological context and its applicability as a therapeutic intervention.

**Meditation and Western Psychology**

Meditation first appeared in Western psychological literature in the 1930’s (Alexander, 1931; Coster, 1934). Early explanations of meditation illustrated that the main effects of such a practice yield results similar to those of relaxation techniques. Alexander (1931) investigated the mind-body connection using meditation as a key element of relief from mental sickness. However, he claimed the technique to be
ineffective and an artificial catatonia with psychotherapeutic benefits.

Meditation research regained momentum all over again in psychology literature in the 1970’s. Herbert Benson and colleagues demonstrated that meditation had unique restful effects beyond relaxation (Wallace, Benson, & Wilson, 1971; Benson & Klipper, 1976). Wallace, Benson, & Wilson (1971) conducted a pioneering study at the University of California that informed researchers about the physiological effects of meditation. The study discovered a reduction in oxygen consumption and cardiac frequency, and an increase in the galvanic resistance of the skin amongst experienced meditators. These physiological benefits deepened the importance of the relaxation response, which encouraged researchers to gain a better understanding of how meditation operates in the body. Wallace, Benson, and Wilson’s (1971) study consisted of 36 Transcendental Meditation (TM) practitioners. The purpose was to investigate the production of a wakeful hypometabolic state using TM. Participants were asked to sit quietly for 10 to 30 minutes, meditate for 20 to 30 minutes, and then sit quietly for an additional 10 minutes to 20 minutes. The researchers measured oxygen consumption, blood pressure, heart rate, and took blood samples before and after the actual meditation practice. The results showed a 17% decrease in oxygen consumption, a 31.9 ml/min decrease in the elimination of carbon dioxide, a decrease in respiratory rate resulting in three breaths per minute, and a significant decrease in the blood lactate level. In addition, participants showed an increase in skin resistance levels (Wallace, Benson, & Wilson, 1971).

Thereafter, Wallace et al., (1971) noted that the practice of meditation creates a hypometabolic state that is distinct from those of sleep, hypnosis, and other hibernation patterns of human physiology. This study had several limitations, for example, there was
no description of participant recruitment or comparison group. Regardless, the findings became critical in building evidence of meditation’s benefits in western psychology literature. Furthermore, Wallace et al. (1971) became the first to demonstrate that meditation can create a consistent wakeful hypometabolic state that induces relaxation and other psycho-physiological changes in human beings.

Soon after, Benson & Klipper (1976) studied the reasons for individual satisfaction from meditation. One of the reasons that came up in research repeatedly was that individuals meditate to overcome psychological and emotional problems and to find inner peace and solidarity – a phenomenon commonly referred to as self-regulation (Benson & Klipper, 1976; Cardoso, Souza, Camano, and Leite, 2004). Individuals also claimed to meditate to achieve a better understanding of life, enlarge their consciousness, and gain wisdom (Benson & Klipper, 1976). Regardless of these findings, much of the literature lacked empirical rigor to support claims of meditation as a practical and experientially sound therapeutic tool (c.f., Smith, 1975).

Use of Meditation as Complementary Alternative Medicine

According to National Health Interview Survey (NHIS), meditation is regarded as one of the top five complementary alternative medicines in the United States (Barnes et al., 2002, Clarke et al., 2015). CAMS are a group of practices and techniques that are not considered a part of conventional medicine and mostly incorporate mind-body approaches of healing. CAMS include but are not limited to practices such as yoga, biofeedback, tai chi, qi-gong, and meditation. A NHI survey in 2002 reported that about 62% adults in the U.S. used CAMS, specifically mind-body therapies, like meditation in order to enhance their physiological health (Barnes et al., 2002). Sub-group differences
from this survey reported that women were more likely to use CAMS than men. Furthermore, it was noted that adults ages 18-44 were more likely to use such approaches than adults in other sub-groups. In terms of race or ethnicity, African American and Asian adults were more likely to use CAMS in comparison to White adults (Barnes et al., 2002). A follow up NHIS was conducted in 2012, the results of which reported no significant changes in prevalence of CAMS for adults aged 18-44 (Clarke et al., 2015). However, from 2002 to 2012, a slight increase was observed amongst Hispanic adults and non-Hispanic White adults in relation to the use of CAMS (Clarke et al., 2015). From the data reported above, it can be concluded that meditation, which is a form of CAMS, is more likely to be utilized by women of either African American or Asian descent in the age bracket of 18-44 years in comparison to other sub-groups in the gender, age, and race/ethnicity demographic sub-groups.

**Summary**

Despite its pivotal role in enhancing individual physiological and psychological well-being, meditation literature is still in its infancy in regard to the counseling profession. Researchers continue to study the overarching effects of meditation in mental health practitioners, supervisors, and students in training (see Gutierrez et al., 2016). Later, I describe the importance of a particular type of meditation practice – Zen mindfulness meditation in the context of counseling profession, its relation to the foundational elements of counseling (e.g., wellness and self-care), and finally its effects on counselor stress levels, attention span and perceived self-compassion. This provides the rationale for identifying meditation as a potential method for improving wellness in counselors and counselors in training.
**Meditation Theories**

Ospina and colleagues (2007) noted that Western researchers seeking to demonstrate the relevance of meditation in enhancing psychological wellness came across some challenges. Various mind-body approaches (e.g., yoga, mindfulness, Tai Chi, Qigong) involve meditation as part of their core practice. And so, part of the difficulty in expanding meditation research on a continuum originated from the struggle of categorizing these various methods. Despite its overarching effects, most meditative practices have many commonalities that make their categorization nearly impossible (Goleman, 1988). Goleman’s (1988) comprehensive survey on meditation practices summarized that despite the nature of the meditation method, all meditative practices tend to affect individuals in the following two ways: (a) they increase mindfulness; and (b) they increase individual attention span. However, as scholarly interest rapidly progressed, the following two categories of meditation repeatedly emerged in meditation literature, (a) Mantra or Concentrative Meditation and (b) Mindfulness Meditation.

**Mantra or Concentrative Meditation.** Mantra or concentrative meditation involves the concentration on, or repetition of, an uplifting or sacred word or phrase. This group of methods include Centering Prayer, Jyoti Meditation, and Transcendental Meditation (TM). TM is the most researched method of this type of meditation (Sedlmeier, 2012; Forem, 2012). It is commonly regarded as a concentration technique, and has its own procedure of descending the individual into deep levels of attention and awareness. TM practitioners are taught a mantra to establish a point of concentration, emphasizing present moment awareness. The use of sound enables the mind to settle into quieter levels of thought until a silent state of consciousness is achieved, eventually
leading the individual to transcendence. The technique has proven to reduce anxiety levels (Forem, 2012). Tanner and colleagues (2009) supported the conclusion that TM takes individuals to restful states of alertness and consciousness that are free of arduous mental activity.

**Mindfulness Meditation.** Mindfulness meditation has also been the subject of considerable research (e.g., Keng, Smoski, & Robins, 2011; Shapiro, Astin, Bishop, & Cordova, 2005). Mindfulness is a means of becoming present in the moment by maintaining an alert and aware, nonjudgmental state of mind (Kabat-Zinn, 1990). Practitioners of this approach are able to develop a deeper sense of awareness and reflect on their thought patterns without resisting any reactions that the experience evokes (Kabat-Zinn, 1990). This form of meditation leads individuals to attain a nonjudgmental state of acceptance in full emotional equanimity (Kabat-Zinn, 2015). Mindfulness refines an individual’s self-reflection to gain mirror like clarity that enables them to contain, encounter, and ultimately know what they are experiencing in the moment. Also referred to as open-monitoring meditation, mindfulness entails observing sights, sounds, and other sensations (e.g., internal body feelings) without being carried away by them. As per Kabat-Zinn (2015), mindfulness is an embodiment of the mind that exists within all individual beings. It is not different from the innate capacity that we already have, that is, to know what is happening as it is happening.

**Mindfulness Based Psychological Interventions (MBIs)**

The term mindfulness found its roots in ancient spiritual traditions of Buddhism. It is usually understood as an awareness of the present moment, as opposed to dwelling in the past or future (Analayo, 2006). Historically referred to as creating a “bare” attention
(Gunaratana, 1993) and a “pure” or “lucid” awareness (Das, 1997) of self, such descriptions of mindfulness provided an intuitive understanding of how this state is different from other states of wakefulness (Chiesa & Malinowski, 2011). However, these descriptions did not translate to an operationalization for scientific research. Consequently, Jon Kabat-Zinn (1994) theorized one of the first “modern” definitions of the term mindfulness as “paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally” (p. 4). The practice of mindfulness was found in ancient Buddhist meditations such as Vipassana Meditation (Gunaratana, 1993) and Zen Meditation (Kapleau, 1965) and continues to be incorporated in such forms. Mindfulness-based meditations (e.g., Vipassana and Zen meditations) are commonly referred to as Mindfulness Meditations (MMs) (Chiesa & Malinowski, 2011).

As early as 1980’s, mindfulness appeared in group-based psychological interventions such as Mindfulness-Based Stress Reduction (MBSR) (Kabat-Zinn, 1982), Mindfulness-Based Cognitive Therapy (MBCT) (Segal, Williams, & Teasdale, 2002), Dialectical Behavior Therapy (DBT; Linehan & Dawkins, 1995), and Acceptance and Commitment Therapy (ACT; Hayes, 2004). Collectively, MBSR, MBCT, DBT, and ACT came to be known as Mindfulness-Based Interventions (MBIs) (e.g., Baer, 2003). Mindfulness-based interventions differ significantly from first wave behavioral therapies that recognize human behavior as a product of stimulus and response (SR psychology), and from the second wave that classifies cognitions as the outcome of behavior and emotions, cognitive-behavior therapy (CBT). (Hayes, 2004). Mindfulness became part of third wave behavioral therapies and has evidenced to enhance psychological flexibility in distressed individuals (Walsh & Shapiro, 2006). Mindfulness-based behavioral
researchers incorporate the context of an experience in the forefront when helping individuals in distress (Hayes et al., 2006). So, rather than only focusing on the nature of psychological events, these third wave behavioral interventionists seek to amend the function of such events by interweaving the direct relationship they have on an individual, through strategies such as acceptance, awareness, and non-judgment (Hayes et al., 2006).

**Mindfulness Based Stress Reduction (MBSR)**

MBSR has proven to be effective in various patient populations for treating chronic pain and reducing psychological distress arising from stress, anxiety, and depression (Reibel, Greeson, Brainard, & Rosenzweig, 2001). Kabat-Zinn, Lipworth, & Burney (1985) found that after getting trained in a 10-week MBSR program, chronic pain patients showed significant changes in their levels of present moment pain and pain related drug use. Patients of the same study also reported a decrease in anxiety and depression (Kabat-Zinn, Lipworth, & Burney, 1986). A follow up study of the intervention reported sustained improvement in pain related symptoms for up to 4 years (Kabat-Zinn, Lipworth, Burney, & Sellers, 1986). In another MBSR study, patients with anxiety disorders showed significant reductions in anxiety and panic attacks after an 8-week MBSR intervention, the results of which were retained for up to 3 years (Peterson & Pbert, 1992).

**Dialectical Behavior Therapy (DBT)**

Since the development of MBSR, several other treatment approaches have emerged with mindfulness principles and practices (e.g., body scan meditation, yoga, Tai-Chi, etc.) at the core, namely: Dialectical Behavior Therapy (DBT; Linehan & Dawkins,
1995); Acceptance and Commitment Therapy (ACT; Hayes, 2004); and Mindfulness-Based Cognitive Therapy (MBCT) (Segal, Teasale, & Wilson, 2004). DBT has been found to be effective with distressed individuals suffering from Borderline Personality Disorders. Research indicates that a deficit in mindfulness is one of the significant causes of BPD and that mindfulness plays a central role in its treatment. In a study conducted by Elices et al. (2016), mindfulness training produced efficacious results in reducing BPD severity. An improvement rate of 40% was observed in participants who received the mindfulness intervention in comparison to 13% improvement results from participants receiving interpersonal effectiveness skills training. Additionally, DBT has been extensively researched to be an effective modality for reducing suicidal ideation with patients suffering from Borderline Personality Disorder. The Substance Abuse and Mental Health Administrations National Registry (SAMSHA) endorses DBT as a multimodal treatment for suicidal individuals that balances traditional behavioral and acceptance based principles to improve patients’ lives (Necsau, Ward-Ciesielski & Linehan, 2012).

**Acceptance and Commitment Therapy (ACT)**

Along with DBT, ACT is considered to be a third wave behavioral therapy. Mental health professionals applying this form of treatment approach help individuals reduce avoidance of thoughts, traumatic memories, and feelings associated with distress (Hayes, et al., 2006). ACT uses a combination of mindfulness and behavior change methods that attempt to differentiate one’s behavior from one’s sense of self (e.g., cognitive defusion). Clinicians trained in ACT remove spiritual associations of mindfulness by separating the traditional beliefs of meditation from the treatment itself.
A recent meta-analysis of 66 experimental studies supported positive psychological results and theoretical consistency for ACT as a therapeutic medium of cure (Levin, Hildebrant, Lillis, & Hayes, 2012).

**Mindfulness Based Cognitive Therapy (MBCT)**

As the practice of mindfulness became an effective modality for treating chronic psychosomatic conditions (Kabat-Zinn, Lipworth, & Burney, 1985), Segal, Williams and Teasdale (2002) adapted it as a behavioral modality to treat patients with chronically recurring depression, and called it Mindfulness Based Cognitive Therapy. As the name suggests, MBCT is a group intervention that involves meditation exercises as well as cognitive behavioral techniques. A recent meta-analysis of MBCT showed prevention of relapse in patients with recurring depression (Piet & Hougaard, 2011). The intervention has proven to be effective in not only decreasing chances of relapse but has shown significant reductions in residual and current depressive symptoms in patients suffering from major depression (Piet & Hougaard, 2011). In sum, mindfulness has two pivotal components, (a) self-regulation of attention to the present moment enabling individuals to recognize the occurrence of their mental events, and (b) adaptation of an open and non-judgmental orientation towards the mental occurrences, characterized by curiosity, free-flow and acceptance (Bishop et al., 2004).

**Zen Mindfulness Meditation**

Mindfulness meditations (MMs) such as Zen meditations have a distinct historical and philosophical approach as compared to the modern Mindfulness-based therapies (e.g., MBSR, MBCT). Zen is part of the Mahayana tradition in Buddhism and contrasts the Theravada tradition of Buddhism (Gunaratana, 1993). Leading oneself to
mindfulness, Zen practitioners are taught to count their breaths in order to focus their attention to the moment. With time and ongoing practice, practitioners are able to omit the counting and simply become aware of the present experience. This advanced technique leads to the development of “bare attention” wherein the aim of the practitioner is to constantly keep their awareness to what is occurring in the present moment and let the experiential insight (satori) arise (Kapleau, 1965).

To practice Zazen or sitting in Zen, an individual needs to set aside a time of the day to sit motionless and focus on the breath (Kapleau, 1965). The counting of breath leads to the suspension of ordinary stream of thoughts without falling asleep or going into a state of trance (blackout) (Kapleau, 1965). In the United States, Zen is practiced as a secular method to achieve mindfulness and is used by individuals of varied religious orientations and spiritual beliefs (Marchand, 2012). This type of mindfulness meditation can be practiced alone or in groups.

In a recent study conducted on Zen meditation and its effects on the quality of life of Japanese Monk trainees, researchers found that practicing Zen for an elongated period of time showed significant improvements in the general mental health of trainees and positively affected their quality of life (Shaku, Tsutsumi, Goto, & Arnoult, 2014). This study was conducted in 13 Zen monasteries through questionnaire-based instruments. A total of 462 registered monk trainees participated by completing quality of life (e.g., QOL) and health questionnaires (e.g., GHQ -28) (Shaku, Tsutsumi, Goto, & Arnoult, 2014). Participants were divided according to their training length, group 1: <1 year of experience practicing Zen, group 2: 1-3 years of experience, and group 3: > 3 or more years of experience. The results of the study showed improvement on the sub-scales of 46
the GHQ, i.e. somatization, anxiety, social dysfunction, and depression levels for all three groups of trainees (Shaku, Tsutsumi, Goto, & Arnoult, 2014). However, the researchers noted that monks who trained for a shorter duration of time (e.g., less than 1 year) had difficulty in getting acclimatized to the rigorous environments of Zen and showed less improvement in comparison to those who trained for longer periods. As a result, the findings of group 3 (practitioners with 3 or more years of experience) showed a significant decrease in the sub-scales mentioned and the researchers concluded that Zen training effectively improved the overall mental health of respondents (Shaku, Tsutsumi, Goto, & Arnoult, 2014).

Noting the importance of Zen training from the findings of the study mentioned above, it can be stated that MMs such as Zen meditation are known to create an awareness of self that allows practitioners to increase flow of adaptive thoughts and emotions that are positive in nature, while decreasing maladaptive ones, in addition to reducing psychological distresses (e.g., Rapgay & Bystrisky, 2009). MBIs such as MBSR and MBCT, on the other hand, are clinically focused for providing relief from physical and psychological distresses such as pain, stress, or depressive symptoms.

**Time Commitment to Meditation Practice**

To be able to experience the benefits of meditation, practitioners both beginning and advanced, are taught to maintain a committed and routinely practice (Carmody and Baer, 2008). Limited evidence suggests how prescribed meditation practice times and adherence to a home based practice affects the outcomes of individual well-being (Carmody and Baer, 2008). Berghoff and colleagues (2017) conducted a study on a college undergraduate sample, evaluating the relation between a prescribed home
meditation practice (i.e. 10 or 20 minutes of mindfulness meditation) and its outcomes on depression, anxiety, and stress. The researchers noted a significant pre-post increase in mindfulness and reduction in stress, suggesting that sustaining even a brief mindfulness practice (e.g., 10 minutes per day) confers positive benefits for its practitioners (Berghoff et al., 2017). Depression and anxiety did not change over time for this sample population, providing little empirical evidence for the passage of time. Researchers noted this in study limitations suggesting that the total duration of the meditation intervention could be a factoring variable for this (Berghoff et al., 2017). Two weeks is a relatively short period to assess changes in participant outcomes and also to determine the effects of a sustained mindfulness meditation practice. Consequently, they suggested that a longer duration, that is, 6-8 weeks of meditation intervention, along with home based practice time may provide greater clarity for assessing differences on outcome variables suggesting physical and mental wellbeing.

Furthermore, Kozasa and colleagues (2015) conducted a study in which participants with prior meditation experience (less than 1 year and more than 1 year) went through a 9-day intensive Buddhist meditation retreat. This was an even shorter intervention in comparison to Berghoff’s (2017) study. The study’s findings reported significant increases in participant attention, mindfulness, and self-compassion levels for both groups (less than 1 year of experience vs. more than 1 year of experience) (Kozasa et al., 2015). Participants of the study group meditated for a period of 4 hours per day and received theoretical information for another 3 hours per day during the 9-day retreat. The training also included breathing exercises and other awareness building activities, in addition to sitting meditation (see Kosaza et al., 2015). As a result, the researchers
concluded that meditation frequency (i.e. frequency of meditation time) along with prior
meditation experience contributed to the significant changes in outcome variables despite
of just a short 9-day meditation intervention (Kozasa et al., 2015).

Summary

As noted in the preceding sections, mindfulness based interventions (MBIs) (e.g.,
MBSR, MBCT) have been effective for a variety of physical and mental health problems.
Mindfulness meditation (MM) is a primary technique in most MBIs, however, it is
seldom investigated as a treatment modality of its own. This study proposed to examine
the effects of MM (i.e. Zen mindfulness meditation) on stress, attention, and self-
compassion amongst student counselors. Additionally, the primary researcher determined
to examine the relationship between the duration of time spent meditating and the
changes in the outcome variables from time 1 (prior to learning meditation) to time 2
(after learning and practicing meditation).

Mindfulness: Relevance for Counseling Professionals

Therapeutic Presence. Geller, Greenberg, and Watson (2010) suggested that
successful psychotherapy entails “bringing one’s whole self into the encounter with
clients by being completely in the moment on multiple levels: physically, emotionally,
cognitively, and spiritually” (p. 599). Carl Rogers (1957) affirmed that the quality of
presence is crucial for therapeutic change along with the core counseling attitudes of
unconditional positive regard, empathic understanding, and congruence. Therapeutic
presence is the ability to bring forth certain capabilities in the therapeutic relationship that
lead to a non-judgmental acceptance, empathic understanding, and willingness to be
completely engaged with the client (Brodley, 2000). Being present is to be focused on a
client’s understanding of his/her inner world and the process through which the client reveals this understanding (Brodley, 2000).

Like Rogers, research scholars believe that the quality of presence deeply affects the therapeutic relationship and the counselor’s ability to be genuine (e.g., Geller & Greenberg, 2012). Geller and Greenberg (2012) attempted to capture the essence of presence in three components by stating that it is, (a) an open acceptance to a client’s experiences, (b) openness to one’s own inner experience in a therapeutic encounter with a client, and finally the (c) ability to support the client from a genuine inner experience. In addition to teaching the basic skills for counselor development, post-modern research on psychotherapy suggests that counselors in training must learn higher order skills, such as self-integration, self-awareness, and mindfulness, to develop a deeper understanding of a client’s worldview during a therapeutic encounter (Campbell & Christopher, 2012).

**Therapeutic Alliance.** A therapeutic alliance is the degree to which a counselor and client share a joint work project to enhance the psychological well-being of the client. A study conducted to examine the relationship between counselor mindfulness and counselor and client perceptions of therapeutic alliance found significant positive results. Wexler (2006) recruited 19 therapists with masters, doctorate, and medical degrees. The therapists reported having an average of 23 years of experience in working with psychological clients. To assess the degree of relationship between a counselor’s rating of mindfulness and counselor and client rating of therapeutic alliance, zero order correlations of the study variables were implemented using the Pearson Product Moment Correlation Coefficient. The results revealed the following, (a) the Working Alliance Inventory, Client Version (WAI-C) and Working Alliance Inventory, Therapist Version
(WAI-T) was statistically significant \( (r = .19) \), (b) mindfulness measured by the Mindful Attention Awareness Scale (MAAS) accounted for approximately one-third of variance between WAI-C and WAI-T \( (r = .59) \), and finally (c) there was a significant correlation \( (r = .48) \) between the WAI-T and the MAAS, indicating that approximately 25% of the variance in the therapist measure of therapeutic alliance was explained by the MAAS.

Wexler (2006) finally determined that a range of mindfulness scores in this study suggests that therapists tend to have different degrees of attention and awareness on different days and with diverse clients during varied moments of the therapeutic encounter. Although there was a positive correlation between both client and counselor perception of therapeutic alliance and counselor perception of mindfulness, no conclusions could be made on the predictor validity of counselor mindfulness on an alliance.

Furthermore, Greason and Cashwell (2009) determined that mindfulness was a strong predictor of counselor self-efficacy and empathy, and that the practice was directly related to maintaining attention in a counseling session. These researchers intended to address a significant gap in the counselor education literature and thus, conducted a survey amongst masters and doctoral counselors in training \( (N = 179) \). The results informed that mindfulness significantly predicted attention as accounted by 28% variance \( (\text{adjusted } r^2 = .28, \ t = 8.41, \ p < .01) \); mindfulness also predicted empathy and accounted for 7% variance \( (\text{adjusted } r^2 = .07, \ t = 3.77, \ p < .01) \); and finally, it predicted counselor efficacy with a variance of 11% \( (\text{adjusted } r^2 = .11, \ t = 4.88, \ p < .01) \). Finally, a path analysis reported that mindfulness, attention, and empathy means scores accounted for 34% of variance in counselor self-efficacy \( (F = 32.11, \ p < .01) \). An examination of the
mediator variables revealed that attention was a statistically significant mediator and that it had a significant effect on counselor efficacy mean scores. However, empathy was not a mediator. When entered with mindfulness scores, in a regression model, empathy did not have a statistically significant effect on counselor efficacy (Greason & Cashwell, 2009).

Another important skill that plays an important role in influencing the therapy process is countertransference management. Fatter and Hayes (2013) suggest that one of the key determinants of countertransference management in a therapeutic relationship is self-insight. As noted in a section prior to this, self-insight or awareness is the degree to which a therapist is conscientious of the feelings, thoughts, sensations, and behaviors that arise in the therapeutic encounter of a client (Fatter & Hayes, 2013). Fatter and Hayes (2013) conducted a study to determine the effects of meditation and mindfulness training on therapist trainees’ countertransference management. The researchers hypothesized that since meditation practice enhances awareness and decreases reactivity, years spent in practice will have positive correlation with countertransference management abilities. Additionally, Fatter and Hayes (2013) determined a statistically significant relationship between mindfulness training and therapists’ non-judgmental, moment-to-moment awareness of the self. A diverse sample of therapist trainees and supervisors (N= 178) participated in the study. The first hypothesis was largely supported. Years of meditation practice and experience was positively correlated (r= .36, p < .01) with measures of the Countertransference Inventory-Revised (CFI-R). It was also a strong predictor of subscales such as empathy (r=.28, p < .01) and self-integration (r = .26, p < .01). Although the results for the anxiety management subscale were in the expected direction, they did
not yield statistical significance in relation to the years spent meditating for this particular study. In addition, results from supervisor ratings of therapist trainees’ mindfulness abilities in relation to their countertransference management abilities showed small correlations ($r = .21$). Consequently, the researchers noted that years of meditation experience was a strong predictor of countertransference management abilities in comparison to a few hours spent meditating (Fatter & Hayes, 2013). Therefore, it can be deduced that a cumulative effect of meditation helps manage countertransference in comparison to a short-term effect of meditation (Fatter & Hayes, 2013).

**Psychological Health and Wellbeing.** Mindfulness meditation has been found to influence counselors and other health care practitioners both in terms of professional and personal development (Davis & Hayes, 2011). In their practice review, Davis and Hayes (2011) described several research studies showing the effects of mindfulness meditation on therapists’ well-being and professional development. The scholars also discussed significant client benefits from therapy for counselors who meditate (see Davis & Hayes, 2011). Similarly, a study conducted in Germany found noteworthy increases in clients’ wellness after being treated by counselors practicing Zen meditation (Grepmair, Mietterlehner, Loew, Bachler, Rother, & Nickel, 2007). Counselor trainees were randomly assigned to be part of a Zen meditation group (Grepmair et al., 2007). After a 9-week intervention period, clients of trainees with an established meditation practice displayed reduction in overall symptoms of distress, reported faster rates of change, higher scores on self-report measures of well-being, and described their treatment to be effective, when compared to clients being treated by non-meditating trainees (Grepmair et al., 2007). Aligned with this study’s findings, Davis and Hayes (2011) inferred,
“mindfulness helps therapists: develop their ability to experience and communicate a felt sense of clients’ inner experiences [and] be more present to clients’ suffering; and helps client express their body sensations and feelings” (p. 202).

Specific to wellness, Shapiro, Brown, and Biegel (2007) found that counseling students participating in a Mindfulness Based Stress Reduction program showed significant decrease in stress levels, negative affect, rumination, and state and trait anxiety, along with increases in positive affect and self-compassion. Although not hypothesized, and in contrast to the findings mentioned above, researchers concluded that the number of hours spent in mindfulness practices over the course of a MBSR program was not significantly related to changes in participant psychological distress and well-being (Shapiro et al., 2007). Shapiro et al., (2007) determined that the study was limited in terms of the amount of time spent in mindfulness practices and that the effects of the intervention may only appear when a critical threshold of practice time is met.

In comparison to Shapiro and colleagues’ (2007) study conclusions, Moore (2008) conducted a brief training in mindfulness with doctoral students in a clinical psychology program. The researcher hypothesized that brief mindfulness exercises could facilitate the understanding and development of mindfulness in time-limited environments. A repeated measures design showed a significant increase in overall mindfulness abilities ($z = 1.74$, $N - Ties = 10$, $p = .04$, one tailed) for participants, at the end of the course than at the beginning. A significant difference was found ($z = 2.60$, $N - Ties = 10$, $p=.01$, one tailed) in participants’ ability to observe internal phenomena such as thoughts, emotions, and physical sensations in comparison to the pre-test measures. Additionally, a significant difference was found on the self-kindness subscale ($z = 1.99$, $p=.04$, one tailed).
N - Ties = 8, p = .02, one tailed) wherein participants’ reported to be higher on self-kindness after completing the course. However, no significant differences were found in the pre and post measures on the perceived stress measure.

Lastly, a study by Lykins and Baer (2009) assessing the psychological functioning of long-term practitioners of mindfulness meditation showed that long-term meditators reported to be more mindful in their daily lives and scored significantly higher on several adaptive characteristics (e.g., reflection, compassion, well-being) than non-meditators. After controlling the sample population on demographic variables such as age, education, and work experience in the mental health field, researchers found that long-term meditators differed significantly on behavioral self-regulation, which is directly related to elevated levels of psychological well-being. Meditators also showed significantly low scores on measures assessing fears of losing control over emotions (such as those related to anger, depression, anxiety) and cognition-related variables (such as rumination) (Lykins and Baer, 2009) when compared to non-meditators.

From the findings mentioned above, it can be determined that the practice of mindfulness has sound effects on counseling professionals’ psychological health and well-being and is irrefutably a relevant wellness tool for counseling professionals. As a result, the current study was designed to reinforce the practice of mindfulness for counseling practitioners, more importantly for graduate counseling students getting trained as future mental health professionals. The study described how practicing Zen MM significantly affects the psychological well-being (i.e. decreases stress levels) of graduate counseling students and better prepares them for the clinical demands of the profession as they learn and apply this wellness approach in their repertoire.
Stress in Counseling Students and Practitioners

Empirical evidence suggests that psychological impairments affect a number of direct service mental health providers at some point in their careers (Shapiro et al., 2005; Shapiro et al., 2007; Greason & Cashwell, 2009). Increased stress levels lead to negative consequences such as depression, emotional exhaustion and anxiety (Kemeny et al., 2012), psychosocial isolation, decreased job satisfaction, reduced self-esteem (Butler & Constantine, 2005), disrupted personal relationships, and loneliness (Pruitt & McCollum, 2010). Ultimately, stress may affect the professionals’ attention and concentration and, in turn, negatively affect the ability to build a strong therapeutic alliance with clients (Greason & Cashwell, 2009). Due to the nature of the profession, counselors have an increased vulnerability for experiencing various kinds of emotions, which may lead to emotional exhaustion (Roach & Young, 2007). In a therapeutic setting, counselors experiencing stress may become overly involved in their own internal dialogue and be easily distracted by it, losing focus of the present moment. There could be instances when a counselor may focus exclusively on the client’s narrative and get enmeshed in it, overlooking the feelings originating from the client’s inner world (Greason & Cashwell, 2009).

Taking into consideration the process of empathic attachments and perpetual nature of counselors to care for their clients, self-care can become challenging due to depletion of internal resources (Young & Lambie, 2007; Roach & Young, 2007). Literature supports that if counselors fail to incorporate wellness strategies in their repertoire, they are at high risk of impairing their clinical abilities (Young & Lambie, 2007) and may experience burnout (Roach & Young, 2007). Therefore, it is essential for
counselors to find coping mechanisms to manage extreme levels of stress and emotions pertinent to the clinical nature of counseling.

**Effects of Mindfulness on Student Counselors’ Stress Levels**

Scholars studying the effects of meditative techniques amongst mental health professionals suggest that regulating stressful emotions enhances an individual’s emotional susceptibility and eventually reduces occupational burnout (Roach & Young, 2007). Additionally, a growing body of research emphasizes the fact that practicing meditation techniques reduces stress levels and enhances mindfulness (present moment awareness). The state of mindful awareness leads to the overall well-being of counselors in addition to the nurturance of their physical health (Carmody & Baer, 2008; Kemeny, et al., 2012). Both quantitative and qualitative studies on self-care and stress management strategies for mental health counselors suggest several benefits that align with the professionals’ holistic well-being and ultimately strengthen their professional skills, as a result of meditative practices (e.g., Shapiro et al., 2007; Gutierrez, Conley & Young, 2016).

Shapiro and colleagues (2007) conducted a study to examine the effects of a mindfulness-based program as a self-care approach for mental health therapists in training. The purpose of the study was to determine the associations between the type and amount of mindfulness practice performed and the wellness outcomes (Shapiro et al., 2007). The study was conducted using a nonrandomized, cohort-controlled design. Participants were recruited from a master’s level counseling psychology program. The intervention group went through a 10-week stress management course using the MBSR. The course incorporated mindfulness-based meditative practices. The intervention
included 2 hour-long sessions during which the trainees practiced the following: (a) sitting meditation, attending to the sensations of their breathing; (b) body scan, observing the physical sensations by intentionally moving their attention from their head to toes; (c) yoga postures and stretches to enhance muscular strength and flexibility, so they are able to remain seated for extended periods of time; (d) a guided loving-kindness meditation to inculcate compassion towards self and others and, (e) informal practices to bring mindfulness to their everyday life (e.g., mindful eating, mindful walking). The control group was designed to meet the structural standards and instructor attention of the intervention group (Shapiro et al., 2007). Unlike the intervention group, the participants of this group did not receive any experiential stress management activities and all instruction was didactic in nature. A mixed factorial analysis of variance found a significant improvement for participants in the MBSR program. They reported decreases in perceived stress ($p > .05$; $M = 18.36$, $SD = 5.15$), negative affect ($M = 2.55$, $SD = 1.01$) and anxiety levels, along with an increase in positive affects ($M = 5.45$, $SD = 0.94$) and self-compassion ($M = 20.92$, $SD = 3.84$) (Shapiro et al., 2007). Researchers concluded that mindfulness practices are not only beneficial for alleviating stress and negative effects of rumination, but also enhance the ability to regulate emotional states, imperative in warding off depressive conditions. There have been relatively few attempts to incorporate mindfulness-based stress management interventions in higher education curricula (Bush, 2011; de Bruin, Meppelink, & Bögels, 2015). Lately, this trend is changing. An integration of mindfulness in academia is serving a two-fold advantage. First, university students who practice mindfulness skills are able to develop better coping skills for stressful personal states arising due to intense clinical or educational
work (e.g., Shapiro et al., 2007). Second, as these graduate students learn and practice mindfulness techniques, they may be better able to utilize these skills with their students or clients who are facing difficulties in anxiety, social incompetence, and attention disorders (Haydicky et al., 2012).

Although counselor education programs emphasize the importance of self-care, there is very little room for direct instruction of such strategies. Typically, students are encouraged to take individual responsibility of their wellness outside of the academic curricula. To gauge the effect of mindfulness on the stress levels in educational counseling and special education graduate students, Tarrasch (2015) developed a two-semester training course as part of their academic curricula. The course’s primary components were based on the researcher’s 25 years of practicing meditation and 8 years of teaching and researching its effects. The researcher hypothesized that a qualitative review of students’ personal experiences would reveal, (a) an enhanced experience of meditation, (b) improved coping skills when dealing with conflict, anxiety and stress, (c) a calm and wholesome environment of development, (d) increase in students’ ability to implement curricula into practice. Participants for Tarrasch’s (2015) study were enrolled in a two-semester master’s level practicum course. All students (n = 19) were females (M = 30.4 years, SD = 4.02) and most did not have any past experience in the field of meditation. During the first semester, the students learned the theoretical grounds of meditation research and its applicability; the methodologies needed for understanding the assessment of various effects of meditation (e.g., the FMRI – functional magnetic resonance imaging); learned and practiced mindfulness exercises for at least 20 minutes during class time. The techniques included acknowledging the bodily sensations as they
arise, focusing on the sensations of the breath from the nostrils to the abdomen, and to the back. Then students learned non-judgmentally witnessing the thoughts as they arise, labeling them (e.g., a thought representing a feeling or emotion) and then returning back to the breath (Tarrasch, 2015). Other techniques included body-scan exercises, mindful eating, walking meditation, basic yoga training, and visualizing a safe, strong and healthy place of inner development. Students were asked to practice the techniques for 5-20 minutes at home.

During the second semester, the students performed practical fieldwork by incorporating meditation in their teaching and counseling roles. Research participants taught meditation to small groups of 10-11-year-old children under the direct supervision of the primary investigator (Tarrasch, 2015). Each session included at least three different meditation exercises based on mindfulness (e.g., mindful eating, walking meditation, and breath awareness) with an aim to increase children’s awareness of their feelings, thoughts, and the physical body. Participants were asked to record their experiences in daily journals, addressing any obstacles that arose during the practice, reflect on each week’s contemplative experience, and jot down any insights (both positive and negative) from observing their thoughts and sensations (Tarrasch, 2015).

Participant journals were analyzed using a thematic analysis, grounded in social constructionist framework. Results of the qualitative analysis included the following themes, (i) the process, (ii) experience, and (iii) outcomes of the present study. Because of the lack of experience or interest in meditation, a significant number (37%) of student journal entries revealed negative notions about the process of meditation at the beginning of the course. Most students (95%, n = 18) described difficulty in practicing the
techniques and expressed it to be very demanding, especially during the first 2 months. A student’s reflection noted, “It was very difficult to persist...In class I enjoy myself, but at home it’s pure misery...I can never manage longer than few minutes” (Tarrasch, 2015, p. 1327). As the program evolved, a vast majority of students (95%, n = 18) described the experience to be informative and meaningful (Tarrasch, 2015). A student shared, “I started feeling a significant change, I knew there was in me a desire for change, that I could take what I learned from meditation and use it to change my daily experience” (Tarrasch, 2015, p. 1327).

Finally, the outcome measure reported benefits in several different areas (e.g., awareness of actions, thoughts and feelings, and better coping mechanisms for stress). A common theme reported by a large number of students (53%, n = 10) was reduction in anxiety and stress. Students felt calm, more relaxed and organized in their daily functioning towards final phases of the program (Tarrasch, 2015). Consequently, a synopsis of the present study suggests that a year-long mindfulness course showed initial attitudes of struggle (both positive and negative), difficulties in finding appropriate conditions to meditate, turning points (change in attitudes) midway through the program, and ultimately positive and long-lasting outcomes of greater self-awareness, reduced stress, clarity of thoughts and better relationships (Tarrasch, 2015).

The studies mentioned above incorporated mindfulness meditations (MM) as well as mindfulness-based interventions (MBIs) to depict changes in therapist trainees’ stress levels. Both techniques (i.e. MM and MBIs) have a common link of “mindfulness” in the course of the intervention. Therefore, it is reasonable to state that mindfulness helps alleviate stress levels in students training to become future mental health practitioners,
over and above it supports their psychological health and well-being. Relatively few of these studies have looked at graduate counseling students and the impact of mindfulness on their stress levels (e.g., Shapiro, Brown, & Biegel, 2007; Tarrasch, 2015). Based on these findings, it is expected that similar emotional and psychological results can be expected if graduate counseling students are given training in mindfulness meditations (e.g., Zen meditation). Consequently, this study illustrated the effects of a particular form of MM (i.e. Zen MM) to note significant determinants of the practice on counseling students’ stress levels training in a CACREP program.

**Effects of Mindfulness on Student Counselor’s Attention Span**

A central component of mindfulness meditation is present moment awareness (Kabat-Zinn, 1990). Researchers often describe this concept as a non-elaborative awareness of, and attention to, the internal and external experiences of a practitioner (Bishop et al., 2004; Brown & Ryan, 2004). Mindfulness based interventions have a longstanding history of demonstrating positive health-related outcomes for mental health practitioners (e.g., Davis and Hayes; Shapiro et al., 2007). However, very limited research studies have focused on how these interventions affect the basic cognitive processes, such as attention, memory, or learning of therapists in training (see Greeson & Cashwell, 2009). Maintaining undivided attention in a counseling session is pivotal for professionals. As stated previously, attention is connected to the notion of therapeutic “presence” in counseling literature (Greeson & Cashwell, 2009). Studies reviewing the nature of mindfulness practices and therapist attention levels are noted below.

**Study One.** McCollum and Gehart (2010) conducted a qualitative study by incorporating mindfulness exercises for therapists in training. The students were assigned
readings on the practices of mindfulness, in-class exercises, and home practices for which they were asked to keep journals/logs. The exercises included developing a minimum of 10-minutes focus on breathing patterns, mantras (religious, spiritual, or nonspiritual in nature), walking meditation, or any other form of preferred mindfulness practice (e.g., yoga, Qigong). Students reflected on their practice by journaling about its effects in their personal as well as professional life (McCollum & Gehart, 2010). In addition to the practice exercises, McCollum & Gehart (2010) provided the theoretical base and knowledge support through lectures and class discussions. Using an opportunistic sampling method, journal entries of 13 students were used as data for this study. All students were enrolled in master’s level classes and had just begun clinical rotations. Researchers asked students to reflect on the following questions while writing in their journals over the week, (i) What interventions helped you practice mindfulness this week? If one did not practice, what were the impediments? (ii) Describe your daily routine of mindfulness practices (iii) Note some strategies that you used for returning to present moment awareness (iv) Describe the levels of your patience during the practice (v) Describe any insights that came up while maintaining focus during the seated practice (vi) Describe the effects of practice in your daily life and professional work (vii) Describe any changes, developments, or insights in the nature of therapeutic presence as a result of daily mindfulness practice (McCollum & Gehart, 2010).

An analysis of the journal entries showed a rich and varied theme of mindfulness practices for therapists in training. Some of the important inferences that the researchers drew from student experiences were, (a) therapeutic presence: students reported being able to pay undivided attention to the experiences of their clients; (b) developed
awareness: they were able to bring their attention to their inner experiences during the therapist-client interaction, in addition to the experiences of their clients; (c) became centered: students reported being calm and composed in situations when difficult or challenging material was shared; (d) slowed down: researchers noted that students were able to slow down their perceived inner pace or hurry to help clients and eventually were able to create boundaries between personal and professional life (McCollum & Gehart, 2010).

**Study Two.** Keane (2014) conducted a mixed methods study to determine the influence of therapist mindfulness practice on psychotherapeutic work. In phase 1 of the study, therapists (N= 40) from a variety of psychotherapeutic backgrounds completed a survey measuring mindfulness and its effects on the empathic capacity for professionals in their work environments (Keane, 2014). In phase 2 of the study, a sub-sample of 12 participants was recruited for face-to-face interviews. During the qualitative analysis of the study, the researcher identified the following recurring themes as a result of mindfulness practice, (a) increase in self-reported empathy, (b) enhanced attention and awareness, (c) the ability to be present and attune to client experiences, and (d) increased awareness of self-care (Keane, 2014).

The purpose of the above-mentioned study was to investigate the influence of mindfulness practices on experienced meditators’ work abilities (Keane, 2014). The selected research design was implemented to understand the nature of mindfulness practices from a qualitative as well as quantitative lens, and also to fill methodological gaps resulting from research strategies conducted in the past (Keane, 2014). The researcher analyzed the data using Pearson Product-Moment Correlations and t-tests for
phase 1. Significant positive correlations were reported between years of meditation experience and self-reported mindfulness; mindfulness and self-reported empathy; and negative correlations between personal distress and empathic concern. Additionally, all participants (N=40) reported that mindfulness significantly affected the therapeutic nature of their work, out of which 90% agreed that it enhanced their levels of attention and self-awareness with clients, 80% agreed that it enriched their abilities of being empathic towards clients, and 98% reported that the practice helped them build resilience to the emotional distress presented in sessions (Keane, 2014). A small percentage of participants (N=7) reported that the practice presented challenges for them in their work functioning. When interviewed, a participant from this particular group reported, “mindfulness practice can lead to feeling too passive with certain clients where I needed to be more directive” (Keane, 2014, p. 694).

Other interview themes presented benefits of heightened attention and awareness, wherein two-thirds of the participants reported experiences such as, “being completely attuned to client experiences”; “present in sessions”; “ability to listen deeply”; and “capacity to relate effectively” to clients (Keane, 2014, p. 693).

Besides the findings reported above, a sub-theme of therapist self-care also emerged from the study and the participants stated that mindfulness practice was a significant contributor to their own occupational health-related activities (Keane, 2014). In addition, Keane (2014) suggested that a central and critical theme that emerged because of his qualitative analysis was an increase in participant attention levels and self-awareness when working with clients.

Considering the outcomes of research studies presented in this section, it can be stated that mindfulness meditation can help a therapist be present, attuned, listen deeply,
and be able to discern emotional reactions in a therapeutic encounter with clients (Keane, 2014). One therapist/participant in Keane’s study described the ability to understand clients more deeply as follows:

“Mindfulness meditation uses this fine beam of attention in a narrow focus and then broadens to a wider focus. When you are doing that deliberately with a client, your capacity to explore their internal geography improves. You really become a much more sophisticated cartographer.” (Keane, 2014, 695). Thus, the argument remains that MMs enhance individual well-being by decreasing psychological distresses and increasing skills that make them more attentive and present. Consequently, the current study examined the effects of MM on student counselors’ attention span.

**Purpose of Study**

The findings of the above stated research studies suggest that the practice of mindfulness (both MMs and MBIs) have been noticeably successful in reducing stress levels in counselor trainees and in enhancing attention spans. Based on the research mentioned above, it can be inferred that the reduced stress levels lead to better health and well-being for trainees. Additionally, enhanced attention and awareness leads to a better therapeutic presence between the counselor and the client (Geller, Greenberg, & Watson, 2010).

The use of mindfulness is rapidly increasing in mental health interventions (e.g., MBSR, MBCT) and is recently being incorporated in college classrooms for stress management. Maintaining attention is crucial for student counselors in their initial training as it sets the foundation for their development as a future clinician. Undivided attention can be maintained in a session when student counselors are psychologically
well, stress free, and able to discern factors that benefit their clients. Considering the importance of stress management for counseling students and that of maintaining attention in a counseling session, the primary researcher selected (a) stress and (b) attention as two study variables for this study.

In addition to examining stress and attention, the researcher selected (c) self-compassion as a study variable as well. In the last decade, mental health care literature has seen a growing interest in the construct of self-compassion and its benefits in promoting overall well-being in clinically distressed individuals (e.g., Neff, 2011; Neff & Germer, 2013). Although self-compassion has existed in Eastern philosophical thought for centuries, its relevance in Western psychology is gaining momentum only now (e.g., Neff, Rude, & Kirkpatrick, 2007). Studies examining the benefits of self-compassion to enhance psychological wellness amongst college students, specifically counselor trainees are extremely sparse. Therefore, the primary researcher of the current study chose to examine the effects of Zen mindfulness meditation on student counselors’ stress, attention, and self-compassion levels to discover positive changes in each of these variables, ultimately aiming to enhance their individual wellness.

**Mindfulness and its relation to Self-Compassion**

Mindfulness is the practice of being aware in the present moment in a clear and balanced manner (Kabat-Zinn, 1994; Brown & Ryan, 2003). It is a skill that involves cultivating an open, accepting, and non-judgmental stance to whatever thoughts, emotions, and sensations arise in the moment (Kabat-Zinn, 1994). Both mindfulness and self-compassion originate from Buddhist philosophies and involve tuning towards one’s painful experiences with acceptance (e.g., self-kindness) and non-judgmental awareness.
Mindfulness is an essential component of the operational definition of self-compassion (Neff, 2003). Neff and Dahm (2014) suggest that it is important for individuals to first turn inwards and get in touch with their distressing thoughts before they learn how to offer compassion to themselves. While it might seem that the pain or stress arising from a distressing situation is obvious, individuals tend to refrain from acknowledging the intensity of this pain. This leads to them being unaware of the present moment and in the pitfall of problem solving (Neff & Dahm, 2014). Mindfulness teaches how not to get enmeshed in the trap of negative thoughts or get swayed by aversive reactions that arise from them (Bishop et al., 2004). By recognizing that the thoughts arising from a distressing situation are just – thoughts and feelings – and not our ‘actual’ selves, one is able to cultivate a moment of mindfulness. Self-compassion is nurtured and expanded in these moments of mindfulness (Neff & Dahm, 2014). Thus, mindfulness and self-compassion, although distinct, overlap each other and engender one another.

Self-Compassion: An Overview

In traditional terms, compassion has been explained as being touched by another’s suffering and opening one’s awareness to the pain of others through feelings of kindness and humanity (Goetz, Keltner, & Simon-Thomas, 2010). Ingrained in Buddhist philosophy, compassion toward the self, or self-compassion, is an individual’s ability to be emotionally supportive towards the self during times of distress (Yarnell & Neff, 2013). It is compassion directed inward, relating to the self as the object of focus and offering care and concern to the self (Neff, 2003). It involves being open to one’s suffering, owning the suffering, and healing it with kindness. Drawing from this perspective, Neff (2003) developed three components of self-compassion that entwine...
each other, (a) self-kindness versus harsh self-judgment, (b) a sense of common humanity versus feelings of isolation, and (c) mindfulness versus over-identification with painful thoughts and emotions.

**Components of Self-Compassion**

**Self-Kindness.** Self-kindness refers to an individual’s tendency to accept their flaws and imperfections (Neff, 2003). Rather than obstinately criticizing oneself for being inadequate, this element of self-compassion encourages individuals to be gentle, understanding, and non-judgmental towards each other and themselves (Neff, 2003). More importantly, it inspires the individual to use a soft, supportive, and caring tone of language towards the self.

**Common Humanity.** The second central concept of self-compassion is common humanity, which explains and accepts that all individuals fail; are prone to making mistakes; and will, at some point, feel incompetent (Neff, 2003). Self-compassion views these imperfections through the lens of a shared human experience, that is, we all suffer and this suffering is inevitable. Therefore, instead of perceiving weaknesses as unusual, self-compassion asks an individual to see weaknesses as a common human experience to be shared by all (Neff, 2011).

**Mindfulness.** The third component of self-compassion, mindfulness, is the present moment awareness of one’s experiences. Neff (2003) distinguishes this concept as the ability to value suffering in order to extend compassion toward the self. Mindfulness encourages an individual to acknowledge and experience a feeling of pain, guilt, or trauma as it is, rather than constantly ruminating over its origins (Neff 2003, Neff, 2011). Mindfully attending to any feeling, whether positive or negative, prevents an
individual from getting carried away in the bewildering narratives of the irrational mind, a state that Neff (2011) refers to as over-identification.

**Common Misunderstandings of Self-Compassion.** As determined from the research cited above, self-compassion has proven to be a beneficial construct for refining an individual’s well-being on various levels of impairment. However, before embarking further, it is important to understand some of the commonly held misconceptions of self-compassion. One common misconception is the belief that self-compassion is self-pity. Often times, distressed individuals tend to look for constant self-appraisal by engaging in pitiful remarks toward themselves (Brunner et al., 2014). In a state of self-pity, such people tend to exaggerate their problems and forget that many other individuals have experienced similar situations or feelings (Neff, 2011). They are overly critical and often play the victim (e.g., the ‘why me’ belief system). Self-compassionate individuals, on the other hand, have a greater sense of perspective and universality toward their suffering and do not as readily exaggerate the extent of their personal distress (Neff & McGhee, 2009; Neff, Rude, & Kirkpatrick 2007). They have a clearer recognition of their shortcomings and they invite compassion for their failings and inadequacies, so the need for self-verification is met (Neff, 2003). Self-compassion suggests that suffering is a shared human experience (Neff, 2003) making it impossible for self-compassion to be self-pity.

Another common misconception is the idea that self-compassion is self-indulgence, namely that by being compassionate toward the self, the individual becomes self-centered and excessively consumed by their own vanity (Neff, 2011). Where the practice of self-compassion strives to motivate individuals to navigate difficult times, learn from their mistakes and get in tune with their suffering, it has no connection
whatever with the perfectionistic tendencies of a self-centered individual (Neff, 2011). In comparison to self-indulgent individuals, “self-compassionate individuals aim just as high but aren’t as devastated when they don’t reach their goals” (Neff, 2011, p. 6). More concretely, self-compassion pushes an individual forward for the right reasons of health and wellness in contrast to the imprudent excuses of self-indulgence (e.g., I am not competent enough for this task and therefore, I am worthless).

**Benefits of Enhancing Self-Compassion in Student Counselors**

**Wellness and Positive Attitudes.** Researchers studying the relevance of self-compassion in Western psychology have found promising results (Neff, Rude, & Kirkpatrick, 2007). Neff and colleagues (2007) conducted a correlational study to determine the relationship between self-compassion and the positive aspects of wellbeing, namely, happiness, optimism, positive affect, wisdom, personal initiative, curiosity and exploration (Neff, Rude, & Kirkpatrick, 2007). The study also focused on determining the relationship between the five-factor model of personality development within the self-compassion framework. A participant pool of 177 undergraduate students (57 men; 120 women) were randomly assigned in groups of 30 and asked to fill out self-report questionnaires for the study measures. Students were given the self-compassion scale (SCS, Neff, 2003), which assessed their abilities on six different aspects of the construct: Self-Kindness (e.g., “I try to be understanding and patient toward aspects of my personality I don’t like”), Self-Judgment (e.g., “I’m disapproving and judgmental about my own flaws and inadequacies”), Common Humanity (e.g., “I try to see my failings as part of the human condition”), Isolation (e.g., “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the
world”), Mindfulness (e.g., “When something painful happens I try to take a balanced view of the situation”), and Over-identification (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”).

In addition, groups of students completed the following self-report instruments for the study variables, (a) wisdom (39-item Three-Dimensional Wisdom Scale [3D-WS], Ardelt, 2003), assessed individuals’ on their cognitive (e.g., “In this complicated world of ours the only way we can know what’s going on is to rely on leaders or experts who can be trusted”), reflective (e.g., “I always try to look at all sides of a problem”), and affective counterparts (e.g., “I can be comfortable with all kinds of people”); (b) personal initiative (9-item Personal Growth Initiative Scale [PGIS], Robitschek, 1998) assessed an individual’s active involvement in the change and development process as a human being (e.g., “If I want to change something in my life, I initiate the transition process”); (c) curiosity and exploration, (4-item, Curiosity and Exploration Inventory [CEI], Kashdan, Rose, & Fincham, 2004) measured information gathering tendencies of individuals (e.g., “Everywhere I go, I am out looking for new things or experiences.”); (d) happiness (4-item Subjective Happiness Scale [SHS], Lyubomirsky & Lepper, 1999), was measured using absolute and relative ratings. Participants were presented with brief statements on happiness and asked to describe which statements were representative of them in terms of happiness and unhappiness; (e) optimism (6-item Life Orientation Test-Revised [LOT-R], Scheier, Carver, & Bridges, 1994) included items such as “I’m always optimistic about my future”; (f) positive and negative effects (Positive and Negative Affect Schedule [PANAS], Watson, Clark, & Tellegen, 1988) assessed moods such as “upset”, “nervous”, “excited”, and “proud”; (g) and finally the personality characteristics were
measured using the standard 60-item NEO Five-Factor Inventory, Form S (NEO-FFI S; Costa & McCrae, 1992).

Results from a one-way ANOVA reported that self-compassion was positively correlated with the positive health and well-being constructs (e.g., optimism, happiness) examined in this study. In addition, the study found that self-compassionate individuals experienced more positive moods and less negative moods in general and that they had a strong correlation with reflective wisdom (individual capacity to develop self-awareness and insight); moderate relation to affective wisdom (feelings of kindness and sympathy towards others); and positive but non-significantly related to cognitive wisdom (ability to understand people and the outside world). Furthermore, the construct had a significant relation with personal initiative, in the sense that it motivated individuals to undertake changes needed for better productivity and fulfillment of life. Neff et al., (2007) explained this notion by stating that since self-compassionate individuals tend to be less self-critical, they are better able to acknowledge their weaknesses that need changing. This was an important outcome of the study as often times individuals tend to be reluctant about being self-compassionate, confusing it with self-indulgence (Neff et al., 2007). As theorized by Neff et al. (2007), while focusing purely on pleasure leads to self-indulgence, compassion towards the self involves desiring health and wellness, rather than pleasure per se.

**Individual Motivation.** Self-compassion has been directly tied to curiosity and exploration (Neff et al., 2007). This finding helped researchers affirm that self-compassionate individuals are more curious towards life as they tend to be intrinsically motivated, leaving less room for fear of failure when faced with challenging times (Neff
et al., 2007). Such individuals are more open and accepting towards oneself, leading them to being open and non-judgmental to the world in general (Neff et al., 2007). In terms of the five personality traits of the NEO-FFI, self-compassion was strongly associated with decrease in levels of neuroticism. This particular finding supported results from another study that determined the relationship between self-compassion and markers of maladjustment such as depression, anxiety, and rumination (Neff, 2003b). Self-compassion was also significantly correlated to agreeableness, proposing that the qualities of this trait such as being kind, connected, and emotionally balanced were directly associated with getting along with others and forming new connections. Finally, there was a significant link between self-compassion and conscientiousness, suggesting that self-compassionate individuals model responsible behaviors, confirming the original distinction of self-compassion versus self-indulgence (Neff et al., 2007).

One particular trait that did not show a strong association was openness to experience (e.g., aesthetic sensitivity, individual preferences, open-mindedness) (Neff et al., 2007). Researchers considered this finding to be surprising, given the non-judgmental nature of self-compassion (Neff et al., 2007). As a result, Neff and colleagues (2007) concluded that the trait of openness measures various personality characteristics (i.e. aesthetic sensitivity, individual preferences, etc.) and that these traits may be unrelated to self-compassion. Therefore, future research should examine separate facets of the personality traits measured by the NEO-FFI. In conjunction with the findings of the above study it can be determined that positive qualities of well-being (e.g., happiness, optimism, positive affect, wisdom, personal initiative, curiosity and exploration) as stated by Neff et al., (2007) are directly tied to a professional counselor’s role of therapeutic
endeavor and self-care. Therefore, it is essential that counselors maintain their personal wellness by compassionately viewing their sufferings before they embark on helping distressed individuals.

**Empathy.** Further research examined the link between self-compassion and concern for other’s well-being. Neff and Pommier (2012) assessed if an increase in self-compassion would affect an individual’s ability to be empathetic, value perspective taking, understand personal distress, be altruistic, and forgiving. A sample was drawn from three distinct populations: college undergraduates (N=384, Mean age = 20.92); older adults (N= 400, Mean age = 33.27); and individuals practicing Buddhist meditation (N= 172, Mean age = 47.49). All participants completed the following self-report measures, the 26-item Self-Compassion Scale (SCS; Neff, 2003a); the Compassion for Humanity Scale (CLS; Hwang, Plante, & Lackey, 2008); the Interpersonal Reactivity Index (IRI; Davis, 1980) used to measure perspective taking, empathic concern, and personal distress. Participants were also asked to complete the Rushton Altruism Scale (Rushton, Chrisjohn, & Fekken, 1981), a 20-item measure assessing pro-social behaviors towards others. Forgiveness was measured using the Heartland Forgiveness Scale (HFS; Thompson et al., 2005) and social desirability was measured using the Marlowe-Crowne Social Desirability Scale-Short Form (Strahan & Gerbasi, 1972). Researchers conducted a two-way MANOVA (Group x Gender) to determine any mean differences in variable scores. The results indicated a significant main effect of Group, $F(14, 1848)=21.13, p < .001$, and of Gender $F(7, 923) = 12.93, p < .001$; however, no significant interaction was found between Group and Gender.
Follow-up ANOVAS and post hoc analysis revealed significantly high levels of compassion for humanity, empathetic concern, perspective taking, altruism, and forgiveness in conjunction with high levels of self-compassion amongst undergraduate and community adults’ samples (p < .05). Community adults reported higher levels of empathetic concern and perspective taking, and scored low on personal distress in comparison to college undergraduates. Follow-up ANOVAS were used to determine results based on gender differences. Women indicated significantly higher levels of compassion for humanity, empathy, and forgiveness than men. Furthermore, years of meditation experience significantly predicted self-compassion (r= .33), compassion for humanity (r = .21), and perspective taking (r=.21). In conclusion, it was reported that self-compassion was not significantly associated with perspective taking, personal distress, and forgiveness. However, for community adults and meditators, it showed significance with all study variables (Neff & Pommier, 2012).

Research by Neff and Pommier (2012) confirmed that self-compassion was a strong predictor of the study variables (e.g., empathetic concern, compassion for humanity), but the nature of association differed according to gender and life experience of the sample population. Practitioners of Buddhist meditation revealed significantly high levels of self-compassion, which elevated the significance levels of other study variables, suggesting that individuals who habitually practice meditation present with greater abilities of being kind to self and others (Neff & Pommier, 2012). Researchers also noted that individual development (e.g., years of life experience) plays a vital role in the degree to which people show concern for suffering of self and others (Neff & Pommier, 2012). Current implications of the study show that gender differences related to self-compassion
are not consistent and vary from sample to sample. Overall, the main purpose of this study was to examine the relationship between self-compassion and other-focused concerns. The resulting patterns showed that being compassionate towards oneself increases individual tendency to care and show concern for others, although the strength of this relationship varies. Intimately tied to the role of a professional counselor are the values of compassion for humanity, empathetic concern, perspective taking, and altruism. Therefore, it can be concluded that enhancing the nature of compassion within oneself strengthens the basic qualities fundamental to the development of a mental health practitioner.

**Academic Performance.** Self-compassion training has been a popular evidence based approach for many millennial college populations. In a study conducted with female college students, Smeets, Neff, Alberts and Peters (2014) reported that self-compassion was positively related to college students adopting mastery-oriented goals over performance-oriented goals. Mastery oriented learning is one in which students set their own standards of achievement and understand that making mistakes is a meaningful process of learning. In contrast, performance oriented students focus on outperforming classmates to prove competence and avoid the fear of failure (Smeets et al., 2014). The participant sample in this study consisted of female psychology students (N= 52), who were asked to complete self-report measures, one week before and one week after the three-week intervention. The sample was randomly divided into two groups: the intervention group (N= 27), designed to teach self-compassion skills to participants and the control group designed to teach general time managements skills (Smeets et al., 2014). The researchers utilized several measurement tools to assess the following study
variables, (a) self-compassion (b) mindfulness skills: acceptance without judgment and non-reactivity towards inner experience; (c) life satisfaction; (d) social connectedness; (e) life orientation; (f) optimism; (g) self-efficacy; (h) mood; (i) rumination; and (j) worry.

Both interventions comprised of three group meetings over a 3-week period. During the self-compassion (SC) intervention, participants shared experiences of their self-critical voice; learned how to reprocess their difficult experiences using the three tenets - self-kindness, common humanity, and mindfulness; and practiced loving-kindness meditation to cultivate a benevolent attitude towards themselves and others (Smeets et al., 2014). In the time-management intervention, participants were taught effective skills to efficiently manage their time (e.g., keeping a log of daily activities with an estimated time spent on each activity).

A series of paired sample t-tests examined pre-post test changes of the study variables. Results revealed that the SC intervention group showed significant increases in self-compassion, mindfulness (acceptance without judgment and non-reactivity to inner experiences), life satisfaction, social connectedness, optimism, and self-efficacy, with a decrease in rumination (all ps > .05) (Smeets et al., 2014). However, the time management group only showed significance with optimism and life satisfaction (all ps > .05). To further determine the effectiveness of self-compassion with improvements in well-being, the researchers analyzed the study outcomes using a 2(group)x2(time) repeated measures ANOVA. In comparison to the control group, the SC group showed significantly greater gains in the study variables. As a result, Smeets and colleagues (2014) concluded that a brief intervention (3 weeks) can result in a 21% increase in levels of self-compassion and can also have positive results on the study participants, when
compared to an 8-week intensive intervention depicting a 43% increase in self-compassion.

**Life-Satisfaction.** Another study reported that practicing self-compassion with college students enables them to face challenges pertinent to student life with more optimism and an increased level of effectiveness (Terry, Leary, & Mehta, 2012). Terry et al., (2012) evaluated the significance of self-compassion amongst first-year international college students to determine if it moderates feelings of homesickness, depression, and decision satisfaction. The researchers predicted that self-compassion would be a significant contributor of low levels of depression, homesickness, and higher satisfaction towards the decision of attending a university overseas (Terry et al., 2012). More importantly, the practice would support students in the two domains typically related to adjustment in college life – social and academic pressures (Terry et al., 2012). A pool of 119 undergraduate students was randomly selected via email. All participants were asked to complete self-report measures to assess levels of self-compassion (SC), depression, homesickness, and life satisfaction. To ensure that study participants’ immediate experiences in the new school environments does not create a bias in their self-compassion levels, the SC questionnaires were emailed to them 4-6 weeks prior to their arrival on campus. Round two of the SC questionnaire was completed few weeks before the end of the semester, in addition to other measures reported above.

The results showed that self-compassion correlated negatively with depression and homesickness, and positively with the decision to attend university (Terry et al., 2012). Since the researchers were interested in determining the interaction between self-compassion and the experience of difficulties predicted (homesickness, depression, and
decision to attend college), they analyzed the data using a hierarchical multiple regression analyses in which the difficulties were used as outcome variables (Terry et al., 2012). Study participants showed the following interactions for the outcome variables, (a) homesickness: high self-compassion reported high levels of satisfaction with social and academic life and less homesickness; low self-compassion levels suggested a decrease in social and academic life and increase in homesickness. In addition, it was noted that self-compassion buffered participants dissatisfied with their social lives, against homesickness, however, homesickness did not vary as a function of their satisfaction with their academic life (Terry et al., 2012). (b) Depression: multiple regression analyses predicting depression from satisfaction in social life and self-compassion, showed self-compassion to have a significant main effect (Terry et al., 2012). (c) Decision satisfaction: an interaction of high self-compassion and social life satisfaction showed that students were satisfied with their decision to attend an overseas university. However, the interaction did not significantly predict student decisions to attend university. (d) Social and academic predictors: since these two outcomes were correlated, researchers wanted to know if the moderating effects of self-compassion were specific to one domain over the other. The findings reported that the significant interaction of satisfaction with social life by self-compassion on homesickness, remained significant while controlling for satisfaction with academic life. The significant interaction of satisfaction with academic life by self-compassion predicting homesickness, remained significant when controlling for satisfaction with social life (Terry et al., 2012).

Thus, it can be noted that self-compassion may be a particularly useful tool for international students entering CACREP accredited counseling programs. Students who
treat themselves kindly when under pressure (self-kindness); recognize that they are not alone in feeling homesick and that it is a natural, universal experience (common humanity); are able to explore their emotions and feelings with equanimity (mindfulness); and finally those who are able to navigate challenges (social and academic) are more successful in foreign college environments than those who are unaware of the skill.

**Summary**

Based on the research findings mentioned above, it can be noted that enhancing self-compassion in individuals is directly related to positive health and wellbeing (e.g., increase in optimism, happiness, etc.) (Neff et al., 2007). In addition, self-compassionate individuals are less prone to experiencing negative moods, are reflective in nature (i.e. develop self-awareness and insight), and are able to develop feelings of kindness and humanity towards others as they learn to care for themselves (Neff et al., 2007). More importantly, research suggests that self-compassion enhances an individual’s ability to be empathetic, to understand other’s distress and value perspective taking (Neff and Pommier, 2012), which are fundamental to a counseling professional’s role. Amongst student populations, self-compassion is negatively related to psychological distresses of depression and homesickness and positively to attaining college success (Smeets, Neff, Alberts and Peters, 2014). Taking these qualities of self-compassion into consideration, the researcher of the current study chose to examine the efficacy of self-compassion as a predictor of enhancing well-being amongst graduate student counselors.

**Study Instruments**
For the purpose of this study, the primary researcher examined various self-report measures to assess their suitability with the study’s constructs - a) stress, b) attention span, and c) self-compassion.

**Stress Scales:**

**Perceived Stress Scale - 10.** The Perceived Stress Scale (PSS)-10 developed by Cohen, Kamarck, and Mermelstein (1988) is the most popular measure used to assess self-reported individual distress. The measure evaluates the degree to which an event is appraised as stressful for a particular individual, how the event might provoke stress, and the intensity with which the individual experiences stress. Items are designed to distinguish factors that individuals find unpredictable, uncontrollable, and overloaded in their lives (Cohen et al., 1988). The test questions can be applied to a diverse sample set and do not hold any concrete specifications to a particular group or sub-group populations (Cohen et al., 1988). A six, ten, and fourteen item assessment that uses Likert scales was developed to measure a respondent’s level of stress a month prior to when the test is taken. High scores on the PSS have been linked with failure to quit smoking, failure to control diabetes, and greater vulnerability to life-event-elicited depressive episodes (Cohen et al., 1988).

Cohen et al. (1983) tested the validity of the scale with three samples, two from college student populations and a heterogeneous sample of individuals enrolled in a smoking cessation program. The coefficient alpha reliability for three sample groups were .84, .85, and .86, respectively. Additionally, the test-retest correlation was $r = .85$ for the two college sample groups retested after two days, and $r = .55$ for the group of smokers retested after a gap of six weeks. To determine the evidence of concurrent and
predictive validity of the PSS-10, Cohen and colleagues (1983), calculated separate correlations for males and females and found no significant differences for the subgroups at the .05 alpha level. Furthermore, the researchers compared the PSS to the College Student Life-Event Scale, the Center for Epidemiologic Studies Depression Scale, the Cohen-Hoberman Inventory of Physical Symptoms, and the Social Avoidance and Distress Scale. All correlations of the aforementioned measurement scales were significant with the PSS-10. Conferring to these findings, Cohen et al. (1983), concluded that the PSS-10 is an adequate measure of stress and that it has sufficient internal and test-retest reliability. The PSS-10 also proved to be a better predictor of health related outcomes in comparison to the two life-event scales assessed in the correlational analysis.

**Stress Overload Scale.** The Stress Overload Scale (SOS) was recently developed by Amirkhan (2012) with the goal of achieving a more accurate measure of stress. A structural analysis of items of the SOS reflected two kinds of overload: (a) event load, accumulated due to life’s increasing demands and (b) personal vulnerability, the likelihood of getting influenced by those demands (Amirkhan, 2012). To measure the scale’s construct validity Amirkhan (2012) recruited 310 individuals from various public settings. Participants were asked to complete the SOS on site and received a mailer 24 hours later with validation indices and instructions to complete another set of the measure. Zero-order correlations illustrated that all SOS scores correlated significantly with all validation measures, for example, major life events were measured by the Social Readjustment Rating Scale (Holmes and Rahe, 1967); depression was assessed using the Center for Epidemiological Studies Depression scale (Radloff, 1977); general illness was evaluated using the General Health Questionnaire (Goldberg, 1972). In sum, high scores
accumulated on the SOS showed significant relationships with depression and general illness symptoms, and not with social desirability (Amirkhan, 2012).

The reliability tests of the measure suggested that a shorter measure would be more reliable, regardless of high internal consistency (.95) for the SOS as a whole (Amirkhan, 2012). Even though the goal to construct a subjective stress measure was highly successful in terms of its internal consistency, the aim to concretize the subjective items was only partially met (Amirkhan, 2012). Additionally, even though the test-rest reliability of the SOS exceeded the average for most subjective scales, it was comparatively less than the objectives scales instrumented in the past (Amirkhan, 2012). The SOS was also tested for construct validity. Unlike most other stress measures, Amirkhan (2012) implied a journal technique rather than a standardized criterion measure for this part. Participants were able to record physical complaints in their own words on a daily basis. Significant zero-order correlations were found between SOS and other stress measures, confirming its construct validity (Amirkhan, 2012). Considering the predictability of stressful experiences, Amirkhan (2012) concluded that SOS is a better measure for identifying at-risk individuals than current stress measures. The predictive ability of the scale across a broad demographic spectrum makes it suitable for application in community health work. However, it was noted that the measure is not a sound instrument for moment-by-moment fluctuations in stress levels (Amirkhan, Urizar & Clark, 2015). Moreover, it is a subjective measure and will not be useful in identifying the type or intensity of an individual stressor in a person’s life (Amirkhan, Urizar & Clark, 2015). As a result, a brief stress scale (e.g., the PSS) would be a better choice to administer in trauma related situations than the 30-item SOS.
**Dundee Stress State Questionnaire.** The Dundee Stress State Questionnaire (DSSQ) was developed by Matthews, Joyner, Gilliland, Huggins, & Falconer (1999). The DSSQ reflects the multidimensionality of stress states - arousal, mood, and fatigue. It was designed to measure affective, motivational, and cognitive changes through a self-report format (Matthews et al., 1999, 2002). Psychometric and experimental evidence of the DSSQ identifies three broad higher-order state factors of stress: task engagement, distress, and worry (Matthews et al., 2002). Task engagement refers to interest in a particular task and its accompanying states of energetic arousal, motivation, and concentration. Distress occurs when an unpleasant mood or tension leads to a decline in confidence and perceived control of a task. Worry interlaces with self-focused attention, self-esteem, and cognitive abilities to complete the recognized task (Matthews et al., 2002). Matthews et al., (1999, 2002) supported this taxonomy by distinctly addressing the fact that stress state factors affect task performance, personality factors, and situational cognitions.

Validity studies of the DSSQ have shown that it takes into account the environmental stress factors associated with higher-order states and therefore it is an ideal instrument to measure immediate stress (Szalma et al., 2004). Additionally, it has proven to be a reliable measure for assessing subjective stress states (Szalma et al., 2004). However, the DSSQ is widely criticized for its length (Helton, 2004). The most recent version of the DSSQ consists of 90-items and is administered pre and post intervention, therefore, participants have to respond to a total of 180-items. The length of the instrument increases the possibility of participant fatigue in experimental settings, jeopardizing the accuracy of stress states (Helton, 2004).
Comparing PSS-10’s psychometric qualities, its length, trustworthiness and validity with other self-report measure of stress, (e.g., SOS, DSSQ) it was determined that the consistency with which PSS-10 addresses how stress contributes to pathological illnesses was on par with the rationale of this study. As a result, the primary researcher found it most acceptable to use PSS-10 as the stress measure for this current study.

Attention Scales:

**Cognitive and Affective Mindfulness Scale.** The Cognitive and Affective Mindfulness scale (CAMS; Kumar, Feldman, & Hayes, 2005) was created at the time when no other scale with empirically sound psychometric qualities was available for measuring mindfulness. CAMS consists of 18-items designed to measure the four broad characteristics of mindfulness, described by Kabat-Zinn (1990) as: 1) the ability to manage attention, 2) orientation of present moment experience, 3) awareness of the experience, 4) non-judgmental attitude towards the immediate experience. CAMS demonstrated sound construct validity, however its internal consistency was low and the items lacked the ability to directly assess the key aspects of mindfulness (Feldman, Kumar, Galyardt, & Hayes, 2002). Feldman, Hayes, Kumar, Greeson, and Laurenceau (2007) undertook the revision of CAMS with the purpose of, a) further analyzing the measure for its psychometric qualities and refining its item content, (b) consistent to CAMS, create a measure that is comprehensive in nature, brief, and uses everyday language to measure the four traits of mindfulness mentioned above (Feldman et al., 2007). As a result, the CAMS-revised (CAMS-R) was developed, whose psychometric qualities were tested using 548 (two combined sample groups) university students. Participants were asked to rate their responses on a Likert scale of 1(rarely/not at all),
2(sometimes), 3(often), or 4(almost always). Based on the results of preliminary and confirmatory structural equation models, a 12-item scale was retained that affectively measured the four domains of mindfulness (attention, present-focus, awareness, acceptance/non-judgment) (Feldman et al., 2007). The 12-items of the CAMS-R demonstrated internal consistency with alphas of .74 and .77 in each of the two samples.

In another study, associations of CAMS-R were examined with other existing measures of mindfulness (e.g., Mindful Attention & Awareness Scale [MAAS]; Freiburg Mindful Inventory [FMI]). An ethically diverse sample of college students was recruited for the validation of the CAMS-R. Participants completed the CAMS-R and self-report questionnaires assessing distress, well-being, and emotion-regulation. Results reported that CAMS-R strongly correlated with the total scores of mindfulness on the MAAS and the FMI (Feldman et al., 2007). Besides, higher mindfulness scores reflected lower distress scores, lower levels of maladaptive emotion regulation, and higher well-being scores (Feldman et al., 2007). Taken together, the results support evidence of convergent and discriminant validity of the CAMS-R (Feldman et al., 2007). Since the total score of CAMS-R were strongly correlated with other measures of mindfulness, Feldman and colleagues (2007) concluded that the revised scale showed concrete evidence for convergent validity. In sum, CAMS-R captures the constructs of mindfulness adequately and has a larger variance of depicting its four traits (attention, present-focus, awareness, acceptance/non-judgment) (Feldman et al., 2007).

**Mindful Attention and Awareness Scale.** The Mindful Attention and Awareness Scale (MAAS) was developed by Brown and Ryan (2003) to measure the core constituents of mindfulness, (a) present moment attention and (b) awareness of sensory
and perceptual stimuli. Awareness, as defined in the context of mindfulness, is the background schema of individual consciousness that monitors the inner and outer environments. Attention is the process by which individuals bring their focus to this conscious awareness (Brown & Ryan, 2003). Both attention and awareness are intertwined entities of mindfulness, and although they are relative to day-to-day individual functioning, the practice of mindfulness enhances attention to and awareness of current reality (Kabat-Zinn, 1990).

Attention and awareness are also distinguishable. For example, while talking to a client, a counselor can be highly attentive to the material being communicated and only subtly aware of the underlying emotional tone. Mindfulness is compromised when individuals tend to behave compulsively or by way of an automatic response (Kabat-Zinn, 1990). Brown and Ryan (2003) denote this relative absence of mindfulness, as mindlessness. As a result, the MAAS was developed to separate the constructs of attention and awareness from the mindless states of individual consciousness (Brown & Ryan, 2003). MAAS is a 15-item scale in which the respondents are asked to describe their experiences using a 6-point Likert scale from 1 (almost always) to 6 (almost never) scores. To control for social desirability, respondents rate their answers representing what is reflective of their experience rather than what they think their experience should be (Brown & Ryan, 2003). The items are distributed across cognitive, emotional, physical, interpersonal, and general domains. A confirmatory factor analysis (CFA) was performed on a college sample and a general adult sample. The results of the test indicated a good-of-fit index [GFI] = .92, a comparative fit index [CFI] = .91, and an index of fit [IFI] = .91, along with an internal consistency (alpha) of .82 for the college sample. The general
adult sample evaluated from a group of 239 adults across US, confirmed the GFI = .91, CFI = .92, IFI = .92, along with an alpha of .87.

The test-retest reliability of the scale was examined using a sample of 60 introductory psychology students. An intraclass correlation (similar to Pearson $r$) revealed a measure of .81. Additionally, the convergent and discriminant correlations predicted that the MAAS correlated moderately with emotional intelligence; showed positive correlations with NEO-PI’s Openness to Experience and subscales of the NEO-PI that reflect attentiveness and receptivity to experience; was moderately related to lower levels of the “Big Five” personality trait of neuroticism; and was inversely related to measures of depression and anxiety (Brown & Ryan, 2003). Furthermore, in both the college students and adults sample group, the MAAS positively correlated with a primary component of subjective well-being, that is life satisfaction. Overall, the patterns of results were indicative of the associations that individuals with higher scores on the MAAS tend to be more aware of and receptive to their inner experiences as well as attentive to their overt behavior (Brown & Ryan, 2003). A final conclusion that Brown and Ryan (2003) derived from the empirical findings of the MAAS was that it was a strong indicator of a variety of criterion measures of well-being.

Unlike the CAMS-R, the MAAS assesses mindfulness with items that are designed to be free of metaphorical and idiomatic language (Feldman et al., 2007). More concretely it focuses on assessing only the attention and awareness aspects of mindfulness and not the attitudinal components, acceptance and non-judgment. Since the focus of this study is to measure the variance in attention levels of Master’s and Doctoral
level counseling students, the primary researcher decided to select the MAAS over CAMS-R.

**Self-Compassion Scale.** The Self-Compassion Scale (SCS) was developed by Neff (2003a) to assess levels of self-compassion in individuals representative of their thoughts, emotions, and behaviors. Self-compassion is measured by a 26-item self-report measure and comprises of six subscales: (1) Self-Kindness, (2) Self-judgment, (3) Common Humanity (4) Isolation, (5) Mindfulness, (6) Over-Identification. The items of the instrument are characteristic of each sub-scale (Neff, 2003). For example, how often an individual responds to feelings of inadequacy or suffering with self-kindness (e.g., I try to be loving toward myself when I’m feeling emotional pain), self-judgment (e.g., I’m disapproving and judgmental about my own flaws and inadequacies), common humanity (e.g., I try to see my failings as part of the human condition), isolation (e.g., when I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world), mindfulness (e.g., when something upsets me I try to keep my emotions in balance), over-identification (e.g., when I’m feeling down I tend to obsess and fixate on everything that’s wrong). Responses are recorded on five-point Likert scale ranging from 1 (almost never) to 5 (almost always) for the individual sub-scales. So far, it is the only qualified scale that measures the construct of self-compassion (Neff, 2003a).

The development and validation of the SCS was measured using undergraduate college students. In a pilot testing sample, Neff (2003a) reported to find significant correlations between participants’ raw scores (measured by averaging their responses to all sub-scale items) and their convictions of why they believe it is important to be as kind and caring toward themselves as others (p.227). The convergent and discriminant validity
of the SCS was assessed using a larger sample size and by comparing it to established scales (e.g., social desirability scale) (Neff, 2003). A non-significant correlation between the two measures suggested that self-compassion was not affected by social desirability bias, that is, self-compassionate individuals tend to be more kind to themselves (Neff, 2003a). Additionally, Neff (2003) found that self-compassion scores had a significant negative correlation between self-criticism (-.65) and positive correlation between social connectedness (.41). These findings were indicative that the SCS is an adaptive instrument used to measure the increases in psychological resilience and well-being, common predictors of self-compassionate individuals (Neff, 2003a).

Another undergraduate college sample was undertaken to measure the test-retest reliability of the SCS (Neff, 2003a). The results indicated that self-compassionate individuals tend to have more self-esteem [measured by Rosenberg Self-Esteem Scale (r=.59)] and self-acceptance [measured by Berger Self-Acceptance Scale (r=.62)]. Furthermore, to determine if the scale appropriately depicted between group attributes, a sample of Buddhist practitioners were recruited to ensure the levels of self-compassion (Neff, 2003a). It was predicted that since self-compassion is derived from a Buddhist philosophical framework, the participants of this group would indicate higher levels of self-compassion scores, both overall and on its sub-scales. This group was compared to the aforementioned undergraduate samples and the researcher controlled for levels of self-esteem in each (Neff, 2003). As hypothesized, the Buddhist practitioners reported to have higher levels of self-compassion in comparison to the undergraduates (Neff, 2003a; Neff and Pommier 2013).

Empirical research demonstrates a wide range of support for the SCS. For
example, there is a strong correlation (.70) between self-reported and partner-reported scores on the SCS for couples in long-term relationships (Neff & Beretvas 2013). A significant relationship was found between self-compassionate students and levels of motivation towards academic and achievement goals (Neff, Hseih, & Dejitthirat, 2005).

In sum, results of these empirical studies indicate that the SCS is a psychometrically sound and theoretically valid measure of self-compassion. As mentioned above, it is the only scale that has been developed so far to assess individual levels of self-compassion and its effects on well-being (Neff, 2003a). As a result, the primary researcher selected the SCS to administer changes in self-compassion amongst master’s level counseling students.

Summary

Several scholars have argued about the importance of incorporating wellness and self-care strategies for counseling training and development (Myers & Sweeney, 2008; Roach & Young, 2007; Young & Lambie, 2007). Self-care can be challenging, considering the perpetual nature of the counseling profession. For beginning counselors, this can be particularly exhausting as they build skills to maintain their overall well-being and simultaneously offer emotional support to their clients. Failing to maintain and practice self-care strategies can put counselors and counseling students at a high risk of becoming burned out and eventually impaired practitioners (Young & Lambie, 2007). Wellness advocacy scholars recommend that student counselors develop self-care strategies from the very onset of their professional training in order to support themselves (Myers & Sweeney, 2008; Roach & Young, 2007; Young & Lambie, 2007), making them less prone to stress and other psychological distresses. This study was designed to
teach student counselors a simple and easily accessible wellness modality (i.e. Zen meditation). The aim of the study was to determine the efficacy of practicing meditation and its role in decreasing stress, increasing attention, and increasing self-compassion amongst student counselors, all of which would ultimately impact their overall health and well-being.
Chapter 3

Research Methodology

This chapter presents the research methodology of the proposed study, the basic instructions for Zen mindfulness meditation intervention, research questions, hypotheses, study design, instrumentation, data collection, data analysis, procedures, and limitations.

The purpose of this study was to determine if a short-term meditation training curriculum would benefit masters-level counseling students. Specifically, this study investigated the effects of Zen mindfulness meditation on a student counselor’s perceived stress, attention span, and self-compassion experiences. In addition, the study examined the effects of the duration of time spent meditating on the study variables.

Zen Mindfulness Meditation Intervention

As part of the intervention, participants will learn mindfulness meditation using the following protocol -

1. Sit in a convenient and comfortable pose.
2. Close your eyes, either partially or full.
3. Attempt to straighten your spine, not so much that it creates tension in your shoulders and/or neck.
4. Pick a point of focus in front of you and gaze at it.
5. Keep gazing horizontally, about eight to ten inches in front of you.

6. Start breathing from the belly.

7. As you inhale count 1 and as you exhale count 2 and so on until 10. Repeat the count every 10 breaths.

8. Bring your attention to the counting of breaths (the breath will serve as the anchor of your practice).

9. As you gaze at our point of focus and start breathing, the mind will naturally begin to wander.

10. Do not repress any thoughts. As a thought arises, observe it, acknowledge its presence, label the thought (e.g., thought of anger, thought of happiness, etc.) and let go of it. Simultaneously, continue to maintain your focus on your breath and the count (Marchand, 2012).

One of the most crucial and fundamental aspects of mindfulness meditation (MM) is the attitude with which the practitioner pays attention to the momentary experiences. It is the foundation with which the mind builds its ability to become calm, the body relaxes, and one is able to experience life more clearly. Hence, the attitudinal foundation of a MM practice requires the following:

(a) A Non-Judgmental Stance: open receptivity of moment-to-moment experiences and not getting caught up in ideas, opinions, likes, or dislikes (Kabat-Zinn, 1990);

(b) Patience: releasing the need to control the experience and letting it unfold in its own time (Kabat-Zinn, 1990);
(c) Beginner’s Mind: developing the nature of a beginner as to allow new possibilities to flourish and not prevent them by intellectually analyzing every minute of the experience (Kabat-Zinn, 1990);

(d) Trust: establishing a basic trust within oneself is an integral part of MM training. Respecting and honoring your feelings, emotions, and even mistakes. Backing off from the practice when not in harmony with oneself or unintentional about the process (Kabat-Zinn, 1990);

(e) Non-Striving: everything we do has a gain attached to it; however, meditation is different from all other human activities. Although, the process has a definite intentionality to it, it cannot be performed with the desire of gaining something. This stands true regardless of meditation’s explicit gains (e.g., relaxation, psychological well-being, etc.). It is the only paradox of the practice. Meditation is the ultimate liberation of non-doing, one in which the practitioner releases the need to try and become someone in comparison to who he/she is (Kabat-Zinn, 1990).

(f) Acceptance: this is the phase of accepting things as they are in the present. Cultivating true acceptance requires not imposing the “should(s)”; what we should be feeling or thinking as the experience unfolds, but reminding ourselves of accepting the feeling, thinking, or any other sensation as it arises in the moment; and finally,

(g) Letting Go: it is imperative that practitioners learn to detach themselves from ruminating thoughts, feelings, and even situations that
the mind tends to gets entangled in. Fundamental to the practice of meditation, individuals are encouraged to intentionally pay attention to all experiences as is and when the mind tends to push away or grasp a certain experience more, then remind oneself to let go of such impulses on purpose (Kabat-Zinn, 1990).

**Research Questions and Hypotheses**

**Research Questions**

Research question 1: Is there a statistically significant difference between self-reported stress levels (as measured by the Perceived Stress Scale [Cohen, Kamarck, & Mermelstein, 1988]), in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research question 2: Is there a statistically significant difference between self-reported attention span (as measured by Mindful Attention Awareness Scale [Carlson & Brown, 2005]), in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research question 3: Is there a statistically significant difference between self-reported self-compassion levels (as measured by Self-Compassion Scale [Neff, 2003a]) in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?

Research question 4: Is there a statistically significant relationship between the amount of time reported meditating and changes in stress in a counseling student sample?

Research question 5: Is there a statistically significant relationship between the amount of time reported meditating and changes in attention span in a counseling student
Research question 6: Is there a statistically significant relationship between the amount of time reported meditating and changes in self-compassion levels in a counseling student sample?

**Research Hypotheses**

**Hypothesis 1:** There will be a statistically significant ($p < .05$) decrease in counseling students’ level of stress, from Time 1 to Time 2, as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988) when controlling for student’s experience with mindfulness meditation.

**Hypothesis 2:** There will be a statistically significant improvement ($p < .05$) in counseling student’s attention span, from Time 1 to Time 2, as measured by Mindful Attention Awareness Scale (Carlson & Brown, 2005) when controlling for student’s experience with mindfulness meditation.

**Hypothesis 3:** There will be a statistically significant improvement ($p < .05$) in counseling student’s perceived self-compassion, from Time 1 to Time 2, as measured by Self-Compassion Scale (Neff, 2003) when controlling for student’s experience with mindfulness meditation.

**Hypothesis 4:** The amount of time spent meditating will account for unique variance in counseling students’ level of stress, as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988), over and above the amount of variance accounted for by their gender and race/or ethnicity.

**Hypothesis 5:** The amount of time spent meditating will account for unique variance in counseling students’ attention span as measured by the Mindful Attention
Awareness Scale (Carlson & Brown, 2005), over and above the amount of variance accounted for by their gender and race/or ethnicity.

Hypothesis 6: The amount of time spent meditating will account for unique variance in counseling students’ perceived self-compassion as measured by the Self-Compassion Scale (Neff, 2003), over and above the amount of variance accounted for by their gender and race/or ethnicity.

**One-Group Pretest Posttest Design**

The researcher employed a One-Group Pretest-Posttest Design. This type of experimental design uses a single group of participants to assess the outcomes of each dependent variable in the treatment provided (Gravetter & Forzano, 2015). As a result, the study participants were not separated into any distinct groups (e.g., control vs. treatment) rather all existed as a single group that receives all aspects of the treatment condition. The treatment conditions remained identical all throughout the study and for all dependent variables (Gravetter & Forzano, 2015). Also known as a repeated-measures research design, this design looks for differences in the same group of participants. A one-group pretest posttest design serves the following purposes: (a) it reduces the sample group to relatively lesser number of participants in comparison to a between-subjects design; (b) this kind of design is helpful in situations where it is difficult to find study participants; (c) most importantly, it eliminates problems causing individual differences specifically those that lead to confounding variables and ultimately create high variances obscuring the study outcomes; (d) finally, since there is no comparison group, each participant serves as their own control and baseline measure (Gravetter & Forzano, 2015). Dependent on the design’s strengths and taking into consideration that
this study is based in educational research wherein it is not possible to do a true experiment always, the primary researcher decided to use this as the choice of design for the current study.

**Procedure**

**Participants**

Prior to recruiting participants, the study proposal was submitted to and approved by the University of Toledo’s Institutional Review Board (IRB). For study purposes, the researcher recruited Clinical Mental Health and School Counseling students from Master’s and Doctoral level counseling classes. Students varied in their training levels because they were recruited from different classes offered as part of the CACREP curriculum (e.g., Group Counseling, Theories in Mental Health, Practicum in School Counseling). Students were informed about the specifics of the study through a PowerPoint presentation (see Appendix F) that the primary researcher presented in their regular counseling classes.

For the purpose of this study, participants were part of a six-week meditation-training curriculum, as described in Appendix G. At the time of the recruitment presentation, the study participants were provided with all details of the meditation training, background of the facilitator who conducted the training, and the role of the primary researcher in the current study. In addition to recruiting students personally from graduate level classes, the primary researcher recruited counseling students about this study through email, flyers and University of Toledo’s Counselor Education social media platforms. Participation in the study was strictly voluntary and all students who completed the training in its entirety were eligible for an incentive (gift card) at the end of
the six-week curriculum. In addition to the specifics, students were informed that the study was being conducted as a research experiment, part of a doctoral student’s dissertation project. The students were given the opportunity to withdraw from the study at any point. Lastly, a statistical power was calculated to determine the required sample size for this study. Per McNeil, Newman, and Kelly’s (1996) guidelines, it was determined that a sample of 30 participants and a priori alpha of .05 will allow the researcher to detect the pre and post differences she hypothesizes to demonstrate from this study.

**Assignment**

In comportment with the within-subjects experimental design, all participants were assigned to the meditation-training group. Additionally, each participant was given a randomly generated alpha-numeric code using an online string generator (https://www.sweepjudge.com/string_generator.htm). The alpha-numeric code was generated to ensure participant confidentiality and privacy for study purposes. All participants were asked to write down their code on all study documents (e.g., self-report measures, demographics questionnaire, and meditation logs) instead of their names or other identifying information.

**Measurement Procedure**

Before the onset of the meditation intervention (week 1), the primary researcher administered the informed consent (see Appendix H), the demographics questionnaire (see Appendix A), the Perceived Stress Scale-10 (PSS-10) (Cohen et al., 1988) (See Appendix C), the Mindful Attention Awareness Scale (MAAS) (Carlson & Brown, 2005) (See Appendix D), and the Self-Compassion Scale (SCS) (Neff, 2003) (See Appendix E),
to all study participants in paper and pencil format. The PSS-10, MAAS, and SCS was re-administered at the end of the training (week 6). The researcher aggregated data from two-measurement points in the study at the conclusion of the study procedure (see Figure 1). In addition to completing the self-report measures, participants were asked to keep weekly logs of their sitting meditation practice outside of the formal training curriculum using a meditation time tracker (Insight Timer). The primary researcher sent text message and email reminders, midway (email reminder) and at the end of every week (text reminder) during the training to remind the study participants to practice and record their meditation time for that particular week.

Meditation Curricula

For training student counselors, the primary researcher adapted an empirically tested meditation curriculum commonly employed in Zen meditation research studies (e.g., Grepmair, Mietterlehner, Loew, Bachler, Rother, & Nickel, 2007). The curriculum was tailored to fit the needs of the current study as the participants learned the sitting meditation technique (Zazen) (see Appendix G for details). All student volunteers received the six-weeks of meditation training in a group setting at the University of Toledo’s main campus (see Appendix G for details). Student volunteers processed and shared their meditation experiences in the group under the direct supervision of the trained facilitator.

Facilitators and Research Setting

The meditation instructor is a 48 year-old male, certified in Zen mindfulness meditation by the American Zen Teachers Association (www.americanzenteachers.org). Reverend Jay Rinsen Weik is the Abbot of the Buddhist Temple of Toledo where he
serves as the senior priest and is the director of University of Toledo’s Mindfulness and Creativity Initiative. He has more than 30 years of experience practicing Zen mindfulness meditation and 15 years of teaching the technique. He was given no information about the study’s expected outcomes.

The training group will be held in room 1711 B and C of the Health and Human Services building at the University of Toledo’s main campus. The room was private and provided a calm environment, relatively free from any outside distractions. Students were permitted to move around the room and pick a comfortable seat before the onset of the formal training. The primary researcher along with the meditation facilitator oriented the class about the techniques and the practice of meditation through a brief didactic session. During this time, students were encouraged to openly ask questions and address their queries related to the training. After the didactic portion, the meditation facilitator demonstrated the actual meditation technique. At this time, and for the remaining of the weeks, the primary researcher stepped out of the room as participants started to share personal insights related to the experience. This method was employed to protect participants from observer bias and to allow them to openly share their experiences with the facilitator only.

**Insight Timer and Meditation Logs**

Participants recorded the number of days and duration of practice for each day using the Insight Timer phone application available on both Apple and Android devices. Starting from Week 2 of the training, the primary researcher asked each participant to transfer their personal meditation logs recorded in the Insight Timer application to the
researcher’s paper and pencil logs (see Appendix B). These logs served as data points for answering research questions 4 through 6.

**Data Collection**

The primary researcher recorded all data collected for this training, including the self-reports measures (e.g., PSS-10, MAAS, and the SCS), the demographics questionnaire, the informed consent, and the meditation logs in a Microsoft Excel spreadsheet. At the time of data interpretation, this information was computed into the Statistical Package for the Social Sciences (SPSS) to determine the differences in the outcomes variables pre and post the meditation intervention. Additionally, SPSS supported the researcher in computing the variances between time spent meditating and the outcome variables along participants’ demographics.

Furthermore, strategies for cleaning any missing data from participant responses to the study materials were investigated. They are as follows: (a) pairwise deletion, (b) mean imputation, and/or (c) regression imputation. Pairwise deletion attempts to discard missing data on a case-by-case basis, utilizing all the available data. Unlike listwise deletion, which removes all missing data of a case (i.e. study participant) this technique does not result in a drastic reduction of sample size or the statistical power of study (Peugh & Enders, 2004). Mean imputation is a method wherein the researcher calculates the arithmetic mean of each variable from the available data scores and replaces the missing values with the calculated means (Peugh & Enders, 2004). The “filled in” values are computed in the study’s data analysis as if no values were missing in the first place (Peugh & Enders, 2004).
Regression imputation, also referred to as conditional mean imputation replaces the missing values in a data set with predicted scores calculated using a linear regression equation (Peugh & Enders, 2004). This method can be employed only if the missing values are univariate in nature and if the missing data depicts a linear pattern (Peugh & Enders, 2004). Under such circumstances, the missing variable is regressed using other measured variables and the missing value is replaced by adding the predicted score from such an analysis (Peugh & Enders, 2004). The primary researcher of the current study reviewed all the data in its completeness and no missing data were noticed and thus, none of the missing data strategies were implemented for statistical analyses.

Data Analysis

Researchers cannot assume an error-free measurement for any experimental design regardless of the sample size and nature of population selected. Therefore, a statistical power was calculated to determine statistically significant results for this study. A power analysis serves the following purposes, (a) helps determine the sample size; (b) helps determine the significance criterion, and (c) the population effect size (ES) (Cohen, 1992). Selecting an appropriate statistical power reduces the probability of rejecting the null hypothesis when it is true, also known as Type I error. This is usually determined prior to running a statistical analysis on a particular research study (Campbell & Stanley, 1963). For this particular study, the primary researcher controlled for the Bonferroni error by dividing the alpha level (.05) with the number of comparisons being made (Newman, Fraas, & Laux, 2000). There were a total of six comparisons, hence \( \alpha / 6 \). The results of this error correction technique produced a per-hypothesis alpha level of .0083.
That is, in order for any one statistical test to be significant, the associated p value must be .008 or lower in order to be statistically significant (Newman, Fraas, & Laux, 2000).

Cohen’s (1992) guidelines suggest that when comparing two group means, effect sizes of .80 or higher are large. Effect sizes of .50 to .79 are medium in size. Finally, effect sizes of .20 to .49 are considered to be small. Using calculation guidelines provided by McNeil, Newman, and Kelly (1996), and expected sample size of 30, and an a priori study alpha of .05, the researcher calculated power for each of the three effect size categories. As a result of these effect size calculations, the researcher was 97% confident that if the differences between the pre and post-test scores are large, the methods used in this study will detect those differences. If the effect size is in the medium range, the study’s power provides the researcher 88% confidence that the methods used herein will detect those differences. Finally, if the effect size is in the small range, the researcher is 45% confident that these methods will identify those differences.

The researcher employed Analyses of Covariance (ANCOVA) to determine if there were differences between the participants’ outcome variables from Time 1 to Time 2 when participants’ prior meditation experience was covaried (Research Questions 1-3). Furthermore, a hierarchical multiple regression analysis was employed to predict the relationship between time spent meditating and participant demographic variables (i.e. gender and race/ethnicity). This statistical method supported in answering research questions 4 through 6. The results of these analyses as well as the testing of the assumptions upon which these tests are predicated are found in Chapter 4.
In sum, the primary researcher employed an ANCOVA to support study hypotheses 1 to 3 and a regression analysis to support study hypotheses 4 to 6. The ANCOVA determined if there was a statistically significant difference between meditation and the three study variables, stress, attention span, and self-compassion. Furthermore, the regression analysis inferred the relationship between duration of meditation and stress, duration of meditation and attention span, and finally the duration of meditation and self-compassion levels in graduate counseling students, over and above their demographics (gender and race).

**Descriptive Statistics**

A total of seventeen counseling students agreed to participate in the meditation study group. Eleven \( (n = 11) \) counseling students completed the six-week intervention in its entirety. Two students dropped out after the first session of the meditation training due to timing constraints. Two students reported that they were unable to keep up with the daily commitments of the meditation training with their academic schedules, which led them to drop out of the training. The remaining two dropped out after the second week of the intervention without any notice and/or available reason.

Out of the participants who completed the questionnaires and the six-week meditation intervention, 81% were \( (n = 9) \) were female and the remaining 19% were male \( (n = 2) \). Based on how the researcher designed the demographic questionnaire, participants were asked to describe their age as a categorical variable (e.g., 18-21, 22-25, etc.). 37% \( (n = 4) \) reported their age to be in the 22-25 category; 45% \( (n = 5) \) belonged to the 26-30 category; 9% \( (n = 1) \) reported were in the 18-21 category, and remaining 9% \( (n = 1) \) were in the 41 and over category. In terms of race, 64% \( (n = 7) \) identified themselves
as White/European American (Non-Hispanic), 27% \((n = 3)\) as Africa-American/ Black (Non-Hispanic), and 9% \((n = 1)\) as Turkish. The meditation intervention was open to all degree seeking Master’s \((82\%; n = 9)\) and Doctoral \((18\%; n = 2)\) level students. Out of the sample group, three students were training to become school counselors, six were in the clinical mental health counseling track, and the remaining two were working towards their doctoral degrees in counselor education.

The meditation intervention implemented for this study \(i.e.\) Zen Mindfulness Meditation) has its origins in Buddhism. Although spiritual in nature, the practice did not endorse or request practitioners to alter their religious beliefs in any way or form. For this purpose, the meditation facilitator as well the primary researcher clarified the origins and intents of the meditation practice to the participants before the beginning of the six-week intervention. However, to better understand the study group’s religious and/or spiritual backgrounds, information regarding their religion and spiritual orientation along with a history of prior meditation experience was collected through the demographic questionnaire. The majority of participants identified themselves as Christian \((55\%; n = 6)\), 27% \((n = 3)\) reported they had no religious or spiritual orientation, 9% \((n = 1)\) were Muslim and the remaining 9% \((n = 1)\) identified themselves as Jewish. In sum, 72% of participants described themselves as religious. Additionally, only 45% \((n = 5)\) of participants had prior meditation experience and reported learning meditation either from a phone application, a teacher, attending a service at a temple, or through a yoga class. Of the ones who had meditation experiences, only 9% \((n = 1)\) had a current meditation practice of 5-10 minutes daily for 3-5 days on a weekly basis. Rest of the study group \((55\%, n = 6)\) did not have any prior experience with meditation nor a current practice.
Instrumentation

Throughout the study, participants completed three paper-and-pencil assessments, a demographic questionnaire, and an informed consent form. The assessments employed were: (a) the PSS-10 (Cohen, Kamarck, & Mermelstein, 1988), (b) the MAAS (Carlson & Brown, 2005) and (c) the SCS (Neff, 2003a).

Demographic Questionnaire

The researcher created a brief demographic questionnaire to gather knowledge about participant characteristics. The demographic variables included in the form were: age, gender, race or ethnicity, degree, academic major and minor (if any), religious or spiritual orientation, and prior meditation experience. Participant’s age, gender, race or ethnicity, religious and/or spiritual orientation supported the researcher in assessing the nature of diversity of this study’s sample. Additionally, participant’s major and conferring degree (e.g., MA, Ph.D) supported the researcher in confirming the graduate level requirements needed for eligibility in this study. The demographics questionnaire also addressed specifics related to participant’s background and familiarity with meditation (see Appendix A). This provided the researcher information about any experiences the participants had prior to this training. It was determined that participants with prior meditation experience may have different results to study’s outcome variables in comparison to those with no prior meditation experience. Conclusively, the information gathered from the demographic questionnaire was an additive benefit for the researcher as she defined the study limitations and recommendations for future implications at the conclusion of this experiment.

The Perceived Stress Scale-10 (PSS-10)
The PSS-10, developed by Cohen, Kamarck, and Mermelstein (1988), is one of the most frequently used measures for assessing self-reported individual distress (cite studies where PSS has been used). The measure evaluates the degree to which an event is appraised as stressful for a particular individual (e.g., In the last month, how often have you been upset because of something that happened unexpectedly?), how the event might provoke stress (e.g., In the last month, how often have you felt that you were unable to control the important things in your life?), and the intensity with which the individual experiences stress (e.g., In the last month, how often have you found that you could not cope with all the things that you had to do?). Items are designed to distinguish factors that individuals find unpredictable, uncontrollable, and overloaded in their lives (Cohen et al., 1988).

Cohen et al. (1988) tested the validity of the scale with three samples, two from college student populations and a heterogeneous sample of individuals enrolled in a smoking cessation program. The coefficient alpha reliability for three sample groups were .84, .85, and .86, respectively. The test-retest correlation was $r = .85$ for the two college sample groups retested after two days, and $r = .55$ for the group of smokers retested after a gap of six weeks. A six, ten, and fourteen item assessment is available for the PSS measuring individual distress a month prior to when the test is taken. The PSS-10 has shown the highest psychometric qualities amongst the three different versions of the assessment (Taylor, 2015). Taylor (2015) described that PSS-10 scores do not substantially affect gender bias that other versions of the test depict. As result, the primary researcher will be administering PSS’s 10-item version to participants of this study.
Mindful Attention and Awareness Scale (MAAS)

Brown and Ryan (2003) developed the MAAS. The trait MAAS is a 15-item scale that evaluates the core characteristics of mindfulness, namely, a state of attention (e.g., I find it difficult to stay focused on what’s happening in the present) and awareness (e.g., I could be experiencing some emotion and not be conscious of it until sometime later) to present moment stimuli that individuals experience in their day-to-day living. The scale has been tested across several studies showing psychometric qualities with college undergraduates, community and nationally sampled adults, and adult cancer populations (Brown & Ryan, 2003; Carlson & Brown, 2005). The internal consistency level (Cronbach’s alphas) range for the MAAS were .80 to .90 for the sample populations mentioned above (Carlson & Brown, 2005). Additionally, the MAAS has demonstrated high test-retest reliability, discriminant and convergent validity, known-groups validity, and criterion validity (see Brown & Ryan, 2003). The test-retest reliability of the MAAS was calculated using a sample of 60 introductory psychology students. An interclass correlation revealed a measure of .81 (Brown & Ryan, 2003). This self-report measure takes less than 5 minutes to complete; respondents are asked to describe their experiences using a 6-point Likert scale from 1 (almost always) to 6 (almost never) scores (Brown & Ryan, 2003). To score the scale, the researcher will compute the mean of the 15 items presented in the self-report measure. Higher scores are representative of higher levels of mindfulness, that is, open and receptive awareness and attention to what is happening in the present moment (Brown & Ryan, 2003).

Self-Compassion Scale (SCS)
The SCS developed by Neff (2003a) is the most widely used instrument to measure self-compassion. The SCS is the only quantified scale developed to rate individual self-compassion. Self-compassion is measured on the SCS by a 26-item self-report measure comprised of six subscales: (1) Self-Kindness (e.g., I try to be loving toward myself when I’m feeling emotional pain), (2) Self-judgment (e.g., I’m disapproving and judgmental about my own flaws and inadequacies), (3) Common Humanity (e.g., I try to see my failings as part of the human condition), (4) Isolation (e.g., when I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world), (5) Mindfulness (e.g., when something upsets me I try to keep my emotions in balance), (6) Over-Identification (e.g., when I’m feeling down I tend to obsess and fixate on everything that’s wrong). A five-point likert scale is used ranging from 1 (almost never) to 5 (almost always) to measure the individual sub-scales. Total scores are calculated by computing the mean of the scores, with a possible range of 1-5; lower scores indicating lower levels and higher scores indicating higher levels of self-compassion facets.

An undergraduate college student sample was recruited to pilot test the validity and the development of the SCS. The concurrent validity, convergent validity, discriminate validity, and test retest reliability (alpha = .93) demonstrates the validity and reliability of the SCS (Neff, 2003a). As a result, it can be concluded that the SCS is a sound psychometric instrument for measuring psychological resilience and wellbeing, common predictors of self-compassionate individuals (Neff, 2003a).

Conclusion
In sum, this study determined if a brief six-week Zen mindfulness meditation training impacted counseling students’ perceived stress, attention, and self-compassion levels. In addition, the study determined if practicing meditation consistently and for a certain duration of time (15 minutes every morning and evening) produced better outcome results for the above mentioned variables (i.e. stress, attention span, and self-compassion). By employing the research design described in this chapter, the researcher proposed to uncover significant information about the effectiveness of Zen mindfulness meditation on master’s level student counselors’ psychological health and over all wellbeing.
Chapter 4

Data Analysis

Chapter 4 presents the results of a six-week Zen mindfulness meditation group intervention on student counselor’s level of stress, attention, and self-compassion experiences. This chapter also describes the relationship between duration of time spent meditating and changes in levels of stress, attention, and self-compassion consequently. Prior to discussing the findings of the study, this chapter provides a description of participant demographics and the statistical procedures implemented to determine the results of the study. This chapter is intended to cover the statistical analyses only, for a detailed interpretation of study findings, please see chapter five.

Reliability of Scales

To determine the reliability of the instruments used in this study, the researcher calculated Cronbach’s alphas (Tavakol & Dennick, 2011). The Perceived Stress Scale-10 (PSS-10; Cohen, Kamarck, & Mermelstein, 1988) comprised of 10 items and participant results were calculated by summing the scores of individual responses. The PSS-10 had a high level of internal consistency with a Cronbach’s $\alpha$ of .795. Likewise, the Mindful Attention and Awareness Scale (MAAS; Carlson & Brown, 2005) had a very high level of internal consistency with a Cronbach’s $\alpha$ of .940. For this scale the results were determined by averaging participants responses. Similarly, the researcher computed the
averages for the Self Compassion Scale (SCS; Neff, 2003a) for each participant. The SCS also had a high internal consistency with an $\alpha$ of .941. Thus, each individual scale implemented in this study provided a reliable measurement for the study’s constructs i.e. stress, attention, and self-compassion (Tavakol & Dennick, 2011).

**Results of Research Questions**

This study examined the effects of Zen Mindfulness Meditation on a group of student counselors with the aim of enhancing their individual wellness. First the study tested if there was a significant difference in counseling student’s stress, attention, and self-compassion levels from time 1 to time 2 as they underwent the six-week meditation training. As reported in chapter 2, Kozasa and colleagues (2015) reported that prior meditation experience and maintaining a consistent meditation practice has significant differences in outcome variables despite the length of the intervention. As a result, the current researcher decided to examine the co-variance accounted by prior meditation experience in participant stress, attention, and self-compassion levels from time 1 to time 2. Second, the study examined the relationship between amounts of meditation time and its consequent changes in stress, attention, and self-compassion levels, over and above the amount of variance accounted for by participant identity variables (race and gender).

To answer research questions one through three, the researcher conducted an Analysis of Covariance (ANCOVA) on the sample group ($n = 11$). In addition to participating in the weekly meditation group, the researcher requested that participants meditate outside of the group for a recommended period of 15 minutes in the morning and 15 minutes in the evening, per day. To answer research questions four to six, the researcher conducted a regression analysis. Researchers use a hierarchical multiple
regression analysis to predict the relationship of a variables based on two or more variables. The dependent variables in this case were the amount of time spent meditating and its relationship to changes in stress, attention, and self-compassion, while the predictor variables were participant gender and race/ethnicity. Similar to the ANCOVA, the regression analysis was also conducted for the entire sample group \((n = 11)\). Lastly, it as noted from chapter 3 that in order for any one statistical test to be significant, the associated \(p\) value must be \(.008\) or lower in order for it to be statistically significant (Newman, Fraas, & Laux, 2000).

**ANCOVA Assumption Testing**

Prior to conducting each ANCOVA, the researcher conducted the following tests, normality, skewness, kurtosis, outliers, homogeneity of variance, and independence. The Shapiro-Wilk \((w)\) statistic is used to assess the degree to which a set of data are normally distributed. The \(w\) statistic was calculated for each of the study’s continuous variables (see Appendix J). In each case, the calculated \(w\) values were in the normal range.

Skewness refers to the symmetry or the lack of symmetry representing a particular data set. If skewness is less than \(-1\) or higher than \(+1\), the distribution is highly skewed, whereas if the skewness is between \(-1\) and \(-.05\) or between \(+1\) and \(.05\), the distribution is moderate, and finally if it is between \(-.05\) and \(.05\), the distribution is symmetric (Ho & Yu, 2015). Kurtosis is the measure of tailedness, a measure of how the distribution represents itself on a statistical bell curve. Kurtosis determines whether the distribution is heavy-tailed or light-tailed in relation to a normal distribution (Ho & Yu, 2015). Kurtosis values between \(-1.94\) and \(+1.94\) are considered to be in the normal range. The Skewness and Kurtosis values are reported in Appendix J. In each case except for the Time 1
Attention data set, the data were not affected by skew. Histograms for each variable (see Appendix J) were created to aid in determining if there were outliers among the data sets. None of the participants’ scores on any of the variables were greater than 3 standard deviations away from the mean. The Levene’s test for equality of error variance and the tests for independence for each ANCOVA are presented below where the researcher discusses the ANCOVA findings. All of the ANCOVA tests for independence were met except for Attention Time 1 and Time 2 (Appendix K).

**Results of Research Question One**

The first research question, “Is there a statistically significant difference between self-reported stress levels [as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988)], in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?” was answered using a ANCOVA. The ANCOVA was conducted to determine statistical significance between Zen mindfulness meditation and student stress levels, while controlling for meditation experience. Levene’s test for equality of error variance \([F(1, 20) = .171, p = .683]\) was non-significant allowing the researcher to assume homogenous variances from time 1 and time 2. A correlation was calculated from stress time 1 and time 2 to determine if they met the assumption of independence. The correlation \((r = .547, p = .08)\) was non-significant. Therefore, these two pre-tests and post-tests are independent of one another. Finally, the results of the ANCOVA showed no significant differences in stress levels \([F(1, 19) = 2.988, p = .100]\) pre-to-post training, while controlling for meditation experience for the current study.
Results of Research Question Two

The data used to answer Research Question Two met most, but not all the ANCOVA assumptions. Two of the assumptions for normality for research question two were not met. The Time 1 attention score and the Time 2 attention score were not independent of one another ($r = .725, p = .01$). Also, a review of attention Time 1 histogram indicated that attention Time 1 was positively skewed (see Appendix J).

The second research question, “Is there a statistically significant difference between self-reported attention span (as measured by Mindful Attention Awareness Scale [Carlson & Brown, 2005]), in counseling students who undergo a six-week Zen mindfulness meditation training when mindfulness meditation experience is co-varied?” was also answered using an ANCOVA. The ANCOVA here was conducted to determine a statistical significance between Zen mindfulness meditation and student attention levels, while controlling for meditation experience. Levene’s test for equality of error variance [$F (1,20) = .690, p = .416$] was non-significant allowing the researcher to assume homogenous variances from time 1 and time 2. Finally, the results of the ANCOVA showed no significant differences in attention levels [$F (1,19) = .625, p = .439$] pre-to-post training, while controlling for meditation experience for the current study. The results for research question two may have been influenced by the fact that the data did not uniformly meet the assumptions necessary to run an ANCOVA.

Results of Research Question Three

The third research question, “Is there a statistically significant difference between self-reported self-compassion levels (as measured by Self-Compassion Scale [Neff, 2003a]) in counseling students who undergo a six-week Zen mindfulness meditation
training when mindfulness meditation experience is co-varied?” was answered using an ANCOVA as well. The ANCOVA was conducted to determine statistical significance between Zen mindfulness meditation and student self-compassion levels, while controlling for meditation experience. Levene’s test for equality of error variance \( F(1, 20) = .401, p = .534 \) was non-significant allowing the researcher to assume homogenous variances from time 1 and time 2. A correlation was calculated from self-compassion time 1 and time 2 to determine if they met the assumption of independence. The correlation \( r = .510, p = .10 \) was non-significant. Therefore, these two pre-tests and post-tests are independent of one another. Finally, the results of the ANCOVA showed no significant differences in self-compassion levels \( F(1, 19) = .997, p = .331 \) pre-to-post training, while controlling for meditation experience for the current study.

**Assumptions Testing**

Prior to conducting the regression analysis, the researcher calculated change variables (delta) from time 1 to time 2 (i.e. stress delta, attention delta, and self-compassion delta). Further, the demographic variables (i.e. gender and race/ethnicity) were dummy coded. As mentioned in Chapter 2, females are more likely to employ CAM techniques like meditation in comparison to men. Similarly, individuals from African American and Asian descent are more likely to use such strategies in comparison to White/European Americans. No evidence was found to support the inclusion of any other demographic information as predictor variables. Thus, the researcher employed race and gender as the identity variables for this study. She dummy coded these variables with values 1 (females) and 0 (others); 1 (African/Americans or Asians) and 0 (others).

Furthermore, to check for the assumptions of hierarchical multiple regression, the
researcher conducted tests of normality, outliers, multicollinearity, homoscedasticity, and linearity. The assumption of normality was tested via examination of the unstandardized residuals. The review of the Shapiro-Wilk (w) test for change in stress (w = .927, df = 11, p = .383) and skewness (-.592) and kurtosis (-.370) suggested that the data were normally distributed. The researcher noted change in attention variable met all of the assumptions except for kurtosis (w = .861, df = 11, p = .059), skewness (-1.64) and kurtosis (3.48). In The shape of the change in attention curve was leptokurtic. The change in self-compassion variable met all the tests of normality (w = .879, df = 11, p = .100), skewness (-1.02), and kurtosis (.162) suggested normal distribution. Finally, the test of normality for meditations logs data were (w = .939, df = 11, p = .503), skewness (.793) and kurtosis (.906).

The outlier tests indicated that all change variables (change in stress, change in attention, and change in self-compassion) fell within 2 standard deviations above or below each variable’s mean. These distributions are presented in Appendix J. Similarly, the outlier test for meditation logs showed that the data was distributed 2 standard deviations above and below the mean (see Appendix J).

To test for the absence of multicollinearity, a correlations matrix was run between each change variable and race, and gender. None of the correlations were statistically significant. The correlation between change in stress and race was .282 (p = .201). The correlation between change in stress and gender was .167 (p = .312). The correlation between change in attention and race was -.369 (p = .132), and the correlation between change in attention and gender was -.105 (p = .379). The correlation between change in self-compassion and race was -.647 (p = .016), and the correlation between change in
self-compassion and gender was -.292 ($p = .191$). These results allowed the researcher to conclude that the data predictor variables used for the regression analyses did not violate the assumption of multicollinearity.

The researcher visually reviewed the normal P-P plot of regression standardized residual for the each change variable. The distribution of residuals was evidence that the data met assumptions for linearity. The P-P plots are provided in Appendix I.

Homoscedasticity was assessed by reviewing the scatterplots of standardized predicted values for each change variable. The scatter plots for change in stress, change in attention, and change in self-compassion are provided in Appendix J and show that the data met the assumptions of homoscedasticity (see Appendix M). That is, the variance around the regression line is similar for all values of the change variables. Taken in combination, the assumption testing provided support for moving forward with answering Research Questions Four, Five, and Six.

**Results of Research Question Four**

The fourth research question, “Is there a statistically significant relationship between the amounts of time reported meditating and changes in stress in a counseling student sample?” The associated Research Hypothesis was, “The amount of time spent meditating will account for unique variance in counseling students’ level of stress, as measured by the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1988), over and above the amount of variance accounted for by their gender and race/or ethnicity.” To test this hypothesis, the researcher used a hierarchical multiple regression model. This model first used participant’s race and then gender to predict pre-to-post meditation training changes in stress. The literature review indicated that race/ethnicity accounts for
greater variance in CAM/mediation acceptance than does gender. As such, race/ethnicity and gender were entered into the equation first. The hierarchical model demonstrated that race/ethnicity and gender were not statistically significant predictors for changes in stress \([F (1, 8) = .383, p = .694]\), with an adjusted \(R^2\) of -.141. The second model added time spent meditating. This model was also not statistically significant for changes in stress as accounted by gender \([F (3, 7) = .534, p = .673]\), with an adjusted \(R^2\) of -.162. The regression statistics are in Table 4.1

Table 4.1

*Hierarchical Regression Analysis for Variables Predicting Change in Stress*

<table>
<thead>
<tr>
<th>Variable</th>
<th>(\beta)</th>
<th>(t)</th>
<th>(sr^2)</th>
<th>(R)</th>
<th>(R^2)</th>
<th>(\Delta R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td>.293</td>
<td>.087</td>
<td>.087</td>
</tr>
<tr>
<td>Race</td>
<td>.255</td>
<td>.723</td>
<td>4.383</td>
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<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.093</td>
<td>.263</td>
<td>5.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.432</td>
<td>.186</td>
<td>.099</td>
</tr>
<tr>
<td>Race</td>
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<td>5.82</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>.337</td>
<td>5.12</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Logs</td>
<td>-.429</td>
<td>-.920</td>
<td>-.007</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note* > \(N = 11\); * \(p < .05\), ** \(p < .01\), *** \(p < .001\)

Results of Research Question Five

The fifth research question, “Is there a statistically significant relationship between the amounts of time reported meditating and changes in attention span in a counseling student sample?” The associated Research Hypothesis was, “The amount of time spent meditating will account for unique variance in counseling students’ attention span as measured by the Mindful Attention Awareness Scale (Carlson & Brown, 2005),
over and above the amount of variance accounted for by their gender and race/or ethnicity.” The researcher addressed this hypothesis using a general linear regression model as well. This restricted model also used participant’s race and gender to predict pre-to-post meditation training changes in attention. The hierarchical model was not statistically significant for changes in attention as accounted by race and gender \( F(2, 8) = 0.630, p = .557 \), with an adjusted \( R^2 \) of -.080. Further, the hierarchical model in which time spent practicing meditation was added was also not statistically significant for changes in attention as accounted by gender \( F(3, 7) = .469, p = .713 \), with an adjusted \( R^2 \) of -.189. The regression statistics are in Table 4.2.

### Table 4.2

*Hierarchical Regression Analysis for Variables Predicting Change in Attention*

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \beta )</th>
<th>( t )</th>
<th>( sr^2 )</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Race</td>
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<td>-1.07</td>
<td>.443</td>
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<tr>
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<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
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<td>.613</td>
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<td></td>
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<tr>
<td>Sex</td>
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<td>-.040</td>
<td>.539</td>
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<tr>
<td>Logs</td>
<td>.241</td>
<td>.513</td>
<td>.001</td>
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</tbody>
</table>

*Note:* \( N = 11 \); * \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)

### Results of Research Question Six

Lastly, the sixth research question, “Is there a statistically significant relationship between the amounts of time reported meditating and changes in self-compassion levels in a counseling student sample?” The associated Research Hypothesis was, “The amount
of time spent meditating will account for unique variance in counseling students’ perceived self-compassion as measured by the Self-Compassion Scale (Neff, 2003), over and above the amount of variance accounted for by their gender and race/or ethnicity.”

This restricted model also used participant’s race and gender to predict pre-to-post meditation training changes in attention. The hierarchical model was not statistically significant for changes in attention as accounted by race and gender \( [F (2, 8) = 3.028, p = .105] \), with an adjusted \( R^2 \) of .289. Further, the hierarchical model in which time spent practicing meditation was added was also not statistically significant for changes in attention as accounted by gender \( [F (3, 7) = 2.39, p = .154] \), with an adjusted \( R^2 \) of .295. The regression statistics are in Table 4.3.

### Table 4.3

Hierarchical Regression Analysis for Variables Predicting Change in Self-Compassion

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \beta )</th>
<th>( t )</th>
<th>( s_r^2 )</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
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<td>.431</td>
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<td>-2.20</td>
<td>.377</td>
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</tr>
<tr>
<td>Sex</td>
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<td>-.414</td>
<td>.435</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
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<td></td>
<td></td>
<td>.712</td>
<td>.506</td>
<td>.076</td>
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<tr>
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<tr>
<td>Sex</td>
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<td>-.500</td>
<td>.435</td>
<td></td>
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<tr>
<td>Logs</td>
<td>.374</td>
<td>1.04</td>
<td>.001</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: \( N = 11 \); * \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)

**Post-Hoc Analyses**

The results of this study indicate that prior meditation experience and the amount of time spent meditating was not related to pre-to post-intervention changes in stress,
attention, and self-compassion levels. This led the researcher to question if there were statistically significant changes in these variables from pre-to post-testing. As such, post hoc analyses were conducted. Specifically, the researcher conducted paired sample t tests and found the following results. A paired sample t-test for changes in stress levels from time 1 to time 2, depicted a statistical significance \( t(1,10) = 3.87, p = .003 \) and an effect size of \( d = 1.19 \). As per Cohen’s (1998) guidelines, this effect size is considered large. As a result, the average stress scores for the study participants went down from 21.18 (SD = 5.41) to 14.18 (SD = 6.33), which is a 7.0 decrease in overall stress levels of the sample group \( n = 11 \). The average attention scores for the study participants went up from 3.53 (SD = .706) to 4.09 (SD = .878), which was a .56 increase in overall attention levels for the sample group. The paired sample t-test for changes in attention levels from time 1 to time 2, depicted a statistical significance \( t(1,10) = 3.11, p = .011 \) and an effect size of \( d = 0.69 \). This is a medium effect size, per Cohen’s (1988) guidelines. Lastly, the average self-compassion scores for the study participants went up from 2.76 (SD = .679) to 3.52 (SD = .544), which was a .76 increase in overall self-compassion levels for the entire sample group. The paired sample t-test for changes in self-compassion levels from time 1 to time 2, depicted a statistical significance \( t(1,10) = 4.04, p = .002 \) and an effect size of \( d = 1.24 \), which considered large effect size, per Cohen (1988).

Conclusion

Chapter four presented the research questions and the results of the statistical analyses implemented for this study. It described the demographics of the study sample \( n = 11 \) as well as the reliability of the study instruments used for the purpose of this study. The ANCOVAs conducted for research questions one through three did not
demonstrate any statistical differences between the study variables (i.e. stress, attention, and self-compassion) and meditation experience, when meditation experience was co-varied. Additionally, the researcher presented the results of the regression analyses that were conducted to answer research questions four to six. The regression model also found no significant relationship between any of the independent variables and meditation frequency (amount of time spent meditating outside of the formal training group). In fact, there was no significant relationship between participant demographics (e.g., age, gender, religion, etc.) and changes in stress, attention, and self-compassion levels pre-to-post meditation training.

However, the paired sample t-tests demonstrated a change significant change in participant stress, attention, and self-compassion levels pre-to-post meditation training. In the following chapter, the research discusses and considers the various interpretations of the above findings. Furthermore, chapter five will include study limitations, recommendations for future research and the implications of mindfulness meditations (such as Zen Meditation) for counselor education.
Chapter 5

Discussion

Meditation and related interventions have become increasingly popular in treating human physiological and psychological health in the last decade (Sedlmeier et al., 2012; Walsh & Shapiro, 2006). Research studies have shown that meditation is effective in reducing stress, anxiety, depression and other psychological distresses in various student populations (Elder et al., 2011; Kemeny et al., 2012). Furthermore, meditation improves attention (Chan & Woollacott, 2007), boosts the immune system (Creswell, Myers, Cole, and Irwin, 2009), regulates emotions (Kemeny et al., 2012), and enhances individual self-compassion levels (Neff & Dahm, 2014). Although the counseling and psychology literature is replete with evidence supporting the use of meditation for improving individual well-being, the majority of research studies focus on two broad distinctions of meditations. Specifically, the types of meditations that are most prevalent are concentration or mantra meditation and mindfulness meditation. Furthermore, a number of mindfulness meditation studies only employ “modern” mindfulness-based interventions (MBIs) such as Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982), Mindfulness-Based Cognitive Therapy (MBCT; Segal, William, Teasdale, 2002), Acceptance and Commitment Therapy (ACT; Hayes, 2004), and Dialectical Behavior...
Therapy (DBT; Linehan & Dawkins, 1995) to note changes in individual health and well-being (e.g., Baer, 2003).

Mindfulness originates from ancient Buddhist philosophies and continues to be incorporated in traditional Vipassana (Gunaratana, 1993) and Zen meditation styles (Kapleau, 1965). Traditional mindfulness meditations (MMs), such as Zen mindfulness meditation, are sparingly used in treating human physiological and psychological health. In fact, only a handful of studies note the importance of Zen meditations and its influence in psychotherapeutic benefits. Thus far, no studies have employed Zen mindfulness meditation to depict changes in this study’s sample group (i.e. graduate student counselors). Taking these issues into consideration, the researcher designed this study to examine the efficacy of Zen meditation, a form of mindfulness meditation, on graduate counseling students getting trained in a CACREP accredited program.

To gauge the effects of Zen mindfulness meditation on student counselors, the researcher examined three outcome variables: stress, attention, and self-compassion. The researcher hypothesized that there would be a significant difference between student counselors’ individual stress, attention, and self-compassion levels after they attend a six-week meditation training (research questions one through three). In addition, the researcher hypothesized that the study would uncover a significant relationship between the amount of time-spent meditating and the independent variables (research questions four through six).

**Background and Study Findings**

The critical importance of maintaining counselor personal wellness has gained much attention in the field of Counselor Education (American Counseling Association,
Research studies have extended wellness advocacy efforts from clients and clinical practitioners to a growing body of graduate counseling students (Greason & Cashwell, 2009, Roach & Young, 2007). Moreover, the ethical standards for the counseling profession clearly identify the importance of maintaining individual health and well-being (American Counseling Association, 2014). Knowing that counselor personal wellness has a direct impact on the therapeutic alliance and client treatment outcomes, counselor education literature is beginning to offer a diverse range of modalities for maintaining and enhancing one’s own mental, physical, and spiritual health (e.g., Shapiro et al., 2007; Gutierrez, Conley & Young, 2016). Regardless of this development, complementary alternative modalities (for e.g., Meditation, Yoga, Tai Chi) that promote the integration of the mind, body, and spirit continue to lack the empirical rigor in the field of counselor education. Therefore, this study examined the effects of Zen mindfulness meditation on student counselors’ stress, attention, and self-compassion with the aim of enhancing their overall psychological health and well-being.

**Analysis of Research Questions One, Two, and Three**

In order to test research questions one through three, the researcher conducted an analysis of covariance (ANCOVA). The independent variables employed in the statistical analyses were the outcome variables (i.e. stress, attention, and self-compassion), the dependent variable was Zen meditation training, and the covariate was meditation experience. The ANCOVA revealed no significant differences between individual stress, attention, and self-compassion levels from pre-to-post training when controlling for
meditation experience. However, considering the changes that the researcher observed in the outcome variables, a paired sample t-test was conducted for each outcome variable to better understand the statistical significance of these changes. Consequently, the t-tests determined significant decreases in graduate counseling students’ stress levels, increase in attention, and also a significant increase in self-compassion levels at the end of the six-week meditation training. In other words, a total of 33% decrease was noted in individual stress levels, a 16% increase in attention levels, and finally a 27% increase in counseling students’ self-compassion levels at the end of the training.

The above findings indicate that there was a significant decrease in stress, and an increase in attention and self-compassion levels after the six-week meditation training. However, the researcher could not determine the causation of these effects due to limitations of the research design (i.e. internal and external validity threats) presented in a section later in this chapter. Therefore, these findings should be interpreted with caution.

**Analysis of Research Questions Four, Five, and Six**

Previous research studies have described varied results in regards to the duration of meditation practice and its effects on study variables (Carson et al., 2005; Leppma, 2011; Shapiro et al., 2006). For example, in a study by Carson and colleagues (2005), participants reported meditating for an average of 20.8 minutes per day. Consequently, the researchers found that spending more time meditating was directly related to reductions in participant physical pain experiences (Carson et al., 2005). In contrast, Shapiro, Brown, and Biegel’s (2006) study found no relationship between the amount of time the therapist trainees spent meditating in an MBSR program and the study outcomes. The participants of this study group meditated for an average of 55.92 minutes (Shapiro,
Brown, & Biegel, 2006). Finally, in Leppma’s (2011) study it was noted that meditation practice time was positively correlated to participant cognitive empathy levels but not related to their problem-solving skills, perceived social support, levels of empathy, and even personal distress. As such, the present study used a linear regression model to answer an additional three research questions (questions four through six) about the role of meditation time and its ability to predict change in outcome variables over and above the amount of variance accounted for by age, gender, degree type, race/ethnicity, and religious/spiritual orientation.

The researcher tested to determine if the amount of time spent meditating predicted changes in stress, changes in attention, and changes in self-compassion over and above the amount of variance accounted for by participants’ race and gender. In each of these tests, the combination of race and gender were not statistically significant predictors of the change variables. This conclusion persisted when the amount of time spent meditating was entered into the regression equation. There are many potential explanations for these findings. According to the t-tests, each of the groups’ improved over time on measures of stress, attention, and self-compassion. It is possible, that the regression analyses failed to predict these changes due to study’s limited power. Further, Research Question 5 may have been non-significant because it did not meet the assumptions of normality. Attention time 1 and time 2 were significantly related to one another. Time 1 variable was leptokurtic, which may have contributed to the current findings. Consequently, the researcher of the current study noted that the amount of meditation time did not yield any unique variances for the outcome variables, i.e., the meditation logs were inversely proportional to changes in outcome variables. Moreover,
the practice time did not yield much variances in regards to participant identity variables (i.e. race and gender).

**Integration of Findings in Literature**

Contrary to the researcher’s expectations, the data did not support the study hypotheses. Meditation was not a predictor of pre-to-post test changes in the outcome variables. Furthermore, the identity variables (race and gender), and the amount of time spent meditating were also not significant predictors for pre-to-post treatment changes. The researcher compared these results with existing studies on meditation. Shapiro and colleagues (2007) conducted a study on mental health therapists in training. They employed a mindfulness-based stress reduction program (MBSR) for noting changes in factors related to participant psychological distress and well-being (i.e. perceived stress, anxiety, positive effects, and self-compassion). The study was conducted using a nonrandomized, cohort-controlled design, the results of which noted significant changes. Participants in the MBSR group described a decrease in stress, state and trait anxiety, and rumination. In addition, there was an increase in participant positive effects and self-compassion levels for this group. However, preliminary analyses of the study showed no changes on participant demographics (i.e. age, gender, race, and academic year) (Shapiro et al., 2007). Further analyses showed a variance for participants differing in academic years, but again no variance for any of the other demographics. These results somewhat correlated with the current study’s results, i.e. no significant differences were found in the outcome variables based on participant demographics.

The intensity of treatment is an important consideration for achieving optimal changes in meditation research (Walsh & Shapiro, 2006). Unlike, the current study’s
findings, meditation was a predictor for changes in outcome variables for Shapiro’s (2007) study. The meditation curriculum incorporated 3 hour-long sessions per week for a total of 10 weeks. During the group sessions, the trainees practiced: (a) a sitting meditation, (b) body scan exercises (c) yoga postures and stretches, (d) a guided loving-kindness meditation and, (e) other informal practices to bring mindfulness to their everyday life (e.g., mindful eating, mindful walking) (Shapiro et al., 2007). The current study’s meditation curriculum lacked this kind of treatment intensity. Due the nature of its study group (i.e. graduate-counseling students with limited time), a program as intense as the one mentioned above would not have been practically possible to implement. Moreover, the resources for such a program would require a larger physical set-up and equipment (e.g., yoga mats, a formal retreat center, etc.). It is possible that due to such differences in the treatment intervention, the results of the current study revealed the outcomes that it did. Furthermore, in a MBSR clinical trial that ran from 1997 to 1999, participants (n = 136) had the opportunity to meet with the group facilitator (Jon Kabat-Zinn) privately for around 2.5 hours per week to process their experiences (Reibel, Greeson, Brainard, & Rosenzweig, 2001). This study was conducted for a total of 8 weeks during which the participants practiced informal and formal meditation for an hour per day, six days a week. During the sixth week of the training, participants entered into a seven hour-long meditation retreat (Reibel, Greeson, Brainard, & Rosenzweig, 2001). Group discussions focused on participant experiences and applicability of mindfulness in day-to-day life. Again, the intensity of the meditation treatment for this study was far more rigorous than the present study. Therefore, a replication of the present study over a longer duration of time (e.g., 10-15 weeks) with a more rigorous curriculum, one-on-one
facilitator participant interaction, and implementation of a control group may have an effect on the outcome variables.

Similar to the above findings, Kozasa et al. (2015) noted changes in participant attention, mindfulness, and self-compassion levels after a 9-day intensive Buddhist meditation retreat. The sample group of this study included participants with a prior meditation practice of 1 year or less and those with more than 1 year of meditation practice. The researchers compared differences in outcome variables for the two participant groups (i.e. less than 1 year of meditation experience vs. more than 1 year of meditation experience). The results of the study showed significant increases in attention, mindfulness, and self-compassion levels for both participant groups. This study justified the reasons for why practitioners with prior meditation experiences would have significant results even after a short 9-day meditation intervention.

Kozasa and colleagues (2015) also utilized a more intensive meditation curriculum; participants of the study group meditated for a period of 4 hours per day and received theoretical information for another 3 hours per day during the 9-day retreat. The training included breathing exercises, observing mental activities, building an awareness of sensory perceptions, and more, in addition to the sitting practice (Kozasa et al., 2015). This also explains the reasons for the positive results of Kozasa’s (2015) study. Finally, Kozasa and colleagues (2015) concluded that frequency of meditation practice (i.e. amount of time practiced everyday) influenced the results of the retreat. Practitioners who immersed in meditation every single day had the skills to stabilize the mind more quickly that those who did not have regular practice. This particular finding was not observed in
the present study. It also did not show any statistical significance in Shapiro’s (2007) study.

Although not hypothesized, Shapiro and colleagues (2007) examined how the frequency of mindfulness practices was related to changes in participant psychological distress and well-being. No significant relations were found for this analysis. Consequently, the researchers concluded that the average weekly time spent in mindfulness related practices were limited (Shapiro et al., 2007). Additionally, the sample group was not large enough to detect these changes ($n = 22$). Therefore, the researchers concluded that the effects of mindfulness practices were strongly related to a critical threshold time like in Carson et al.’s (2004) study (Shapiro et al., 2007). Taking the findings of past studies into consideration, the current researcher acknowledges that prior meditation experience, a longer and a more intense meditation curriculum than six weeks, and a quantifiable threshold of meditation time for each participant may impact outcome variables of meditation research differently.

**Study Limitations**

**Control Group**

A major limitation of this study was the lack of a control group. The researcher designed the present study using a One-Group Pretest Posttest Design. Due to the restricted nature of the quasi-experimental design and lack of random assignment, the researcher was unable to compare the meditation treatment to any controls. This limited the researcher’s ability to generalize the results of the present study to a larger population.
Sample

Another major limitation of this study was the lack of participant enrollment. The primary researcher proposed to recruit participants from a sample of graduate student counselors in training at the University of Toledo. The researcher calculated a power of \( n = 30 \) to justify treatment effects on participant stress, attention, and self-compassion levels. Seventeen students signed up for the current study, out of which six students dropped out for reasons noted in chapter 4.

Meditation Curriculum and Logs

This study proposed to measure changes in the outcome variables originating from counseling students’ sitting meditation practice only. Although, the basic instructions of Zen meditation align with traditional mindfulness meditations (Marchand, 2012), this is a new technique, which is seldom used. Rather, it has never been employed in this population prior to the present study. Learning a completely new meditation technique may have added to participant challenges. Additionally, like other mindfulness based curriculums (e.g. MBSR), the present study’s intervention does not incorporate practices such yoga, Tai Chi, Qigong, walking meditation, and others that support in increasing individual mindfulness and ultimately impact overall individual well-being (e.g., Kabat-Zinn, 1990). Therefore, a replication of this study over a longer period of time with additional mindfulness based practices may have an effect on the outcome variables. Additionally, the researcher was unable to determine the accuracy of the meditation logs that the participants turned in at the end of every week. Consequently, this limitation should be taken into consideration when replicating this study in the future.
**Group Structure and Facilitators**

For participation in the current study, participants were asked to attend a six-week formal group training, which was held at the University of Toledo’s main campus. Attending the group on a weekly basis was an added responsibility, even though all participants self-registered for this study. Additionally, participants were asked to maintain a sitting meditation practice of 15 minutes in the morning and 15 minutes in the evening outside of the formal training group. Majority of the participants \((n = 9)\) in the study group were taking summer classes at the University of Toledo; one participant was in the middle of her doctoral comprehensive examinations; and one participant was in the data collection phase of her dissertation requirements. Considering the intensity of academic requirements during the short summer semester for Master’s students and the level of time commitments for Doctoral students, practicing meditation on a daily basis was an added responsibility that not all participants were able to accomplish routinely.

Furthermore, the primary facilitator of the training was unavailable to lead session 3 of the six-week intervention due to unavoidable personal reasons. To cover up for him, the research team allocated a substitute facilitator, a Psychology professor at the University of Toledo and also a long-term student of the Zen meditation facilitator. Although, there was no change in the treatment provided to the participants in session 3, it is possible that adding a substitute facilitator for one session may have changed the intimacy and dynamics of participant group processing.

**Participant Demand Characteristics**
Additionally, certain demand characteristics of the study’s participants may have served as a reasonable threat for the one group pre-test post-test research design. Goodwin (2010) defines demand characteristics as characteristics or attributes of a particular experimental condition that influence participants to act a certain way, either towards or against the purpose of the study outcomes. As illustrated by Goodwin (2010), some demand characteristics are as follows: cooperative-subject effect, the “screw you” effect (also called the negative participant effect), and the evaluation-apprehension effect (p. 231). During the cooperative-subject effect, participants attempt to be ideal subjects of the study and present their findings in a way that comprises with what they believe to be the desired outcomes of the study. In contrast, participants predisposed by the screw you effect are uncooperative in the hopes of destroying the desired outcomes and the credibility of the study (Goodwin, 2010).

Finally, evaluation apprehension effect refers to subjects who are more concerned about how the experimenter might evaluate them after the completion of the study and behave or report results in a socially desirable way. Such results are representative of the participant’s intelligence and most desirable characteristics rather than the actual study experiences (Goodwin, 2010). By predisposing themselves to each of these conditions, participants are either consciously or unconsciously skewing the results of the study. Regardless of the study limitations presented in this section, Goodwin (2010) asserts that no study is considered confound-free and so a reasonable and thorough approach is the best possible outlook to reduce the effects of any confounding variables.

Limitations of Research Design
Additional limitations were considered when administering the one-group pretest posttest design. To avoid confounding experimental research, Campbell and Stanley (1963) outlined several threats to this design’s internal and external validity. Following are the threats to internal validity: unintended environmental factors, rather than the interventions, could influence the outcomes of the study. For example, outcome scores can be affected by participant’s history (e.g., occurrence of events outside of the study); natural maturation (e.g., physiological and psychological development); testing effects (e.g., prior experience with meditation), and instrument decay (e.g., change in the measurement itself) (Campbell & Stanley, 1963). Because participants were recruited from various Master’s and Doctoral level counseling classes, their level of training for the degree requirements differed. This could have been a threat to internal validity as the nature of events in one class may differ from another class influencing participant maturation (e.g., physiological and psychological development). To diminish the effects of participants’ history and maturation, the treatment effects were measured on two occasions (pre and post) (see Figure 1). Because treatment effects were measured twice, there were chances of encountering participant fatigue and practice effects (participant’s familiarity of instrumentation) (Gravetter & Forzano, 2015). For these reasons, the primary researcher carefully selected brief instruments that were less likely to cause participant fatigue. The brevity of the assessments and the way the items are worded (i.e., self-perception rather than performance based) supported in decreasing the likelihood of influencing study findings that may have been caused by repeated testing.

External validity refers to the researcher’s ability to generalize the study’s outcomes to a larger population than the one being tested (Campbell & Stanley, 1963).
Threats to external validity include volunteer bias, wherein, the researcher is unable to determine the differences that stem from participants who volunteer and are willing to complete the study in comparison to those who don’t volunteer and/or are not motivated to complete the study. This is created when participants most motivated to complete the study, from start to finish, add to the threat of external validity (Gravetter & Forzano, 2015). In order to mitigate the threats to validity, the primary researcher implied the following approaches, in addition to careful selection of testing instruments and statistical controls.

Since the experiment was administered in one university only, there were risks associated with external validity (Campbell & Stanley, 1963). Therefore, the outcomes resulting from this study could be unique characteristics of this sample group only. Campbell & Stanley (1963) argued that it is impractical to obtain a sample from a wider population sample to generalize outcomes of every independently led study. To minimize this threat, researchers should conduct such studies in environments that at least have theoretical similarities between the sample and the larger population (i.e. create environments in the experiment room that may generalize to bigger populations as well). Thus, regardless of the settings and the number of times the study is conducted, its overall results will still produce externally valid outcomes similar to those that the larger sample may produce.

**Implications**

Considering the intense nature of the counseling profession, the emotional exhaustion and stress that is associated with it, it is pivotal that student counselors learn research-based, efficient, and effective methods to avoid burnout (Myers & Sweeney,
2008; Roach & Young, 2007). Zen meditation (or sitting in Zazen) is a simple breath awareness practice that student counselors could utilize at any time of the day. It does not require any special equipment, continual instruction, or large spaces for practice. Students may employ this wellness method at the beginning or end of their work-day, in the middle of seeing clients, or by building a routine around it. This will support them in managing their stress adequately. Zen mindfulness meditation does not require a guided script or the learning of a mantra like other meditation practices (e.g., guided imagery, mantra meditations). However, like most other forms of meditation, it does require a routinely time commitment (i.e. 10-15 minutes per day) so individuals are able to reap the benefits of practice. Hence, it is not an overly time consuming practice and if added to one’s daily rituals can be easily implemented.

Meditation practices can be challenging for beginning meditators (Sedlmeier et al., 2012). The researcher did not collect any information on any of these challenges for the study participants, therefore such challenges were not reported. However, even though the findings of this study did not conform to the directional research hypotheses, it is important to note that participant stress levels decreased and attention and self-compassion levels increased at the end of the study. Again, the causation of which is unknown.

Currently, the majority of meditation literature focuses on concentration/mantra meditations and modern mindfulness based meditation interventions (e.g., MBSR, MBCT). Traditional mindfulness meditation practices, like Zen meditation, have existed and continued to be practiced for over 2500 years. However, only a handful of studies have demonstrated the benefits of Zen meditation in psychology trainees. No studies so
far have been implemented with Zen meditation as a wellness intervention for graduate counseling student trainees in CACREP programs, except for this one. Therefore, it is imperative that counselor educators conduct further research in Zen meditation and other traditional mindfulness based meditations (e.g., Vipassana meditation) to identify the results of such practices for decreasing psychological distress in counseling students and to provide them with an additional self-care tool for enhancing individual wellness.

**Suggestions for Future Research**

In the recommendations for replicating this study for future research, the researcher already mentions the need for (a) a control group and a larger sample size, (b) a longer and intense meditation curriculum with one-on-one participant facilitator interaction time, and (c) more meditation frequency. In addition, incorporating a community support group or online portal for participants to process their experiences outside of the formal training group would be beneficial for them to navigate the intervention’s challenges. Additionally, minimum threshold time must be incorporated when considering meditation practice time before the baseline measures are compared at the end. For example, participants be requested to maintain a consistent practice of 60-90 minutes per week (or 10-15 minutes per day) and if unable to meet the requirements the data not be included in the statistical analyses. Also, future researchers could look at measuring the baseline changes in outcome variables pre, mid, and posttest. Additionally, changes can be recorded and compared at the end of a longer meditation intervention (e.g., after 10-15 weeks) with a follow up of 6 months to 1 year. In addition, the researcher recommends that future research projects should focus on other forms of psychological distresses related to graduate student populations, such as anxiety, fatigue,
and depression. Future researchers could also compare these distresses in Master’s level counseling students vs. Doctoral level counseling students; compare and contrast the applicability of Zen meditation in enhancing individual wellness and in turn graduate college successes for student counselors.

Furthermore, researchers could determine the applicability of Zen meditation amongst meditators and non-meditators using a cross-sectional study design amongst counselors and counselor educators. Researchers could obtain funds through state or national level grants for meditation to be incorporated in CACREP curriculums. With monetary access, researchers may allocate private spaces for meditation retreats and other related practices such as Yoga, Tai-Chi, and Qi-Gong, which would enhance the applicability of such an intervention on participant outcome variables. Developing a private space for week-long, overnight meditation retreats with continual access to the facilitator may also affect the outcomes quite differently. Lastly, a replication of this study using qualitative analyses that record participant personal experiences by incorporating journal entries and participant-researcher interviews would provide more clarity in terms of the challenges and benefits for future meditation researchers.

Although not reported for the current study, it is possible that some participants may be demotivated to practice the technique if they find it too overwhelming. It is also possible that participants from a larger sample group may have obligations on religious grounds, which may hinder their progress in such studies and make them disengage from the treatment quickly. Therefore, it is pivotal that future researchers take the above-mentioned recommendations into consideration before replicating this study. More importantly, future researchers should focus on building a research base for traditional
mindfulness meditations (i.e. Zen meditation) in Counselor Education literature by not only focusing on psychological distresses (i.e. stress) but also on other variables that were utilized in this study. For example, researchers should examine the effects of Zen meditation on individual attention levels to better prepare student counselors in enhancing therapeutic presence and awareness, ultimately affecting the therapeutic alliance and client treatment outcomes. Lastly, other studies could incorporate the examination of Zen meditation on student self-compassion levels. Since self-compassion research is also in its infancy, it would greatly benefit from future research studies that demonstrate its benefits for enhancing individual wellness and life-satisfaction.

Summary and Conclusion

The purpose of this study was to investigate if traditional mindfulness meditations like Zen meditation had any effect on student counselors’ level of stress, attention, and self-compassion levels. In addition, the researcher examined if meditation frequency had a relationship with the outcome variables, based on participant demographics. The findings of this study did not confirm the research hypotheses. First, the researcher found no statistical significance between meditation and changes in student counselors’ stress, attention, and self-compassion levels. However, study results showed a significant reduction in participant’s stress levels, an increase in their attention levels, and finally an increase in their self-compassion levels. The causation of these changes is unknown. Second, the researcher found no statistical significance between meditation frequency (15 minutes every morning and evening) and changes in the outcome variables (i.e. stress, attention, and self-compassion). It was also noted that participant demographics did not affect any of these changes.
These findings have numerous limitations and implications, all of which are discussed in this chapter. Future researchers should consider these limitations (e.g., sample size, meditation curriculum and logs, etc.) when replicating this study. Over and above, future studies should aim to examine if any mediating factors determine the effectiveness of meditation on individual wellness. Lastly, Zen meditation has never been employed as a wellness intervention with this sample group and therefore is in need for future research in Counselor Education.
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DEMOGRAPHICS QUESTIONNAIRE

Please answer the following questions for study purposes:

1. Age:
   - 18-21
   - 22-25
   - 26-30
   - 31-40
   - 41 and over

2. Gender:
   - Female
   - Male
   - Transgender or Gender-Nonconforming
   - Prefer to self describe: _________________

3. Degree program: ___ Bachelors ___ Master’s ___ PhD

4. Major and minor (if any):
   _______________________________________________________________________

5. Racial or ethnic group(s) you most identify with:
   - Black or African-American (non-Hispanic)
   - Asian-American/Pacific Islanders
   - White or European American (non-Hispanic)
   - Latino/a or Hispanic-American
   - Native American, American Indian, or Alaska Native
   - Multicultural or Biracial
   - Other, please describe: ____________________

6. Do you have any experience of meditation? __Y   __N
   If yes, please describe the nature of practice and the duration (days/weeks/months/years) you have practiced it for:
## WEEKLY MEDITATION LOG

<table>
<thead>
<tr>
<th>Day</th>
<th>Duration of Meditation (in minutes)</th>
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<tbody>
<tr>
<td>Monday</td>
<td></td>
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<td>Tuesday</td>
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<td>Wednesday</td>
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<td>Thursday</td>
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<td>Friday</td>
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<tr>
<td>Saturday</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td></td>
</tr>
</tbody>
</table>

**Total for the week =**
Appendix C

PERCEIVED STRESS SCALE

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

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Appendix D

MINDFUL ATTENTION & AWARENESS SCALE

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Always</td>
<td>Very Frequently</td>
<td>Somewhat Frequently</td>
<td>Somewhat Infrequently</td>
<td>Very Infrequently</td>
<td>Almost Never</td>
<td></td>
</tr>
</tbody>
</table>

I could be experiencing some emotion and not be conscious of it until sometime later.  
1 2 3 4 5 6

I break or spill things because of carelessness, not paying attention, or thinking of something else.  
1 2 3 4 5 6

I find it difficult to stay focused on what’s happening in the present.  
1 2 3 4 5 6

I tend to walk quickly to get where I’m going without paying attention to what I experience along the way.  
1 2 3 4 5 6

I tend not to notice feelings of physical tension or discomfort until they really grab my attention.  
1 2 3 4 5 6
<table>
<thead>
<tr>
<th>I forget a person’s name almost as soon as I’ve been told it for the first time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>It seems I am “running on automatic,” without much awareness of what I’m doing.</th>
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</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
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<table>
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<tr>
<th>I rush through activities without being really attentive to them.</th>
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<tbody>
<tr>
<td>1 2 3 4 5 6</td>
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<table>
<thead>
<tr>
<th>I get so focused on the goal I want to achieve that I lose touch with what I’m doing right now to get there.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I do jobs or tasks automatically, without being aware of what I'm doing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I find myself listening to someone with one ear, doing something else at the same time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I drive places on ‘automatic pilot’ and then wonder why I went there.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I find myself preoccupied with the future or the past.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I find myself doing things without paying attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I snack without being aware that I’m eating.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>
SELF-COMPASSION SCALE

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES
Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never 1 2 3 4 5
always

1. I’m disapproving and judgmental about my own flaws and inadequacies.
2. When I’m feeling down I tend to obsess and fixate on everything that’s wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I’m feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I’m down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I’m intolerant and impatient towards those aspects of my personality I don’t like.
12. When I’m going through a very hard time, I give myself the caring and tenderness I need.
13. When I’m feeling down, I tend to feel like most other people are probably happier than I am. 14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don’t like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I’m really struggling, I tend to feel like other people must be having an easier time of it.
19. I’m kind to myself when I’m experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I’m experiencing suffering.
22. When I’m feeling down I try to approach my feelings with curiosity and openness.
23. I’m tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.
25. When I fail at something that’s important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don’t like.
Appendix F

RECRUITMENT PRESENTATION

What is Meditation?

- A synthesis of practices
  - directing individuals to focus their attention in a nonchalant manner (Shapiro, 1992; Wallace, Benson, & Wilson, 1975).


Background

- The human mind is conditioned to think.
  - Default Mode Network
  - Thinking is not inherently good or bad, usually necessary and encouraged.

- However, can sometimes lead to
  - Anxiety
  - Stress
  - Depression
  - Other health issues

- This comes from getting lost
  - In past and future thoughts take away from the present moment

- Mindfulness helps!!
Mindfulness

- Mind Wandering
  - Our minds are lost in thought about 47% of the time.

- The awareness that arises
  …from paying attention…
  …on purpose…
  …in the present moment…
  …non-judgmentally (Kabat-Zinn, 1990).

Why Mindfulness Meditation (MM)?

- Increases awareness of our minds, bodies, and the world around us; leads to
  - More present
  - Here & now
  - Awakening
Nature of Counseling Profession

• Counselors are often exposed to stressful situations including strenuous client behaviors, which can lead to
  ▪ compassion fatigue,
  ▪ occupational exhaustion,
  ▪ sometimes lack of empathy
  ▪ counselor burnout (Roach & Young, 2007).

• Burnout can negatively affect a professional’s ability to care for others and may ultimately contribute to a fragile therapeutic alliance.

• Scholars have repeatedly highlighted the importance of incorporating self-care and wellness strategies in the counseling curriculum (Myers & Sweeney, 2008; Roach & Young, 2007; Young & Lambe, 2007).

MM and Counselors

• Wellness
  ▪ Reduces stress and anxiety
  ▪ Decreases aggression, addiction, insomnia, and suicidal ideation (Pruitt & McCollum, 2010).
  ▪ Reduces self-depleting thoughts of negativity and emotions that lead to poor mental health.

• Professional Development
  ▪ Therapeutic presence
  ▪ Mindful Attention
  ▪ Enhances empathy
  ▪ Increases emotion regulation
  ▪ Greater awareness of self
Meditators vs. Non-Meditators

- Research on Brain Scans

https://www.youtube.com/watch?v=Vra5RWBMNsM

https://www.youtube.com/watch?v=q0DMYs4b2Yw
Appendix G

MEDITATION CURRICULUM

Zen Mindfulness Meditation Curriculum

Facilitator

- Rev. Jay Rinsen Weik
  - Training
  - Certification
  - Experience with Zen Meditation
    - Practice and Teaching
Primary Researcher

- Mansi Brat
  - Interest in the topic
  - Personal Practice
  - Purpose of the study
    - Confidentiality

Principal Investigator

- Dr. John Laux
  - Dissertation Chair
  - Professor of Counselor Education
Participant Introductions

- Getting to know each other

- Prior meditation experience?
  - How long?
  - What types?

Study Instruments

- Participants will complete the following at the beginning of training -
  
  - Informed Consent
  - Demographics questionnaire
  - Perceived Stress Scale-10 (PSS-10)
  - Mindful Attention & Awareness Scale (MASS)
  - Self-Compassion Scale (SCS)
Week I

- Participants will learn the basics of meditation practice

1. Attitudes
   - Non-judgment
2. Integrity
   - Unintentional awareness vs. Intentional awareness (not experiencing our bodies in a dissociative way).
3. Basic posture
   - Convenient seated position
4. Breathing (Belly breathing)
   - Inhalation and exhalations will serve as the anchor of the practice (Kabat-Zinn, 1990).
Learning how to Meditate

- Allow yourself to sit in a convenient and comfortable pose.
- Close your eyes.
- Attempt to keep your spine straight, not so much that it creates tension in your shoulders and/or neck.
- Zazen position
- Pick a point of focus about eight to ten inches in front of you and gaze at it.
- Keep gazing horizontally.
- Start breathing from your belly.
- As you inhale, allow your belly to rise and as you exhale, let it sink.
- Bring your attention to your breath (the breath will serve as the anchor of your practice).
- As you gaze at your point of focus, the mind will begin to wander into cyclical thought patterns.
- Do not repress any thoughts. As a thought arises, observe it, acknowledge its presence, and let go of it. Simultaneously, continue to maintain your focus on your breath.
- Maintain your mental awareness in your “one” point (also called center point - 3 inches below the navel).

Sitting Postures
Body’s Discomfort

• As one sits in a particular position for a while, the body tends to get uncomfortable.
  – Normally we release the discomfort by shifting positions.

• However, while meditating direct your attention to these sensations of discomfort; mentally welcome them.
  – The sensations become part of your present moment experience

• Allowing yourself to breathe with them; allowing yourself to breathe into them.

• Then, slowly and gradually shift your body to reduce the discomfort
  – Mindfully noting the sensations as your body moves

Weekly Group Meetings

• Zazen: Every week the group will start with a practice of seated meditation (10 mins.) and will end with seated meditation (10 mins.).

• This will support the students in gaining familiarity with meditation as they prepare themselves for a home practice.
Recommendations

• Choose a good time of practice

• Choose a good place
  – Create a ritual around the place

• Use a meditation cushion to support your spine

• Consistency is key.

Homework

• Practice skills taught in group
  – At least 15 mins. per day (sitting practice and breath awareness) morning and evening.

• Record the duration of seated meditation outside of formal training in Insight Timer Meditation App.
Homework

• Practice skills taught in group
  - At least 15 mins. per day (sitting practice and
    breath awareness) morning and evening.

• Record the duration of seated meditation
  outside of formal training in Insight Timer
  Meditation App.

Week II

• During second session participants will discuss insights,
  challenges, and overall meditation experience with the
  facilitator as well as other participants.
  ▪ What worked? What didn’t work?

  ▪ Facilitator will address participant questions/inquiries
    related to personal practice.

  ▪ Participants will complete meditation logs as recorded
    in Insight Timer for Mansi.
Homework

• Practice skills taught in group
  - At least 15 mins. per day (sitting practice and breath awareness) morning and evening.

• Record the duration of seated meditation outside of formal training in Insight Timer Meditation App.

Week III

• During the third session participants will discuss insights, challenges, and overall meditation experience with the facilitator as well as other participants.
  ▪ What worked? What didn’t work?
  ▪ Facilitator will address participant questions/inquiries related to personal practice.
  ▪ Participants will complete meditation logs as recorded in Insight Timer for Mansi.
Homework

• Practice skills taught in group
  – At least 15 mins. per day (sitting practice and
    breath awareness) morning and evening.

• Record the duration of seated meditation
  outside of formal training in Insight Timer
  Meditation App.

Week IV

• During the fourth session participants will discuss
  insights, challenges, and overall meditation experience
  with the facilitator as well as other participants.
  ▪ What worked? What didn’t work?

  ▪ Facilitator will address participant questions/inquiries
    related to personal practice.

  ▪ Participants will complete meditation logs as recorded
    in Insight Timer for Mansi.
Week V

- During the fifth session participants will discuss insights, challenges, and overall meditation experience with the facilitator as well as other participants.
  - What worked? What didn’t work?

- Facilitator will address participant questions/inquiries related to personal practice.

- Participants will complete meditation logs as recorded in Insight Timer for Mansi.

Homework

- Practice skills taught in group
  - At least 15 mins. per day (sitting practice and breath awareness) morning and evening.

- Record the duration of seated meditation outside of formal training in Insight Timer Meditation App.
Recap & Debriefing

- Review of last 5 weeks.
- Participant debriefing.

Week VI

- During the sixth session participants will discuss insights, challenges, and overall meditation experience with the facilitator as well as other participants.
  - What worked? What didn’t work?

  - Facilitator will address participant questions/inquiries related to personal practice.

  - Participants will complete meditation logs as recorded in Insight Timer for Mansi.
Homework

- Practice skills taught in group
  - At least 15 mins. per day (sitting practice and breath awareness) morning and evening.

- Record the duration of seated meditation outside of formal training in Insight Timer Meditation App.

Study Instruments

- Participants will complete the following at the end of training –
  - Perceived Stress Scale-10 (PSS-10)
  - Mindful Attention & Awareness Scale (MASS)
  - Self-Compassion Scale (SCS)
Final Meditation Logs

- Participants will complete meditation logs as recorded in Insight Timer for Mansi.

- Final logs will be collected through email.
Appendix H

INFORMED CONSENT

ADULT RESEARCH SUBJECT - INFORMED CONSENT FORM
(Effects of Zen Mindfulness Meditation on Student Counselor’s Stress, Attention, and Self-Compassion Levels)

Principal Investigator: John Laux, Ph.D., Dissertation Chair, 419-530-4705
Mansi Brat, Doctoral Candidate, 419-377-5563

Purpose: You are invited to participate in my research project on Zen Mindfulness Meditation and its relevance in promoting wellness for counseling professionals. The study is being conducted at the University of Toledo under the direction of my dissertation chair, Dr. John Laux. The purpose of this study is to investigate the effects of a meditation practice on student counselor’s perceived stress, attention, and self-compassion levels. The type of meditation being examined, Mindfulness Meditation (Zen), has been widely accepted across mental health literature. Please note that all data accumulated from this study will be used to fulfill my dissertation requirements. Participant results will be aggregated and publically disseminated for scholarly publication. All identifying participant information will be kept confidential when publically displaying the study results. If at a future time I would like to use the research for some other purpose, I will talk to you and present you with a different consent form, stating the purpose of the research.

Description of Procedures: This research for the completion of my dissertation will take place at the University of Toledo, Toledo, OH. The meditation group will run for six weeks during which the study participants will be taught the mindfulness meditation technique. At the onset of the study, the primary researcher will administer three self-report measures and a demographics questionnaire. On the completion of the six-week meditation group, the participants will be asked to complete the self-report measures again.

The participants will be asked to keep a journal during the six-weeks of meditation training. In this journal, they will record their weekly meditation experiences and also log the length of meditation practice outside of the group meeting.

After you have completed your participation, the research team will debrief you about the data, theory and research area under study and answer any questions you may have about the research.

Potential Risks: There are minimal risks to participation in this study, including the possibility that you will feel uncomfortable about sitting in a meditative practice, especially if this is your first time learning meditation. If you feel upset or anxious in any way, please let me know.

Additionally, some questions on the self-report measures may cause mild discomfort. If you do feel any kind of discomfort, please feel free to skip those questions.

Potential Benefits: The greatest benefit to you if you participate in this research may be that you will learn about how meditation supports individual wellness, leading to decrease in individual stress levels. You may also experience an increase in attention levels and self-compassion levels, as you complete the meditation curriculum designed for this study. I will also be the one who benefits directly from this project, as it will help me learn how to conduct human subjects research at a doctoral level. Additionally, this study will eventually fulfill my dissertation requirements for my doctoral studies.

University of Toledo IRB Approved
Approval Date: 05/08/17
Expiration Date: 05/07/18
Confidentiality: I will make every effort to prevent anyone other than my dissertation chair from knowing that you provided this information, or what that information is. The consent forms with signatures will be kept separate from the data collected through the self-report measures and meditation logs, all of which will be kept anonymous. Although we will make every effort to protect your confidentiality, there is a low risk that this might be breached.

Voluntary Participation: Your refusal to participate in this study will involve no penalty or loss of benefits to which you are otherwise entitled and will not affect your relationship with The University of Toledo or any of your classes in the Clinical Mental Health Counseling and School Counseling program. In addition, you may discontinue participation at any time without any penalty.

Contact Information: Before you decide to accept this invitation to take part in this study, you may ask any questions that you might have. If you have any questions at any time before, during or after your participation, or experience any physical or psychological distress as a result of this research, you should contact me, Mansi Brat at 419-377-5563 or at mansi.brat@rockets.utoledo.edu or my chair, Dr. John Laux, at 419-530-4705 or at john.laux@utoledo.edu.

If you have questions beyond those answered by the research team or your rights as a research subject or research-related injuries, the Chairperson of the SBE Institutional Review Board may be contacted through the Office of Research on the main campus at (419) 530-6167.

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

SIGNATURE SECTION – Please read carefully

You are making a decision whether or not to participate in this research study. Your signature indicates that you have read the information provided above, you have had all your questions answered, and you have decided to take part in this research.

The date you sign this document to enroll in this study, that is, today's date must fall between the dates indicated at the bottom of the page.

Name of Subject (please print)  Signature  Date

MANSI BRAT
Name of Person Obtaining Consent  Signature  Date

This Adult Research Informed Consent document has been reviewed and approved by the University of Toledo Social, Behavioral and Educational IRB for the period of time specified in the box below.

Approved Number of Subjects: 30

University of Toledo IRB Approved
Approval Date: 05/09/17
Expiration Date: 05/08/18
Appendix I

IRB APPROVAL

To: John Laux, Ph.D. and Mansi Brut
Department of School Psychology, Higher Education, Counselor Education & Supervision

From: Walter Edinger, Ph.D., Chair
Patricia Case, Ph.D., Vice Chair
Wesley A. Bullock, Ph.D., Chair Designee
Nilgun Sezginis, MPH, RHA, Chair Designee

Signed: [Signature]

Date: 05/10/17

Subject: IRB #202109
Protocol Title: Effects of Zen Mindfulness Meditation on Student Counselor's Stress, Attention, and Self-Compassion Levels

On 05/10/17, the above research was reviewed and approved by the Chair and Chair Designee of the University of Toledo (UT) Social Behavioral & Educational Institutional Review Board (IRB) via the expedited process. The Chair and Chair Designee noted that a signed and dated Consent remains required prior to an individual taking part in this research. This action will be reported to the committee at its next scheduled meeting.

Items Reviewed:
- IRB Application Requesting Expedited Review
- IRB Application for Expedited Continuing Review of Research
- Approved IRB Protocol (version date 05/10/17)
- Current IRB Approved Adult Informed Consent Form(s) (version date 05/10/17)
- Current IRB Approved – Survey (version date 05/10/17)
- Current IRB Approved Recruitment Flyer(s) (version date 05/10/17)
- Current IRB Approved – Recruitment Presentation (version date 05/10/17)
- Current IRB Approved Demographic Questionnaire(s) (version date 05/10/17)
- Current IRB Approved – Study Instruments (version date 05/10/17)

This protocol approval is in effect until the expiration date listed below, unless the IRB notifies you otherwise.

Only the most recent IRB approved Consent/Assent form(s) listed above may be used when enrolling participants into this research.

Approval Date: 05/10/17
Expiration Date: 05/09/18
Number of Subjects Approved: 30

Please read the following attachment detailing Principal Investigator responsibilities.
Participants were assigned to the intervention group using an alpha-numeric code.

Participants attend group session.

Participants attend group session.

Participants are administered the informed consent and the demographics questionnaire.

Participants process their experiences in session. Practice meditation in session and at home.

Participants process their experiences in session. Practice meditation in session and at home.

Participants complete the self-report measures.

Participants meditate throughout the week and record meditation frequency.

Participants meditate throughout the week and record meditation frequency.

Participants learn meditation skills; practice it in session and at home.

Participants turn in meditation logs from week 1.

Participants turn in meditation logs from week 2.

Participants meditate throughout the week and record meditation frequency.

Participants meditate throughout the week and record meditation frequency.

Participants meditate throughout the week and record meditation frequency.

Participants complete the self-report measure. Turn in logs from week 6 the following week.

<table>
<thead>
<tr>
<th>Week One</th>
<th>Week Two</th>
<th>Week Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants were assigned to the intervention group using an alpha-numeric code.</td>
<td>Participants attend group session.</td>
<td>Participants attend group session.</td>
</tr>
<tr>
<td>Participants attend group session.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants are administered the informed consent and the demographics questionnaire.</td>
<td>Participants process their experiences in session. Practice meditation in session and at home.</td>
<td>Participants process their experiences in session. Practice meditation in session and at home.</td>
</tr>
<tr>
<td>Participants complete the self-report measures.</td>
<td>Participants meditate throughout the week and record meditation frequency.</td>
<td>Participants meditate throughout the week and record meditation frequency.</td>
</tr>
<tr>
<td>Participants learn meditation skills; practice it in session and at home.</td>
<td>Participants turn in meditation logs from week 1.</td>
<td>Participants turn in meditation logs from week 2.</td>
</tr>
<tr>
<td>Participants meditate throughout the week and record meditation frequency.</td>
<td>Participants meditate throughout the week and record meditation frequency.</td>
<td>Participants meditate throughout the week and record meditation frequency.</td>
</tr>
<tr>
<td>Participants turn in meditation logs from week 3.</td>
<td>Participants turn in meditation logs from week 4.</td>
<td>Participants turn in meditation logs from week 5.</td>
</tr>
<tr>
<td>Participants complete the self-report measure.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix J

### NORMALITY MEASURES

**Shapiro-Wilk (Normality Test for ANCOVA)**

<table>
<thead>
<tr>
<th>Pre &amp; Post Values</th>
<th>Statistic</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress 1</td>
<td>0.923</td>
<td>0.344</td>
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<tr>
<td>Stress 2</td>
<td>0.962</td>
<td>0.802</td>
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<tr>
<td>Attention 1</td>
<td>0.931</td>
<td>0.419</td>
</tr>
<tr>
<td>Attention 2</td>
<td>0.920</td>
<td>0.320</td>
</tr>
<tr>
<td>Self-Compassion 1</td>
<td>0.931</td>
<td>0.419</td>
</tr>
<tr>
<td>Self-Compassion 2</td>
<td>0.920</td>
<td>0.320</td>
</tr>
</tbody>
</table>

**Skewness & Kurtosis (ANCOVA)**

<table>
<thead>
<tr>
<th></th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress 1</td>
<td>-0.186</td>
<td>-1.087</td>
</tr>
<tr>
<td>Stress 2</td>
<td>0.558</td>
<td>-0.347</td>
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<tr>
<td>Attention 1</td>
<td>0.833</td>
<td>1.184</td>
</tr>
<tr>
<td>Attention 2</td>
<td>-0.246</td>
<td>-0.098</td>
</tr>
<tr>
<td>Self-Compassion 1</td>
<td>0.491</td>
<td>-0.446</td>
</tr>
<tr>
<td>Self-Compassion 2</td>
<td>-0.570</td>
<td>-0.541</td>
</tr>
</tbody>
</table>
att1

Mean = 3.62
Std. Dev. = 0.705
N = 11

att2

Mean = 4.00
Std. Dev. = 0.599
N = 11
Histogram

Mean = 6.45
Std. Dev. = 5.803
N = 11
Histogram

Mean = -.56
Std. Dev. = .603
N = 11

Frequency

change in attention

-2.50  -2.00  -1.50  -1.00  -0.50  0.00  0.50
Histogram

Mean = -.73
Std. Dev. = .632
N = 11
### Appendix K

#### ASSUMPTION TESTS

**ANCOVA Test of Independence**

**Correlations**

<table>
<thead>
<tr>
<th></th>
<th>Stress 1</th>
<th>Stress 2</th>
<th>Att. 1</th>
<th>Att. 2</th>
<th>Self-Com. 1</th>
<th>Self-Com. 2</th>
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<tbody>
<tr>
<td>Stress 1 $r$</td>
<td>1</td>
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<td>-0.6</td>
<td>-0.201</td>
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<tr>
<td>Sig.</td>
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<td>0.599</td>
<td>0.51</td>
<td>0.553</td>
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<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Stress 2 $r$</td>
<td>0.547</td>
<td>1</td>
<td>-0.555</td>
<td>-0.693*</td>
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<td>-0.662*</td>
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<tr>
<td>Att. 1 $r$</td>
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<td>0.725*</td>
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<td>0.012</td>
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<td>0.606</td>
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<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Att. 2 $r$</td>
<td>-0.179</td>
<td>-0.693*</td>
<td>0.725*</td>
<td>1</td>
<td>0.328</td>
<td>0.576</td>
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<tr>
<td>Sig.</td>
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<td>0.018</td>
<td>0.012</td>
<td>0.324</td>
<td>0.064</td>
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<tr>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
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Table 3.1

Descriptive Statistics

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Appendix L

TEST OF LINEARITY

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: stressdelta

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: attentiondelta
Appendix M

TEST OF HOMOSCEDASTICITY