

THE IMPACT OF A CHRISTIAN ADAPTATION TO MINDFULNESS TRAINING ON
STRESS, RELIGIOUS COPING, AND GOD ATTACHMENT: A RANDOMIZED TRIAL

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

Multicultural sensitivity requires consideration of a client's personal belief system in the administration of ethical and effective mental health treatments. Religiously accommodative treatments seek to increase therapeutic effectiveness, enhancing empirically supported treatments by adapting interventions as needed to respectfully incorporate the worldview of the client. The purpose of this study was to investigate the impact of a religiously accommodative treatment in a Christian sample. Volunteer participants ($n=78$) were randomly assigned to one of two treatment conditions. The Christian mindfulness training (CMT) group protocol was explicitly adapted to a Christian worldview, while the conventional mindfulness training (MT) group protocol lacked explicit adaptation to a Christian worldview. Participants completed three weeks of treatment that included psycho-educational group sessions and prescribed daily applications of the mindfulness techniques. The researcher then compared pre- and post-treatment differences between the two groups on measures related to perceived stress, religious coping, and God attachment. Results indicated significant differences within and between groups, with the CMT group reporting lower levels of perceived stress compared to the MT group. CMT group participants also reported significantly greater treatment compliance in comparison to MT group participants. Results did not indicate significant differences on measures of religious coping or God attachment. Recommendations for future research were provided.

Keywords: mindfulness, religiously accommodative treatments, multicultural sensitivity, Christian meditation, emotion regulation, religious coping, God attachment

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List of Abbreviations

American Counseling Association (ACA)

Acceptance and Commitment Therapy (ACT)

Attachment to God Inventory (AGI)

Attachment to God Inventory – Anxiety Subscale (AGI-AX)

Attachment to God Inventory – Avoidance Subscale (AGI-AV)

Brief Religious Coping Scale (Brief RCOPE)

Brief Religious Coping Scale – Positive Religious Coping Subscale (RCOPE-PRC)

Brief Religious Coping Scale – Negative Religious Coping Subscale (RCOPE-NRC)

Christian Mindfulness Training (CMT)

Cognitive Behavior Therapy (CBT)

Conventional Mindfulness Training (MT)

Depression Anxiety Stress Scales (DASS)

Depression Anxiety Stress Scales – Depression Subscale (DASS-D)

Depression Anxiety Stress Scales – Anxiety Subscale (DASS-A)

Depression Anxiety Stress Scales – Stress Subscale (DASS-S)

Dialectical Behavior Therapy (DBT)

Mindfulness Based Cognitive Therapy (MBCT)

Perceived Stress Scale (PSS)

Spiritual Assessment Inventory (SAI)

Spiritual Assessment Inventory- Awareness Subscale (SAI-AWA)

Spiritual Assessment Inventory- Instability Subscale (SAI-INS)

Surrender Scale (SS)

CHAPTER ONE: INTRODUCTION

Significance of the Study

This study investigated the impact of mindfulness, proposing that mindfulness training that was explicitly adapted to a Christian worldview in a Christian population would increase secure attachment to God as compared to mindfulness training that was not explicitly adapted to a Christian worldview. Research indicates that mindfulness training may reinforce healthy attachment processes by encouraging increased stress management and emotion regulation during times of distress that may initiate positive movement toward secure-base attachment figures within interpersonal relationships (Siegel, 2001). Therefore, in this study, mindfulness practice was conceptualized as an attachment-based treatment that was further theorized to enhance attachment to God (Beck & McDonald, 2004).

Religiously Accommodative Treatments

Mental health counselors accept the ethical responsibility to avoid imposition of personal belief systems within the counselor-client relationship (American Counseling Association [ACA], 2014, See Section A.4.b), which may be why many major contributors to counseling theory and practice have stood in opposition to the integration of religion and spirituality in the process of psychotherapy (Tan, 2013). However, multicultural sensitivity requires the conscientious consideration of a client's personal belief system, which may have implications for the administration of ethical and effective mental health treatments (Day-Vines & Holcomb-McCoy, 2013). *Religiously accommodative treatments* seek to increase therapeutic effectiveness and strive to enhance empirically supported treatments by adapting or adjusting interventions as needed to respectfully incorporate the worldview of the client (Tan, 2013).

Religious clients may be cautious and resistant toward psychotherapy due to concerns that the therapist may disregard, misunderstand, or even disdain their faith (Hathaway & Tan, 2009). By maintaining an attitude of openness toward diversity and a knowledgeable respect for the unique cultures that contribute to personal worldviews, practitioners that employ religiously accommodative treatments may avoid unnecessary resistance, bridging the “faith gap” (Clinton & Ohlschlager, 2002, p. 28) between religious clients and mental health professionals by encouraging a collaborative dialogue on the integration of religion and spirituality in psychotherapy (Tan, 2013).

Religiously Accommodative CBT Research

Although research on religiously or spiritually integrated treatment remains limited, cognitive behavior therapy (CBT), which centers on helping clients identify and change the unproductive thoughts and schemas that support maladaptive feelings and behaviors, has led the way in research on religious accommodation in psychotherapy (Hathaway & Tan, 2009; Worthington, Hook, Davis, & McDaniel, 2011). Several studies have explored the impact of religious or spiritual modifications to various CBT approaches. For example, a study by Hawkins, Tan, and Turk (1999) utilized a clinically depressed Christian adult sample to compare the effectiveness of a traditional CBT protocol to a Christian CBT protocol, finding that while both protocols were effective in reducing symptoms of depression, the modified version of CBT resulted in more significant improvements on measures of spiritual well-being in this religious sample. Similarly, Tan (2007) investigated the ethical use of scripture and prayer in CBT, providing a clinical case example for illustration of the application of CBT techniques that are modified for clients presenting with a Christian worldview. Empirical support for religious

accommodation continues to grow, as several outcome studies have demonstrated the efficacy of religiously or spiritually modified CBT (Tan & Johnson, 2005).

Mindfulness as a Religiously Accommodative Treatment

As research on religiously modified CBT expands, third wave CBT approaches in particular, such as dialectical behavior therapy (DBT; Linehan, 1993), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), and mindfulness based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002) have led the way with consistent empirical evidence for the inclusion of psychotherapeutic techniques that emphasize spirituality (Tan, 2011). Specifically, the clinical application of mindfulness, which serves as an essential element of these approaches, is correlated with multiple mental health benefits as a therapeutic technique (Shapiro, Carlson, Astin, & Freedman, 2006), claiming origins in both Zen Buddhism and Christian contemplative tradition (Tan, 2011).

Additionally, mindfulness practice is often associated with studies on interpersonal neurobiology, which emphasizes the triangle of interrelatedness between the mind, the brain, and relationships. Research in the area of interpersonal neurobiology indicates that, due to brain plasticity, the potential for relational learning persists throughout the lifetime (Siegel, 2001), supporting the possibility of change in the approach to relating throughout adulthood, and moreover in relationship with God. Research by the Barna group revealed that 90% of individuals between the ages of 18-29 profess a belief in the existence of God (Barna Group, 2007). However, a study on God attachment indicated only a small percentage report feeling satisfied in their relationship with God (Clinton & Straub, 2010). Beliefs (doctrinal affirmations) and experiences (relational feelings) are not always in sync, resulting in decreased life satisfaction overall (Zahl & Gibson, 2012). Moreover, a positive view of God is associated with

greater psychological well-being including greater satisfaction in life (Wiegand & Weiss, 2006), more positive coping (Newton & McIntosh, 2010), and decreased depression (Exline, Yali, & Sanderson, 2000). In other words, for those seeking to be in a relationship with God, life satisfaction hinges on that relationship being described as positive, signifying a need for effective interventions that enhance secure attachment to God.

Mindfulness practice is utilized as a psychotherapeutic technique for a variety of presenting symptoms, but yields promising outcomes for supporting change toward increased security in attachment relationships (Schoore & Schoore, 2008). Research that investigates the impact of mindfulness on attachment to God in a Christian sample is scarce. However, God attachment, or the natural level of trust in relationship to God (Beck & McDonald, 2004), is theorized to benefit from mindfulness practice. Stated concisely, increasing non-judgmental and open awareness of God in the present moment alongside the regulation of emotional states (Corsini, 2009) may enhance secure attachment in this higher order caregiver-child relationship by lowering perceived stress and enhancing emotion regulation (Siegel, 2001). Thus, mindfulness practice is conceptualized as an attachment-based treatment that is further theorized to support increased attachment to God (Beck & McDonald, 2004).

Purpose of the Study

The purpose of this study was to investigate the impact of Christian mindfulness training in comparison to conventional mindfulness training in a Christian sample. Christian mindfulness training (CMT) was defined as a technique for increasing open present-moment awareness that has been adapted to a Christian worldview, while conventional mindfulness training (MT) was defined as a technique for increasing open present-moment awareness that lacks explicit

adaptation to a Christian worldview. The study participants were asked to complete three weeks of mindfulness training that included psycho-educational group sessions and prescribed daily applications of the techniques. The researcher then used a randomized trial design to compare pre- and post-treatment differences between the two groups on measures related to perceived stress, religious coping strategies, and God attachment.

Research Questions

Research Question 1

Research on mindfulness training provides consistent empirical support for the effectiveness of the intervention, indicating positive therapeutic outcomes on measures related to stress and emotion regulation (Shapiro, Carlson, Astin, & Freedman, 2006). This proposed study modified the approach to mindfulness by adapting the intervention to a Christian worldview. In order to support the presumption of equality between the CMT and MT group as an effective intervention for stress, the first research question was “Does the adaptation of mindfulness training to a Christian worldview alter the impact of the intervention by positively modifying outcomes on measures of perceived stress?” In order to investigate this question, the two groups were compared on outcomes of perceived stress based on responses on the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) and the Perceived Stress Scale (PSS; Cohen, Kamarch, & Mermelstein, 1983).

Research Question 2

While individuals employ a wide variety of coping strategies in order to deal with perceived stress, research indicates that religion serves as a primary means of coping (Pargament, Koenig, & Perez, 2000). Further research indicates that religious coping, or using

God as a resource for dealing with stress, may initiate an increased capacity for emotion regulation, as strategies to regulate emotion are developed in the context of a secure attachment relationship such as a relationship with God (Corsini, 2009). One recent study indicated that mindfulness mediates the relationship between collaborative religious coping strategies and emotion regulation (Myers, 2012). Therefore, question 2 of this study was “Will the explicit adaptation of mindfulness training to a Christian worldview increase the capacity for employing positive religious coping strategies in comparison to conventional mindfulness training?” In order to investigate this question, the two groups were compared on outcomes related to positive religious coping strategies based on responses on the Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011) and on the Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000).

Research Question 3

Attachment research has consistently supported the relationship between secure attachment and the engagement of attachment figures during times of stress (Bowlby, 1969). Based on identified patterns of attachment (Ainsworth, 1978), a secure attachment to God indicates a propensity to move toward God when emotionally activated by a perceived stressor, rather than to demonstrate an anxious or avoidant pattern of insecurity in relationship with God.

One study indicated that collaborative religious coping is associated with a securely attached relationship with God (Corsini, 2009). Furthermore, the ability to collaboratively problem-solve with God as a means of coping with perceived stress may be mediated by increased mindfulness (Myers, 2012). Mindful awareness may influence the process by which an individual maintains objectivity toward stressful experiences, replacing automated responses that would instead reinforce emotion dysregulation (Gross, 2007). By lowering perceived stress and

enhancing emotion regulation skills for more positive coping, mindfulness practice serves as an attachment-based treatment (Siegel, 2001) that may also influence attachment to God (Beck & McDonald, 2004).

In exploration of the potential relationship between mindfulness, religious coping, and God attachment, question 3 of this study was “Will the inclusion of God-awareness alongside open present-moment awareness due to the explicit integration of a Christian worldview positively impact the capacity for secure attachment to God?” In order to investigate this question, the two groups were compared on outcomes related to secure God attachment based on responses on the Attachment to God Inventory (AGI; Beck & McDonald, 2004), as well as the Awareness and Instability subscales of the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002).

Operational Definitions

Perceived Stress

Perceived stress is defined as the degree to which an individual reports the subjective experience of stress, and was measured in this study by the stress subscale of the DASS (Lovibond & Lovibond, 1995) and the PSS (Cohen, Kamarch, & Mermelstein, 1983).

Religious Coping

Coping strategies are problem solving skills developed in response to stress that serve to regulate internal emotional states and manage external stressors. Religious coping is defined as using God as a resource for dealing with perceived internal and external stressors, to both regulate emotion and seek solutions for problems. In this study, religious coping was measured by responses on the Brief RCOPE (Pargament, Feuille, & Burdzy, 2011).

Surrender to God

Surrender to God is defined as a religious coping strategy and involves actively giving up personal control by giving control over to God. Surrender serves as a paradoxical means of experiencing perceived control by acknowledging personal limitations on control over life stressors (Cole & Pargament, 1999). In this study, the coping strategy of surrender to God was measured by responses on the SS (Wong-McDonald & Gorsuch, 2000).

God Attachment

God attachment is conceptualized as the interpersonal relationship with God understood through the lens of attachment theory (Bowlby, 1969). God attachment is defined as the extent to which an individual views God as a secure base, seeks proximity to God, uses God to support exploratory activity, and experiences distress in response to separation from God (Kirkpatrick, 2005). A secure attachment to God would indicate a propensity to move toward God when emotionally activated by a perceived stressor, and was measured in this study by the AGI (Beck & McDonald, 2004) and the Awareness and Instability subscales of the SAI (Hall & Edwards, 2002).

Mindfulness

Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (i.e. thoughts, feelings, impulses, and/or behaviors) in the present moment (Shapiro, Carlson, Astin, & Freedman, 2006). Stated succinctly, mindfulness is open present-moment awareness. Mindfulness practice was applied as a treatment in this study using two distinct protocols as defined below.

Christian Mindfulness Training (CMT)

Christian mindfulness training is defined as a three-week treatment application of mindfulness techniques for increasing open present-moment awareness that have been explicitly adapted to a Christian worldview.

Conventional Mindfulness Training (MT)

Conventional mindfulness training is defined as a three-week treatment application of mindfulness techniques for increasing open present-moment awareness that lack explicit adaptation to a Christian worldview.

Limitations of the Study

The participants in this study were limited to individuals associated with a conservative Christian college, but included students, faculty, staff, and/or the spouse of any of these groups. By widening the opportunity for participation in the study beyond college students, this study sought to be more generalizable to the broader Christian community. However, a large proportion of the Christian community has no association with a Christian college; therefore, the results remain limited in generalizability. While this study concluded with post-test measurements following a three-week intervention, the long-term effects of the intervention will be evaluated in a 3-month follow-up.

Organization of Remaining Chapters

Chapter Two reviews research literature related to mindfulness, attachment theory, God attachment, interpersonal neurobiology, and mindfulness as an attachment-based treatment. The chapter concludes with an overview of the theological importance of adapting mindfulness to a

Christian worldview when utilized in the Christian population, a review of research outcomes using mindfulness practice that has been adapted to a Christian worldview, and a discussion of the two mindfulness protocols, secular and Christian, compared in this study.

Chapter Three describes the proposed methodology of the study. Information on participants, the setting, the research design, the therapists, the treatment, measures, and quantitative methodology are included, as well as some of the statistical analyses that were pertinent to the study's results. Chapter Four provides an analysis of the data and the quantitative results. Chapter Five provides a summary, including the conclusions of the study, implications for practice, and recommendations for further research. Appendices include informed consent forms, demographic forms, and the detailed protocols for the two groups.

CHAPTER TWO: REVIEW OF THE LITERATURE

The following chapter presents the psychotherapeutic technique of mindfulness, including an overview of interpersonal neurobiology, which has provided the supportive framework for understanding the effectiveness of this approach for stress management and emotion regulation. Furthermore, this chapter examines the theoretical and empirical links between mindfulness and secure relational attachment. By lowering perceived stress and enhancing emotion regulation skills, mindfulness practice may enhance attachment in interpersonal relationships (Siegel, 2001). Moreover, mindfulness may support increased attachment in relationship to God for clients who value that relationship (Beck & McDonald, 2004). This literature review presents a rationale for the study hypotheses, including the assertion that a mindfulness protocol adapted to a Christian worldview will enhance a secure attachment relationship with God when administered in a Christian sample by linking stress management and emotion regulation to the development of increased security in attachment relationships

Mindfulness Defined

Mindfulness in Practice

Research by Barnes, Bloom, and Nahin (2008) indicated that reports of meditative practices have increased dramatically in recent years, with more than 20 million people in the United States alone reporting participation in some form of meditation on a weekly basis. Mindfulness is generally considered a form of meditative practice born of Buddhist tradition (Davidson & Kaszniak, 2015), and is used as a psychotherapeutic technique for enhancing wellbeing by targeting a variety of presenting psychological and physical symptoms (Shapiro, Oman, Thoresen, Plante, & Flinders, 2008). Therapies based on mindfulness principles have

continued to gain impressive empirical support for a wide variety of conditions including stress, anxiety, and depression (Goyal, Singh, Sabinga, et al., 2014; Hofmann, Sawyer, Witt, & Oh, 2010).

Mindfulness in Psychotherapy

Varying traditions. Although widely utilized, the methodology of mindfulness may be difficult to define due to differing traditions and instructions for the practice of meditation, including the specific technique of mindfulness meditation (Chiesa & Malinowski, 2011). For example, ancient Buddhist approaches to mindfulness include Vipassana meditation (Gunaratana, 1993) and Zen meditation (Kapleau, 1965), while the modern psychotherapeutic practice of mindfulness includes evidence-based, standardized protocols such as mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990) and mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002). Similarly, research has indicated the effectiveness of mindfulness-based psychological interventions such as dialectical behavior therapy (DBT; Linehan, 1993) and acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999) that incorporate components of mindfulness training. Moreover, some research has compared the exercise of mindfulness to the practice of centering prayer (Pennington, Keating, & Clarke, 2002), emphasizing a commonality with Christian traditions that incorporate principles of mindful meditation (Blanton, 2011).

Varying definitions. Although broadly understood as compassionate, non-judgmental awareness of the present moment (Chiesa & Malinowski, 2011), a shared definition of mindfulness between the varying traditions remains elusive. Intuitively, mindfulness differs from usual consciousness that may be characterized by mindlessness, in which an individual is troubled by cognitive biases, psychological defensiveness, or rumination (Brown, Ryan, &

Creswell, 2007) as thoughts and emotions are carried along by the stream of consciousness (Siegel, 2010a). But mindfulness may be more easily recognized by what it is *not* than by what it *is*, confounding operationalization for research purposes (Chiesa & Malinowski, 2011). Nevertheless, purposeful awareness and non-judgmental acceptance of moment-to-moment experience seem to comprise the essence of the mindfulness definition, regardless of tradition (Keng, Smoski, & Robins, 2011). While religious traditions have focused on mindfulness as a spiritual activity that serves to enhance personal reflection, concentration, and the experience of transcendence or peace, empirical research has emphasized mindfulness as a psychotherapeutic intervention for the treatment of various disorders (Siegel, 2007).

Seeking unity. Several research studies have investigated the critical components of mindfulness for efficacy as a therapeutic technique. For example, Bishop et al. (2004) proposed two essential factors. First, giving purposeful, self-regulated attention to the immediate, present moment enhances the awareness of emotions, thoughts, sensations, and behaviors as they occur, without self-imposed judgment toward inner experience (Bishop et al., 2004). Secondly, a stance of curiosity, openness, and acceptance toward internal and external experience increases the capacity for metacognitive processes, enhancing a nonjudgmental attitude toward the self and others and lowering psychological defensiveness (Bishop et al., 2004). Additionally, Shapiro, Carlson, Astin, and Freedman (2006) proposed three mechanisms of change inherent to the mindfulness technique, including the concepts of attention and attitude as described above, but adding the concept of intention, which incorporates meaning through goal orientation, answering the question of *why* an individual would choose to practice mindfulness.

Mindfulness Research Overview

Research on the impact of mindfulness has employed a broad theoretical focus, as some studies have emphasized psychological changes such as the reduction of cognitive distortion (Segal, Williams, & Teasdale, 2002) or the assimilation of disavowed emotion (Linehan, 1993), while other studies have emphasized neurobiological changes through the reintegration of fragmented neural systems (Siegel, 2001). The resulting positive outcomes for psychological well-being are as broad as the theoretical orientations of the researchers, as empirical studies have linked mindfulness techniques to benefits such as increased happiness (Harris, 2014), decreased stress (Shapiro, Astin, Bishop, & Cordova, 2005), decreased anxiety (Shapiro, Schwartz, & Bonner, 1998), decreased depression (Grossman et al., 2010; Sephton et al., 2007), and increased forgiveness (Shapiro, Oman, Thoresen, Plante, & Flinders, 2008). While a thorough review of the literature on mindfulness outcomes is more extensive than this current study allowed, this section reviews research that indicated positive outcomes for mindfulness as an intervention for decreased stress and increased emotion regulation as an introduction to a discussion on the relationship between mindfulness and attachment.

Impact on perceived stress. Numerous studies have indicated positive outcomes when utilizing mindfulness as an intervention for perceived levels of stress. For example, a meta-review by Chiesa and Seretti (2009) indicated that mindfulness reduced anxiety and lowered scores on measures of stress. A treatment study by Fang et al. (2010) revealed positive results in the application of a mindfulness-based stress reduction program, resulting in reduced anxiety and lowered stress scores. Similarly, a study by Shapiro, Oman, Thoresen, Plante, and Flinders (2008) indicated that participation in a mindfulness treatment protocol reduced levels of perceived stress compared to waitlist control based on responses to the 10-item Perceived Stress

Scale (Cohen & Williamson, 1988). Although empirical research studies on the impact of centering prayer are scarce, a few studies have investigated the effectiveness of the practice as an intervention with similar outcomes to mindfulness for various mental health concerns, including stress management (Ferguson, Willemsen, & Castaneto, 2010).

Impact on emotion regulation and coping. Life experience is consistently stressful, requiring skill development in the area of emotion regulation and strategies for coping with internal states and external stressors. An individual is described as having adequate emotion regulation skills if the emotional reaction to a given life experience is both appropriate and flexible in the sense that the emotional response can be controlled or delayed if socially required (Shapiro, Carlson, Astin, & Freedman, 2006). An individual is described as having positive coping skills if strategic action is employed to adaptively manage internal emotional states and to utilize available resources for problem solving (Skinner & Zimmer-Gembeck, 2009). Conversely, maladaptive coping styles include self-harming or avoidant strategies for managing negative internal states or external stressors (Skinner & Zimmer-Gembeck, 2009).

A study by Menezes, Pereira, and Bizarro (2012) linked enhanced emotion regulation to silent meditation, indicating that focused control over mental processes through attentiveness and relaxation supported increased self-regulation capacity. Furthermore, research by Sahdra et al. (2011) employed a three-month intensive meditation intervention, indicating increased adaptive psychological functioning in the area of emotion regulation. Additionally, research by Blanton (2011) presented centering prayer as a strategy for increasing emotion regulation, which is defined as “peace” or “shalom” from the Christian perspective (Bingaman, 2011). Pargament (1997) proposed that religious coping, or using religious strategies to achieve the experience of spiritual support for managing stress, is the most common form of coping. Therefore, religious

activities such as prayer and meditation are critical strategies for religious clients that seek increased emotion regulation and positive coping skills (Pargament, 2007). One study indicated that mindful awareness, as measured by the Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) mediated the relationship between collaborative religious coping strategies and emotion regulation (Myers, 2012).

Mindfulness and Attachment

Because the practice of mindfulness has been shown to decrease perceived stress and increase emotion regulation, researchers have theorized that the practice may also enrich healthy caregiver-child relationships (Schore & Schore, 2008). By supporting integrated brain functioning to enhance skills for managing internal emotional states and for employing problem-solving strategies, mindfulness practice has been theorized to assist both caregiver and child in dealing with the stressful demands of parenthood and the equally stressful demands of growing up (Schore, 2001a).

God attachment, or the natural level of trust in relationship to God (Beck & McDonald, 2004), has also been theorized to benefit from mindfulness practice, as awareness of God in the present moment alongside the regulation of emotional states may lend to increased secure attachment in this higher order caregiver-child relationship (Corsini, 2009). Snyder, Shapiro, and Treleaven (2012) proposed a neurobiological framework for understanding the link between mindfulness and secure attachment. In order to present the theorized neurobiological mechanisms of mindfulness that relate to secure attachment, the following section begins with an overview of attachment theory (Bowlby, 1969), including the concept of attachment to God (Rowatt & Kirkpatrick, 2002). Next, this review presents research related to interpersonal

neurobiology (Siegel, 1999), the neurobiology of attachment (Schoore & Schoore, 2008), and mindfulness as an attachment-based treatment (Siegel, 2001).

Attachment Theory

Theory Origins

Attachment theory, as initially developed by Bowlby (1969), asserts that principle attachment figures in the form of early childhood caregivers significantly affect human development. Bowlby emphasized that healthy emotional development is supported by consistent, loving interactions, while adverse psychological outcomes are associated with negative relational exchanges between primary caregiver and child. According to Schoore (2002b), early personality organization is dependent on this attachment relationship, which coincides with critical periods of intense neurological growth within the brain, thus influencing the development of self-regulation and coping skills for dealing with overwhelming emotion.

The Primacy of Love

According to attachment theory, the need for love and the capacity to love are presumed to be innate, beginning in infancy with the mother-child relationship and continuing to develop in early childhood relationships with primary caretakers (Karen, 1998). Attachment theory has provided a framework for conceptualizing dysfunction in relationships due to insecure attachment patterns, as well as a prescription for healthy relating based on securely developed attachment bonds (Bowlby, 1969).

The Need for Security

The secure base. As explained by Cassidy (2008), the attachment framework begins with the concept of the secure-base, which is first represented for the infant by a parent or primary

caregiver. Pictorially represented as a caregiver's warm embrace, this secure-base activates felt security, which allows for the activation of the exploration system until a threat is perceived (Cassidy, 2008). Consequently, once a perceived threat has activated the attachment system, the child will signal for their caregiver and engage in proximity-seeking behavior with the focused goal of returning to the safety of the secure base. A secure attachment style is formed when the caregiver is attuned to the child's needs and responds appropriately to signaling and proximity-seeking behavior (Cassidy, 2008). The "circle of security", as elaborated by Powell, Cooper, Hoffman and Marvin (2014), provides an optimal environment for early brain development and the emergence neural integration (Schore, 2002b).

The insecure base. Conversely, insecure attachment styles are formed when the caregiver fails to respond appropriately to the needs of the child, creating a deficiency in the secure-base that is required for healthy emotional development (Cassidy, 2008). The caregiver may be consistently unaware or unresponsive to the child's emotional needs, inconsistently or unpredictably responsive, or, in the case of abuse, may even function as the perceived threat, activating the attachment system but providing no secure base for the child (Powell, Cooper, Hoffman & Marvin, 2014).

Coping and the Regulation of Emotion

Greenspan (1997) proposed that the ability to successfully regulate emotion is developmental and is established alongside other childhood developmental processes. According to the biosocial theory of Linehan (1993), mood instability develops as a result of the transaction between a biological vulnerability to emotional dysregulation and invalidating environments throughout early social-emotional development. Similarly, Greenspan (1997) has emphasized that patterns of emotional dysregulation may be formed as a result of difficulties in early

childhood relationships. Greenspan has typed patterns of dysregulation as hypersensitive, under-reactive, or stimulus seeking, emphasizing their contribution to developmental immaturity in coping with varying levels of stress. Attachment theory highlights the relational processes that contribute to the development of strategies for coping with negative emotion and managing displayed emotion, emphasizing a theory of emotion regulation development that is rooted in dyadic experience and neurobiological processes (Schore & Schore, 2008).

Attachment Schemas

Attachment schemas are shaped by early interactions and predict subsequent reactions in social interactions (Bowlby, 1969). While a secure attachment schema enhances brain development, insecure and disorganized schemas correlate with physical and emotional illness (Schore, 2002b). Furthermore, some research has indicated that interpersonal attachment schemas may loosely correlate with attachment to God, predicting avoidant or anxious behavior in spiritual activity (Beck & McDonald, 2004).

Infant Attachment Styles

Research by Ainsworth, Blehar, Waters and Wall (1978) utilized the *Strange Situation* to categorize three relational attachment styles between children and caregivers, including a secure attachment style, an avoidant attachment style, and an ambivalent attachment style. The secure attachment style is the result of parental interactions that are attuned and responsive to the needs of the child throughout the various stages of development, while the avoidant and ambivalent attachment styles reflect feelings of insecurity as a result of negative or unresponsive parental patterns of relating (Ainsworth et al., 1978). Later, the disorganized attachment style was added

as an insecure attachment schema and is generally associated with increased family psychopathology and trauma (Siegel, 1999).

Adult Attachment Styles

The internal working model. According to Sable (2008), attachment systems continue to operate throughout the lifespan, providing the framework needed to define the concept of adult attachment. Bowlby (1969) introduced the concept of the internal working model, which supports mental representations of attachment figures as related to the self. Internal working models influence the continued development of personality into adulthood, with implications for predictable, sequential outcomes based on attachment history (Grossman, Grossman, & Kindler, 2005). Therefore, while often discussed in the context of infancy and early childhood, attachment theory is recognized as a lifespan development theory, highlighting the impact of early attachment experiences on healthy neural development, not only in childhood but also throughout adulthood (Sable, 2008).

The assessment of schemas. Consequently, the analysis of an internal working model requires the assessment of attachment formations and current attachment schemas as a method of evaluating complex contributions to current maladaptive patterns of relating (Wallin, 2007). The *Adult Attachment Interview* (AAI) as developed by George, Kaplan, and Main (1996) evaluates adult attachment style, bypassing usual distortions of memory and defense mechanisms by tapping into the implicit memories stored in the limbic system. According to Hesse (2008), the categories of attachment style as assessed by the AAI correlate loosely with the childhood attachment styles as developed by Ainsworth et al. (1978). Similarly, adult romantic attachment, as measured by the Revised Experiences in Close Relationships questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000), correlates secure and insecure patterns of adult relating with

Ainsworth's childhood schemas, identifying the four categories of adult attachment as secure, anxious, avoidant, or fearful. Research has indicated that the reorganization and integration of neural networks can impact the internal working model, allowing for healthier patterns of adult attachment that meet the need for bonding throughout the lifespan (Sable, 2008).

Attachment to God

Research on attachment to God has viewed the relationship between an individual and God through the lens of the attachment framework as proposed by Bowlby (1969) and Ainsworth et al. (1978). From this perspective, God functions interpersonally in a manner similar to human relationships, and is regarded as the ideal attachment figure (Kaufman, 1981; Kirkpatrick, 2005). The process of relational bonding presumes God as the ultimate caregiver that provides the secure base and the individual as the eternal child, dependent on God for meeting physical, emotional, and spiritual needs (Kirkpatrick & Shaver, 1992). Because the attachment system as defined by Bowlby and Ainsworth is also reflected in relationship with God, it has been theorized that techniques designed to enhance secure attachment may also enhance God attachment (Beck & McDonald, 2004).

God attachment is defined as the extent to which an individual views God as a secure base, seeks proximity to God, uses God to support exploratory activity, and experiences distress in response to separation from God (Kirkpatrick, 2005). Secure God attachment is characterized by the belief that God is loving and trustworthy, resulting in an expectation that God is both willing and capable to meet the need (Bowlby, 1969), as the acceptance of God's comfort to assist with emotion regulation (Bingaman, 2011), and collaborative problem-solving through prayer as a healthy religious coping skills are employed (Pargament, 2007). In a secure relationship with God, the individual is assumed to utilize signaling and proximity-seeking

behavior to move toward God in response to a perceived threat (Rowatt & Kirkpatrick, 2002). In an insecure relationship with God, the individual is assumed to respond to perceived threat with either anxiety or avoidance (Beck & McDonald, 2004), in a manner that has been theorized to reflect the insecure adult attachment schemas as measured by the AAI or the ECR-R.

Interpersonal Neurobiology

Attachment theory has assumed a biological basis for human attachment-motivated behaviors, which along with environmental cues impact brain activation and development (Bettmann & Jasperson, 2010). Continued advances in the field of developmental neurobiology have contributed to an increased understanding of the potential impact of attachment processes on brain development and organization, which ideally serve to prepare individuals to thrive in broader relational contexts throughout the lifespan (Schore, 2002b). A brief review of research related to neurobiological development supports an understanding of the critical impact of stress management and emotional regulation in the enhancement of secure attachment.

The Triune Brain

The cerebral cortex. In overview of the brain structure, Cozolino (2010) described a three-part construction, in which a primitive brain is housed within a more advanced brain, which is housed within an increasingly complex brain. The cerebral cortex empowers the brain's ability for conscious thought, problem solving, and self-awareness (Cozolino, 2010). As the executive functioning section of the brain, the cerebral cortex organizes experiences and interactions with the world (Viamontes & Beitman, 2009).

This most advanced region of the brain includes differentiated areas of specialization and two hemispheres that communicate via the corpus callosum. As part of the cerebral cortex, the

frontal lobe is responsible for critical functions of higher order thinking, including motor behavior, expressive language, executive function, abstract reasoning, directed attention, and the integration of cognitive and emotional processing (Cozolino, 2010). If the frontal lobe is not working properly, the resulting state of psychological dysfunction could include various disruptions in the maintenance of adaptive thoughts, feelings or behaviors by affecting important processes such as reasoning, judgment, learning, and impulse control (Cozolino, 2010). Additionally, the prefrontal cortex is involved with personality expression, planning, strategy, and working memory, as well as constructing ideas about the beliefs, intentions, and perspectives of others (Viamontes & Beitman, 2009).

The limbic system. Secondly, the limbic system is responsible for the processes involved in learning, motivation, memory, and experience of emotion (Cozolino, 2010). This area of the brain includes the amygdala and the hippocampus, and is associated with the processing of external stimuli through both instinctive and learned responses (Viamontes & Beitman, 2009). Located within the central region of the brain, the limbic system is involved in processes related to survival instincts, including feelings of pleasure, such as those experienced from eating or sex, as well as negative emotions such as fear or anger (Schore & Schore, 2008). This system is responsible for the storage of emotional memories, which are created and stored during strong emotion, and which are easily triggered by external events that activate the core beliefs associated with the memories (Viamontes & Beitman, 2009).

The brainstem. Thirdly, the brainstem, the most primitive part of the brain, is responsible for activation, arousal, homeostasis, and reproductive drives. As the brain's inner core, the brainstem oversees the body's regulating temperature, heart rate, and basic reflexes such as blood flow and respiration (Viamontes & Beitman, 2009). The brain stem is located in

the lower region of the brain and is responsible for producing the adrenaline surge associated with the fight, flight, or freeze effect in response to fear. During the activation of the brain stem, access to the frontal lobe is circumvented, inhibiting the ability to process information clearly (Cozolino, 2010). The brain stem may also be activated when the limbic system has been triggered by an intense emotional memory, creating a similar biological response as though the original memory is recreated in the present moment, and producing an overabundance of unnecessary and counterproductive adrenaline that surges through the brain and body (Schore, 2002a).

Brain Evolution

According to Cozolino (2010), the social brain is sculpted over time through interpersonal interactions. At birth, the brainstem is fully functional while the limbic system is primed and ready to be organized by early experiences; but the cerebral cortex develops slowly throughout the lifespan (Cozolino, 2010). Therefore, interpersonal neurobiology has emphasized the emotional and interpersonal learning that occurs during the earliest years while the most primitive brain is still in control (Siegel, 1999). This learning precedes explicit memory, problem solving, or perspective, which all require the higher functioning capacities of the cerebral cortex (Schore, 2002b). Additionally, bonding occurs between the infant and caretaker through a biologically based communication system in which spontaneous emotional communication is shared between limbic systems, contributing to the early organization of personality and the complex formation of attachment schemas (Schore, 1994).

Neural Integration

Brain development. As infant brain develops, it depends on experiences in the environment in order for neurons to begin the process of differentiation and formation of

specialized neural networks for specific functions (Clinton & Sibcy, 2012). Neural networks refer to the connection of neurons, which link together into organized associations. According to Cozolino (2010), neural networks encode and organize all behaviors from reflexes to comprehension. Additionally, neural networks interconnect with other networks, allowing for interaction and integration among the systems. Learning is reflected in neural changes including changes in connectivity, expansion of existing neurons, and growth of new neurons (Cozolino, 2010). Evidence of brain neuroplasticity, or the ability of the brain to be altered through the development of new neuro-circuitry, is displayed in early development as the nervous system is changed in response to experience (Schwartz & Begley, 2002). The concept of long-term potentiation implies that neurons follow the rules of Darwinism, as the process of arborization strengthens surviving neurons, while the process of apoptosis prunes unused neurons (Cozolino, 2010). Neurons grow in reaction to new experiences and learning through the expansion and branching of the dendrites, increasing interconnectivity (Cozolino, 2010).

Pathways of integration. However, the goal of development is for these specialized networks to become integrated, so that various networks that focus on responsibilities such as thinking, feeling, relating, or problem solving might collaborate toward a singular, goal-directed purpose (Clinton & Sibcy, 2012). According to Siegel (2010b), the process of integration refers to separated areas of the brain that are allowed to specialize in their function and then to become linked together. Neural integration involves maximizing the flow and flexibility of energy through neural networks, while psychopathology is caused by difficulties, not just in a specific region of the brain, but also in the interactions among participating systems (Siegel, 2010b). Deficiencies in early caretaking, genetic and biological vulnerability, and/or trauma at any stage of life can result in the lack of integration among networks (Siegel, 2010b).

Top-down integration. Ideally, an integrated system is regulated from the top down, with the cerebral cortex in full control of executive function and regulating the impulses of the primitive brain stem (Siegel, 2010b). Top-down integration is the ability of the cortex to process, inhibit, and organize the reflexes, impulses, and emotions generated by the brainstem and limbic system (Cozolino, 2010). Top-down networks provide pathways for consciously inhibiting reflexes, strengthening the capacity for increasing cortical control, which is vital for affect regulation (Cozolino, 2010).

Left-right integration. Similarly, neural network integration is ideally executed from the left to the right hemisphere (Siegel, 2010b). Left-right or right-left integration is the ability to utilize input from both the left and right cerebral cortex and lateralized limbic regions for optimal functioning (Cozolino, 2010). While each hemisphere exercises dominance over specific functions, the blending of strengths allows for maximum integration of cognitive and emotional functioning. The right hemisphere processes information holistically, appraising safety and danger, interpreting the emotional aspects of language (including the evaluation of facial expressions and non-verbal communication), and organizing a sense of self that is influenced by the unconscious mind (Cozolino, 2010). Accordingly, the right hemisphere is biased toward negative stimuli and avoidance behavior, as well as threat-related vigilance, with right frontal lobe activation associated with increased depression and anxiety (Viamontes & Beitman, 2009).

Conversely, the left hemisphere processes information consciously, involving intentional coping and problem solving, interpreting spoken and sign language, processing language comprehension, and processing linear and sequential information. The left hemisphere, then, is biased toward positive emotion and social approach behaviors, maintaining responsibility for both anger and aggression toward others as well as successful, optimistic navigation of the social

world (Cozolino, 2010). Ultimately, the left hemisphere synthesizes all available information from the experience of the environment and generates a coherent narrative for the conscious social self (Schore, 2002b). While emotional stability is best accomplished through left to right processing, participation of both hemispheres is required for balance and integration (Cozolino, 2010).

Neural Disintegration

Neural disintegration refers to specialized areas of the brain that have not been integrated, meaning they are not systemically cooperating with other specialized areas of the brain (Siegel, 2010b). Cortisol, often called the stress hormone, is a neuromodulator that enhances memory, mobilizes energy, and helps restore homeostasis after stress (Cozolino, 2010). As the key activator in the fight or flight response, cortisol is useful for brief periods of stress, but prolonged cortisol release due to sustained stress during early development is correlated with memory deficits and dysregulated affect (Cozolino, 2010). Additionally, high cortisol levels during early developmental periods have a negative impact on brain development and increase vulnerability to subsequent stress (Schore, 2001b). The experience of fear, stress, or trauma during early development has the potential to impact brain development, resulting in neural disintegration, primarily through the disruption of secure relational attachments (Schore, 2001b).

Fear. Neuroscience suggests that environments that minimize fear will maximize attachment, while environments that maximize fear will minimize attachment (Schore, 2001b). Alternatively, the process of attachment initiates the consistent way in which fear is regulated (Landers & Sullivan, 2012). Through infant-caregiver interactions, the brain is shaped to approach what is life-sustaining and to avoid what is dangerous (Siegel, 1999). Anxiety and fear are the conscious emotional aspects of threat appraisal, preparing the body for action. The stress

response results in physiological changes involved in fight or flight mechanisms, highlighting the purpose of the amygdala through both fast and slow neural networks (Cozolino, 2010).

Fast networks. According to Cozolino, (2010), the reflexive fast system acts immediately, with the amygdala serving to evaluate sensory input from the thalamus and translate it into bodily responses using the autonomic nervous system. The amygdala plays the central role in the activation of fear, using the evaluation of sensory input to trigger the biochemical fight or flight response (Cozolino, 2010). Learning occurs through the pairing of any stimulus with the experience of fear and arousal of the autonomic nervous system (Viamontes & Beitman, 2009).

Furthermore, Cozolino (2010) has emphasized that under stress, the taxon system is activated. This system is associated with the fast amygdala system, is connected to the acquisition of skills and rules that are free from context, and is primarily unconscious, related to implicit and procedural memory. Unfortunately, the amygdala tends toward generalization, in its bias toward right and down systems, often resulting in anxiety and panic attacks. The complexity of the cortex, with its capacity for imagination, creates the potential for anxiety related to situations that may never occur (Cozolino, 2010).

Slow networks. Alternatively, as Cozolino (2010) explains, the slow system sends sensory information from the thalamus through the cerebral cortex and hippocampus for further evaluation before deciding how the amygdala should proceed. The locale system is associated with the slow system, with the hippocampus and cerebral cortex at its center. It is responsible for mapping the external context of incoming stimuli, making mental representations for contextualization of events, and pairing memories with situations in which they were learned for a more complex appraisal of events (Cozolino, 2010).

Stress. According to Cozolino (2010), the fearful brain responds to prolonged stress by dissociating the fast and slow circuits of the taxon and locale systems. Cortisol, the primary stress hormone plays a significant role in the potential for disintegration of neural networks, including impairments in memory and learning and the disruption of regulated coping skills (Siegel, 1999). Additionally, the memory deficits triggered by early stress impact the development of the hippocampus and associated neural networks (Cozolino, 2010). Many psychological disorders manifest a variety of memory deficits, including distortions in learning and memory as well as unconscious memories that hinder accurate perception. While explicit memory is related to conscious learning and memory, implicit memory is tied to unconscious patterns of learning stored in hidden layers of neural processing, largely inaccessible to conscious awareness (Siegel, 2010). These memories are stored in the limbic system and, when activated, depend on the amygdala and hippocampus for stimulus processing (Viamontes & Beitman, 2009).

Amygdala. The amygdala may be described as the central hub of fear processing, with two circuits of sensory input (Cozolino, 2010). The first system involves a rapid response that comes directly from the thalamus as a result of perceived danger. Correspondingly, the second amygdala system is slower, looping through the cortex and the hippocampus, using context and inhibition to assess the initial perceptions and choose appropriate behavioral responses (Cozolino, 2010). Stress activates the fast system and suppresses the inhibitory effects of the slow system, often resulting in the emergence of early fears or frightening experiences that had been previously successfully inhibited (Cozolino, 2010).

Hippocampus. The hippocampus maintains the role of encoding and storing explicit learning and memory (Cozolino, 2010). Ideally, brief stressful experiences are resolved with

good coping skills and supportive environments; however, sustained stress causes damage to the hippocampus through exposure to high levels of cortisol (Cozolino, 2010). This continued exposure is linked to physical illness through lowered immunological responses. Furthermore, the increased cortisol leads to an increase in sodium pumped through the neurons, which results in the destruction of cell membranes and consequent cell death, particularly in the hippocampus, and leads to memory deficits, learning dysfunction, and depression (Cozolino, 2010).

Trauma. Neural network disintegration is the result of the brain's reaction to trauma. Early traumatic experiences leave their traces in the amygdala, imprinted as implicit, emotional memories and eliciting fearful and anxious responses, without the requirement of cognitive awareness of the cause (Bettman & Jaspersen, 2010). Generally considered chronic stress or acute stress from immediate threat, trauma changes the baseline production, availability, and regulation of neurochemicals (Cozolino, 2010). According to Schore (2001b), relational trauma is particularly linked with negative impacts on right brain development.

Dissociation. First, unresolved trauma disrupts integrated neural processing, splitting conscious awareness from emotional and physiological experiences (Schore, 2001b). Elevated endogenous opioids (analgesics) have a profoundly negative impact on cognition, memory, and reality testing, supporting emotional blunting, dissociation, and depersonalization, which are all associated with a sense of distance from the traumatized body (Cozolino, 2010). Additionally, high levels of glucocorticoids decrease hippocampal volume and are related to memory deficits (Viamontes & Beitman, 2009). Dissociation seems to allow the traumatized individual to escape the trauma via a number of biological and psychological processes. Trauma can impair interactions across memory domains, and is capable of dissociating the normally integrated tracks of sensation, emotion, behavior, and conscious awareness (Cozolino, 2010).

Disintegration. Secondly, neurochemical changes impede integration of right and left hemisphere functions, impeding interpersonal bonding and bodily regulation (Siegel, 2010b). For example, increased norepinephrine prepares the body for fight or flight, boosting a primitive stimulus-response pairing that results in increased arousal, anxiety, irritability, and startle response (Cozolino, 2010). Simultaneously, increased dopamine correlates with hypervigilance, paranoia, and perceptual distortions as well as social withdrawal and avoidance of new or unfamiliar situation, while lowered serotonin levels are correlated with irritability, depression, and hyper-arousal (Cozolino, 2010).

Dysregulation. Lastly, research by Schore (2002a) emphasized the dysregulatory role of trauma experienced in early attachment relationships. The brain naturally organizes defensive coping strategies to reduce anxiety, embedding these in unconscious memory to assist with the selection of what is approached or avoided through assumptions used to organize experience (Cozolino, 2010). However, as alternating episodes of hyperarousal and dissociation mark early relational interactions between caregiver and child, the developing right hemisphere and its corresponding limbic system and autonomic nervous system become imprinted with implicit memories of dysregulated trauma response (Schore, 2002a). Consequently, due to the structural nature of these changes, coping mechanisms that are normally focused on limbic system regulation and autonomic nervous system responses are rendered insufficient (Schore, 2002a).

The Triangle of Well-Being

Interpersonal neurobiology highlights the emergence of the subjective mind as a result of transactions between neurobiological and interpersonal processes, as information flows between the brains of individuals caring for each other (Siegel, 2010a). Siegel has described human functioning in terms of this triangle of interrelatedness between the mind, the brain, and

relationships. While the mind regulates the flow of energy and information, the brain comprises the biological neuro-circuitry that conducts this flow (Siegel, 2001). Relationships introduce the social process of sharing energy and information between individuals, dynamically impacting regulation of the flow that originates in the brain and mind (Siegel, 1999). Consequently, interpersonal neurobiology informs hypotheses related to the neurobiology of attachment, and further supports implications for the application of mindfulness as an attachment-based treatment by supporting growth in the areas of stress management and emotion regulation.

Neurobiology of Attachment

Healthy attachment relationships promote optimal neural network growth and integration between networks. As relational experiences provide the context for learning, neurons reach out to other neurons, growing the brain and establishing new connections. Connections become interconnected networks, which then integrate with one another for optimal processing of environmental stimuli, particularly relational cues. Interestingly, the intense need for connectedness begins in the brain as neurons stretch toward one-another, connecting and interconnecting in networks of relatedness, then ultimately translates into the need to connect relationally with others through networks of attachment. Even as the brain is hard-wired to reach out for connections, it would seem that the final goal of the complex processes related to neurobiology is to reach out for a connection that results in the experience of love.

The Social Brain

Cozolino (2010) emphasized that banding together in groups enhances survival, resulting in highly social brains through the evolutionary process. For example, social groups allow for task specialization, including caretaking, which allows for longer postnatal care. This is the most

basic intersection of neurobiology and attachment theory, as humans are born into relationships and build their identities by resting on social connectivity. Larger and more complex brains allow for diverse responses to challenging situations across diverse environments, and the expansion of the cortex is correlated with increasingly large social groups. These increased social interactions continue to affect brain biology and intellectual ability, challenging the field of neuroscience to expand its research scope to include relationships (Cozolino, 2010).

The social synapse. Cozolino (2010) further stressed that the social brain is motivated toward connection what he termed the “social synapse” (p. 179). Just as neurons are separated by a small space called the synapse, the social synapse is the space between people across which communication must pass. These communications include verbal and nonverbal, conscious and unconscious messages. Contact with others across the social synapse stimulates neural activation, influencing the internal environment of neurons, and triggering growth and interconnectivity (Cozolino, 2010). The social motivation system utilizes neurochemicals related to increased reward and decreased pain to regulate attachment, bonding, empathy, and nurturing behaviors (Cozolino, 2010).

Attunement and reciprocity. According to attachment theory, attunement and reciprocity relate to the mother’s ability to resonate with infant’s internal state and translate the feelings into words (Powell et al., 2014). These attachment processes reflect mutual awareness and emotional resonance. Stage appropriate attunement maximizes the possibility of neural growth, network coherence, and secure attachment (Schorre, 2001a). By connecting across the social synapse, the unconscious, right-hemisphere based circuits are transferred to the infant.

Translating emotion. For example, reflexes ensure the emotional investment of the adult by facilitating physical connection. The mother and infant adjust to each other’s gestures,

behaviors, and sounds in a language of inter-subjectivity that serves as the interpersonal and emotional scaffolding into which semantic language and narratives will emerge (Cozolino, 2010). Additionally, the eyes play a significant role in bonding and social communication, using their own unique language. The brain's visual system is connected to emotion, and mutual gazing between caretaker and child promotes brain growth and organization (Cozolino, 2010). Furthermore, children use social referencing by watching facial expressions of caretakers in the decision making process to continue or inhibit exploration activity (Cozolino, 2010). The social brain can recognize faces and assign value, which involves both determining the identity of the person and using facial expressions to theorize the emotional state and intentions of others (Powell et al., 2014).

Mirroring behavior. Lastly, in addition to the mirroring of emotional states, the brain focuses on behavioral patterns with neurons designed to encourage the mimicking of behavior. According to Cozolino (2010), mirror neurons are located in premotor areas of the frontal cortex and fire during the observation of a specific behavior, firing again when the observer performs the same action. These neurons connect visual and motor systems with frontal systems responsible for goal-directed behavior (Cozolino, 2010). Moreover, mirror neurons are active in strengthening the capacity to feel what another feels. Through reading facial expressions, gestures, tone, and posture, children learn to understand others, enhancing the possibility of empathic attunement. The investigation of mirror neurons contributes to the theory of mind, which explores the human capacity to attribute mental states to self and others (Cozolino, 2010).

Relational plasticity. Additionally, relational interactions throughout the lifespan continue to impact the social experience and shape neural connectivity in the brain (Sable, 2008). Research by Strathearn (2011) emphasized that individuals who receive more maternal attention

have brains that are healthier and more resilient and tend to be more nurturing toward others, while the deprivation of maternal attention results in neural cell death, reduced levels of oxytocin, and reduced activation of the dopaminergic reward system, impacting the potential for learning and healthy attachment (Schore, 2002a). However, experience-dependent plasticity is retained throughout the lifespan (Schwartz & Begley, 2002), making increasingly secure patterns of attachment accessible to adults through close relationships (Cozolino, 2010). The plasticity of the brain indicates that it's never too late for intervention toward social recovery (Schwartz & Begley, 2002). Attachment schemas are subject to learning, through attention, care, and nurturance, which can be found, not only in close relationships, but also in the process of psychotherapy (Samardzic & Nikolic, 2013).

The Holding Environment

Attunement. According to Winnicott (1965), ordinary, loving care by a mother is expressed in the facilitating and holding environment, requiring both the mother's empathic ability and respect for the autonomy of the child. Winnicott asserted that this holding environment, the child's experience of being attentively held by the mother, is vital for the development of a sense of self. The mother's absorption into and attunement to the experiences of the baby becomes the primary maternal preoccupation, requiring only a "good-enough" mother, who does an adequate job in the difficult and complex process of adaptation (Winnicott, 1965). Mirroring then becomes the process by which mother attunes to the child's inner world and gives form to thoughts and needs.

Misattunement. While mirroring and maternal attunement within this holding environment encourage the development of a sense of self, Winnicott (1965) alternatively described the impact of maternal misattunement. Minor impingements can enhance learning, as

the true self develops in an environment requiring the ability to tolerate negative feelings, integrate emotion and cognition, and maintain an open dialogue between heart, mind and body. However, major impingements lead to decreased neural integration, resulting in the emergence of a false self that reflects chronic emotional dysregulation, dominance of emotional defenses and inhibition of brain development and neurogenesis (Cozolino, 2010).

Shame. Within the context of the holding environment, attempts at discipline often begin during early childhood, particularly the toddler years, introducing shame as an inhibitory emotion and mechanism of social control. Disapproval and anger results in a shift from positive to negative affective states and from sympathetic to parasympathetic dominance (Cozolino, 2010). While repairs of attunement can support rebalancing, resulting in self-regulation and the expectation of positive outcomes during difficult social interactions, prolonged shame results in emotional dysregulation, often leading to depression, hopelessness, and despair (Schoore, 2002a).

Mindfulness as an Attachment-Based Treatment

Advances in neurobiological science have informed psychotherapy by providing an understanding of brain processes and the resulting implications for positive therapeutic outcomes (Viamontes & Beitman, 2009). The creation of new neural interconnections may support increasingly positive cognitive frameworks. An effective, evidence-based model of psychotherapy includes an understanding of these neurological processes within the brain, with an emphasis on the importance of suppressing brain stem activation while strengthening the activities of the frontal lobe through the provision of a safe environment for the processing of current affect states and emotional memories buried in the limbic system (Siegel, 2010b). By

lowering perceived stress and enhancing emotion regulation, mindfulness practice supports these neurobiological processes, serving as an attachment-based treatment (Siegel, 2001).

Neural Reintegration

The first task of attachment-based treatments in psychotherapy is the integration of fragmented neural networks (Siegel, 2010b). Top-down and right-left integration is an experience-dependent process requiring assistance with affect regulation through accessible, secure attachment relationships. Interpersonal psychotherapy focuses on top-down integration through the activation of memory and the conscious processing of associated stimuli (Siegel, 2010b). Furthermore, interpersonal psychotherapy focuses on emotional and cognitive integration, resulting in right-left balance through participation of both hemispheres (Siegel, 2010b). The practice of mindfulness encourages neural reintegration by activating and strengthening critical emotion regulation skills that allow for the cognitive processing of experiences related to fear, stress, and trauma (Siegel, 2007).

Informed fear. First, while attachment schemas are reflective of the experience of a caregiver's ability to navigate fear and anxiety, extinction is a learning process that allows for the reduction of fear through the new learning provided by new neural associations acquired through activation of the slow system of the hippocampus and cortex. The fearful brain responds to prolonged stress by dissociating the fast and slow circuits of the taxon and locale systems (Cozolino, 2010). Attachment-based treatments attempt to activate and integrate both circuits, using implicit and explicit memory to inform and educate each about the other (Siegel, 2010b). Learning not to fear is a major contribution of top-down integration, as increased control of the amygdala allows for the discontinuance of a primitive, fearful response (Cozolino, 2010).

Constructive stress. While exposure to high levels of stress, such as those associated with trauma, results in a disconnection and disintegration between neurobiological networks, mild to moderate stress activates neural growth (Cozolino, 2010). This implicates regulated exposure to stress in a supportive environment as a mechanism for emotional healing and integration of neural networks (Sibcy, 2007). A proper balance between excitation and inhibition can result in increased mental and emotional health; therefore, effective psychotherapy will establish a safe and trusting relationship while encouraging mild to moderate levels of stress (Sibcy, 2007).

Assimilated trauma. Attachment-based interventions emphasize adaptation to stress and trauma, activating dissociated neural networks in an attempt toward reintegration (Cozolino, 2010). Avoidance of the negative emotions stirred by the attempt at creating narratives may result in stories that are incoherent due to unresolved trauma. Narratives that encourage the struggle toward integration by putting frightening experiences into words may initiate emotional healing by simultaneously creating cortical activation and increasing top-down control over subcortically triggered emotions (Cozolino, 2010).

Consequently, in the struggle to create an integrated narrative, forgotten memories stored in the amygdala can intrude into adult consciousness, particularly when associated with early trauma (Cozolino, 2010). Attachment schemas are related to implicit memory and are reenacted in therapy between client and therapist as the memories are activated (Clinton & Sibcy, 2012). Because implicit memory systems retain fears from early childhood experiences, therapists attempt to inhibit the amygdala response by convincing implicit memory systems that the danger is no longer present, thereby assimilating the traumatic experience through the process of reintegration (Cozolino, 2010).

An Emerging Sense of Self.

A second task of attachment-based treatments is to support the development of a sense of self. According to Winnicott (1965), moments of safety and calm that teach the child the world can be a safe place contribute to the consolidation of the experience of self, the integration of neural networks, and the merging of fantasy and reality. Childhood experience that lacks safety restricts this consolidated sense of self, resulting in manic defenses such as impulsive behaviors and thoughts, inhibited emotion, whirlwind activity, and feelings of despair and emptiness. The development of a sense of self requires freedom from threat as well as quiet moments to build inner imaginal space (Winnicott, 1965). Mindfulness serves as a psychotherapeutic technique to support the experience of calm and emotional safety, allowing for the sense of self to emerge and making authentic relationships possible.

Relational Restructuring

Another fundamental task of attachment-based treatments in psychotherapy is to provide support for the restructuring of a consolidated sense of self through new patterns of relating (Clinton & Sibcy, 2012). Positive brain development occurs in a relational environment that promotes emotional attunement and affect regulation (Cozolino, 2010). This process is facilitated through attachment-based treatments that include the therapeutic relationship and the co-construction of narratives, but also include the acquisition of skills that encourage mindfulness.

The therapeutic relationship. Winnicott (1965) described how the initial organization of attachment is encouraged through “good enough” parenting that involves mutual eye gaze and escalating positive emotional interactions. Similarly, the therapeutic relationship allows for the stimulation of neural growth through positive relational interactions in a supportive environment.

Furthermore, while the goals of parenting include promoting skills for self-soothing and emotional tolerance through a sense of security that signals will be attended to (Powell et al.), the therapeutic alliance inherent to attachment-based treatments initiates cycles of regulation, dysregulation, and reregulation, offering an opportunity to revisit these skills and promote new neural networks related to attachment schemas (Schoore & Schoore, 2008).

The importance of story. In the context of attunement, communication between parent and child provides for the co-construction of narratives (Powell et al., 2014). Narratives ground the shared experience in a linear and sequential framework (Cozolino, 2010). Attachment-based treatments in psychotherapy assist with narrative co-construction when it is absent from the emotional development history (Coe & Hall, 2010). The process of narrative construction helps to map the steps needed for problem solving, assists with goal setting, provides for affect regulation under stress, and establishes the context for defining and solidifying an identity of self (Siegel, 2010b). Narratives put feelings into words; consequently, narratives serve to subdue the amygdala through the perception of control over emotional arousal and stress by labeling the emotions and coordinating the oversight of neural systems (Cozolino, 2010).

The Impact of Mindfulness on Attachment

Human consciousness is a mystery that is still being explored by neuroscience (Cozolino, 2010); however, research on the impact of mindfulness training has contributed to neurobiologically-informed, attachment-based treatments (Baer, 2003). Mindfulness encourages a consolidated sense of self by creating a quiet internal world through self-reflection, thereby increasing emotional regulation (Snyder, Shapiro, & Treleaven, 2012). The meditative state nurtured through mindfulness practice increases parietal lobe activity and decreases frontal lobe activity, which seems to enhance the sense of an inner self (Cozolino, 2010). By lowering

perceived stress and enhancing emotion regulation, mindfulness techniques support the healthy brain development needed to enhance attachment relationships (Siegel, 2001).

Similarly, Siegel (2010a; 2010b) expanded on the concept of mindfulness, defining “mindsight” as focused mindful awareness that monitors thoughts, feelings, and physical sensations. Siegel has stressed that the goal of mindsight is to direct the flow of energy and information that is shared within the triangle of wellbeing (mind, brain, and relationships). This goal includes both the internal process of self-awareness as well as the external process of shaping the flow of energy and information in the mind of another within the context of relational interactions (Siegel, 2010a). By promoting mindfulness practice as a neurobiologically-informed, attachment-based intervention, therapists may promote neural integration and relational restructuring for clients and potentially support the initiation of increased security in attachment relationships (Snyder, Shapiro, Treleaven, 2012).

A Christian Adaptation of Mindfulness

Both modern, secularized protocols for mindfulness and ancient Buddhist mindfulness meditation practice present philosophical problems for individuals that are devoted to a Christian worldview. The psychotherapeutic practice of mindfulness techniques that exclude critical Christian worldview components may result in different therapeutic results when applied to Christian clients (Garzon, 2015a). On the other hand, mindfulness training that has been adapted to a Christian worldview may result in increased effectiveness in comparison to conventional mindfulness training when applied to a Christian sample. Adapting mindfulness to a Christian worldview requires the consideration of key doctrines of the Christian faith along with a review of research related to the practice of mindfulness techniques from a Christian worldview.

Mindfulness and a Christian Worldview

God is personal. A Christian adaptation to the practice of mindfulness requires a comparison of Christian doctrine with Buddhist teachings in order to accurately align the components of the intervention to a Christian worldview. Although the Buddhist philosophy that underlies the practice of mindfulness encourages an attitude of openness to the transcendent (Hanson & Mendius, 2009), Buddhist teachings assert that the path of spiritual awakening is open to individual interpretation and gives no specific name to deity. For the Buddhist, the goal of mindfulness meditation is to attend to experience in a way that results in detachment from the senses in order to encounter enlightenment, which is understood as freedom from the illusion of the self (Symington & Symington, 2012). From a Christian worldview, God is not vague, but rather is personal, knowable, and nameable (Erickson, 1998). Therefore, an adaptation of mindfulness to a Christian worldview requires addressing God as a personal being, in the manner in which he is self-identified in Scripture.

God is present. Moreover, as Buddhist teachings do not distinguish between God, nature, and the individual, mindfulness practice from the worldview of eastern philosophy emphasizes the process of becoming comfortable with the self, while open to an impersonal sense of the divine that is believed to be present in all things (Hanson & Mendius, 2009). Conversely, Christian doctrine upholds specific characteristics of God that contradict the Buddhist teachings on the divine. For example, in addition to being omnibenevolent (all-loving), omnipotent (all-powerful) and omniscient (all-knowing), God is also omnipresent (Erickson, 1998), meaning that God is always present, everywhere, in every moment, regardless of an individual's physical location, spiritual condition, or emotional state. However, God is separate from the individual, as the creator of both nature and mankind. Christian theology terms God's

simultaneous nearness and distance as *immanence* and *transcendence*. While God's immanence refers to his presence and activity within creation and throughout history, God's transcendence refers to his independence from and superiority over the universe and the progression of time (Erickson, 1998). Therefore, adapting mindfulness practice to a Christian worldview requires the explicit inclusion of awareness of God in the present moment as a personal being who is separate from internal and external experience.

Mindfulness in the Christian Classics

Although mindfulness is commonly presumed to have developed out of Buddhist teachings, Keating (2006) emphasized that present-moment awareness and acceptance of experience is taught in Christian scriptures that predate the Buddhist religion. Additionally, writings throughout church history have emphasized meditating on Scripture and practicing the awareness of God's presence, particularly monastic writings that date as far back as the third century (Paintner, 2012). For example, a compilation of writings by Brother Lawrence, a 17th-century Carmelite monk whose real name was Nicholas Herman, encouraged the cultivation of a personal sensitivity and awareness of God's presence in the present moment, focusing on the habit of continual communication with God while completing daily, mundane tasks. Similarly, the teachings of Jean-Pierre de Caussade (1989), an 18th century French Jesuit priest, highlighted the sacrament, or dispensation of divine grace, of each present moment, emphasizing that the path to spiritual peace requires living in the awareness of each present moment while accepting life's trials with humility and surrendering one's self totally to the will of God. In more recent writings, Frank Laubach, a Christian missionary and mystic who served as an educator and promoter of literacy in developing countries, composed a devotional guide from insights gained in his personal experiments in prayer. His teachings have encouraged Christians to develop the

habit of keeping God in mind for at least one second out of each minute of the day as a method of maintaining an attitude of continual prayer (Laubach, 1961).

Christian Mindfulness Research

While outcome research on mindfulness practice that has been explicitly adapted to a Christian worldview is scarce, at least two methods have been examined: Centering prayer and Christian devotional meditation.

Centering prayer. Growing out of contemplative practice within the Christian tradition, the exercise of centering prayer, as developed by Pennington, Keating, and Clarke (2002), is a method of prayer that emphasizes inactivity, contrasted with other well-known methods of prayer that are more verbally and mentally active. While all forms of contemplative practice are focused on developing a deeper, richer relationship with God, centering prayer is unique in this emphasis on inactivity, focusing on quietness of spirit as a means of resting in God and receiving from God (Ward, 2005). The originators of centering prayer intended to provide a simple method for encouraging contemplative practice, resulting in four basic guidelines for the implementation of the centering prayer exercise that are easily reproduced, even for those who are inexperienced in the technique (Keating, 1999). The procedure for completing the centering prayer exercise follows these basic steps:

- (1) Choose a sacred word as a symbol of your intention to consent to God's presence and action within.
- (2) Sitting comfortably, and with eyes closed, settle briefly and silently introduce the sacred word as the symbol of your consent to God's presence and action within.
- (3) When you become aware of thoughts, return ever so gently to the sacred word.
- (4) At the end of the prayer period, remain in silence with eyes closed for a couple of

minutes. (Keating 2002, p. 118)

History. Historically, centering prayer is a practice associated with religious seekers making a pilgrimage to enter a monastic environment in order to be led into the experience of worldly retreat and spiritual contemplation (Ward, 2005). However, as spirituality has become increasingly acknowledged as a critical component of mental health counseling, alongside increased expectations by Christian clients for the inclusion of prayer in therapeutic practice (Weld & Erikson, 2007), some researchers have focused on the practice of centering prayer as a therapeutic intervention, adapting the religious tradition into a procedural method in order to investigate the potential impact on various mental health issues (Blanton, 2011).

Quantitative studies on centering prayer. At least two outcome studies have examined the practice of centering prayer as an intervention for reducing negative mental health symptoms. First, early research by Finney and Maloney (1985) investigated a more generalized form of contemplative prayer as an adjunctive intervention in psychotherapy for the reduction of psychiatric symptoms, finding a significant reduction in anxiety post intervention. More recently, a second empirical study isolated the increasingly specific method of centering prayer as an intervention. Johnson, Dose, Pipe, Petersen, Huschka, and Gallenberg et al. (2009) examined the influence of centering prayer on women receiving chemotherapy treatment for ovarian cancer, investigating outcomes on measures of mood, spiritual well-being, and quality of life. The results of this study indicated that centering prayer results in positive effects on mood, including significant reductions in symptoms, with decreased levels of anxiety, depression and anger reported post-intervention, as well as positive effects on spiritual well-being, including increased levels of faith (Johnson et al., 2009).

Qualitative studies on centering prayer. Qualitative studies often compare the exercise of centering prayer to mindfulness as a similar, alternative type of intervention in order to formulate of the practice of centering prayer as a valid research construct by presenting theoretical support for the justification of its effectiveness (Blanton, 2011). The concept of emotional regulation may be described as “peace” or “shalom” from the Christian perspective, encouraged by the practice of centering prayer, which is intended to bring us deeply into the loving presence of God by reducing the barriers that clutter the mind and restrict collaborative relationship with the Divine (Bingaman, 2011).

For example, according to research by Knabb (2012), the practice of centering prayer is similar to the practice of mindfulness in the focus on present-moment awareness, quietness, and self-acceptance by letting go of self-evaluations. Knabb found overlapping characteristics and effects between mindfulness-based cognitive therapy (MBCT) and centering prayer, as both interventions indicated positive outcomes for the prevention of depression relapse.

Similarly, a literature review by Blanton (2010) compared centering prayer to mindfulness, categorizing the practice of centering prayer as a form of mindfulness practice and exploring the clinical implications based on this organization. Furthermore, this qualitative study by Blanton reviewed a case study of a married couple presenting with chronic marital conflict, demonstrating that the practice of centering prayer may be integrated freely into psychotherapy based on the wealth of empirical research that has indicated positive therapeutic outcomes from various forms of mindfulness practice. Both the study by Knabb (2012) and the study by Blanton (2010) used a grounded theory approach to substantiate the effectiveness of centering prayer by contending that the change mechanisms inherent to the intervention are comparable to the change mechanisms of mindfulness techniques.

Additionally, in the exploration of centering prayer as a valid intervention, Bingaman (2011) presented a qualitative literature review based on grounded theory that explored neuroscience research supporting the practice of mindfulness as a method of training the brain to automaticity in the skill of attentiveness. In the discussion of brain plasticity based on neuroscience research, Bingaman argued for the practice of centering prayer as a mindfulness practice that trains the mind to “go offline”, allowing internal space for the benefit of creating new neural pathways through contemplative spiritual practice.

In further qualitative exploration of centering prayer, Fox, Gutierrez, Haas, Braganza, and Berger (2015) embarked on an investigation of the practice using phenomenological methods to describe the lived experience of practitioners of centering prayer. In this study, semi-structured interviews were conducted with 20 centering prayer practitioners reporting at least 5 years of experience, and the data was analyzed using conventional content analysis (Fox et al., 2015). Findings from the research coding indicated five clusters of experience among the practitioners that included the divine, the mystical, spiritual development, action-contemplation, and contemplative life (Fox et al., 2015).

Centering prayer and stress. As previously asserted, empirical studies that focus specifically on the research outcomes of centering prayer as a therapeutic intervention are rare. However, a significant study by Ferguson, Willemsen, & Castaneto (2010) explored the impact of centering prayer on everyday stress and on the collaborative relationship with God. In this study, both quantitative and qualitative methods were utilized to compare outcomes on several measures related to anxiety, stress, and problem solving. The study used a pre-test/post-test design to compare a treatment group to a control group. Findings included statistically significant differences between groups that indicated positive outcomes for centering prayer in reducing

symptoms of stress while increasing confident self-assessment of problem solving ability (Ferguson, Willemsen, & Castaneto, 2010). In semi-structured follow-up interviews, participants confirmed an increased ability to handle stressful situations without becoming overwhelmed. Both quantitative and qualitative findings supported the hypothesis that centering prayer results in stress reduction by encouraging an increasingly collaborative relationship with God (Ferguson, Willemsen, & Castaneto, 2010).

Christian devotional meditation. Although more loosely defined than centering prayer, a few empirical studies have examined the impact of Christian devotional meditation or spiritual meditation from a Christian worldview. For example, Carlson et al. (1988) examined the efficacy of devotional meditation as a technique for enhancing relaxation. These researchers compared devotional meditation with progressive muscle relaxation using a randomized controlled group design. Following the two-weeks of treatment intervention, dependent measures indicated that both techniques resulted in reduced symptoms of stress and increased relaxation among 12 students in a Christian college context, but participants in the Christian devotional meditation group experienced less anger, anxiety, and muscle tension compared to participants in the progressive muscle relaxation group based on measurements of electromyography (EMG) activity.

Similarly, Wachholtz and Pargament (2005) employed a randomized controlled trial design to compare spiritual meditation to secular meditation and relaxation. In this study, sixty-eight college students were randomly assigned to one of three conditions, with each group practicing an assigned technique for two weeks. Although the spiritual meditation group was not adapted to an explicitly Christian worldview, participants were asked to meditate on attributes of God as they defined him. Participants in this group meditated on phrases such as “God is love”,

“God is good“, or “God is Mother Earth.” Conversely, the secular meditation group participants used phrases that did not include a reference to God such as “I am content,” “I am good,” or “I am happy”. Participants in the relaxation control group were not required to focus on specific phrases, but were instructed to avoid stressful thoughts. Following the two-week intervention, pain endurance was assessed using a cold-water bath of 2°C by measuring the length of time participants kept their hand in the water. Additionally, anxiety, mood, and spiritual health were evaluated. Results from this study indicated better outcomes for the spiritual meditation group in comparison to the secular meditation and the relaxation groups, with participants reporting less anxiety, more positive mood, increased spirituality, and longer pain tolerance.

In 2008, Wachholtz and Pargament further examined the impact of spiritual meditation on physical pain endurance and psychological symptoms. These researchers targeted migraine headaches, which are associated with various negative psychological symptoms. In this study, the impact of spiritual meditation on increased pain tolerance and reduced migraine headache related symptoms was compared with both internally and externally focused secular meditation, and muscle relaxation (Wachholtz & Pargament, 2008). Following one month of intervention, results from this study indicated more positive psychological outcome for individuals in the spiritual meditation group, such as reduced anxiety and negative affect, and increased headache-related self-efficacy and existential well-being, as well as more positive physiological outcomes such as reduced frequency of migraine headaches and increased pain tolerance (Wachholtz & Pargament, 2008).

Utilizing a protocol for Christian devotional meditation adapted from Garzon (2013), Kim (2014) investigated the efficacy of Christian devotional meditation on stress, anxiety, depression and spiritual health in comparison to progressive muscle relaxation. Individuals from

a nonclinical sample of Korean Christian adults were assigned to one of two conditions for two weeks, participating in two group sessions and in the daily practice of either Christian devotional meditation or progression muscle relaxation techniques. Results from this study indicated decreased negative symptoms and increased spiritual health based on measures related to perceived stress, anxiety, depression, attachment to God, and spirituality (Kim, 2014).

This Present Study

Study Purpose

The purpose of this study was to investigate the impact of Christian mindfulness training in comparison to conventional mindfulness training in a Christian sample. The interventions in this present study included two mindfulness protocols. The first, Christian Mindfulness Training (CMT) was explicitly adapted to a Christian worldview, while the second Conventional Mindfulness Training (MT) was not adapted to a Christian worldview. Individuals in both the CMT and MT groups participated in a three-week treatment study, with the MT group serving as the control group. The intervention was taught in three group sessions that met throughout the course of the study, with each session consisting of a presentation on mindfulness and the demonstration and practice of the mindfulness technique. Furthermore, each of the three sessions emphasized one of the three mechanisms of mindfulness (attention, attitude, and intention) as proposed by Shapiro, Carlson, Astin, and Freedman (2006). The participants from both groups were then asked to practice the technique daily throughout the three-week intervention and record their experience in a log. Instructions to assist with the daily practice of the CMT or MT mindfulness technique were administered in both written and audio form. The study then utilized

a randomized trial design to compare pre- and post-treatment differences between the two groups on measures related to perceived stress, religious coping strategies, and God attachment.

Study Hypotheses

Hypothesis 1. Hypothesis 1 of this study was that the application of a mindfulness training protocol would result in measurable decreases in the perception of stress for participants in both the CMT and the MT group based on responses on the DASS and the PSS.

Hypothesis 2. Hypothesis 2 was that, due to the application of this intervention in a Christian sample, participants in the CMT group would report lower levels of perceived stress post intervention in comparison to participants from the MT group, supporting the assumption that mindfulness training adapted to a Christian worldview (CMT) is appropriate when applied to a Christian sample by resulting in a greater decrease in the perception of stress in comparison to conventional mindfulness training (MT) based on responses on the DASS and the PSS.

Hypothesis 3. Due to the explicit adaptation of mindfulness training to a Christian worldview that includes an awareness of God's presence alongside open present-moment awareness, hypothesis 3 of this study was that measurement outcomes from the CMT group would reveal statistically significant differences indicating increased positive religious coping strategies in comparison to the MT group based on responses on the Brief RCOPE and the SS.

Hypothesis 4. Hypothesis 4 of this study was that as a result of adapting mindfulness training to a Christian worldview, measurement outcomes from the CMT group would reveal increased security in attachment to God in comparison to the MT group based on responses on the AGI and the Awareness and Instability subscales of the SAI.

CHAPTER THREE: METHODS

Chapter three details the methodology for this study. First, the research design is discussed, including the purpose of the study, the research questions, the study hypotheses, and the independent and dependent variables. Secondly, the research procedure is described, including the selection of participants, the measures utilized, the intervention protocols, the data handling safeguards, and the statistical analysis.

Research Design

Purpose of the Study

The purpose of this study was to investigate the impact of Christian mindfulness training in comparison to conventional mindfulness training in a Christian sample. Christian mindfulness training (CMT) is defined as a technique for increasing open present-moment awareness that has been adapted to a Christian worldview, while conventional mindfulness training (MT) is defined as a technique for increasing open present-moment awareness that lacks explicit adaptation to a Christian worldview. Following approval by the Institutional Review Board (IRB; See Appendix C), this study utilized a randomized trial design to compare pre- and post-treatment differences between two groups on measures related to perceived stress, religious coping strategies, and God attachment.

Both the CMT and the MT group participated in three weeks of mindfulness training, including three instructional sessions and prescribed daily exercises for the application of mindfulness practice. In order to assess variance between the two groups, a series of paired samples and independent samples t-tests were utilized as an experimental comparison of means. The two groups consisted of volunteer participants associated with a private, Christian college

located in Florida, randomly assigned to one of two treatment conditions: Christian mindfulness training (CMT) or conventional mindfulness training (MT).

Research Questions and Hypotheses

Question 1. Research on mindfulness training provides consistent empirical support for the effectiveness of the intervention, indicating positive therapeutic outcomes on measures related to stress and emotion regulation (Shapiro, Carlson, Astin, & Freedman, 2006). This proposed study modified the approach to mindfulness by adapting the intervention to a Christian worldview. In order to support the presumption of equality between the CMT and MT group as an effective intervention for stress, the first research question was “Does the adaptation of mindfulness training to a Christian worldview alter the impact of the intervention by positively modifying outcomes on measures of perceived stress?” In order to investigate this question, the two groups were compared on outcomes of perceived stress based on responses on the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) and the Perceived Stress Scale (PSS; Cohen, Kamarch, & Mermelstein, 1983).

Hypothesis 1. Hypothesis 1 of this study was that the application of a mindfulness training protocol would result in measurable decreases in the perception of stress for participants in both the CMT and the MT group based on responses on the DASS and the PSS.

Hypothesis 2. Hypothesis 2 was that, due to the application of this intervention in a Christian sample, participants in the CMT group would report lower levels of perceived stress post intervention in comparison to participants from the MT group, supporting an assumption that mindfulness training adapted to a Christian worldview (CMT) is more effective in a Christian sample by resulting in a greater decrease in the perception of stress in comparison to conventional mindfulness training (MT) based on responses on the DASS and the PSS.

Question 2. While individuals employ a wide variety of coping strategies in order to deal with perceived stress, research indicates that religion serves as a primary means of coping (Pargament, Koenig, & Perez, 2000). Further research indicates that religious coping, or using God as a resource for dealing with stress, may initiate an increased capacity for emotion regulation, as strategies to regulate emotion are developed in the context of a secure attachment relationship such as a relationship with God (Corsini, 2009). One recent study indicated that mindfulness mediates the relationship between collaborative religious coping strategies and emotion regulation (Myers, 2012). Therefore, question 2 of this study was “Will the explicit adaptation of mindfulness training to a Christian worldview increase the capacity for employing positive religious coping strategies in comparison to conventional mindfulness training?” In order to investigate this question, the two groups were compared on outcomes related to positive or negative religious coping strategies based on responses on the Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011) and the Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000).

Hypothesis 3. Due to the explicit adaptation of mindfulness training to a Christian worldview that includes an awareness of God’s presence alongside open present-moment awareness, hypothesis 3 of this study was that measurement outcomes from the CMT group would reveal statistically significant differences indicating increased positive religious coping strategies in comparison to the MT group based on responses on the Brief RCOPE and the SS.

Question 3. Attachment research consistently supports the relationship between secure attachment and the engagement of attachment figures during times of stress (Bowlby, 1969). Based on identified patterns of attachment (Ainsworth, 1978), a secure attachment to God would be demonstrated by a propensity to move toward God when emotionally activated by a perceived

stressor, rather than to demonstrate an anxious or avoidant pattern of insecurity in the relationship with God.

One study indicated that collaborative religious coping is associated with a securely attached relationship with God (Corsini, 2009). Furthermore, the ability to collaboratively problem-solve with God as a means of coping with perceived stress may be mediated by increased mindfulness (Myers, 2012). Mindful awareness may influence the process by which an individual maintains objectivity toward stressful experiences, replacing automated responses that would instead reinforce emotion dysregulation (Gross, 2007).

In exploration of the potential relationship between mindfulness, religious coping, and God attachment, question 3 of this study was “Will the inclusion of God-awareness alongside open present-moment awareness due to the explicit integration of a Christian worldview impact the capacity for secure attachment to God?” In order to investigate this question, the two groups were compared on outcomes of secure or insecure God attachment based on responses on the Attachment to God Inventory (AGI; Beck & McDonald, 2004) and the Awareness and Instability subscales of the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002).

Hypothesis 4. Hypothesis 4 of this study was that as a result of adapting mindfulness training to a Christian worldview, measurement outcomes from the CMT group would reveal increased security in attachment to God in comparison to the MT group based on responses on the AGI and the Awareness and Instability subscales of the SAI.

Independent and Dependent Variables

The two independent variables of this study are defined as the clinical application of the two treatment conditions: CMT and MT. The dependent variables of this study are defined as participant responses on the DASS, PSS, Brief RCOPE, SS, AGI, and the Awareness and

Instability subscales of the SAI that indicate a self-reports of perceived stress, religious coping strategies, and attachment to God. Screened participants were randomly assigned to one of two treatment conditions: the CMT treatment group or the MT treatment group.

Method

Participants

Adult Christian sample. Volunteer participants for this study were recruited from individuals associated with the Baptist College of Florida in Graceville, FL including current students, faculty members, staff members, alumni, and/or spouses from any of these groups. The participants were required to be at least 18 years of age and to self-report as belonging to the evangelical Christian faith. Permission for the study was obtained through the Student Services and Senior Administration offices of the Baptist College of Florida.

Advertisement and recruitment. In order to advertise the study and recruit volunteers, the researcher sent an email to the Baptist College of Florida faculty, staff, and student body that included information related to the concept of mindfulness, the benefits of mindfulness on overall health including stress reduction, and the opportunity to participate in the research. Interested individuals were then directed to the next steps required for participation, including the opportunity to sign-up immediately by providing their name, email address, and phone number, which was needed for supportive texts sent throughout the study. The researcher's email address and phone number were also included for supplementary information. Additionally, flyers were posted around the campus on university-approved bulletin boards, so that interested participants could contact the researcher for information.

Furthermore, the researcher promoted the study in a regularly scheduled faculty meeting, and in any regular courses in which professors would allow permission for the researcher to use a portion of the class time to overview the opportunity. In order to provide student incentives, the researcher requested that study participation be offered as an extra credit assignment in several psychology courses and other courses in which the BCF professor agreed to allow this incentive. For non-student participants, no incentives were provided, but the overall benefits of mindfulness training for stress reduction was emphasized.

Inclusion and exclusion criteria. An initial assessment interview was used to screen all potential participants for their eligibility and willingness to participate. Inclusion criteria required that participants self-report as an adult over 18 years of age, self-report as belonging to the evangelical Christian faith, and demonstrate the ability to understand and sign an informed consent form. Exclusion criteria consisted of (a) currently experiencing psychotic symptoms, (b) currently experiencing severe depressive symptoms (c) currently experiencing suicidal or homicidal ideation, or (d) having any condition or life circumstance that prevents participation in the three weeks of mindfulness training.

Procedure

Participant screening. To begin the screening process, study applicants completed an initial assessment interview form (Appendix A) followed by the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) to investigate exclusion criteria by screening for psychological distress. The detection of psychotic symptoms, symptoms of severe depression, and/or suicidal or homicidal ideation excluded applicants from the study while serving as a means of identifying those requiring referral to increased levels of care. If warranted, the

researcher made an immediate referral to professional mental health services available through the Student Services office of the Baptist College of Florida.

Consent for treatment. Screened applicants that met the inclusion criteria were then asked to complete a pre-intervention assessment packet that included an informed consent to treatment form that details the risks and benefits of participation, the limits of confidentiality, and participation compensation (Appendix B), and a demographic information form (Appendix D). Lastly, to obtain baseline measurements of perceived stress, religious coping strategies, and attachment to God, each of the participants completed the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), the Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011), the Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000), the Attachment to God Inventory (AGI; Beck & McDonald, 2004), and the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002) before beginning the three week intervention.

Random assignment. In execution of this study, the between-subjects group design required that each participant was a member of only one group and had not been matched or paired (Warner, 2013). Additionally, participants were randomly assigned to the treatment group conditions utilizing a table of random numbers in order to ensure equivalence of the groups prior to treatment (Warner, 2013). Following screening and completion of the pre-test procedures, individuals who meet the inclusion criteria were randomly assigned to either the CMT group or the MT group.

Treatment application. Group 1 participated in Christian mindfulness training (CMT), which employed a protocol that presented the technique of mindfulness as a means of reducing symptoms of perceived stress. The CMT group included psycho-educational group sessions and daily homework assignments for practicing mindfulness, utilizing exercises from the researcher

in both audio and written format. Additionally, in Group 1, the researcher adapted the protocol to a Christian worldview by combining the concept of open present-moment awareness with an awareness of God in the present moment. Group 2 participated in conventional mindfulness training (MT), which employed a protocol that presented the technique of mindfulness as a means of reducing symptoms of perceived stress. The MT group included psycho-educational group sessions and daily homework assignments for practicing mindfulness, utilizing exercises from the researcher in both audio and written format. Following the three weeks of treatment application, the DASS, PSS, Brief RCOPE, SS, AGI, and SAI were re-administered to both groups and the resulting scores were analyzed for variance between the group means that informs the study questions and hypotheses.

Follow-up training. Following completion of the study, participants randomly assigned to Group 2 were given the option to participate in a follow-up training session that reviewed mindfulness from a Christian worldview. The researcher then provided the MT group participants with an opportunity to practice the technique using the Christian-adapted protocols by sharing the audio and written exercises from the CMT group.

Measures

Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995). The DASS is comprised of 42 items that measure the frequency of symptoms of psychological distress during the previous week. Developed by Lovibond and Lovibond (1995), the DASS is structured to load on three factors that assess symptoms using three subscales for Depression, Anxiety and Stress. The Depression subscale assesses symptoms related to dysphoric mood and hopelessness, while the Anxiety subscale assesses symptoms of physiological hyperarousal, and the Stress subscale assesses symptoms related to tension and irritability. The DASS utilizes a 4-

point scale ranging from 0 (*Did not apply to me*) to 3 (*Applied to me most of the time*). Research analyses have established the validity and reliability of the DASS as a psychometric instrument and suggest that the DASS subscales successfully discriminate anxiety and depression (Antony & Barlow, 2010).

Perceived Stress Scale (PSS; Cohen, Kamarch, & Mermelstein, 1983). The PSS is a popular self-report measurement, assessing levels of generalized stress by evaluating the degree to which an individual perceives life as unpredictable, uncontrollable, and overloaded during the previous month (Lee, 2012). The PSS consists of 10 self-report items and utilizes a 5-point scale that ranges from 0 (*Never*) to 4 (*Very often*) to describe various stress-related thoughts and feelings (e.g., “In the last month, how often have you been upset because of something that happened unexpectedly”). Initial research by the scale developers indicated good internal consistency (Cronbach’s $\alpha = .84-.86$) in three samples (Cohen, Kamarch, & Mermelstein, 1983), and a review of continued research indicates strong support for the validity and reliability of the scale (Lee, 2012).

Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011). The Brief RCOPE consists of 14 self-report items that indicate positive and negative religious coping strategies. Higher scores on the positive religious coping subscale (PRC) indicates a tendency to feel securely connected to God when experiencing major life stressors, while higher scores on the negative religious coping subscale (NRC) reflects feelings of spiritual tension during crisis that are experienced within the self, interpersonally, and/or in relationship with God. The Brief RCOPE uses a 4-point scale to categorize responses, ranging from 1 (*not at all*) to 4 (*a great deal*). Research indicates that the psychometric properties of the scale include high reliability and validity estimates, including good internal consistency in differing samples that

resulted in a median alpha score for the PRC subscale of 0.92 and a median alpha score for the NRC subscale of 0.81 (Pargament, Feuille, & Burdzy, 2011). Concurrent validity studies indicate that the PRC subscale is consistently correlated with measures of increased psychological wellbeing, while the NRC subscale is associated with negative symptomology such as anxiety, depression, and physical pain (Pargament, Feuille, & Burdzy, 2011).

Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000). The SS measure is a 12-item self-report scale that assesses the coping style of Surrender as a separate factor from the positive coping strategies as defined and measured by the PRC subscale of the Brief RCOPE. Surrender is defined “as an active choice to surrender one’s will to God’s rule” and is presumed to be neither passively inactive nor actively controlling (Wong-McDonald & Gorsuch, 2000, p. 149). In contrast, the coping strategy of Surrender as measured by the SS, is considered to move beyond even a relationally collaborative religious coping style, maintaining an attitude of active problem-solving in relationship with God, but submitting to the will of God when God’s ways are viewed as being in opposition to personal desires (Wong-McDonald & Gorsuch, 2000, p. 149). Correspondingly, while enhancing personal control is generally considered critical to coping with stress, Cole and Pargament (1999) describe the paradox of surrender as a path to perceived control, through the spiritual process of acknowledging personal limitations on control and actively giving control over to God. Initial research by Wong-McDonald and Gorsuch on 30 items related to surrender resulted in the extraction of the current 12-item SS scale, and analysis revealed high internal consistency and reliability for this single factor instrument ($\alpha=.94$).

Attachment to God Inventory (AGI; Beck & McDonald, 2004). Developed by Beck and McDonald (2004), the AGI allows for operationalizing of the construct of God attachment, or a perceived level of security in relationship with God. Utilizing a self-report format of 28

items, responses on the AGI load on two subscales, anxiety (AGI-Anxiety) or avoidance (AGI-Avoidance), with high scores on either of these scales indicating an insecure attachment to God. Initial research demonstrated good internal consistency for the subscales of AGI-Anxiety ($\alpha=0.80$) and AGI-Avoidance ($\alpha=0.84$) in a sample of 118 university students (Beck & McDonald, 2004). The AGI is designed to reflect the attachment theory dimensions of Anxiety about Abandonment and Avoidance of Intimacy as measured by the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998) in application to an individual's relationship with God.

Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002). Developed by Hall and Edwards (2002), the SAI utilizes 54 self-report items (40 single items and 7 two-part items) to measure spiritual development along two primary dimensions: Awareness of God and Quality of Relationship with God. The instrument assesses the developmental level of the respondent's relationship with God based on an integrated theological and psychological relational framework that unites principles object relations theory and attachment theory with an experiential awareness of God through contemplative practice (Hall, Reise, & Haviland, 2007). Based on results from an initial study (Hall & Edwards, 1996), the measure was revised and expanded, and the results of factor analyses support the stability of the five subscales in the revised version (Hall & Edwards, 1996, 2002). The subscales include Awareness of God, Disappointment in Relationship with God, Realistic Acceptance of God, Grandiosity in Relationship with God, and Instability in Relationship with God. Each item is rated on a 5-point Likert scale: 1 (not at all true), 2 (slightly true), 3 (moderately true), 4 (substantially true), and 5 (very true). High scores on each subscale represent the presence of the trait specified by that scale, and research by the developers indicates good reliability and internal consistency of the subscales ($\alpha=.73-.95$). In

this present study, the Awareness subscale of the SAI was used to assess awareness of God and the Instability subscale of the SAI was used to assess quality of relationship with God.

Interventions

Christian Mindfulness Training (CMT)

Session 1. Individuals in the CMT group participated in three group sessions. The first session began with pre-intervention measurements, and then focused on a presentation that began with a discussion on stress and research outcomes on the impact of mindfulness as a coping method for stress. The presentation then overviewed three core principles of mindfulness practice as proposed by Shapiro, Carlson, Astin, and Freedman (2006) including attention, attitude, and intention, discussing the first principle of attention in depth to encourage increased awareness of personal experience. The psycho-educational segment of week 1 lasted approximately 30 minutes and included the integration of Christian concepts related to an awareness of God in the present moment, in particular God's immanence and transcendence (Appendix L).

The participants were then given the opportunity to practice the mindfulness technique of attention, with the focus on attention to the breath using a breath meditation exercise adapted to a Christian worldview (See Appendix E). The group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to pay attention to your breath?, (2) What did you notice in your experience of the present moment?, and (3) Can you describe your personal level of difficulty or ease in this session of mindfulness practice? The researcher then gave instructions for practicing the breath meditation on an individual basis throughout the first week of treatment application.

The researcher provided a copy of the breath meditation exercise in both written and audio format sent via email for application of the technique, and participants were instructed to record their activity in a daily log (See Appendix K).

Session 2. The second session began with an opportunity to process the previous week's experience with the group and then reviewed of the principles of mindfulness practice including attention, attitude, and intention (Shapiro, Carlson, Astin, & Freedman, 2006). This week's presentation focused on the principle of attitude, encouraging an open and compassionate stance toward personal experience. The processing segment of week 2 lasted approximately 15 minutes, followed by a psycho-educational segment that lasted approximately 15 minutes, which included the integration of Christian concepts related to an awareness of God in the present moment, particularly God's gracious and merciful nature (Appendix M).

The group processing and presentation were followed by an opportunity to practice the mindfulness principles using a body scan mindfulness exercise that was adapted to a Christian worldview (See Appendix F). The group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to notice the areas of your body while maintaining an attitude of openness?, (2) What did you notice in your experience of the present moment?, and (3) Can you describe your personal level of difficulty or ease in this session of mindfulness practice? The researcher then gave instructions for practicing the body scan exercise on an individual basis throughout the second week of treatment application. The researcher provided a copy of the body scan exercise in both written and audio format sent via email for application of the technique, and participants were instructed to record their activity in a daily log.

Session 3. The third session began with an opportunity to process the previous week's experience with the group and then reviewed the principles of attention, attitude, and intention within mindfulness practice (Shapiro, Carlson, Astin, & Freedman, 2006). The third presentation focused on the principle of intention to encourage the identification of personal meaning in practicing mindfulness. The processing segment of week 3 lasted approximately 15 minutes, followed by a psycho-educational segment that lasted approximately 15 minutes, which included the integration of Christian concepts related to an awareness of God in the present moment, particularly God's loving nature (Appendix N).

As a final exercise, the group was given an opportunity to practice the principle of intention in mindfulness by participating in a prayer meditation entitled *The Wisdom of Accepted Tenderness* (Johnston, n.d.), which encourages the acceptance of God's love and grace as presented from a Christian worldview (Appendix G). The researcher presented the words of the prayer prior to the meditation in order to allow the group time to discuss the content before beginning the exercise. This group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to say this prayer of accepting God's tenderness toward you?, (2) What did you notice in your experience of the present moment?, and (3) Can you describe your personal level of difficulty or ease in this session of mindfulness practice? Participants were then given instructions for practicing the meditation prayer on an individual basis throughout the third week of treatment application, along with encouragement to remain mindful of all three principles of mindfulness practice learned throughout the group sessions. The researcher provided a copy of the prayer meditation exercise in both written and audio format sent via email for application of the technique, and participants were instructed to record their activity in a daily log. Following

the three weeks of treatment, the CMT group met to complete the post-intervention measures, and the participants were given an opportunity to process the previous week's experience with the group.

Conventional Mindfulness Training (MT)

Session 1. Individuals in the MT group participated in three group sessions. The first session began with pre-intervention measurements, and then moved to a presentation on stress and research outcomes on the impact of mindfulness as a coping method for stress. The presentation then overviewed three core principles of mindfulness practice as proposed by Shapiro, Carlson, Astin, and Freedman (2006) including attention, attitude, and intention, discussing the first principle of attention in depth to encourage increased awareness of personal experience. The psycho-educational segment of week 1 lasted approximately 30 minutes (Appendix O).

The participants were then given the opportunity to practice the mindfulness technique of attention, with the focus on attention to the breath using a breath meditation exercise (See Appendix H). The group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to pay attention to your breath?, (2) What did you notice in your experience of the present moment?, and "Can you describe your personal level of difficulty or ease in this session of mindfulness practice? The researcher then gave instructions for practicing the breath meditation on an individual basis throughout the first week of treatment application, providing a copy of the breath meditation exercise in both written and audio format sent via email for application of the technique. Participants were instructed to record their activity in a daily log (See Appendix K).

Session 2. The second session began with an opportunity to process the previous week's experience with the group and then reviewed of the principles of mindfulness practice including attention, attitude, and intention (Shapiro, Carlson, Astin, & Freedman, 2006). This week's presentation focused on the principle of attitude, encouraging an open and compassionate stance toward personal experience. The processing segment of week 2 lasted approximately 15 minutes, followed by a psycho-educational segment that lasted approximately 15 minutes (Appendix P).

The group processing and presentation were followed by an opportunity to practice the mindfulness principles using a body scan mindfulness exercise (Appendix I). The group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to notice the areas of your body while maintaining an attitude of openness?, (2) What did you notice in your experience of the present moment?, and (3) Can you describe your personal level of difficulty or ease in this session of mindfulness practice? The researcher then gave instructions for practicing the body scan exercise on an individual basis throughout the second week of treatment application, providing a copy of the body scan exercise in both written and audio format sent via email for application of the technique. Participants were instructed to record their activity in a daily log.

Session 3. The third session began with an opportunity to process the previous week's experience with the group and then reviewed the principles of attention, attitude, and intention within mindfulness practice (Shapiro, Carlson, Astin, & Freedman, 2006). The third presentation focused on the principle of intention to encourage the identification of personal meaning in practicing mindfulness. The processing segment of week 3 lasted approximately 15 minutes, followed by a psycho-educational segment that lasted approximately 15 minutes (Appendix Q).

As a final exercise, the group was given an opportunity to practice the principle of intention in mindfulness by participating in a loving-kindness meditation (Levine, 1991; See Appendix J). The researcher presented the content of the exercise prior to the meditation in order to allow the group time for discussion before beginning. The group exercise was followed by an opportunity to process their experience with mindfulness, as the researcher offered general questions such as: (1) What was it like for you to meditate on lovingkindness toward yourself and others?, (2) What did you notice in your experience of the present moment?, and (3) Can you describe your personal level of difficulty or ease in this session of mindfulness practice? Participants were then given instructions for practicing the meditation prayer on an individual basis throughout the third week of treatment application, along with encouragement to remain mindful of all three principles of mindfulness practice learned throughout the group sessions. The researcher provided a copy of the loving-kindness meditation exercise in both written and audio format sent via email for application of the technique, and participants were instructed to record their activity in a daily log. Following the three weeks of treatment, the MT group met to complete the post-intervention measures, and the participants were given an opportunity to process the previous week's experience with the group.

Researcher Training

Prior to this study, the researcher completed a course on Christian Mindfulness that included six weeks of training on adapting mindfulness meditation to a Christian worldview as well as guided Christian mindfulness meditation exercises for personal application of the technique (Johnston, n.d.). Additionally, the researcher attended multiple professional workshops for continuing education credit on the application of mindfulness techniques, including a workshop on adapting mindfulness and other meditation forms to conservative

Christian clients (Garzon, 2015b). As a licensed mental health counselor, the researcher has utilized mindfulness techniques, both conventional and Christian, in psychotherapy practice, including mindfulness activities and guided scripts from mindfulness-based stress reduction treatment protocols (MBSR; Kabat-Zinn, 1990).

Data Handling Safeguards

Screening safeguards. In execution of the screening procedures, applicants were asked to respond to the request for participation by email using a Microsoft OneDrive spreadsheet link that included the initial interview packet to assess inclusion and exclusion criteria. This online packet included the initial assessment interview form (Appendix A) followed by the Depression Anxiety Stress Scales (DASS, Lovibond & Lovibond, 1995). All of the assessment data was kept in the researcher's personal Microsoft OneDrive spreadsheet, which remains protected by a 2-step verification security system requiring a personal password and verification code sent to a personal phone via text or voice call in order to sign in. If requested by the applicant, prescreening interviews completed in person provided the same assessment questionnaire in a printed format. All collected data was kept in a locked drawer in the researcher's office, which remains secured by lock and key. Screening measures were then examined for indicators of exclusion criteria.

Pre-intervention safeguards. At the first group meeting, participants that meet the inclusion criteria completed the pre-intervention assessment packet that included an informed consent to treatment form (Appendix B), a demographic information form (Appendix D), the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), the Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011), the Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000), the Attachment to God Inventory (AGI; Beck &

McDonald, 2004), and the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002). To maintain anonymity, names were not used on any of the forms or assessments. Each packet was assigned an identification number for secure data handling and control, as well as storage. When distributing the questionnaires to the participants, the researcher recorded the numbers alongside the participant names in a Microsoft Excel document in order to create a codebook. The codebook document was stored on a password-protected computer and backed up on password-protected cloud-based storage. The codebook and the assessment questionnaire data were stored separately. The results of all assessment data was kept in the researcher's personal Microsoft OneDrive spreadsheet, which remains protected by a 2-step verification security system requiring a personal password and verification code sent to a personal phone via text or voice call in order to sign in.

Mid-intervention safeguards. Throughout the three-week intervention period, participants tracked their daily practice of the prescribed mindfulness exercises through a self-report log that included the date and the start and stop time of the exercise. Emails related to mindfulness were sent at a minimum of every 3 days as a method of prompting the participants to practice the technique and record their experience. The logs were checked and recorded at the end of the study by the researcher in order to track the total number of days that the mindfulness training intervention was completed. The collected log data was kept in a locked drawer in the researcher's office, which remains secured by lock and key.

Post-intervention safeguards. At the conclusion of the three-week treatment intervention, each participant was given the post-intervention assessment packet. This packet had the same identification number as the pretest packet and included the DASS (Lovibond & Lovibond, 1995), PSS (Cohen, Kamarck, & Mermelstein, 1983), Brief RCOPE (Pargament,

Feuille, & Burdzy, 2011), SS (Wong-McDonald & Gorsuch, 2000), AGI (Beck & McDonald, 2004), SAI (Hall & Edwards, 2002), and a post-intervention feedback form. All data from the post-intervention packet was kept in a locked drawer in the researcher's office, which remains secured by lock and key. The results of all assessment data was kept in the researcher's personal Microsoft OneDrive spreadsheet, which remains protected by a 2-step verification security system requiring a personal password and verification code sent to a personal phone via text or voice call in order to sign in. The codebook for participant identification was stored on a password-protected computer and backed up on password-protected cloud-based storage.

Statistical Analysis

Following the three weeks of treatment application, the DASS, PSS, Brief RCOPE, SS, AGI, and SAI were re-administered to both groups. In this study, the pre-test and post-test participant scores on each of these measures were evaluated to assess deviations from the group mean in a comparison between participants designated as CMT group members and MT group members. The resulting data was analyzed to test the study questions and hypotheses. In order to assess group differences, the researcher conducted a series of t-tests to investigate the dependent measure data. The two-sample t-test procedure is appropriate when the sampling method uses simple random sampling, the samples are independent, and the sampling distribution is approximately normal (Warner, 2013). In this study, the participants were randomly assigned to the two treatment conditions. The statistical analysis investigated the efficacy of Christian mindfulness training (CMT) compared to conventional mindfulness training (MT) on measures of perceived stress, religious coping strategies, and God attachment. Differences within and

between groups were assessed at the $p < .05$ level of significance on the DASS, PSS, Brief RCOPE, SS, AGI, and Awareness and Instability subscales of the SAI.

Summary

The goal of this study was to compare Christian mindfulness training to conventional mindfulness training, using a randomized trial design to compare pre- and post-treatment differences between two groups on measures related to perceived stress, religious coping strategies, and God attachment. The study participants were asked to complete three weeks of mindfulness training that included psycho-educational group sessions and prescribed daily applications of the techniques. The mindfulness training groups were distinguished as either Christian mindfulness training (CMT) defined as open present-moment awareness that has been explicitly adapted to a Christian worldview, or conventional mindfulness training (MT) defined as open present-moment awareness that lacks explicit adaptation to a Christian worldview. The dependent measures included the DASS, PSS, Brief RCOPE, SS, AGI, and Awareness and Instability subscales of the SAI, which were evaluated post-intervention to assess within and between group differences using a series of t-tests. The resulting data was analyzed as to variance between the group means informing the study questions and hypotheses.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

Restatement of the Purpose

The purpose of this study was to investigate the impact of Christian mindfulness training in comparison to conventional mindfulness training in a Christian sample. Christian mindfulness training (CMT) was defined as a technique for increasing open present-moment awareness that has been adapted to a Christian worldview, while conventional mindfulness training (MT) was defined as a technique for increasing open present-moment awareness that lacks explicit adaptation to a Christian worldview. Using a randomized trial design, the study participants were asked to complete three weeks of mindfulness training that included psycho-educational group sessions and prescribed daily applications of the techniques. Outcome data was assessed to compare pre- and post-treatment differences on measures related to perceived stress, religious coping strategies, and God attachment. The dependent measures included the DASS, PSS, Brief RCOPE, SS, AGI, and Awareness and Instability subscales of the SAI, which were evaluated post-intervention with a series of t-tests to assess within and between group differences.

In this study, the pre-test and post-test participant scores on each of the dependent measures were evaluated to assess deviations from the group mean in a comparison between participants designated as CMT group members (n=36) and MT group members (n=42). Differences within and between groups were assessed at the $p < .05$ level of significance. The resulting data was analyzed as to variance between the group means informing the study questions and hypotheses. First, a series of paired samples t-tests was performed to assess within group differences pre- and post-treatment for both the CMT and MT groups. Additionally, a series of independent samples t-tests was performed to assess whether the means on various post-treatment measures differed significantly for participants in the CMT as compared to participants

in the MT group. The two treatment groups remained independent from one another and the participants were randomly assigned to one of the two treatment conditions. Levene's test indicated no significant violation of the assumption of homogeneity of variance for each t-test on baseline measurements with the exception of the SAI Awareness subscale. In a follow-up analysis, a one-way analysis of covariance (ANCOVA) was employed to assess between-group differences on the dependent variables. ANCOVA increases statistical power by controlling for continuous variables that may inflate the potential for experimental error, and was employed as a secondary analysis for the data using the pretest scores of each dependent measurement as the covariate. Following treatment, statistically significant differences within and between groups were found in support of hypothesis 1 and in partial support of hypothesis 2, but hypothesis 3 and 4 were not supported by the results. A descriptive summary of the pre- and post-means on each assessment for the groups is provided in

Table 4.1

Summary of Pre/Post Group Means (M) and Standard Deviations (SD)

Measure	CMT Group (n=36)				MT Group (n=42)			
	Pre-test		Post-test		Pre-test		Post-test	
	M	SD	M	SD	M	SD	M	SD
DASS-S	10.22	7.36	6.28	5.56	11.02	7.25	9.29	6.99
PSS	16.92	6.9	13.94	6.1	18.29	7.8	15.52	7.6
RCOPE-PRC	21.5	4.19	21.64	4.23	21.45	4.58	22.19	4.37
RCOPE-NRC	9.92	3.26	8.86	2.93	10.55	4.34	9.76	3.59
SS	49.03	6.23	49.53	6.92	49.95	7.67	49.71	8.06
AGI-AX	2.68	.1	2.4	.86	2.98	1.19	2.67	1.3
AGI-AV	2.6	.57	2.58	.65	2.49	.69	2.52	.69
SAI-AW	3.66	.53	3.71	.63	3.98	.75	3.99	.78
SAI-IN	1.85	.58	1.64	.45	1.93	.72	1.91	.77

Demographics

This sample consisted of volunteer participants ($n=78$), both male (42%) and female (58%), who self-reported as belonging to the evangelical Christian faith. Participants reported an average age of 27 years (range: 18-66) and 73% of the participants ranged in age from 18-25. At the time of the study, 37.2% of participants were married, while 61.5% were single and 1.3% were divorced. In terms of ethnic identity, 91% of participants identified as *Caucasian*, while 5.1% identified as *African-American*, 2.6% identified as *Latino*, and 1.3% identified as *Other*. Participants reported an average of length of time as a Christian of 15.26 years (range: 0.42-57).

A total of 99 study applicants completed the intake assessment and survey, with random assignment resulting in 49 participants assigned to the CMT group and 50 participants assigned to the MT group. A few of the applicants reported a schedule conflicts with their particular group assignment, while others stated that school and work commitments were too great to continue with the study. However, out of the 99 applicants, 91 participants completed all of the pre-treatment assessments and attended the first group meeting, resulting in a total of 42 participants assigned to the CMT group and 49 participants assigned to the MT group. Following the three weeks of treatment, 36 CMT participants and 42 MT participants completed all post-assessment measures, resulting in a final sample of $n=78$. The completion rate for both the CMT and the MT group was identical at 84%.

Research Question 1

In order to support the presumption of equality between the CMT and MT group as an effective intervention for stress, the first research question was whether the adaptation of mindfulness training to a Christian worldview would alter the impact of the intervention by

positively modifying outcomes on measures of perceived stress. In order to investigate this question, the two groups were compared on outcomes of perceived stress based on responses on the Stress subscale of the Depression Anxiety Stress Scales (DASS-S; Lovibond & Lovibond, 1995) and the Perceived Stress Scale (PSS; Cohen, Kamarch, & Mermelstein, 1983).

Hypothesis 1 Analysis

Hypothesis 1 of this study was that the application of a mindfulness training protocol would result in measurable decreases in the perception of stress for participants in both the CMT and the MT group based on responses on the DASS-S (See Table 4.2) and the PSS (See Table 4.3). Following treatment, a paired samples t-test indicated significant within-group differences on both dependent measures of stress for the CMT group, and significant within-group differences on one dependent measure of stress for the MT group. These outcomes support hypothesis 1 of this study that mindfulness training would result in decreased perceptions of stress for both treatment conditions.

Post-treatment data from the DASS-S indicated statistically significant within-group differences for the CMT group [$t(35) = 3.51, p=.001$], with a mean difference of 3.94 from baseline ($M=10.22, SD=7.36$) to post-treatment ($M=6.28, SD=5.56$). Outcomes on the DASS-S indicated smaller within-group differences for the MT group that were not statistically significant [$t(41) = 1.56, p = .126$], with a mean difference of 1.74 from baseline ($M=11.02, SD=7.25$) to post-treatment ($M=9.29, SD=6.99$). Post-treatment data from the PSS indicated statically significant within-group differences for the CMT group [$t(35) = 3.42, p=.002$] with a mean difference of 2.97 from baseline ($M=16.92, SD=6.9$) to post-treatment ($M=13.94, SD=6.1$), as well as for the MT group [$t(41) = 2.63, p=.012$] with a mean difference of 2.76 from baseline ($M=18.29, SD=7.8$) to post-treatment ($M=15.52, SD=7.6$).

Table 4.2

Paired Samples T-Test for DASS-S

		Paired Samples Statistics				
Pair		Mean	N	Std. Deviation	Std. Error Mean	
CMT	DASS_S_PRE	10.22	36	7.36	1.23	
	DASS_S_POST	6.28	36	5.56	.93	
MT	DASS_S_PRE	11.02	42	7.25	1.12	
	DASS_S_POST	9.29	42	6.99	1.08	

		Paired Differences							
Pair		Mean	Std. Deviation	Std. Error Mean	95% CI		<i>t</i>	df	Sig.(2-tailed)
					Lower	Upper			
CMT	DASS_S_PRE - DASS_S_POST	3.94	6.74	1.12	1.67	6.22	3.51	35	.001*
MT	DASS_S_PRE - DASS_S_POST	1.74	7.2	1.11	-.51	3.98	1.56	41	.126

Note. *Significant at $p < .05$. CI=confidence interval

Table 4.3

Paired Samples T-Test for PSS

Paired Samples Statistics									
Pair		Mean	N	Std. Deviation	Std. Error Mean				
CMT	PSS_PRE	16.92	36	6.9	1.15				
	PSS_POST	13.94	36	6.1	1.02				
MT	PSS_PRE	18.29	42	7.8	1.2				
	PSS_POST	15.52	42	7.6	1.17				

Paired Differences									
Pair		Mean	Std. Deviation	Std. Error Mean	95% CI		t	df	Sig.(2-tailed)
CMT	PSS_PRE	2.97	5.22	.87	1.21	4.74	3.42	35	.002*
	PSS_POST								
MT	PSS_PRE – PSS_POST	2.76	6.8	1.05	.64	4.88	2.63	41	.012*

Note. *Significant at $p < .05$. CI=confidence interval

Hypothesis 2 Analysis

Hypothesis 2 was that, due to the application of this intervention in a Christian sample, participants in the CMT group would report lower levels of perceived stress post intervention in comparison to participants from the MT group, with a greater decrease in the CMT group in the mean reported perception of stress in comparison to the MT group based on responses on the dependent measures of perceived stress. Following treatment, independent samples t-tests comparing post-assessment means indicated significant between-group differences for participant data on the DASS-S (See Table 4.4), but no significant between-group differences on the PSS (See Table 4.5). The post-treatment group mean scores on the DASS-S and PSS were also analyzed using an alternative ANCOVA statistical strategy, utilizing the pre-test group mean scores as the covariate in order to control for potential pre-test differences between groups. As with the t-test, the results from this analysis indicated significant between-group differences in post-assessment means on the DASS-S, with a lower report of perceived stress for participants in the CMT in comparison to participants in the MT group ($p = .04$), but did not indicate significant between-group differences on the PSS. The results of this analysis partially supported the hypothesis that mindfulness training that has been adapted to a Christian worldview (CMT) is more effective than mindfulness training that has not been adapted to a Christian worldview (MT) when applied in a Christian sample.

DASS-S. The assumption of homogeneity of variance was assessed with Levene's test and indicated no significant differences between groups prior to treatment on either the DASS-S ($F=.01, p=.94$) or the PSS ($F=.01, p=.92$). Following treatment, an independent samples t-test indicated a statistically significant difference in a comparison of post-assessment means for participant scores on the DASS-S [$t(76) = -2.08, p=.04$, two-tailed]. These results indicate that

participants from the CMT group reported significantly lower levels of perceived stress post-treatment ($M = 6.28$, $SD = 5.56$) than the MT group participants ($M = 9.29$, $SD = 6.99$), but with a small effect size ($N^2 = .05$). The CMT group reported a greater change in means on the DASS-S from pre-test to post-test ($M=3.94$, $SD=6.74$) compared to the MT group ($M=1.74$, $SD=7.2$), but this difference between groups was not statistically significant [$t(76) = 1.39$, $p=.17$, two-tailed].

PSS. An independent samples t-test indicated no significant differences in a comparison of post-test means based on scores from the PSS [$t(76) = -1$, $p=.32$, two-tailed]. These outcomes partially support hypothesis 2 of this study that mindfulness training adapted to a Christian worldview would be more effective in reducing the perception of stress in a Christian sample than mindfulness training that was not adapted to a Christian worldview. The two groups reported a similar change in means on the PSS from pre-test to post-test (CMT: $M=2.97$, $SD=5.22$; MT: $M=2.76$, $SD=6.8$), that was not statistically significant between groups [$t(76) = .15$, $p=.88$, two-tailed].

Table 4.4

Independent Samples T-Test for DASS-S

		Group Statistics								
Measure	Groups	N	Mean	Std. Deviation	Std. Error Mean					
DASS_S_ PRE	CMT	36	10.22	7.36	1.23					
	MT	42	11.02	7.25	1.12					
DASS_S_ POST	CMT	36	6.28	5.56	.93					
	MT	42	9.29	6.99	1.08					
DASS_S_ CHANGE	CMT	36	3.94	6.74	1.12					
	MT	42	1.74	7.20	1.11					

		Independent Samples Test								
		Levene's Test		t-test for Equality of Means						
Measure		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
DASS_S_ PRE	Equal variances assumed	.01	.94	-.48	76	.63	-.8	1.66	-4.11	2.5
DASS_S_ POST	Equal variances assumed	2.54	.12	-2.08	76	.04*	-3.01	1.45	-5.89	-.12
DASS_S_ CHANGE	Equal variances assumed	.16	.69	1.39	76	.17	2.21	1.59	-.96	5.37

Note. *Significant at $p < .05$. CI=confidence interval

Table 4.5

Independent Samples T-Test for PSS

		Group Statistics								
Measure	Groups	N	Mean	Std. Deviation	Std. Error Mean					
PSS_ PRE	CMT	36	16.92	6.9	1.15					
	MT	42	18.29	7.8	1.2					
PSS_ POST	CMT	36	13.94	6.1	1.02					
	MT	42	15.52	7.6	1.17					
PSS_ CHANGE	CMT	36	2.97	5.22	.87					
	MT	42	2.76	6.8	1.05					

		Independent Samples Test								
		Levene's Test				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
PSS_ PRE	Equal variances assumed	.01	.92	-.82	76	.42	-1.37	1.68	-4.72	1.98
	Equal variances not assumed									
PSS_ POST	Equal variances assumed	1.87	.18	-1.0	76	.32	-1.58	1.58	-4.72	1.57
	Equal variances not assumed									
PSS_ CHANGE	Equal variances assumed	2.42	.12	.15	76	.88	.21	1.39	-2.56	2.98
	Equal variances not assumed									

Note. CI=confidence interval

Research Question 2

In order to investigate the impact of mindfulness on religious coping strategies, research question 2 examined whether the explicit adaptation of mindfulness training to a Christian worldview would increase the capacity for employing positive religious coping strategies in comparison to conventional mindfulness training. In order to investigate this question, the two groups were compared on outcomes related to positive religious coping strategies based on responses on the Brief Religious Coping Scale (Brief RCOPE; Pargament, Feuille, & Burdzy, 2011) and on the Surrender Scale (SS; Wong-McDonald & Gorsuch, 2000).

Hypothesis 3 Analysis

Hypothesis 3 of this study was that measurement outcomes from the CMT group would reveal statistically significant differences indicating an increased capacity for employing positive religious coping strategies in comparison to the MT group based on responses on the Brief RCOPE and the SS. Following treatment, independent samples t-tests comparing post-assessment means did not support this hypothesis, indicating no significant between-group differences on the Positive Religious Coping (RCOPE-PRC) and Negative Religious Coping (RCOPE-NRC) subscales of the Brief RCOPE (See Table 4.6), or on the SS (See Table 4.7).

The assumption of homogeneity of variance was assessed with Levene's test and indicated no significant differences between groups prior to treatment on the RCOPE-PRC ($F=.01, p=.93$), the RCOPE-NRC ($F=2.7, p=.1$), or the SS ($F=3.34, p=.07$). Following treatment, independent samples t-tests indicated no statistically significant differences in a comparison of post-assessment means for participant scores on the RCOPE-PRC [$t(76) = -.56, p=.58$, two-tailed], the RCOPE-NRC [$t(76) = -1.2, p=.23$, two-tailed], or on the SS [$t(76) = -.11, p=.91$, two-tailed]. An independent samples t-test indicated no significant differences [$t(76) = -.72, p=.48$, two-tailed] in the change in means from pre-test to post test on the RCOPE-PRC (CMT: $M=.14$, $SD=3.45$; MT: $M=.74$, $SD=3.86$). An independent samples t-test also indicated no significant differences [$t(76) = -.29, p=.78$, two-tailed] in the change in means from pre-test to post test on the RCOPE-NRC (CMT: $M=-1.06$, $SD=3.87$; MT: $M=-.79$, $SD=4.41$). Additionally, the two groups reported a similar change in means on the SS from pre-test to post-test (CMT: $M=-.5$; $SD=4.86$; MT: $M=.24$, $SD=6.43$), that was not statistically significant between groups [$t(76) = -.56, p=.57$, two-tailed].

Table 4.6

Independent Samples T-Test for Brief RCOPE

Group Statistics					
Measure	Group	N	Mean	Std. Deviation	Std. Error Mean
RCOPE_PRC_PRE	CMT	36	21.5	4.19	.7
	MT	42	21.45	4.58	.71
RCOPE_PRC_POST	CMT	36	21.64	4.23	.71
	MT	42	22.19	4.37	.67
RCOPE_NRC_PRE	CMT	36	9.92	3.26	.54
	MT	42	10.55	4.34	.67
RCOPE_NRC_POST	CMT	36	8.86	2.93	.49
	MT	42	9.76	3.59	.55
RCOPE_PRC_CHANGE	CMT	36	.14	3.45	.57
	MT	42	.74	3.86	.6
RCOPE_NRC_CHANGE	CMT	36	-1.06	3.87	.64
	MT	42	-.79	4.41	.68

Independent Samples Test										
		Levene's Test				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
RCOPE_PRC_PRE	Equal variances assumed	.01	.93	.05	76	.96	.05	1	-1.94	2.04
RCOPE_PRC_POST	Equal variances assumed	.01	.91	-.56	76	.58	-.55	.98	-2.5	1.4
RCOPE_NRC_PRE	Equal variances assumed	2.7	.1	-.72	76	.48	-.63	.88	-2.39	1.13
RCOPE_NRC_POST	Equal variances assumed	1.39	.24	-1.2	76	.23	-.9	.75	-2.39	.59
RCOPE_PRC_CHANGE	Equal variances assumed	.05	.83	-.72	76	.48	-.6	.83	-2.26	1.06
RCOPE_NRC_CHANGE	Equal variances assumed	.3	.58	-.29	76	.78	-.27	.95	-2.16	1.62

Note. CI=confidence interval

Table 4.7

Independent Samples T-Test for SS

Group Statistics					
Measure	Groups	N	Mean	Std. Deviation	Std. Error Mean
SS_PRE	CMT	36	49.03	6.23	1.04
	MT	42	49.95	7.67	1.18
SS_POST	CMT	36	49.53	6.92	1.15
	MT	42	49.71	8.06	1.24
SS_	CMT	36	-.5	4.86	.81
CHANGE	MT	42	.24	6.43	.99

Independent Samples Test										
		Levene's Test				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
									Lower	Upper
SS_PRE	Equal variances assumed	3.34	.07	-.58	76	.57	-.92	1.6	-4.11	2.26
SS_POST	Equal variances assumed	.99	.32	-.11	76	.91	-.19	1.72	-3.6	3.23
SS_	Equal variances assumed	2.87	.1	-.56	76	.57	-.74	1.31	-3.34	1.87
CHANGE	assumed									

Note. CI=confidence interval

Research Question 3

In exploration of the relationship between mindfulness, religious coping, and God attachment, question 3 of this study examined whether the inclusion of God-awareness alongside open present-moment awareness due to the explicit integration of a Christian worldview would positively impact the capacity for secure attachment to God. In order to investigate this question, the two groups were compared on outcomes related to secure God attachment based on responses on the Attachment to God Inventory (AGI; Beck & McDonald, 2004), as well as the Awareness and Instability subscales of the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002).

Hypothesis 4 Analysis

Hypothesis 4 of this study was that measurement outcomes from the CMT group would reveal increased security in attachment to God in comparison to the MT group based on responses on the AGI and the Awareness and Instability subscales of the SAI. Following treatment, independent samples t-tests comparing post-assessment means did not support this hypothesis, indicating no significant between-group differences for participant data on either the Anxiety (AGI-AX) or Avoidance (AGI-AV) subscales of the AGI (See Table 4.8), or on the Awareness (SAI-AW) or Insecurity (SAI-IN) subscales of the SAI (See Table 4.9).

The assumption of homogeneity of variance was assessed with Levene's test, with no significant differences between groups prior to treatment on either the AGI-AX ($F=2.2, p=.14$), the AGI-AV ($F=1.14, p=.29$), or the SAI-IN ($F=1.18, p=.28$). However, the assumption of equal variance between groups was violated on pre-test data from the SAI-AW ($F=7.76, p=.01$). Following treatment, independent samples t-tests indicated no significant differences in a comparison of post-assessment means for participant scores on the AGI-AX [$t(76) = -1.03, p=.31$, two-tailed], the AGI-AV [$t(76) = .34, p=.74$, two-tailed], the SAI-AW [$t(76) = -1.73, p=.09$, two-tailed], or the SAI-IN [$t(76) = -1.85, p=.07$, two-tailed].

An independent samples t-test indicated no significant differences [$t(76) = .21, p=.84$, two-tailed] in the change in means from pre-test to post-test on the AGI-AX (CMT: $M=-.28, SD=.55$; MT: $M=-.31, SD=.78$). Similarly, no significant differences were found [$t(76) = -.57, p=.57$, two-tailed] in the change in means from pre-test to post-test on the AGI-AV (CMT: $M=-.03, SD=.46$; MT: $M=.03, SD=.48$). Additionally, the t-test did not indicate a significant difference between groups in the change in means on the SAI-AW [$t(76) = -.42, p=.67$, two-tailed] from pre-test to post-test, or on the SAI-IN [$t(76) = 1.67, p=.1$, two-tailed].

Table 4.8

Independent Samples T-Test for AGI

		Group Statistics								
Measure	Group	N	Mean	Std. Deviation	Std. Error Mean					
AGI_AX_PRE	CMT	36	2.68	.1	.17					
	MT	42	2.98	1.19	.18					
AGI_AX_POST	CMT	36	2.4	.86	.14					
	MT	42	2.67	1.3	.2					
AGI_AV_PRE	CMT	36	2.6	.57	.09					
	MT	42	2.49	.69	.11					
AGI_AV_POST	CMT	36	2.58	.65	.11					
	MT	42	2.52	.69	.11					
AGI_AX_CHANGE	CMT	36	-.28	.55	.09					
	MT	42	-.31	.78	.12					
AGI_AV_CHANGE	CMT	36	-.03	.46	.08					
	MT	42	.03	.48	.07					

		Independent Samples Test								
		Levene's Test				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
									Lower	Upper
AGI_AX_PRE	Equal variances assumed	2.2	.14	-1.17	76	.25	-.29	.25	-.79	.21
AGI_AX_POST	Equal variances assumed	4.62	.04	-1.03	76	.31	-.26	.25	-.77	.25
AGI_AV_PRE	Equal variances assumed	1.14	.29	.77	76	.44	.11	.14	-.18	.4
AGI_AV_POST	Equal variances assumed	.37	.55	.34	76	.74	.05	.15	-.25	.36
AGI_AX_CHANGE	Equal variances assumed	2.94	.09	.21	76	.84	.03	.16	-.28	.34
AGI_AV_CHANGE	Equal variances assumed	.07	.79	-.57	76	.57	-.06	.11	-.27	.15

Note. CI=confidence interval

Table 4.9
Independent Samples T-Test for SAI

Group Statistics					
Measure	Groups	N	Mean	Std. Deviation	Std. Error Mean
SAI_AW_PRE	CMT	36	3.66	.53	.09
	MT	42	3.98	.75	.12
SAI_AW_POST	CMT	36	3.71	.63	.11
	MT	42	3.99	.78	.12
SAI_IN_PRE	CMT	36	1.85	.58	.10
	MT	42	1.93	.72	.11
SAI_IN_POST	CMT	36	1.64	.45	.07
	MT	42	1.91	.77	.12
SAI_AW_CHANGE	CMT	36	-.05	.36	.06
	MT	42	-.01	.45	.07
SAI_IN_CHANGE	CMT	36	.2	.47	.08
	MT	42	.02	.52	.08

Independent Samples Test										
		Levene's Test		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
SAI_AW_PRE	Equal variances assumed	7.76	.01	-2.13	76	.04	-.32	.15	-.62	-.02
SAI_AW_POST	Equal variances assumed	5.06	.03	-1.73	76	.09	-.28	.16	-.6	.04
SAI_IN_PRE	Equal variances assumed	1.18	.28	-.55	76	.58	-.08	.15	-.38	.22
SAI_IN_POST	Equal variances assumed	3.88	.05	-1.85	76	.07	-.27	.15	-.56	.02
SAI_AW_CHANGE	Equal variances assumed	.46	.5	-.42	76	.67	-.4	.09	-.23	.15
SAI_IN_CHANGE	Equal variances assumed	.03	.86	1.67	76	.1	.19	.11	-.04	.41

Note. CI=confidence interval

Additional Findings

Treatment Compliance Analysis

Results from this study indicated significant between-group differences in treatment compliance, defined as the percentage of self-reported days that the participant completed the treatment as prescribed. Participants were asked to keep a daily log indicating the date and the start and stop time for each completed mindfulness exercise, with a total of 21 possible treatment days. Participants in the CMT group reported a greater percentage of treatment compliant days ($M=.99$, $SD=.04$) in comparison to participants in the MT group ($M=.83$, $SD=.21$), with statistically significant results [$t(76)$, $p<.001$] as shown in Table 4.10.

Table 4.10

Independent Samples T-Test for Treatment Compliance

		Group Statistics								
	Groups	N	Mean	Std. Deviation	Std. Error Mean					
Treatment	CMT	36	.99	.04	.01					
Compliance	MT	42	.83	.21	.03					

		Independent Samples Test								
		Levene's Test		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
									Lower	Upper
Treatment	Equal									
Compliance	variances assumed	45.45	.000	4.54	76	.000**	.16	.04	.09	.23
	Equal									
	variances not assumed			4.89	44.16	.000	.16	.03	.09	.23

Note. **Significant at $p < .001$. CI=confidence interval

DASS Analysis

Following treatment, the overall DASS mean scores (the sum of the three subscales: Depression, Anxiety, and Stress) were analyzed for pre- and post- differences within and between groups. A paired samples t-test indicated statistically significant within-group differences on the DASS for the CMT group [$t(35) = 2.81, p=.01$], with a mean difference of 5.86 from baseline ($M=18.89, SD=15.29$) to post-treatment ($M=13.03, SD=11.41$), but did not indicate statistically significant within-group differences for the MT group [$t(41) = 1.32, p=.2$], with a mean difference of 3.1 from baseline ($M=23.4, SD=15.87$) to post-treatment ($M=20.31, SD=16.27$). No significant within group differences were found in the analysis of the individual Depression and Anxiety subscales of the DASS for either treatment condition.

Following treatment, post-assessment means also indicated significant between-group differences for participant data on the total DASS score. The assumption of homogeneity of variance was assessed with Levene's test and indicated no significant differences between groups prior to treatment ($F=.28, p=.6$), while an independent samples t-test indicated a statistically significant difference in a comparison of post-assessment means for participant scores on the DASS [$t(76) = -2.25, p=.03$, two-tailed]. These results indicate that participants from the CMT group reported significantly lower overall scores on the combined Depression, Anxiety, and Stress subscales post-treatment ($M = 13.03, SD = 11.41$) than the MT group participants ($M = 20.31, SD = 16.27$). Post-assessment means also indicated significant between-group differences for participant data on the DASS-D subscale [$t(76) = -2.29, p=.03$, two-tailed], with the CMT group reporting significantly lower overall scores on the Depression subscale post-treatment ($M = 3.39, SD = 3.74$) compared to the MT group participants ($M = 6.19, SD = 6.47$). No significant between-group differences were reported on the DASS-A subscale.

Implicit Integration Data

This study began a preliminary investigation into the possibility of implicit integration by participants in the non-accommodated group through several peer-reviewed questions asked of the MT group participants post-treatment. The researcher presented three items using a Likert-type scale from 1-7 (1=*Not at all*, 7=*Very much*). The three items included: (1) When learning about mindfulness, did you find yourself using your faith to understand it?, (2) When practicing mindfulness, did you find yourself using the exercise to experience or think about God in the moment?, and (3) If so, did the experience of integrating your faith naturally with the experience of mindfulness enhance it in some way? In the MT group, 62% of the participants responded >4 on item 1, suggesting that they agreed to very much agreed that they used their faith to understand mindfulness. Similarly, 64% of the MT participants responded >4 on item 2, suggesting that they agreed to very much agreed that they used the exercise to experience or think about God in the moment. Lastly, 64% of the MT participants responded > 4 on item 3, indicating that the natural integration of faith with mindfulness enhanced the experience of the exercise.

Summary

A sample of Christian volunteers ($n=78$) participated in a mindfulness training study, with participants randomly assigned to one of two treatment conditions. The CMT group participated in three weeks of mindfulness training that was explicitly adapted to accommodate their self-reported Christian worldview, while the MT group participate in three weeks of mindfulness training that was not explicitly adapted to accommodate their self-reported Christian worldview. Statistical analysis consisted of a series of paired samples and independent samples t-

tests to compare within and between group differences for the two treatment conditions. An ANCOVA statistical strategy was also utilized to assess between-group differences on the dependent variables, using the pre-test scores as the covariate in order to adjust for potential pre-treatment differences between groups. Results of this study indicated support for hypothesis 1 and partial support for hypothesis 2, but did not support hypothesis 3 and 4. Further discussion of the results is provided in Chapter Five.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Findings

Research Question 1

Impact of mindfulness on stress. In this study, both the CMT group and the MT group reported benefits from the application of mindfulness training techniques for the purpose of reduced perceptions of stress. Following treatment, statistical analysis indicated significant within-group differences on both dependent measures of stress for the CMT group, and significant within-group differences on one dependent measure of stress for the MT group. These outcomes support hypothesis 1 of this study that mindfulness training would result in decreased perceptions of stress for both treatment conditions.

This study further hypothesized that participants from a Christian sample would respond better to mindfulness training techniques that had been adapted to accommodate their self-reported worldview, as evidenced by lower reported levels of perceived stress post intervention for the CMT group in comparison to the MT group. Following treatment, statistical analysis comparing post-assessment means indicated significant between-group differences for participant data on one dependent measure, the DASS-S, partially supporting hypothesis 2 that outcomes from Christian accommodated mindfulness training would reflect greater reductions in perceived stress in comparison to conventional mindfulness training for this sample of Christian participants.

Interaction with research literature. The results of this study indicated that the perception of stress was lowered following mindfulness practice, which was consistent with expectations based on the research literature. Mindfulness practice supports the necessary balance between excitation and inhibition for increased mental and emotional health (Siegel,

2001), as well as the need for psychotherapy to establish a safe and trusting relationship while encouraging mild to moderate levels of stress (Sibcy, 2007). Research in the area of interpersonal neurobiology has demonstrated the value of regulated exposure to stress in a supportive environment as a mechanism for emotional healing and the integration of neural networks (Cozolino, 2010). As noted previously, numerous treatment studies (Fang et al., 2010; Shapiro, Oman, Thoresen, Plante, & Flinders, 2008) and meta-analytic reviews (i.e. Chiesa & Seretti, 2009) have indicated positive outcomes for mindfulness as an intervention to lower levels of perceived stress and reduce anxiety. A few empirical studies have investigated the effectiveness of the practice of centering prayer as an intervention with similar outcomes to mindfulness for various mental health concerns, including stress management (Ferguson, Willemsen, & Castaneto, 2010). This study aimed to build on previous research related to mindfulness as an empirically supported treatment for stress, contributing to the literature on religiously accommodative treatments (Tan, 2011; Worthington, Hook, Davis, & McDaniel, 2011) by specifically investigating the impact of a Christian accommodated version of mindfulness in the reduction of perceived stress.

Implications of findings. Research question 1 focused on the efficacy of a Christian accommodation of mindfulness in a Christian sample to examine whether adapting this empirically supported treatment to the worldview of the participants would result in equal, and perhaps greater treatment effects. Based on the results of this study, Christian accommodated treatment was at least as effective as the conventional application of mindfulness, implying that in a Christian sample, accommodated mindfulness produces equally meaningful reductions in stress as compared to empirically supported mindfulness.

Furthermore, results from this study indicated that adapting mindfulness to a Christian worldview in a Christian sample may enhance the effectiveness of the mindfulness treatment, as study outcomes partially indicated greater reductions in the perception of stress for the CMT group compared to the MT group that. This result also supported the underlying assertion of religious accommodation that, in a Christian sample, mindfulness training that is respectfully adapted to accommodate a Christian worldview results in a better fit for the participants than mindfulness training that has not been adapted to accommodate a Christian worldview.

Conversely, contextual variables may help explain the mixed results and small effect size for the between groups comparison. First, the participants in the MT group were acquainted with the personal faith of the researcher and may have presumed the presentation of a Christian worldview inherent to the treatment, lending to an increased credibility for the researcher due to a level of trust that might not be present in a treatment context with a therapist whose worldview was hidden or unknown. Secondly, some participants in the MT group may have implicitly integrated their personal Christian worldview throughout the conventional mindfulness training, particularly in response to the presumed Christian worldview of the researcher.

Research Question 2

Impact of mindfulness on religious coping. In this study, the application of mindfulness training techniques did not result in statistically significant differences in measurement outcomes for the CMT group in comparison to the MT group that would indicate an increase in positive religious coping strategies. Following treatment, statistical analysis comparing post-assessment means from the Brief RCOPE and the SS did not support the hypothesis that a Christian accommodated mindfulness treatment would result in an increased capacity to employ positive religious coping strategies, demonstrating no significant between-group differences.

Interaction with the research literature. Effective coping strategies and appropriate and flexible emotion regulation skills (Shapiro, Carlson, Astin, & Freedman, 2006) are essential for managing the inevitable stress of life experience (Skinner & Zimmer-Gembeck, 2009). Religious coping is considered a positive coping skill when employed in alignment with a personal religious worldview, making activities such as prayer and meditation critical strategies for religious clients who seek increased emotion regulation and positive coping skills for stress management (Pargament, 2007). Although religious coping is considered a common form of coping (Pargament, 1997), studies that have investigated the impact of religious coping on stress management remain scarce. However, a three-month study employing an intensive meditation intervention by Sahdra et al. (2011) resulted in positive outcomes for increased emotion regulation. Additionally, Bingaman (2011) reviewed neuroscience research literature, proposing the practice of centering prayer as a mindfulness technique for building new neural pathways through contemplative spiritual practice, while Menezes, Pereira, and Bizarro (2012) linked enhanced emotion regulation to silent meditation, indicating that focused control over mental processes supports increased self-regulation capacity.

Implications of findings. This study did not result in outcomes that support the efficacy of a Christian accommodated version of mindfulness practice to enhance positive religious coping in comparison to conventional mindfulness treatment as was hypothesized. However, several limitations to the study should be considered. For example, the Brief RCOPE includes a range of mean scores from 7-28, with initial studies resulting in normative data that included actual mean scores ranging from 17-21 for the RCOPE-PRC subscale and from 8-14 for the RCOPE-NRC subscale (Pargament, Feuille, Burdzy, 2011). For participants in both groups, pretreatment scores of religious coping based on the Brief RCOPE indicated a study sample that

already employed relatively high positive religious coping strategies (CMT group: $M=21.5$, $SD=4.19$; MT group: $M=21.45$, $SD=4.58$) and relatively low negative religious coping strategies (CMT group: $M=9.92$, $SD=3.26$; MT group: $M=10.55$, $SD=4.34$), resulting in a restricted range for finding a meaningful difference. Similarly, although normative data is not yet available, the Surrender Scale offers a range of possible scores from 12 to 60, with participants from both the CMT and the MT group reporting an average score in the top 25th percentile of this range. This result suggests a study sample that already employed high levels of the religious coping strategy of surrender at pretreatment (CMT group: $M=49.03$, $SD=6.23$; MT group: $M=49.95$, $SD=7.67$). As with the Brief RCOPE, the report of positive coping strategies such as those reported on the SS indicate a restricted range for finding a meaningful difference following treatment. Lastly, the mindfulness training in this study lasted only three weeks, which may not have been a sufficient amount of time to influence changes in religious coping strategies.

Research Question 3

Impact of mindfulness on attachment. In this study, the application of mindfulness training techniques did not result in statistically significant differences in measurement outcomes for the CMT group in comparison to the MT group. Following treatment, statistical analysis comparing post-assessment means from the Anxiety and Avoidance subscales of the AGI and the Awareness and Instability subscales of the SAI did not support the hypothesis that a Christian accommodated mindfulness treatment would result in increased security in attachment to God, demonstrating no significant between-group differences.

Interaction with the research literature. Although this study did not support the hypothesis that mindfulness would impact God attachment, the mindfulness practice has been shown in other research to decrease perceived stress and increase emotion regulation and

positive coping strategies, which researchers have theorized may ultimately support the enhancement of secure attachment (Schoore, 2002b). Through the lowering of perceived stress and the enhancement of emotion regulation, mindfulness practice is viewed as an attachment-based treatment that supports the necessary neurobiological processes for developing secure attachment relationships (Siegel, 2001). God attachment, or the natural level of trust in relationship to God (Beck & McDonald, 2004), has also been theorized to benefit from mindfulness practice, as awareness of God in the present moment alongside the regulation of emotional states may lead to increased secure attachment in this higher order caregiver-child relationship (Corsini, 2009).

Implications of findings. As with religious coping, this study did not result in outcomes that support the efficacy of a Christian accommodated version of mindfulness practice to enhance secure attachment to God in comparison to conventional mindfulness treatment. However, several limitations in this study related to the Christian context should be considered. First, the Christian participants in this sample already reported a secure attachment to God at pre-treatment based on scores on the AGI. With an average score of 4 for both the Anxiety and Avoidance subscales of the AGI, mean scores below 4 indicate low avoidance of intimacy with God and low anxiety over abandonment by God, translating into a report of secure attachment to God (Beck & McDonald, 2004). At pretreatment, participant means on the AGI indicated overall pre-existing secure attachment to God in both the CMT group (AGI-AX: $M=2.68$, $SD=1$; AGI-AV: $M=2.61$, $SD=.57$) and the MT group (AGI-AX: $M=2.98$, $SD=1.19$; AGI-AV: $M=2.49$, $SD=.69$). Similarly, potential means on the Awareness and Insecurity subscales of the SAI range from 1 to 5 (Hall & Edwards, 2002). Pre-treatment mean scores from participants in both the CMT group and MT group suggest an above average report of awareness of God (CMT:

M=3.66, SD=.53; MT: M=3.98, SD=.75) and a below average report of insecurity in relationship with God (CMT: M=1.85, SD=.58; MT: M=1.93, SD=.72) As with the other dependent measures related to religious coping and God attachment, these scores result in a restricted range for finding a meaningful difference. Also, the treatment application time of three weeks may have been insufficient for increasing secure attachment to God, which may be resistant to change and may require a significantly longer time frame to observe measurable differences. A study by Rasar, Garzon, Volk, O'Hare, and Moriarty (2013) demonstrated no significant changes in measures of secure attachment to God following a nine-week manualized group protocol related to God image and God attachment.

Additional Findings

Impact of accommodation on treatment compliance. Results from this study indicated significant between-group differences in treatment compliance, defined as the percentage of self-reported days that the participant completed the mindfulness practice as prescribed by the researcher. Participants were asked to keep a daily log indicating each completed mindfulness exercise, with a total of 21 possible treatment days. Participants in the CMT group reported a significantly greater percentage of treatment compliant days (M=.99, SD=.04) in comparison to participants in the MT group (M=.83, SD=.21). Participants in both groups may have been encouraged toward increased compliance by reminder texts and emails sent every few days by the researcher. Increased compliance may also have been influenced by occasional personal interactions with the researcher in a small college campus context, which allowed opportunities for processing and feedback for the participants and verbal encouragement from the researcher for individuals from both treatment group conditions.

Interaction with the research literature. Religiously conservative clients may be cautious and resistant toward mental health counseling if there is reason for concern that the therapy may be in conflict with their religious beliefs (Hathaway & Tan, 2009). Respect for diversity and multicultural sensitivity require the consideration of religiously accommodative treatments in order to avoid unnecessary resistance in therapy (Tan, 2013) and yield to client preference (Hook, Worthington, Davis, Jennings, & Gartner, 2010). Although research on religiously or spiritually integrated treatment remains limited, CBT has led the way in research on religious accommodation in psychotherapy, with numerous studies that have explored the impact of religious or spiritual modifications to various CBT approaches (Hathaway & Tan, 2009; Worthington, Hook, Davis, & McDaniel, 2011). Empirical support for religious accommodation continues to grow, as several outcome studies have demonstrated the efficacy of religiously or spiritually modified CBT (Hawkins, Tan, & Turk, 1999; Tan & Johnson, 2005). This study presented a protocol for applying a Christian accommodated version of mindfulness practice as a religiously accommodative CBT treatment.

Implications of findings. Although this particular finding does not inform the current study's research questions or hypotheses, it is significant to the overarching purpose of religiously accommodative treatments. Multicultural sensitivity in counseling and psychotherapy lends to the avoidance of unnecessary resistance toward the treatment process, resulting in the potential for enhanced treatment compliance. Because mindfulness practice is often associated with either a Buddhist or a secular worldview, conservative Christians may resist the treatment due to apprehension that the treatment may include inherent goals that conflict with their religious beliefs. This current study reinforced the assertion that purposeful religious accommodation can make effective adjustments to therapeutic techniques such as

mindfulness, respectfully aligning the treatment with the client's religious worldview in order to support decreased resistance toward therapy and increased treatment compliance.

Implications for Practice

Results from this study emphasized the beneficial contributions of religiously accommodated mindfulness practice for conservative Christian clients toward increased treatment compliance and perhaps toward enhanced treatment outcomes. Attachment-based treatments support positive brain development in a relational, therapeutic environment that promotes emotional attunement and affect regulation (Cozolino, 2010). Mindfulness serves as a psychotherapeutic technique to support the experience of calm and emotional safety in the context of the therapeutic alliance, allowing for an emergent sense of self, making authentic relational interaction possible, and offering an opportunity to promote new neural networks related to attachment schemas (Schoore & Schoore, 2008). Therapists that encourage mindfulness practice as a neurobiologically informed attachment-based intervention may promote neural integration and relational restructuring for clients, supporting the possibility of increased security in attachment relationships (Snyder, Shapiro, Treleaven, 2012). By adapting the treatment to the client's personal worldview, the empirically supported treatment of mindfulness is further enhanced through decreased resistance toward the therapeutic process and the potential for greater therapeutic gains.

The protocol for applying the Christian accommodated mindfulness treatment as presented in this study is simple and straightforward, with examples of the mindfulness training protocols included to facilitate treatment application for counselors or researchers seeking to replicate this study (See Appendices F-J). The accommodated intervention is useful for clinical

settings as well as for pastoral and lay counseling contexts, where the need for researched techniques that have been purposely adapted for religiously conservative clients may be even more critical.

Limitations and Recommendations for Future Research

This study had several strengths, including increased statistical validity through the randomization of participants to the treatment conditions and a sufficient sample size for the statistical power needed to detect treatment effects. Also, this study was designed to enhance construct validity through clear operationalized definitions of the independent treatment variables and the use of empirically validated and standardized dependent measures, which allowed for quantifiable definitions of the constructs of interest and increased the possibility of future replications of the study protocols.

Several limitations of this study should be considered. First, in consideration of internal validity, this study's reliance on self-report data may cause the results to reflect some degree of response bias. Future research could benefit by the inclusion of more objective outcome measures such as behavioral observation or peer-reports. Secondly, personal characteristics of these participants have the potential to confound the results, in particular the demographic homogeneity of this sample's conservative Christian worldview.

For example, the impact of implicit integration by study participants in the MT group is unknown and has the potential to moderate the effects of explicitly accommodated treatment. This study began a preliminary investigation into the possibility of implicit integration through several peer-reviewed questions asked of the MT group participants post-treatment on the feedback form (See Appendix S). Similarly, this Christian sample may present a confounding

characteristic of pre-existing trait mindfulness due to established religious practice habits such as prayer and meditation prior to treatment. Also, one CMT participant provided specific feedback indicating that she did not finish the study because she did not adequately meet the study's expectations (she did complete enough of the daily mindfulness exercises to deserve the extra course credit). Therefore, future studies should consider the moderating effects of religious guilt (i.e. fear of God's judgment in response to the request to faithfully complete a task such as daily mindful meditation) and/or negative God image on outcomes of secure God attachment in response to Christian accommodated mindfulness.

Furthermore, limitations of this study related to external validity may include the unique characteristics inherent to this Christian sample, limiting generalizability to other populations. While this study focuses intentionally on the impact of treatment on a Christian sample, other characteristics such as age, socioeconomic status, education level, and gender are presumed to be equal between groups due to random assignment. Future studies may benefit by considering the influence of these factors on treatment results. A broader Christian sample that is not limited to participants from a small Christian college could support a broader generalization to this population. Future research may also benefit from inclusion criteria that specifies identified patterns of insecure attachment to God or negative religious coping strategies prior to treatment. A clinical sample would be particularly optimal for assessing the impact of Christian accommodated mindfulness on various mental health concerns.

Lastly, future research designs should include an investigation of the benefit of religiously accommodative mindfulness on other measures of mental health and well-being such as depression and anxiety. Moreover, the consideration of previous research on mindfulness practice suggests that a longer time frame for treatment application may result in increased

measurable outcomes. Because the results of this study did not detect differences on the selected measures of religious coping and God attachment, other measures of spirituality and God attachment could be considered, such as the *Theistic Spirituality Outcome Survey* (TSOS; Richards et al., 2005), which may be more appropriate for detecting spiritual changes in short-term treatment contexts.

Conclusion

This study resulted in two significant findings, the first being that a mindfulness training protocol that was adapted to accommodate a Christian worldview in a Christian sample was at least as effective as mindfulness training that was not adapted to a Christian worldview in reducing self-reports of perceived stress. Additionally, results indicated that for this sample, the Christian accommodated mindfulness was more efficacious overall than the non-accommodated version of the treatment on one measure of perceived stress. The second significant finding from this study was that participants receiving the religiously accommodative version of mindfulness training were significantly more compliant with treatment than participants that received a conventional version of mindfulness training that had not been adapted to their personal religious worldview. These findings support the assertion that religiously accommodative treatments, which seek to adapt counseling and psychotherapy interventions to respectfully align with the client's worldview, may enhance therapeutic outcomes and may result in decreased resistance toward the therapeutic process.

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- American Counseling Association. (2014). *2014 ACA code of ethics*. Alexandria, VA: Author. Retrieved from < <http://www.counseling.org/docs/ethics/2014-aca-code-of-ethics.pdf?sfvrsn=4>>
- Antony, M. M., & Barlow, D. H. (2010). *Handbook of assessment and treatment planning for psychological disorders* (2nd ed.). New York: The Guilford Press.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, 10(2), 125-143.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27-45.
- Barna Group (2007). A new generation expresses its skepticism and frustration with Christianity. Retrieved from <<https://www.barna.org/barna-update/millennials/94-a-new-generation-expresses-its-skepticism-and-frustration-with-Christianity#.VqAUQcnkBdc>>
- Barnes, P. M., Bloom, B., & Nahin, R. L. (2008). Complementary and alternative medicine use among adults and children: United States, 2007. *National Health Statistics Reports*, 12, 1-23. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19361005>
- Beck, R., & McDonald, A. (2004). Attachment to God: The attachment to God inventory, tests of working model correspondence, and an exploration of faith group differences. *Journal of Psychology and Theology*, 32, 92-103.
- Bettmann, J. E., & Jasperson, R. A. (2010). Anxiety in adolescence: The integration of attachment and neurobiological research into clinical practice. *Clinical Social Work Journal*, 38, 98-106.
- Blanton, P. G. (2011). The other mindful practice: Centering prayer & psychotherapy. *Pastoral Psychology*, 60(1), 133-147. doi: 10.1007/s11089-010-0292-9
- Bingaman, K. A. (2011). The art of contemplative and mindfulness practice: Incorporating the findings of neuroscience into pastoral care and counseling. *Pastoral Psychology*, 60(3), 477-489. doi: 10.1007/s11089-011-0328-9
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N., Carmody, J., et al. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology*, 11, 230-241.
- Bowlby, J. (1969). *Attachment and loss, Vol I: Attachment*. New York, NY: Basic Books.

- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18, 211-237.
- Carlson, C. R., Bacaseta, P. E., & Simanton, D. A. (1988). A controlled evaluation of devotional meditation and progressive relaxation. *Journal of Psychology and Theology*, 16(4), 362-368.
- Cassidy, J. (2008). The nature of the child's ties. In J. Cassidy and P. Shavers (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.), 3-22. New York: The Guilford Press.
- Chiesa, A., & Serretti, S. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *The Journal of Alternative and Complementary Medicine*, 15, 593-600. doi:10.1089=acm.2008.0495
- Chiesa, A., & Malinowski, P. (2011). Mindfulness-based approaches: Are they all the same? *Journal of Clinical Psychology*, 67(4), 404-424. doi:10.1002/jclp.20776
- Clinton, T., & Ohlschlager, G. (2002). Christian counseling and compassionate soul care: The case for twenty-first-century practice. In T. Clinton & G. Ohlschlager (Eds.), *Competent Christian counseling* (Vol. 1). Colorado Springs, CO: Waterbrook Press.
- Clinton, T., & Sibcy, G. (2012). Christian counseling, interpersonal neurobiology, and the future. *Journal of Psychology and Theology*, 40(2), 141-145.
- Clinton, T. & Straub, J. (2010). *God Attachment*. New York, NY: Howard Books.
- Coe, J. H., & Hall, T. W. (2010). *Psychology in the spirit: Contours of transformational psychology*. Downers Grove, IL: Intervarsity Press.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396.
- Cohen, S., & Williamson, G. M. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health* (pp. 31-67). Newbury Park, CA: Sage.
- Cole, B. S., & Pargament, K. I. (1999). Spiritual surrender: A paradoxical path to control. In W. R. Miller (Ed.), *Integrating spirituality into treatment: Resources for practitioners* (pp. 179-198). Washington, DC: American Psychological Association.
- Corsini, K. C. (2009). *Examining the relationship between religious coping strategies, attachment beliefs and emotion regulation in a mixed sample of college students attending an evangelical university in central Virginia*. (Doctoral dissertation). Retrieved from <http://www.digitalcommons.liberty.edu/doctoral/270/>

- Cozolino, L. (2010). *The neuroscience of psychotherapy: Healing the social brain*. New York, NY: W. W. Norton and Company.
- Davidson, R. J., & Kaszniak, A. W. (2015). Conceptual and methodological issues in research on mindfulness and meditation. *American Psychologist*, 70(7), 581-592.
- Day-Vines, N. L., & Holcomb-McCoy, C. (2013). Broaching the subjects of race, ethnicity, and culture as a tool for addressing diversity in counselor education classes. In J. D. West, D. L. Bubenzer, J. A. Cox, & J. M. McGlothlin (Eds.), *Teaching in counselor education: Engaging students in learning* (pp. 151-165). Alexandria, VA: American Counseling Association.
- De Caussade, J. P. (1989). *The sacrament of the present moment*. (K. Muggeridge, Trans.) New York, NY: Harper Collins.
- Erickson, M. *Christian Theology* (2nd ed.). Grand Rapids, MI: Baker Academic, 1998.
- Exline, J. J., Yali, A. M., & Sanderson, W. C. (2000). Guilt, discord, and alienation: The role of religious strain in depression and suicidality. *Journal of Clinical Psychology*, 56(12), 1481-1496.
- Fang, C. Y., Reibel, D. K., Longacre, M. L., Rosenzweig, S., Campbell, D. E., & Douglas, S. D. (2010). Enhanced psychosocial well-being following participation in a mindfulness-based stress reduction program is associated with increased natural killer cell activity. *The Journal of Alternative and Complementary Medicine*, 16, 531-538. doi:10.1089/acm.2009.0018
- Ferguson, J. K., Willemsen, E. W., & Castaneto, M. V. (2010). Centering prayer as a healing response to everyday stress: A psychological and spiritual process. *Pastoral Psychology*, 59, 305-329. doi: 10.1007/s11089-009-0225-7.
- Finney, J., & Maloney, H. (1985). An empirical study of contemplative prayer as an adjunct to psychotherapy. *Journal of Psychology and Theology*, 13, 284-290.
- Fox, J., Gutierrez, D., Haas, J., Braganza, D., & Berger, C. (2015). A phenomenological investigation of centering prayer using conventional content analysis. *Pastoral Psychology*. doi: 10.1007/s11089-015-0657-1
- Garzon, F. (2013). Christian devotional meditation for anxiety. In E. L. Worthington, Jr., E. L. Johnson, J. N. Hook, & J. D. Aten (Eds.), *Evidence-based practices for Christian counseling and psychotherapy* (pp. 59-78). Downers Grove, IL: IVP Academic.
- Garzon, F. (2015a). Mindfulness or Christian present moment awareness? Different options with different results. *American Association of Christian Counselors Newsletter: Christian Counseling Connection*, 20(1), 7.

- Garzon, F. (2015b, September). *Adapting mindfulness and other meditation forms to conservative Christian clients*. Presented at the meeting of the American Association of Christian Counselors, Nashville, TN
- George, C., Kaplan, N., & Main, M. (1984, 1985, 1996). *The Adult Attachment Interview*. Unpublished Manuscript, University of California at Berkeley.
- Goyal, M., Singh, S., Sibinga, E. S., et al. (2014). Meditation programs for psychological stress and well-being: A systematic review and meta-analysis. *JAMA Internal Medicine*, 174(3), 357-368. doi:10.1001/jamainternmed.2013.13018
- Grossman, K., Grossman, K. E., & Kindler, H. (2005). Early care and the roots of attachment and partnership representations: The Bielefeld and Regensburg Longitudinal Studies. In K. E. Grossmann, K. Grossmann, and E. Waters (Eds.), *Attachment from infancy to adulthood, The major longitudinal studies*. 98-136. New York, NY: The Guilford Press.
- Grossman, P., Kappos, L., Gensicke, H., D'Souza M., Mohr, D. C., Penner, I. K., et al. (2010). MS quality of life, depression, and fatigue improve after mindfulness training: A randomized trial. *Neurology*, 75, 1141-1149.
- Gunaratana, H. (1993). *Mindfulness in plain English*. Boston: Wisdom Publications.
- Hall, T. W., & Edwards, K. J. (1996). The initial development and factor analysis of the Spiritual Assessment Inventory. *Journal of Psychology and Theology*, 24(3), 233-246.
- Hall, T. W., & Edwards, K. J. (2002). The Spiritual Assessment Inventory: A theistic model and measure for assessing spiritual development. *Journal for the Scientific Study of Religion*, 41(2), 341-357.
- Hall, T. W., Reise, S. P., & Haviland, M. G. (2007). An item response theory analysis of the Spiritual Assessment Inventory. *The International Journal for the Psychology of Religion*, 17(2), 157-178.
- Hanson, R., & Mendius, R. (2009). *Buddha's brain: The practical neuroscience of happiness, love, and wisdom*. Oakland, CA: New Harbinger Publications.
- Harris, D. B., (2014). *10% happier*. New York, NY: Harper Collins.
- Hathaway, W., & Tan, E. (2009). Religiously oriented mindfulness-based cognitive therapy. *Journal of Clinical Psychology*, 65(2), 158-171.
- Hawkins, R. S., Tan, S.-Y., & Turk, A. A. (1999). Secular versus Christian inpatient cognitive-behavioral therapy programs: Impact on depression and spiritual well-being. *Journal of Psychology and Theology*, 27(4), 309-318.

- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experimental approach to behavior change*. New York, NY: Guilford Press.
- Herman, N. *The practice of the presence of God: The best rule of holy life*. Public Domain.
- Hesse, E. (2008). The adult attachment interview: Protocol, method of analysis, and empirical studies. In J. Cassidy and P. Shavers (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.), 552-598. New York, NY: The Guilford Press.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78(2), 169-183. doi:10.1037/a0018555
- Hook, J. N., Worthington, E. L., Davis, D. E., Jennings, D. J., & Gartner, A.L. (2010). Empirically supported religious and spiritual therapies. *Journal of Clinical Psychology*, 66(1), 46-72.
- Johnson, M. E., Dose, A. M., Pipe, T. B., Petersen, W. O., Huschka, M., Gallenberg, M. M., et al. (2009). Centering prayer for women receiving chemotherapy for recurrent ovarian cancer: A pilot study. *Oncology Nursing Forum*, 36, 421-428.
- Johnston, R. (n.d.). Christian mindfulness six session online course: Exploring mindfulness from a Christian perspective. Retrieved from <<http://www.christianmindfulness.co.uk/onlinecourse.html>>
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Dell Publishing.
- Kabat-Zinn, J. (2002). *Mindfulness meditation, CD series 1*. <<http://www.mindfulnesscds.com/collections/cds/products/series-1>>
- Kapleau, P. (1965). *The three pillars of Zen: Teaching, practice and enlightenment*. Boston, MA: Bacon Press.
- Keating, T. (1999). *Open mind, open heart*. New York: Continuum.
- Keating, T. (2002). *Foundations for centering prayer and the Christian contemplative tradition*. New York: Continuum International Publishing Group.
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31, 1041-106.
- Kim, J. (2014). *The efficacy of Christian devotional meditation on stress, anxiety, depression, and spiritual health with Korean adults in the United States: A randomized comparative study*. (Doctoral dissertation) Retrieved from <http://digitalcommons.liberty.edu/doctoral/904/>

- Kirkpatrick, L. A., & Shaver, P. R. (1992). An attachment-theoretical approach to romantic love and religious belief. *Personality and Social Psychology Bulletin* *Personality and Social Psychology Bulletin*, 18(3), 266-275.
- Knabb, J. J. (2012). Centering prayer as an alternative to mindfulness-based cognitive therapy to depression relapse prevention. *Journal of Religion and Health*, 51, 908-924. doi: 10.1007/s10943-010-0404-1
- Landers, M. S., & Sullivan, R. N. (2012). The development and neurobiology of infant attachment and fear. *Developmental Neuroscience*, 34, 101-114.
- Laubach, F. C. *Christ liveth in me and game with minutes*. Westwood, NJ: Fleming H. Revell Company.
- Lee, E. H. (2012). Review of the psychometric evidence of the Perceived Stress Scale. *Asian Nursing Research*, 6, 121-127.
- Levine, S. (1991). *Guided meditations, explorations, and healings*. New York, NY: Anchor.
- Linehan, M. M. (1993). *Cognitive behavioral treatment of borderline personality disorder*. New York, NY: The Guilford Press.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33, 335-343.
- Menezes, C. B., Pereira, M. G., & Bizarro, L. (2012). Sitting and silent meditation as a strategy to study emotion regulation. *Psychology & Neuroscience*, 5(1), 27-36.
- Myers, M. J. (2012). *Examining the relationship between mindfulness, religious coping strategies, and emotion regulation*. (Doctoral dissertation). Retrieved from <http://www.digitalcommons.liberty.edu/doctoral/911/>
- Newton, A. T., & McIntosh, D. N. (2010). Specific religious beliefs in a cognitive appraisal model of stress and coping. *The International Journal for the Psychology of Religion*, 20(1), 39-58.
- Paintner, C. V. (2012). *Desert fathers and mothers: Early Christian wisdom sayings, annotated & explained*. Woodstock, VT: SkyLight Paths.
- Pargament, K. I. (1997). *The psychology of religion and coping: Theory, research, and practice*. New York, NY: Guilford Press.
- Pargament, K. I. (2007). *Spiritually integrated psychotherapy: Understanding and addressing the sacred*. New York, NY: Guilford Press.

- Pargament, K., Feuille, M., & Burdzy, D. (2011). The Brief RCOPE: Current psychometric status of a short measure of religious coping. *Religions*, 2, 51-76. doi: 10.3390/rel2010051
- Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of Clinical Psychology*, 56(4), 519-543.
- Pennington, M. B., Keating, T., & Clarke, T. E. (2002). *Finding grace at the center: The beginning of centering prayer*. Woodstock: Skylight Paths Publishing.
- Powell, B., Cooper, G., Hoffman, K., & Marvin, B. (2014). *The circle of security intervention: Enhancing attachment in early parent-child relationships*. New York, NY: The Guilford Press.
- Rasar, J. D., Garzon, F. L., Volk, F., O'Hare, C. A., Moriarty, G. L. (2013). The efficacy of a manualized group treatment protocol for changing God image, attachment to God, religious coping, and love of God others, and self. *Journal of Psychology and Theology*, 41(4), 267-280.
- Richards, P. S., Smith, T. B., Schowalter, M., Richard, M., Berrett, M. E., & Hardman, R. K. (2005). Development and validation of the Theistic Spiritual Outcome Survey. *Psychotherapy Research*, 15(4), 457-469.
- Rowatt, W. C., & Kirkpatrick, L. A. (2002). Two dimensions of attachment to God and their relation to affect, religiosity, and personality constructs. *Journal for the Scientific Study of Religion*, 41(4), 637-651.
- Sable, P. (2008). What is adult attachment? *Clinical Social Work Journal*, 36, 21-30.
- Sahdra, B. K., MacLean, L. A., Ferrer, E., Shaver, P. R., Rosenberg, E. I., Jacobs, T. L., ...Saron, C. D. (2011). Enhanced response inhibition during intensive meditation training predicts improvements in self-reported adaptive socioemotional functioning. *Emotion*, 11, 299-312. doi:10.1037/z0022764
- Samardzic, L., & Nikolic, G. (2013). Neurobiology of psychotherapeutic relationship: New perspectives. *Scientific Journal of the Faculty of Medicine in Nis*, 30(2), 55-61.
- Schore, A. N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Schore, A. N. (2001a). The effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1-2), 7-66.

- Schore, A. N. (2001b). The effects of early relational trauma on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal*, 22(1-2), 201-269.
- Schore, A. N. (2002a). Dysregulation of the right brain: A fundamental mechanism of traumatic attachment and the psychopathogenesis of posttraumatic stress disorder. *Australian and New Zealand Journal of Psychiatry*, 36(1), 9-30.
- Schore, A. N. (2002b). The neurobiology of attachment and early personality organization. *Journal of Prenatal and Perinatal Psychology and Health*, 16(3), 249-263.
- Schore, J. R., & Schore, A. N. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. *Clinical Social Work Journal*, 36, 9-20.
- Schwartz, J. M., & Begley, S. (2002). *The mind and the brain: Neuroplasticity and the power of mental force*. New York, NY: HarperCollins Publishers.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York, NY: Guilford Press.
- Sephton, S. E., Salmon, P., Weissbecker, I., Ulmer, C., Floyd, A., Hoover, K., et al. (2007). Mindfulness meditation alleviates depressive symptoms in women with fibromyalgia: Results of a randomized clinical trial. *Arthritis and Rheumatism*, 57, 77-85.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*, 12, 164-176.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373-386.
- Shapiro, S. L., Oman, D., Thoresen, C. E., Plante, T. G., & Flinders, T. (2008). Cultivating mindfulness: Effects on well-being. *Journal of Clinical Psychology*, 64(7), 840-862.
- Shapiro, S. L., Schwartz, G., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine*, 21, 581-599.
- Sibcy, G. (2007). Attachment therapy for complex trauma. *Christian Counseling Today*, 15(3), 24-27.
- Siegel, D. J. (1999). *The developing mind: How relationships and the brain interact to shape who we are*. New York, NY: Guilford Press.
- Siegel, D. J. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, "mindsight", and neural integration. *Infant Mental Health Journal*, 22(1-2), 67-94.

- Siegel, D. J. (2007). *The mindful brain: Reflection and attunement in the cultivation of well-being*. New York: W. W. Norton.
- Siegel, D. J. (2010a). *Mindsight: The new science of personal transformation*. New York, NY: Bantam Books.
- Siegel, D. J. (2010b). *The mindful therapist: A clinician's guide to mindsight and neural integration*. New York, NY: W. W. Norton & Company.
- Skinner, E. A., & Zimmer-Gembeck, M. J. (2009). *Coping and the development of regulation*. San Francisco, CA: Jossey-Bass.
- Snyder, R., Shapiro, S., & Treleaven, D. (2012). Attachment theory and mindfulness. *Journal of Child and Family Studies*, 21, 709-717.
- Sroufe, A. (1988). The role of infant-caregiver attachment in development. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 18-38). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Strathearn, L. (2011). Maternal neglect: Oxytocin, dopamine and the neurobiology of attachment. *Journal of Neuroendocrinology*, 23, 1054-1065.
- Symington, S. H., & Symington, M. F. (2012). A Christian model of mindfulness: Using mindfulness principles to support psychological well-being, value-based behavior, and the Christian spiritual journey. *Journal of Psychology and Christianity*, 31(1), 71-77.
- Tan, S.-Y. (2007). Use of prayer and scripture in cognitive-behavioral therapy. *Journal of Psychology and Christianity*, 26(2), 101-111.
- Tan, S.-Y. (2011). Mindfulness and acceptance-based cognitive behavioral therapies: Empirical evidence and clinical applications from a Christian perspective. *Journal of Psychology and Christianity*, 30(3), 243-249.
- Tan, S.-Y. (2013). Addressing religion and spirituality from a cognitive-behavioral perspective. In K. I. Pargament, (Ed.), *APA handbook of psychology, religion, and spirituality: Vol. 2. An applied psychology of religion and spirituality* (pp. 169-187). Washington, DC: American Psychological Association.
- Tan, S.-Y., & Johnson, W. B. (2005). Spiritually-oriented cognitive-behavioral therapy. In L. Sperry & E. P. Shafranske (Eds.), *Spiritually-oriented psychotherapy* (pp. 77-103). Washington, DC: American Psychological Association.
- Viamontes, G. I. & Beitman, B. B. (2009). Brain processes informing psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments*. Arlington, VA: American Psychiatric Publishing.

- Wachholtz, A. B., & Pargament, K. I. (2005). Is spirituality a critical ingredient of meditation? Comparing the effects of spiritual meditation, secular meditation, and relaxation on spiritual, psychological, cardiac, and pain outcomes. *Journal of Behavioral Medicine*, 28(4), 369-384. doi: 10.1007/s10865-005-9008-5
- Wachholtz, A. B., & Pargament, K. I. (2008). Migraines and meditation: Does spirituality matter? *Journal of Behavioral Medicine*, 31(4), 351-366.
- Wallin, D. (2007). *Attachment in psychotherapy*. New York, NY: Guilford Press.
- Ward, T. R. (2005). Centering prayer retreats. *Sewanee Theological Review*, 48(2), 231-237.
- Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Los Angeles, CA: Sage Publications Inc.
- Wiegand, K. E., & Weiss, H. M. (2006). Affective reactions to the thought of “God”: Moderating effects of image of God. *Journal of Happiness Studies*, 7(1), 23-40.
- Weld, C., & Erikson, K. (2007). Christian clients’ preferences regarding prayer as a counseling intervention. *Journal of Psychology and Theology*, 38(4), 328-341.
- Winnicott, D. W. (1965). *Maturation processes and the facilitating environment: Studies in the theory of emotional development*. London: Hogarth Press.
- Wong-McDonald, A., & Gorsuch, R. L. (2000). Surrender to God: An additional coping style? *Journal of Psychology and Theology*, 28(2), 149-161.
- Worthington, E. L., Hook, J. N., Davis, D. E., & McDaniel, M. A. (2011). Religion and spirituality. *Journal of Clinical Psychology*, 67(2), 201-214.
- Zahl, B. P., & Gibson, N. J. S. (2012). God representations, attachment to God, and satisfaction with life: A comparison of doctrinal and experiential representations of God in Christian young adults. *The International Journal for the Psychology of Religion*, 22, 216–230. doi: 10.1080/10508619.2012.670027

APPENDIX A: Initial Assessment Interview Form

Please provide the following information as an initial assessment of your appropriateness for participation in the study. This information will be kept confidential, unless ethical guidelines present a limit to confidentiality, such as in the case of reported suicidal or homicidal ideation. If you do not understand any question, please leave it blank and contact the researcher.

Name: _____

Date of Birth: ____ / ____ / ____ Age: _____

Phone: _____ May I call you? (Y / N) May I text you? (Y / N)

Email: _____ May I email you? (Y / N)

1. Are you Christian? (Y / N)

If yes, please specify denomination: _____

2. Are you currently experiencing any psychiatric problems? (Y / N)

If yes, please specify: _____

3. Are you experiencing any physical health concerns? (Y / N)

If yes, please specify: _____

4. Are you currently receiving psychiatric, psychotherapy, and/or professional counseling services? (Y / N)

If yes, please specify name and phone number of mental health provider:

5. Are you currently experiencing thoughts of suicide or homicide? (Y / N)

6. Are you experiencing any condition or life circumstance that would hinder your participation in three weeks of intervention? (Y / N)

7. Are you willing to complete an initial assessment that will include the completion of a psychometric inventory for investigating exclusion criteria? (Y / N)

Please direct any questions about this interview form to the researcher via:
cell number, 850-573-2080, or email address, kford27@liberty.edu

APPENDIX B: Informed Consent Form

The Liberty University Institutional
Review Board has approved
this document for use from
2/11/16 to 2/10/17
Protocol # 2446.021116

CONSENT FORM Liberty University School of Behavioral Sciences

You are invited to participate in a research study that will investigate the impact of mindfulness training on perceived levels of stress, coping strategies, and attachment to God. The mindfulness training intervention will last for three weeks and will include three group instructional sessions and daily mindfulness exercises for practical application of the technique. You were selected as a participant because you are affiliated with the Baptist College of Florida and profess membership in the evangelical Christian community. After you have read this form, please ask any questions you may have before agreeing to participate in the study.

Kristy Ford, a Ph.D. student in the School of Behavioral Sciences at Liberty University, is conducting this study

Background Information:

The purpose of this study is to investigate the impact of mindfulness training on measures related to perceived stress, coping strategies, and God attachment.

Procedures:

If you agree to be in this study, I would ask you to do the following:

1. You will be asked to sign this informed consent form and complete several measurements included in the pre-intervention packet, which should take less than 30 minutes to complete during the first group meeting.
2. You will be informed of the specific meeting information for the first meeting via email. The mindfulness training group sessions will meet three times, once per week during the three weeks of intervention. The first session will include (a) administration of pre-intervention assessment questionnaires (30 min), (b) brief presentation about mindfulness training techniques (15 min), and (c) a practice exercise of the technique (15 min). The second session will include (a) sharing of participant experiences (30 min), (b) brief presentation about the benefits of mindfulness (15 min), and (c) a practice exercise of the technique (15 min). The third session will include (a) sharing of participant experiences (30 min), (b) brief presentation about the benefits of mindfulness (15 min), and (c) a practice exercise of the technique (15 min). A fourth meeting time will include (a) an opportunity to briefly share participant experiences and (b) post-intervention assessment (30 min).
3. You will be asked to participate in prescribed exercises for the purpose of practical application of the mindfulness technique on a daily basis. You will be asked to practice the mindfulness exercises for about 10-15 minutes using an audio instruction file (or written instruction) daily for 3 weeks. You will be asked to complete a daily practice log, recording the frequency and time-length of your practice.

Risks and Benefits of Participation in the Study:

1. The risks involved in being in this study are low. Most individuals practicing mindfulness report that the technique helps them with relaxation, reduces stress, and increases positive coping strategies. However, a few people may experience mindfulness training in a way that increases their anxiety or produces a flashback of a traumatic experience. If this happens to you, please stop the meditation immediately and contact me. I will be glad to talk with you, help you problem-solve, and provide you with a referral to a mental health professional if necessary.
2. The benefits of participation in this study include learning new skills related to mindful awareness that may help with managing daily stress and may increase the capacity to incorporate more positive coping strategies into daily life. Your participation allows for current research in this area and advances the understanding of how the Christian experience can be understood in relation to emerging psychological theory.

Compensation:

Compensation for participation in this study includes extra credit toward your final grade in select courses for current Baptist College of Florida students. Completion of the full three weeks of the study is required to receive the extra course credit.

Confidentiality:

1. The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only researchers will have access to the records. The information gathered in this study will not identify the participant in any way outside of general demographic data such as age and ethnicity. Assigned code numbers will be used to identify questionnaires in order to protect your privacy and confidentiality. This anonymous data will be stored in a computer file with access only through a password. This password will be shared only among the raters and the advisors in this study. All hard copy forms will be stored in a locked file.
2. All of the collected data will be kept for three years after the conclusion of this study. Following the storage period, the data will be destroyed in a manner that protects the confidentiality of the participants. Hard copies of the data will be shredded and electronic data files will be deleted from all storage devices including any recycling bins.
3. Limits of Confidentiality: A report of suicidal or homicidal ideation does not qualify as confidential information, and will be conveyed to appropriate referral sources.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relationship with the Baptist College of Florida, with Liberty University,

The Liberty University Institutional
Review Board has approved
this document for use from
2/11/16 to 2/10/17
Protocol # 2446.021116

or with the professor of your course. If you decide to participate, you are free to not answer any question or to withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Kristy Ford. Questions regarding the study may be asked at any time, and you are encouraged to contact the researcher at phone number 850-573-2080, or email address kford27@liberty.edu. Questions may also be directed to Faculty Advisor, Fernando Garzon, Psy.D., at phone number 434-592-4054, or email address fgarzon@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Printed Name: _____

Signature of Participant: _____ Date: _____

Signature of Investigator: _____ Date: _____

APPENDIX C: Institutional Review Board Approval

LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

February 11, 2016

Kristy Ford

IRB Approval 2446.021116: The Impact of a Christian Adaptation to Mindfulness Training on Stress, Religious Coping, and God Attachment: A Randomized Trial

Dear Kristy,

We are pleased to inform you that your study has been approved by the Liberty IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

APPENDIX D: Demographic Questionnaire

Name: _____ Today's Date: _____
(Last) (First) (M Initial)

Address: _____
(PO Box or Street) (City) (State) (Zip)

Telephone: _____ (Home/Cell)

Date of Birth: ____/____/____ Age: ____ Gender: M ____ F ____

Marital Status: Single / Living with Partner / Married / Separated / Divorced / Widowed

Place of Employment: _____

Income Level: \$0-\$10,000 / \$11,000-\$15,000 / \$16,000-\$19,000 / \$20,000-\$25,000
/ \$26,000 & Above (Annual Funds in US Dollars)

Race: African American / Asian / Latino / Native American / White / Other _____

Highest Education Level: Freshman / Sophomore / Junior / Senior /

Bachelor's degree / Master's degree / Doctoral degree

Medical Insurance Coverage: Yes ____ No ____

Outpatient Therapist: _____ Phone: _____

In Case of Emergency Contact: _____

Phone: _____ Relationship: _____

How long have you been a Christian? _____

What is your denominational affiliation? _____

APPENDIX E: CMT Mindfulness Exercise Protocol Week 1

CMT Week 1 - Breathing Exercise

I'd like you to make yourself comfortable, sitting in a relaxed posture, closing your eyes or finding a spot in the room to let your eyes focus on. Allow yourself to switch from the usual active or doing mode to a mode of simply being, of resting in God's caring presence. As you allow your body to become still, bring your attention to the fact that you are breathing. The breath is a reminder of God creating us, "And the LORD God formed man *of* the dust of the ground, and breathed into his nostrils the breath of life;"... "and man became a living soul." [Gen. 2:7]. With every breath in, you can recognize God breathing His life into you. With every breath out you can place yourself in His hands, resting in the Lord... Breathe in His life, breathe out resting in Him. There is no need to change anything... Just breathe naturally... He is with you in your experience, giving you love and grace...

And now focus on your breath more intently. If your mind wanders into other things, this is normal. No need to criticize yourself. Simply release those thoughts into God's loving hands and return to your breath. There is no need for a long prayer, a simple yielding and turning of your focus back to the breath is releasing these things to God.

Become aware of the movement of your breath as it goes into your body and as it leaves your body. Notice how it feels to you. No need to manipulate the breath in any way or change it. Simply be aware of it and of any feelings associated with breathing. Notice how the air feels going into your nostrils... Perhaps you can feel the air flow inside your nostrils into your sinuses, and down into your lungs as you breathe in... Notice how the breath feels deep down in your belly... Observe the abdomen as it expands when you breathe in, and as it falls when you breathe out... Expanding and falling... Expanding and falling. Observe how the air feels going out... Be completely here in each moment with each breath... No need to try to do anything, no need to get any place, simply be with your breath.

Ride the waves of your breath, observing the rhythmic pattern... If your mind wanders, gently release those thoughts into God's hands and bring it back to the moment-to-moment sense of the flow of your breathing... Your breath is an anchor to focus your attention, to bring you back to the present moment whenever you notice that your mind is becoming absorbed or reactive to something... Just be with your breath.

In a moment, the breathing meditation will end. Whatever way you would like to end this time will be fine. And when you are ready, bring your awareness back to the room, opening your eyes.

Adapted from:

Kabat-Zinn, J. (2002). *Mindfulness meditation, CD series 1*. <<http://www.mindfulnesscds.com/collections/cds/products/series-1>>

APPENDIX F: CMT Mindfulness Exercise Protocol Week 2

CMT Week 2 - Body Scan Exercise

Make yourself comfortable in your chair, closing your eyes or finding a spot in the room to let your eyes focus on. Allow yourself to switch from the usual mode of doing to a mode of simply being, of resting in God's caring presence. He is here with you, loving you and accepting you as you are. You will be focusing on a variety of your experiences in the present moment as you sit here. As you do this exercise, your mind will naturally wander. That's normal. It's just what minds do. When you find yourself wandering, just gently release these things into God's hands and bring your mind back to this exercise. There is no need for a long verbal prayer. A simple yielding or letting go from your heart and turning your focus back to the exercise will do. So make yourself comfortable in your chair, and as you are sitting there, begin by focusing on the sounds going on in the room today. You hear my voice, what else do you hear? Perhaps you hear your breath...What else?...Notice how the sounds come and go. If your mind starts analyzing the sounds somehow, just notice that and gently bring yourself back to simply experiencing the sounds as they are, as they enter your awareness and leave... Now, gently bring your awareness to your breathing. See if you can be aware of where the sensations of breathing are most prominent. This may be at the nostrils, the mouth, the throat, in the rising and falling of the chest, or at the abdomen as the belly rises and deflates. Allow the breath to do what it naturally does without manipulating it or changing it. Be with the physical sensations of the breath just as they are, not with the breath as you would like to be, but with the breath as it is in this moment. Allow your body to let go with each breath out, as the chair or floor takes on the work of holding you up, and let yourself be just where you are, right here, right now, in this moment. And in the midst of all this—the sounds...your breath, God is here, loving you and accepting you just as you are. He is with you, giving you grace.

Now notice your bodily sensations. There's no need to change anything, just notice the different sensations and be with them. Examine the general state of the body. Perhaps there is a feeling of calm or tension, restlessness or maybe even agitation. Your task is simply to notice, to register it in your consciousness, in your awareness, the body as a whole, as best you can in this moment.

Now gently shift your awareness to the back, top and sides of your head. See if you can detect any physical sensation that presents itself. Try not to interfere with that sensation—as you attend to the head. Keep in mind that a sensation may involve warmth, coolness, tingling, moisture....if you experience no sensation or numbness see if you can be fully present and experience that, as you explore the back, sides and top of the head.

On the next breath out, let your awareness move to the face; from forehead to chin and from ear to ear. Allow your awareness to float freely around the face, experiencing any sensation that arises and bringing your attention to that area as best you can. Become aware of the chin, the lips, inside the mouth, your tongue, the cheeks, the eyes, the eyebrows, the ears, the forehead—letting whatever sensations arise and simply noticing them come and go. Let your attention linger, becoming aware of sensations as they change.

And now, on the next breath out, gently move your awareness to the neck and throat, softening and releasing as best you can, allowing your attention to hover in this region of the body – noticing any sensations that well up – give them your full and undivided attention as you become aware of the neck and throat.

From time to time your attention will be pulled away by thoughts arising in your mind – perhaps into the past, the future or fantasy – into worry or judgment or critical thoughts or your attention may also be hijacked by other sensations elsewhere in the body- if this happens – you can simply yield it to God, placing it in His caring hands. Just gently escort your attention back to the body – in this moment, which at present, involves returning your focus to the neck and throat.

Now, on the next breath out, guide your attention into the shoulders, allowing your awareness to focus on any sensations large or small arising. If there are more intense sensations, see if you can attend to them in the same way, exploring or opening up to them rather than resisting or fighting them as you attend to the front, sides and back of the shoulders. Move deeply into the shoulder joints - working at opening up to them rather than resisting, bracing or fighting.

Now surveying the arms– you can explore both arms at the same time or each one individually. Exploring the fronts, sides and backs of the arms elbows and wrists – moving deeply into each of the joints. Sensations might enter your field of awareness due to your clothes as they touch your skin or make contact with your arms upon the surface you are resting on. There may also be more subtle sensations below the level of the skin. Your task is to observe these sensations with curiosity and openness, noticing as much detail as possible.

Now, on the next breath out, let your awareness move down and freely float throughout your hands. Attend to any sensation that crops up – exploring each hand individually or together. There may be tingling, pressure, numbness or warmth. Observe as best you can the quality of the sensations that arise in the hands. And again if your awareness is pulled away by thoughts or another sensation of the body, release whatever you are experiencing into God's hands, gently letting these be in the background and returning to the hands.

Now, on the next breath out move your attention to the upper back and survey this area. There may be sensations of pressure or temperature. Your task is to simply observe each sensation without having to change anything. Give yourself permission to explore and feel each sensation as you explore the upper back.

Direct your attention now to the lower back. Draw your attention to any sensation that comes up and explore it in detail. The lower back is a region that presents, for many of us, challenging sensations. See if you can open up to these, lean into them, allowing whatever sensations arise to follow their own course.

Now, become aware of the chest as it rises and falls. There may be sensations made by the clothing against your skin as the chest rises and falls with each breath. You may become aware of the sensation of your beating heart. Let your awareness fully penetrate into each sensation as it arises, allowing it to do whatever it does as you observe moment to moment.

Observe your hips pressing against the chair... Notice how your thighs feel in your clothes...your calves...If your mind wanders, just gently release those thoughts to God and bring it back to focusing on your calves...

Of course, when the mind is taken away into thought or elsewhere in the body, come back to the object of meditation in a kind way, a compassionate way, a way that acknowledges that getting lost in thought is just the nature of mind. In fact, noticing that the mind has wandered is just as much a part of this meditation as is staying on the body part itself which in this moment is the legs.

And now, releasing the legs and allowing this special kind of attention to move into your feet, Observe how your feet feel inside your shoes on the floor...the tops of the feet, the toes, the nails, the soles, the heels

Once again, become aware of the physical sensation of the breath as it enters and leaves the body. As you open up to things just as they are in each moment, see how this openness is healing and nourishing. Allow the world to be as it is, beyond fears, worries, tensions, and beyond the tendencies of the mind to want things to be a certain way, release all these tendencies into God's hands. Be awake to your experience as it unfolds in this moment and in this moment, remember that this state of clarity is available to you at any time by simply bringing your attention or your awareness to the breath.

Now become aware of any feelings you are experiencing in this moment. Just observe them, whatever they are... And in the midst of all this—the body sensations...the breath...the feelings, God is here, loving you and accepting you just as you are. You can yield, if you like, all your experience, whatever it is, into His caring hands. He is with you, giving you grace. Perhaps a prayer of releasing this entire experience into His hands will emerge in your heart. If so, quietly say that prayer now, if you like...and when you're ready, open your eyes.

Adapted from:

Centre for Mindfulness Studies. (2014). *Session 1: Body scan script*. Retrieved from <<http://www.mindfulnessstudies.com/wp-content/uploads/2014/01/18.-Session-1-Body-Scan-Script.pdf>>

Garzon, F. (2015b, September). *Adapting mindfulness and other meditation forms to conservative Christian clients*. Presented at the meeting of the American Association of Christian Counselors, Nashville, TN

APPENDIX G: CMT Mindfulness Exercise Protocol Week 3

CMT Week 3 – Wisdom of Accepted Tenderness Prayer Meditation

The Wisdom of Accepted Tenderness by Richard Johnston
© RHH Johnston Consultancy Ltd.

This prayer meditation is focused on the tenderness and love of God.
By praying and meditating on these themes, the goal is to internalize these biblical truths as an experiential reality in our hearts.

First, seek to be still in God's presence.
Sitting in a straight-backed chair make yourself comfortable and relaxed. Your posture should be upright so that you can remain alert during this time.
You can close your eyes if you wish, allowing my voice to guide you through the prayer

Now gently come to focus on your breathing remembering that the Holy Spirit himself is described as the breath of God.
As you breathe in physically seek to breathe in the very presence of God who is with you right here and right now.
Spend a few moments simply breathing in the presence of God.
The Scriptures describe the Holy Spirit as the breath of God. Welcome now the presence of the Holy Spirit who is the breath of God in you and around you.

TODAY O LORD I ACCEPT YOUR ACCEPTANCE OF ME

Notice any questions or commentary that arise in your mind at this time
As you become aware of any thoughts arising in the mind gently seek to let these come and go, returning your focus to God and the words of the Prayer
TODAY O LORD I ACCEPT YOUR ACCEPTANCE OF ME
I CONFESS THAT YOU ARE ALWAYS WITH ME AND ALWAYS FOR ME

As much as you are able, use these words to express your own faith to God, but if you sense any resistance in your heart don't criticize yourself in any way. Simply acknowledge with kindness your honest response.
As much as you are able – seek to identify with and pray these words from your own heart

I CONFESS THAT YOU ARE ALWAYS WITH ME AND ALWAYS FOR ME
I RECEIVE INTO MY SPIRIT YOUR GRACE, YOUR MERCY, YOUR CARE

God is the most gracious, kind, merciful and caring being who exists,
And he cares for you personally.
In these moments, seek to accept and receive his grace and mercy at the core of who you are.
Spend a few moments in the silence seeking to be aware of these realities.
If your mind wanders, gently bring your awareness back to the silence, and back to the presence of God, here with you now

I RECEIVE INTO MY SPIRIT YOUR GRACE, YOUR MERCY, YOUR CARE
I REST IN YOUR LOVE O LORD

Knowing that God loves you and accepts you for who you are right now you are free to rest in his love. Notice if any struggling, or arguments or questions arise in your mind
Gently watch these thoughts come and go
And return your focus to the love and tenderness of God towards you personally

I REST IN YOUR LOVE O LORD

In these moments continue to rest in the accepted tenderness of God towards you personally
Using the stretches of silence to simply enjoy being with him
In a few moments I will say amen to signal the end of this Prayer meditation



Breathing in your presence,
I REST IN YOUR LOVE O LORD
AMEN




Reference:

Johnston, R. (n.d.). Christian mindfulness six-session online course: Exploring mindfulness from a Christian perspective. Retrieved from <<http://www.christianmindfulness.co.uk/onlinecourse.html>>

Permission to use Johnston's Prayer:

Christian Mindfulness <info@christianmindfulness.co.uk>

To:  Ford, Kristy, 

  
2/28/2016

Kristy,

I am happy for you to use the Prayer of Accepted Tenderness Meditation but please do not change any of the content. Also please ensure that you cite your source and that the content is copyright to RHH [Johnston](#) Consultancy Ltd.



I will review the content of the other 2 meditations and provide you with feedback.




Many thanks.

Kind Regards,

Richard [Johnston](#)
Director, Christian Mindfulness and Christian CBT
www.christiancbt.co.uk
www.christianmindfulness.co.uk

Ford, Kristy

To:  info@christianmindfulness.co.uk, 

   
2/19/2016

APPENDIX H: MT Mindfulness Exercise Protocol Week 1

MT Week 1 – Breathing Exercise

I'd like you to make yourself comfortable, sitting in a relaxed posture, closing your eyes or finding a spot in the room to let your eyes focus on. Allow yourself to switch from the usual active or doing mode to a mode of simply being. As you allow your body to become still, bring your attention to the fact that you are breathing. Become aware of the movement of your breath as it comes into your body and as it leaves your body. Not manipulating the breath in any way or trying to change it. Simply being aware of it and of the feelings associated with breathing.

And now focus on your breath more intently. If your mind wanders into other things, this is normal. No need to criticize yourself. Observe the breath rising from deep down in your belly. Feeling the abdomen as it expands gently on the in-breath, and as it falls back towards your spine on the out-breath. Being totally here in each moment with each breath.

Become aware of the movement of your breath as it goes into your body and as it leaves your body. Notice how it feels to you. No need to manipulate the breath in any way or change it. Simply be aware of it and of any feelings associated with breathing. Notice how the air feels going into your nostrils...Perhaps you can feel the air flow inside your nostrils into your sinuses, and down into your lungs as you breathe in...Notice how the breath feels deep down in your belly...Observe the abdomen as it expands when you breathe in, and as it falls when you breathe out...Expanding and falling...Expanding and falling. Observe how the air feels going out...Be completely here in each moment with each breath...No need to try to do anything, no need to get any place, simply be with your breath.

You will find that from time to time your mind will wander off into thoughts. When you notice that your attention is no longer here and no longer with your breathing, without judging yourself, bring your attention back to your breath. Ride the waves of your breathing, observing the rhythmic pattern, fully conscious of the duration of each breath from moment to moment. And again whenever you notice your mind wandering off, just bring it back to your breathing as you sit here, not going anywhere, not doing anything, just simply being, simply sitting. Moment-to-moment, being fully present, fully with yourself.

Use your breath as an anchor to focus your attention, to bring you back to the present. Whenever you notice that your mind is becoming absorbed or reactive to something. Use our breath to help you tune into a state of awareness and stillness...just be with your breath.

In a moment, the breathing meditation will end. Whatever way you would like to end this time will be fine. When you are ready, bring your awareness back to the room, opening your eyes.

Adapted from:

Kabat-Zinn, J. (2002). *Mindfulness meditation, CD series 1*. <<http://www.mindfulnesscds.com/collections/cds/products/series-1>>

APPENDIX I: MT Mindfulness Exercise Protocol Week 2

MT Week 2 - Body Scan Exercise

Make yourself comfortable in your chair, closing your eyes or finding a spot in the room to let your eyes focus on. Allow yourself to switch from the usual mode of doing to a mode of simply being. You will be focusing on a variety of your experiences in the present moment as you sit here. As you do this exercise, your mind will naturally wander. That's normal. It's just what minds do. Gently bring your mind back to this exercise when it does.

So make yourself comfortable in your chair, and as you are sitting there, begin by focusing on the sounds going on in the room today. You hear my voice, what else do you hear?...Perhaps you hear your breath...What else?...Notice how the sounds come and go. If your mind starts analyzing the sounds somehow, just notice that and gently bring yourself back to simply experiencing the sounds as they are, as they enter your awareness and leave...

Now, gently bring your awareness to your breathing. See if you can be aware of where the sensations of breathing are most prominent. This may be at the nostrils, the mouth, the throat, in the rising and falling of the chest, or at the abdomen as the belly rises and deflates. Allow the breath to do what it naturally does without manipulating it or changing it. Be with the physical sensations of the breath just as they are, not with the breath as you would like to be, but with the breath as it is in this moment. Allow your body to let go with each breath out, as the chair or floor takes on the work of holding you up, and let yourself be just where you are, right here, right now, in this moment.

Now notice your bodily sensations. There's no need to change anything, just notice the different sensations and be with them. Bring your awareness to your body as a whole, examine the general state of the body. Perhaps there is a feeling of calm or tension, restlessness or maybe even agitation. Your task is simply to notice, to register it in your consciousness, in your awareness, the body as a whole, as best you can in this moment.

Now gently shift your awareness to the back, top and sides of your head. See if you can detect any physical sensation that presents itself. Try not to interfere with that sensation –as you attend to the head. Keep in mind that a sensation may involve warmth, coolness, tingling, moisture....if you experience no sensation or numbness see if you can be fully present and experience that, as you explore the back, sides and top of the head.

On the next out breath, let your awareness move to the face; from forehead to chin and from ear to ear. Allow your awareness to float freely around the face, experiencing any sensation that arises and bringing your attention to that area as best you can. Become aware of the chin, the lips, inside the mouth, your tongue, the cheeks, the eyes, the eyebrows, the ears, the forehead- letting whatever sensations arise and simply noticing them come and go. Let your attention linger, becoming aware of sensations as they change.

And now, on the next out breath, gently move your awareness to the neck and throat, softening and releasing as best you can, allowing your attention to hover in this region of the body – noticing any sensations that well up – give them your full and undivided attention as you become aware of the neck and throat.

From time to time your attention will be pulled away by thoughts arising in your mind – perhaps into the past, the future or fantasy – into worry or judgment or critical thoughts or your attention may also be hijacked by other sensations elsewhere in the body- if this happens – just gently escort your attention back to the body – in this moment, which at present, involves returning your focus to the neck and throat.

Now, on the next out breath, guide your attention into the shoulders, allowing your awareness to focus on any sensations large or small arising. If there are more intense sensations, see if you can attend to them in the same way, exploring or opening up to them rather than resisting or fighting them as you attend to the front, sides and back of the shoulders. Move deeply into the shoulder joints - working at opening up to them rather than resisting, bracing or fighting.

Now surveying the arms– you can explore both arms at the same time or each one individually. Exploring the fronts, sides and backs of the arms elbows and wrists – moving deeply into each of the joints. Sensations might enter your field of awareness due to your clothes as they touch your skin or make contact with your arms upon the surface you are resting on. There may also be more subtle sensations below the level of the skin. Your task is to observe these sensations with curiosity and openness, noticing as much detail as possible.

Now, on the next out breath, let your awareness move down and freely float throughout your hands. Attend to any sensation that crops up – exploring each hand individually or together. There may be tingling, pressure, numbness or warmth. Observe as best you can the quality of the sensations that arise in the hands. And again if your awareness is pulled away by thoughts or another sensation of the body see if you can let these be in the background and return to the hands.

Now, on the next out breath move your attention to the upper back and survey this area. There may be sensations of pressure or temperature. Your task is to simply observe each sensation without having to change anything. Give yourself permission to explore and feel each sensation as you explore the upper back.

Notice how your back feels against the chair. Feel the portions of your back that rest against the chair and those that do not...

Direct your attention now to the lower back. Draw your attention to any sensation that comes up and explore it in detail. The lower back is a region that presents, for many of us, challenging sensations. See if you can open up to these, lean into them, allowing whatever sensations arise to follow their own course.

Now, become aware of the chest as it rises and falls. There may be sensations made by the clothing against your skin as the chest rises and falls with each breath. You may become aware of the sensation of your beating heart. Let your awareness fully penetrate into each sensation as it arises, allowing it to do whatever it does as you observe moment to moment.

Observe your hips pressing against the chair... Notice how your thighs feel in your clothes...your calves...If your mind wanders, just gently bring it back to focusing on your calves...

Of course, when the mind is taken away into thought or elsewhere in the body, come back to the object of meditation in a kind way, a compassionate way, a way that acknowledges that getting lost in thought is just the nature of mind. In fact, noticing that the mind has wandered is just as much a part of mindfulness meditation as is staying on the body part itself which in this moment is the legs.

And now, releasing the legs and allowing this special kind of attention to move into your feet, the tops of the feet, the toes, the nails, the soles, the heels – resting here as best you can. Observe how your feet feel inside your shoes on the floor...

Notice how your shoulders feel...your neck...your head...Be with any areas of tension, there's no need to struggle with what is...

Once again, become aware of the physical sensation of the breath as it enters and leaves the body. As you open up to things just as they are in each moment, see how this openness is healing and nourishing. Allow the world to be as it is, beyond fears, worries, tensions, and beyond the tendencies of the mind to want things to be a certain way. Be awake to your experience as it unfolds in this moment and in this moment, remember that this state of clarity is available to you at any time by simply bringing your attention or your awareness to the breath.

And now move to your mind...observe what your mind is doing, what thoughts or images are occurring, where it is going...Just be aware of your various thoughts and images as they flow through you right now in this moment. There is no need to change anything...just observe what your mind is doing...

Now become aware of any feelings you are experiencing in this moment. Just observe them, whatever they are...

Now expand your awareness to include hearing, allowing sounds to come and go the same way you've been attending to sensations of the body – experiencing what it's really like to hear. If you've had your eyes closed, gently open your eyes as you bring your attention fully to the room; aware of the body, aware of the breath, aware of sound and aware of sight.

Adapted from:

Centre for Mindfulness Studies. (2014). *Session 1: Body scan script*. Retrieved from
<<http://www.mindfulnessstudies.com/wp-content/uploads/2014/01/18.-Session-1-Body-Scan-Script.pdf>>

APPENDIX J: MT Mindfulness Exercise Protocol Week 3

MT Week 3 – Loving Kindness Meditation

Sitting comfortably, allow the attention to come, gradually to the breath...
The breath coming and going all by itself deep within the body.
Take a few moments to allow the attention to gather within the even rhythm of the breath.
Turning gently within, begin to direct, toward yourself, care for your own wellbeing.

Begin to look on yourself as though you are a child. Have mercy on you.
Silently in your heart say, "May I be free from suffering. May I be at peace."
Just feel the breath breathing as you relate to yourself with kindness and care.
Allow the heart, silently, to whisper words of mercy that heal and that open.
"May I be free from suffering. May I be at peace."
Whispering to yourself, send wishes for your own well-being:
"May I be free from suffering. May I be at peace."
Repeat, gently with each in-breath, "May I be free from suffering."
With the following out-breath, "May I be at peace."
Repeat these words slowly and, gently with each in-breath, with each out-breath, as the
extending of loving care to yourself.

Notice whatever limits this love, this mercy, this willingness to be whole, to be healed.
"May I be free from suffering. May I be at peace."
Let the breath continue naturally, as mercy for yourself.
Though at first these may only feel like words echoing from the mind, gently continue. There can
be no force here. Force closes the heart. Let the heart receive the mind with a new tenderness and
mercy.
"May I be free from suffering. May I be at peace."

Each breath deepening the nurturing warmth of relating to oneself with loving kindness and
compassion. Each exhalation deepening in peace, expanding into the spaciousness of being,
developing the deep patience that does not wait for things to be otherwise but relates with loving
kindness to things as they are.
"May I be free from suffering. May I be at peace."

Allow the healing in with each breath. Allow space within for breath.
Continue for a few breaths more this drawing in, opening to, loving-kindness. Relating to
yourself with great tenderness, sending well-being into your mind and body, embrace yourself
with these gentle words of healing.

Now gently bring to mind someone for whom you have a feeling of warmth and kindness.
Perhaps a loved one, or teacher or friend.
Picture this loved one in your heart. With each in-breath whisper to him or her,
"May you be free from suffering. May you be at peace."

With each breath draw that loved one into your heart, "May you be free from suffering."
With each out-breath filling them with your loving kindness, "May you be at peace."
Continue to breathe the loved one into your heart whispering silently,
"May you be free from suffering. May you be at peace."
Continue the gentle breath of connection, the gentle wish for their happiness and wholeness.
Let the breath be breathed naturally, softly, lovingly into the heart, coordinated with your words,
with your concentrated feelings of loving kindness and care.
"May you be free from suffering. May you be at peace."

Send them your love, your compassion, your care.
Breathe them in and through your heart.
"May you be free from suffering. May you know your deepest joy, your greatest peace."

And as you sense them in your heart, sense the whole world that wishes so to be healed, to be at peace.
Note to yourself, "Just as I wish to be happy so does all of humanity."
And in your heart with each in-breath, with each out-breath, whisper,
"May all beings be free of suffering. May all beings be at peace."

Let your loving kindness reach out to all of humanity as it did to your loved one, sensing all beings in need of healing, in need of peace.
"May all beings be at peace. May they be free of suffering."

"May all of humanity be free of fear, free of pain.
"May all of humanity be at peace. May all beings be free of suffering."

Each breath drawing in the love that heals the world, that deepens the peace we all seek.
Each breath feeding the world with the mercy and compassion, the warmth and patience that quiets the mind and opens the heart.
"May all beings be free from suffering. May all beings be at peace."

Let the breath come softly. Let the breath go gently. Wishes of well-being and mercy, of care and loving kindness, extended to this world we all share.
"May all beings be free of suffering. May all beings dwell in the heart of healing. May all beings be at peace."

In a moment, the meditation will end. Whatever way you would like to end this time will be fine. When you are ready, bring your awareness back to the room, opening your eyes.

Adapted from:

Levine, S. (1991). *Guided meditations, explorations, and healings*. New York, NY: Anchor.

APPENDIX K: Participant Daily Log

NAME:

On a Scale of 1-10:
Low 1 2 3 4 5 6 7 8 9 10 High

DAY	DATE	TIME START	TIME STOP	Aware and Open? 1-10	Starting Stress Level? 1-10	Ending Stress Level? 1-10
Day 1						
Day 2						
Day 3						
Day 4						
Day 5						
Day 6						
Day 7						
Day 8						
Day 9						
Day 10						
Day 11						
Day 12						
Day 13						
Day 14						
Day 15						
Day 16						
Day 17						
Day 18						
Day 19						
Day 20						
Day 21						

APPENDIX L: CMT Week 1 PowerPoint Slides



<h3>Mindfulness Training</h3> <p>CMT: Week 1</p>	<h3>Taking Care of Business:</h3> <ul style="list-style-type: none">Complete all Pre-AssessmentsComplete Demographic QuestionnaireSign Informed Consent Form<ul style="list-style-type: none">Benefit of ParticipationRisks of ParticipationWhat is discussed in this group, stays in this groupPlease don't share your meditations (audio or written) with members of the other group.Thank you for participating in this study!
<h3>What is Mindfulness?</h3> <ul style="list-style-type: none">Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie. thoughts, feelings, impulses, and/or behaviors) in the present moment	<h3>What is Mindfulness?</h3> <ul style="list-style-type: none">Research on mindfulness training provides support for the effectiveness of the intervention to lower perceived stress and increase emotion regulation
<h3>What is Mindfulness?</h3> <ul style="list-style-type: none">Perceived stress is defined as the degree to which an individual reports the subjective experience of stress	<h3>What is Mindfulness?</h3> <ul style="list-style-type: none">Coping strategies are problem solving skills developed in response to stress that serve to regulate internal emotional states and manage external stressors
<h3>What is Mindlessness?</h3> <ul style="list-style-type: none">Biased thinkingDefensivenessRuminationThoughts and emotions are carried along by the stream of consciousness without self-awareness or purposeful attention.	<h3>How Can I Be More Mindful?</h3> <ul style="list-style-type: none">Attention: Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behaviors as they occur.Attitude: Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.Intention: Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.

Mindfulness and a Christian Worldview

- Ancient Buddhist approaches to mindfulness include Vipassana meditation and Zen meditation
- The modern psychotherapeutic practice of mindfulness includes evidence-based, standardized protocols
- Some compare mindfulness to the practice of centering prayer, emphasizing a commonality with Christian traditions that incorporate principles of mindful meditation

Mindfulness and a Christian Worldview

- **God is personal.** Buddhist teaching asserts that the path of spiritual awakening is open to individual interpretation and gives no specific name to deity. From a Christian worldview, God is not vague, but rather is personal, knowable, and nameable. Christian mindfulness will address God as a personal being, in the manner in which he is self-identified in Scripture.

Mindfulness and a Christian Worldview

- **God is above.** God is separate from the individual, as the creator of both nature and mankind. This is known as God's transcendence. While God's immanence refers to his presence and activity within creation and throughout history, God's transcendence refers to his independence from and superiority over the universe and the progression of time.

Practice:

Mindfulness Training:
Breathing Exercise

Mindfulness and a Christian Worldview

- Both modern, secularized protocols for mindfulness and ancient Buddhist mindfulness meditation practice present philosophical problems for individuals that are devoted to a Christian worldview. Adapting mindfulness to a Christian worldview requires the consideration of key doctrines of the Christian faith.

Mindfulness and a Christian Worldview

- **God is near.** Christian doctrine upholds specific characteristics of God that contradict the Buddhist teachings on the divine. For example, in addition to being omnibenevolent (all-loving), omnipotent (all-powerful) and omniscient (all-knowing), God is also omnipresent, meaning that God is always present, everywhere, in every moment, regardless of an individual's physical location, spiritual condition, or emotional state. This is known as God's immanence.

Mindfulness and a Christian Worldview

- God is personal, near, and above
- A Christian worldview of mindfulness practice includes an awareness of God in the present moment as a personal being who is separate and above our internal and external experience

APPENDIX M: CMT Week 2 PowerPoint Slides

 <h3>Mindfulness Training</h3> <p>CMT: Week 2</p>  <h4>How did it go?</h4> <ul style="list-style-type: none">Decreased stress? Increased stress?	 <h4>What is Mindfulness?</h4> <ul style="list-style-type: none">Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie, thoughts, feelings, impulses, and/or behaviors) in the present moment  <h4>Review: How Can I Be More Mindful?</h4> <ul style="list-style-type: none">Attention: Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behaviors as they occur.Attitude: Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.Intention: Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.
 <h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">Buddhism teaches that enlightenment and peace come from balance, with the goal of acceptance being the acceptance of both the good and the bad, the yin and the yang.Christian teachings emphasize the application of grace and mercy, receiving the sacrifice of Christ in atonement for sin. Christians do not accept the bad, but rather yield it to God through confession and receive his righteousness and peace in its place.	 <h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">Mindfulness meditation practice present philosophical problems for individuals that are devoted to a Christian worldview. Adapting mindfulness to a Christian worldview requires the consideration of key doctrines of the Christian faith.
 <h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">God is merciful. In his kindness, God does not hold the Christian personally accountable for sin, but rather sacrifices himself so that the requirement of justice is met while we do not receive the punishment we deserve.	 <h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">God is gracious. In his goodness, he abundantly provides the Christian with gifts such as love, joy, and peace that have not been earned through personal effort.
 <h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">God is merciful and graciousA Christian worldview of mindfulness practice includes an awareness of God's merciful and gracious nature that allows for undeserved rest and the release of anxieties to his care.	 <h4>Practice:</h4> <p>Mindfulness Training: Body Scan Exercise</p>

APPENDIX N: CMT Week 3 PowerPoint Slides

<h3>Mindfulness Training</h3> <p>CMT: Week 3</p> <h4>How did it go?</h4> <ul style="list-style-type: none">Decreased stress? Increased stress?	<h4>What is Mindfulness?</h4> <ul style="list-style-type: none">Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie. thoughts, feelings, impulses, and/or behaviors) in the present moment
<h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">Mindfulness meditation practice may present philosophical problems for individuals that are devoted to a Christian worldview. Adapting mindfulness to a Christian worldview requires the consideration of key doctrines of the Christian faith.	<h4>Review:</h4> <h5>How Can I Be More Mindful?</h5> <ul style="list-style-type: none">Attention: Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behavior as they occur.Attitude: Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.Intention: Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.
<h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">God is loving. In his tenderness, God chooses love. His full acceptance of the Christian extends to us just as we are, offering love that is unconditional. God's love cannot be swayed by current thoughts, feelings, attitudes or behaviors.	<h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">Buddhism teaches the rules of karma, that what you offer to the world, whether good or bad, will return to you in similar form.Christian teachings emphasize God's unconditional love. Christians confess that God loved us first, that he initiated love and loved us while we were still unworthy of his love.
<h4>Prayer of Accepted Tenderness</h4> <ul style="list-style-type: none">Today O Lord I Accept Your Acceptance Of MeYou Are Always With Me And Always For MeI Receive Into My Spirit Your Grace, Your Mercy, Your CareI Rest In Your Love O Lord, Amen	<h4>Mindfulness and a Christian Worldview</h4> <ul style="list-style-type: none">God is loveA Christian worldview of mindfulness practice includes an awareness of God's loving nature that moves toward you with an offering of tender compassion regardless your state of being. There's nothing you could ever do to make him love you less. <h4>Practice:</h4> <h5>Mindfulness Training:</h5> <h5>Accepted Tenderness Meditation</h5>

APPENDIX O: MT Week 1 PowerPoint Slides



Mindfulness Training

MT: Week 1



Taking Care of Business:

- Complete all Pre-Assessments
- Complete Demographic Questionnaire
- Sign Informed Consent Form
 - Benefits of Participation
 - Risks of Participation
- What is discussed in this group, stays in this group
- Please don't share your meditations (audio or written) with members of the other group.
- Thank you for participating in this study!



What is Mindfulness?

- Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie. thoughts, feelings, impulses, and/or behaviors) in the present moment



What is Mindfulness?

- Research on mindfulness training provides support for the effectiveness of the intervention to lower perceived stress and increase emotion regulation



What is Mindfulness?

- Perceived stress is defined as the degree to which an individual reports the subjective experience of stress



What is Mindfulness?

- Coping strategies are problem solving skills developed in response to stress that serve to regulate internal emotional states and manage external stressors



What is Mindlessness?

- Biased thinking
- Defensiveness
- Rumination
- Thoughts and emotions are carried along by the stream of consciousness without self-awareness or purposeful attention.



How Can I Be More Mindful?

- Attention: Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behaviors as they occur.
- Attitude: Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.
- Intention: Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.



Practice:

Mindfulness Training:
Breathing Exercise

APPENDIX P: MT Week 2 PowerPoint Slides

Mindfulness Training
MT: Week 2

How did it go?

- Decreased stress? Increased stress?

Practice:

Mindfulness Training:
Body Scan Exercise

What is Mindfulness?

- Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie. thoughts, feelings, impulses, and/or behaviors) in the present moment

Review:
How Can I Be More Mindful?

- Attention:** Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behaviors as they occur.
- Attitude:** Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.
- Intention:** Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.

APPENDIX Q: MT Week 3 PowerPoint Slides

Mindfulness Training
MT: Week 3

How did it go?

- Decreased stress? Increased stress?

Loving Kindness Meditation

May I be free from suffering. May I be at peace.

May you be free from suffering. May you be at peace.

May all of humanity be at peace. May all beings be free of suffering.

What is Mindfulness?

- Mindfulness is defined as compassionate, purposeful awareness and non-judgmental acceptance of personal experience (ie. thoughts, feelings, impulses, and/or behaviors) in the present moment

Review:
How Can I Be More Mindful?

- Attention:** Give purposeful, regulated attention to the immediate, present moment. This enhances an awareness of emotions, thoughts, sensations, and behaviors as they occur.
- Attitude:** Keep a stance of curiosity, openness, and acceptance without self-imposed judgment toward inner experience. Keep a non-judgmental attitude toward the self and others.
- Intention:** Answer the question of why you are choosing to practice mindfulness. Find personal meaning in the exercise.

Practice:

Mindfulness Training:
Loving Kindness Meditation

APPENDIX R: Permissions to Use Assessments

Permission to Use Perceived Stress Scale:

Sheldon Cohen <scohen@cmu.edu>
To: ■ Ford, Kristy; ✕

2/9/2016

Kristy, You are welcome to use the **pss** for your project. Best of luck. sc

Ford, Kristy
To: □ scohen@cmu.edu; ✕

2/9/2016

Sent Items

02/09/2016
Kristy Ford
Liberty University, Doctoral Student

Dear Dr. Sheldon Cohen,

I am completing a doctoral dissertation at Liberty University in Lynchburg, VA entitled "The Impact of a Christian Adaptation to Mindfulness Training on Stress, Religious Coping, and God Attachment: A Randomized Trial." I would like to request your permission to use your assessment, the *Perceived Stress Scale*, in the research project. Please feel free to contact me should you have any questions or need additional information. Thank you very much.

Sincerely,

Kristy Ford

Permission to Use Brief RCOPE:

Kenneth I Pargament <kpargam@bgsu.edu>
To: ■ Ford, Kristy; ✕

2/9/2016

Dear Kristy:

You have my permission to use the Brief RCOPE. Please keep me posted on your findings.

Sincerely,
Ken

Kenneth I. Pargament, Ph. D.
Professor
Department of Psychology
Bowling Green State University
Bowling Green, OH 43403

Author, *Spiritually Integrated Psychotherapy: Understanding and Addressing the Sacred*, Guilford Press, 2007
Editor-in-Chief, *APA Handbook of Psychology, Religion, and Spirituality* (Vols. 1 and 2), APA Press, 2013

Ford, Kristy
To: □ kpargam@bgsu.edu; ✕

2/9/2016

02/09/2016
Kristy Ford
Liberty University, Doctoral Student

Dear Dr. Kenneth Pargament,

I am completing a doctoral dissertation at Liberty University in Lynchburg, VA entitled "The Impact of a Christian Adaptation to Mindfulness Training on Stress, Religious Coping, and God Attachment: A Randomized Trial." I would like to request your permission to use your assessment, the *Brief Religious Coping Scale*, in the research project. Please feel free to contact me should you have any questions or need additional information. Thank you very much.

Sincerely,


Kristy Ford


Permission to Use Surrender Scale:

Ana McDonald <amcdonald@lachc.com>

Ford, Kristy; ↗

2/17/2016

 Surrender Article JPT.pdf
3 MB

 JPT 2004 Vol 32 No 4 3...
2 MB

2 attachments (5 MB) Download all Save all to OneDrive - Liberty University

Dear Kristy,


Yes, of course you may use the Surrender Scale. I am attaching the original article and another publication using the Scale. Blessings on your dissertation.

Best regards,

Ana Wong McDonald, Ph.D.
Licensed Clinical Psychologist

Los Angeles Christian Health Centers
[311 Winston Street](#)
[Los Angeles, CA 90013](#)

Phone: (213) 893-1960, ext. 165
Fax: (213) 229-9061



Ford, Kristy

amcdonald@lachc.com; ↗

2/17/2016

Sent Items

02/17/2016
Kristy Ford
Liberty University, Doctoral Student

Permission to Use Attachment to God Inventory:

Richard Beck Jr. <beckr@acu.edu>

Ford, Kristy; ↗

2/17/2016

Hi Kristy,

Please feel free to use the AGI. Best wishes for your research.

Grace and peace,

Richard

Ford, Kristy

beckr@acu.edu; ↗

2/9/2016

02/09/2016
Kristy Ford
Liberty University, Doctoral Student

Dear Dr. Richard Beck,

I am completing a doctoral dissertation at Liberty University in Lynchburg, VA entitled "The Impact of a Christian Adaptation to Mindfulness Training on Stress, Religious Coping, and God Attachment: A Randomized Trial." I would like to request your permission to use your assessment, the *Attachment to God Inventory*, in the research project. Please feel free to contact me should you have any questions or need additional information. Thank you very much.




Sincerely,

Kristy Ford

Permission to Use Spiritual Assessment Inventory:

Keith Edwards <keith.edwards@biola.edu>

To:  Ford, Kristy; Cc:  todd.hall@biola.edu; 




  | 

2/9/2016

Yes, you have my permission to use it. Dr. Hall will send you some details.
Keith

Ford, Kristy

To:  todd.hall@biola.edu;  keith.edwards@biola.edu; 

  Reply all | 

2/9/2016

Sent Items

02/09/2016

Kristy Ford

Liberty University, Doctoral Student

Dear Dr. Hall and Dr. Edwards,

I am completing a doctoral dissertation at Liberty University in Lynchburg, VA entitled "The Impact of a Christian Adaptation to Mindfulness Training on Stress, Religious Coping, and God Attachment: A Randomized Trial." I would like to request your permission to use your assessment, the *Spiritual Assessment Inventory*, in the research project. Please feel free to contact me should you have any questions or need additional information. Thank you very much.

Sincerely,

Kristy Ford

APPENDIX S: Group Feedback Forms

CMT Group: Mindfulness Training Feedback Form

Name: _____

8. Are you satisfied with your experience of Mindfulness Training? (Y / N)

If no, please specify reason: _____

9. Do you plan to continue with the practice of mindfulness? (Y / N)

10. Did you experience relief from stress or anxiety due to increased mindfulness? (Y / N)

If yes, please specify: _____

11. Do you have any suggestions for improving the Mindfulness Training? (Y / N)

If yes, please specify: _____

12. Would you recommend Mindfulness Training to others? (Y / N)

13. Any other comments?

14. In which BCF course would you like the extra credit applied? _____

Thank you for your participation!

MT Group: Mindfulness Training Feedback Form

Name: _____

1. Are you satisfied with your experience of Mindfulness Training? (Y / N)

If no, please specify reason: _____

2. Do you plan to continue with the practice of mindfulness? (Y / N)

3. In which BCF course would you like the extra credit applied? _____

4. Did you experience relief from stress or anxiety due to increased mindfulness? (Y / N)

If yes, please specify: _____

5. Do you have any suggestions for improving the Mindfulness Training? (Y / N)

If yes, please specify: _____

6. Would you recommend this Mindfulness Training to others? (Y / N)

When learning about mindfulness, did you find yourself using your faith to understand it?

Not at all 1 2 3 4 5 6 7 *Very Much*

When practicing mindfulness, did you find yourself using the exercise to experience or think about God in the moment?

Not at all 1 2 3 4 5 6 7 *Very Much*

If so, did the experience of integrating your faith naturally with the experience of mindfulness enhance it in some way or not?

Not at all 1 2 3 4 5 6 7 *Very Much*

Any additional comment