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## A Feasibility Study of Trauma-Informed Brief Mindfulness-Based Cognitive Therapy for Veterans with Post-Traumatic Stress using a Telehealth Approach

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## Abstract

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**Purpose:** The present study examined the feasibility of using telehealth videoconferencing to administer Post Traumatic Stress Disorder (PTSD) treatment to veterans to overcome therapy-related barriers such as difficulties accessing mental health care from traditional in-person clinics. This dissertation reports the results of a brief trauma-informed adaptation of Mindfulness-Based Cognitive Therapy (MBCT) to examine the hypotheses that such a curriculum, delivered over telehealth will significantly decrease dropout rates while improving PTSD symptoms.

**Methods:** A sample of 11 veterans with PTSD were recruited from local veteran organizations. A short-term longitudinal design using standardized measures to monitor symptoms and changes before and after the mindfulness intervention was adopted. Hypotheses were tested with repeated-measures t-tests to examine differences between pre- and post-test scores on the standardized measures. Session-by-session checklists were completed to track attrition and therapist adherence to the intervention.

**Results:** Statistical analysis of pre- and post-test measures did not support the study's hypothesis that veterans would experience a statistically significant decrease in PTSD symptoms as a result of receiving the brief intervention; however, analysis of attrition rates did support the hypothesis that 10% or less of participants would dropout before completing the treatment program.

**Implications and Conclusions:** Study results indicate that the use of a telehealth approach to deliver trauma treatment is feasible and reduces veteran attrition; in addition, data implies that completion of homework assignments between sessions may be essential to treatment progress and delivering eight sessions over four weeks (massed therapy) may be necessary to promote therapeutic efficacy of the brief trauma-focused mindfulness intervention.

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**A Feasibility Study of Trauma-Informed Brief Mindfulness-Based Cognitive Therapy for  
Veterans with Post-Traumatic Stress using a Telehealth Approach**

by

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Submitted to the School of Social Policy & Practice

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for the degree of

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## **Chapter One**

### **Introduction and Background and Significance**

Many military veterans suffer from Post-traumatic Stress Disorder (PTSD). According to the RAND Corporation (RAND), at least 20% of Iraq and Afghanistan veterans have PTSD and/or depression (Holdeman, 2009). As PTSD is characterized by a constellation of symptoms, including hyperarousal, veterans who meet the criteria for this diagnosis are, by definition, struggling to manage heightened emotions related to their trauma. This is highly problematic because the lack of emotion regulation strategies in PTSD often leads to various types of maladaptive coping such as substance abuse (Polusny & Follette, 1995); it also significantly predicts suicidal ideation and attempts (Rajappa & Gallagher, 2012). In fact, a recent review of academic journals and information obtained from government agencies and think tanks related to veterans' PTSD and suicides identify clear linkages between PTSD, suicide, and military service (Koven, 2016). Moreover, population-based studies indicate that male veterans face roughly twice the risk of dying from suicide as their civilian counterparts (Kaplan et al., 2007).

Research supports mindfulness meditation practices as a set of tools that can help people better manage their emotions (Arch et al., 2006; Chambers et al., 2009; Hill et al., 2012) and many types of mindfulness have been adapted to work with psychological trauma (Vujanovic et al., 2013); in fact, more and more studies are finding mindfulness to be a promising intervention for decreasing trauma symptoms (Becker & Zayfurst, 2001; Follette, et al., 2006; Niles et al., 2012) as well as treating trauma within the veteran population (Vujanovic et al., 2013; Bhatnagar et al., 2013; Omid et al., 2013). What is more, manualized mindfulness-based interventions have been shown to effectively treat PTSD within the veteran population. For example, veterans with PTSD who completed an eight-week Mindfulness-based Cognitive

Therapy (MBCT) program showed significant reductions in avoidance of PTSD symptoms as well as significant decreases in cognitions of self-blame and a trend toward decreased perception of the world as a dangerous place (King et al., 2013). MBCT is an eight-session program that meets weekly and includes regular home practice assignments to reinforce the skills of mindful awareness and Cognitive-Behavioral Therapy (CBT) taught to participants during groups. Further, studies examining the effects of Mindfulness-Based Stress Reduction (another eight-week manualized mindfulness intervention) found that it had tremendous effects upon the wellbeing of veterans with trauma. One such study (Serpa, et al., 2014) showed significant reductions in anxiety, depression, and suicidal ideation in veteran participants while another (Polusny et al., 2015) determined significant reductions in the severity of veterans' PTSD symptoms. Moreover, Luedtke's et al.'s (2015) study found that Mindfulness-Based Cognitive Behavioral Conjoint Therapy (MB-CBCT) for PTSD, a 10-week mindfulness program for couples, significantly reduced PTSD symptoms in veteran participants.

While these manualized mindfulness-based interventions do help veterans better cope with PTSD, the duration of the treatments may make them too cumbersome to be consistently beneficial to the veteran weary from trying to manage post-traumatic stress. For example, both MBCT and MBSR require nine weekly sessions to complete (one pre-class participant interview followed by eight 2.5-hour weekly treatment sessions and one daylong retreat), leaving veterans with the onerous burden of having to use whatever means of coping they already possess to independently manage their PTSD symptoms until they master the techniques taught in group. And we know from the literature that veterans with PTSD often turn to drugs and alcohol in an attempt to manage their overwhelming trauma-related distress (McFall et al., 1992) or, worse, they may completely drop-out of treatment (Goetter et al., 2015).

What about existing evidence-based therapies for veterans with PTSD used in VA health care clinics throughout the country such as Cognitive Processing Therapy (CPT; Chard, 2005; Resnick et al., 2008) and Prolonged Exposure (PE; Foa, et al., 1999)? How effective are they in helping veterans recover from PTSD? Like manualized mindfulness protocols, does the length of engagement required by CPT and PE (treatment-as-usual) also increase attrition rates for veterans and, therefore, render it functionally impractical?

CPT and PE have become the “gold standard” first-line interventions for veterans with PTSD. For example, Prolonged Exposure (PE) and Cognitive Processing Therapy (CPT) have larger evidence bases than any other treatments for PTSD and are considered preferred therapies in the VHA and in the Department of Defense PTSD Clinical Practice Guidelines (Veterans Health Administration & Department Defense, 2010); nevertheless, at least a couple of aspects of these therapies including the emotional discomfort often reported by veterans in response to being repeatedly exposed to the details their trauma as well as the lengthy treatment protocols (12-15 sessions) appear to make them unreasonable treatments for veterans who may only attend a few sessions before dropping out. In fact, several empirical studies report high attrition rates from CPT and PE among veterans (Najavitis, 2015; Mott et al., 2014; Watts et al., 2014; Garcia et al, 2011; Cook et al., 2014) as well as veterans’ negative reactions to the prolonged exposure-based characteristics of these therapies (Hundt et al., 2020; Eftekhari et al., 2020; Steenkamp, 2015).

Yet, we don’t know whether briefer forms of trauma treatments, such as one based upon a foundation of mindfulness practice that does not require direct trauma exposure can reduce PTSD symptomatology in veterans similar to treatment-as-usual (TAU) and traditional mindfulness interventions, considering the aforementioned limitations of these longer

manualized treatments. This lack of empirical knowledge raises scientific curiosity and begs the question: Can veterans effectively improve their PTSD symptoms by participating in a brief manualized mindfulness program? Currently there are no manualized treatment protocols that include brief mindfulness. Furthermore, researchers have yet to examine the benefits veterans receive by engaging in standardized evidence-based treatments versus brief forms of Mindfulness-Based Cognitive Therapy.

Veterans struggling with PTSD in the absence of brief forms of Mindfulness-Based Cognitive Therapy, therefore, heralds a clarion call to action! Research is needed to investigate the possibility of creating a brief manualized mindfulness intervention for veterans with PTSD. To fill this gap in the literature, the student researcher developed a brief four-week mindfulness-based cognitive therapy intervention and examined the following research questions:

1. Among veterans with PTSD is the receipt of a brief mindfulness-based intervention a feasible option for reducing PTSD symptom severity?
2. Does delivering a brief trauma treatment over a telehealth platform result in a significantly reduced attrition rate among veterans with PTSD?

The study's second research question was largely developed in response to the COVID-19 pandemic. The student researcher's original plan to facilitate a randomized control trial to examine the potential benefits of TI-MBCT was abruptly thwarted by worldwide social distancing mandates. For these reasons, the TI-MBCT treatment group curriculum was adapted to treat all study participants within individual therapy sessions instead of in-person group meetings. Coincidentally, research into the efficacy of individual therapy, over group therapy, for veterans with PTSD supports this move. In a recent randomized control study, Resnick et al. (2017) found that improvement in PTSD severity among 268 military veterans was greater when

they received Cognitive Processing Therapy within individual therapy—rather than group therapy. Pertinent too is the increasing number of studies that establish telehealth as a feasible platform for delivering treatment to veterans seeking help for mental health issues (Jacobs et al., 2019; Moreau et al., 2018; Shore et al., 2014).

### **Background and Significance**

A review of the literature shows that PE/CPT treatments do not foster strong retention rates among veterans and, therefore, may not be feasible. For example, a 2015 study extracted data from the medical records of 427 veterans who enrolled in PE and CPT following an intake at a Veterans Health Administration (VHA) by a PTSD Clinical Team found that 38.5% dropped out of treatment; of this group, about one quarter dropped out before session three (Polusny et al., 2015). Another study involving veteran participants with PTSD noted a 32.2% dropout rate of veterans from CPT and 44% from PE (Jeffreys et al., 2014).

While it may be satisfying to know that thousands of veterans with PTSD are receiving CPT/PE as TAU each year, this information is troubling when coupled with the body of research that suggests that CPT/PE are not feasible interventions for veterans due to high attrition rates, perhaps generated by a number of salient factors, including: CPT/PE's lengthy treatment protocols, CPT/PE's requirement that participants maintain a sustained focus upon highly provocative trauma-related memories, thoughts, and emotions for several minutes at a time (which may emotionally overwhelm veterans), long commute times to VA facilities, lengthy waiting periods to receive specialized mental health treatment at VA facilities, the lack of availability of trauma treatment for veterans within non-VA facilities, and the high cost of paying for CPT/PE PTSD treatment outside of VA-funded clinics.

By contrast, providing a cost-effective, brief mindfulness-based PTSD treatment would eliminate the aforementioned obstacles to traditional interventions by equipping behavioral health providers with an effective trauma protocol for veterans that can be completed within four weeks and a reasonable amount of training for mental health staff. Because it is brief, the mindfulness-based PTSD intervention may also increase retention rates of veterans in treatment. As such, this student researcher purports that, although there may be various factors that contribute to the feasibility of a PTSD treatment for veterans, focusing upon the delivery of a briefer form of mindfulness treatment could markedly improve trauma-related symptoms within this population considering the growing empirical evidence surrounding the efficacy of brief mindfulness interventions for PTSD.

First, there is an increasing body of knowledge that shows a clear link between the introduction of brief mindfulness training and the reduction of PTSD symptomatology in veterans. For example, two 90-minute sessions of mindfulness-based training in a 2011 study mitigated PTSD symptoms in veterans while improving their quality-of-life (Nakamura, 2011); a four-session mindfulness program adapted from MBSR significantly reduced PTSD and depressive symptoms in veterans from pre- to post-test treatment and maintained their treatment gains at 8-week follow-up compared to the control group (Possemato, et al., 2016); four mindfulness-based meditation sessions significantly reduced cortisol levels in veterans diagnosed with hypercortisolism related to their PTSD condition (Bergen-Cico, et al., 2014).

Second, the curriculum to be taught in the brief mindfulness-based cognitive intervention proposed by the student researcher mirrors the techniques for working with traumatized veterans that have already been shown to be efficacious. King et al. (2013) discovered that veterans with PTSD who received the traditional eight-week course of MBCT learned to focus their attention

onto trauma cues with a sense of curiosity and acceptance—rather than judgment and rejection—and subsequently showed post-treatment reductions in avoidance of unwanted PTSD symptoms such as highly distressing emotions; a decrease in cognitions of self-blame; and a decreased perception of the world as a dangerous place. Accordingly, veterans in this feasibility study learned skills to alter cognition toward a greater acceptance of trauma memories, trauma-related anxiety, and other distressing PTSD symptoms, which was expected to improve their ability to cope with PTSD and their overall sense of psychological wellbeing. Acceptance of trauma symptoms appears to be key to reducing PTSD symptoms. In fact, Sears et al. (2016) writes: “Practicing acceptance helps clients relate differently to the intrusive thoughts, images, and feelings inherent in PTSD...this is a process that unfolds gradually with time, through the practice of coming back to right now” (p. 32).

Third, there are groundbreaking studies examining the ability of shorter treatment protocols to affect similar levels of treatment progress as longer treatment protocols. For example, Foa et al.’s 2018 randomized clinical trial to examine the effect of PE delivered over two weeks (instead of the traditional 10 weeks) demonstrated that, among active-duty military personnel with PTSD, PE provided over two weeks was “noninferior” to 10 sessions of PE provided over eight weeks.

Finally, the meditation-based components of the MBCT program seem well suited for individuals with PTSD and may even effect positive change on a neurological level. One study of mindfulness (Lazar et al., 2005) showed that cortical thickness of long-term meditators in the areas surrounding the prefrontal cortex and right anterior insula was thicker compared to those in matched controls. This is important because, according to Siegel (2007), the function of the medial prefrontal cortex includes one’s ability to regulate emotion, including fear. Therefore,

added thickness of the prefrontal cortex and right anterior insula may help one to better regulate physiological responses; achieve attuned communication, and respond with flexibility when dealing with others. Another study discovered increases in regional gray matter density in individuals who completed an eight-week MBSR program (Hozel et al., 2011) —more specifically, results showed increases in gray matter surrounding the left hippocampus. As such, this present study has profound implications for using MBCT for PTSD, given that other studies have shown that smaller hippocampus volume may be associated with vulnerability to PTSD or is a result of chronic PTSD (Apfel et al., 2011; Bremner et al., 1995; Gilbertson et al., 2002; Sapolsky et al., 1990). That said, there are many theoretical reasons to expect that brief MBCT therapy would be a feasible treatment for veterans seeking help for their trauma-related mental health concerns. Building upon this body of knowledge, this student researcher hypothesizes that the veterans receiving brief trauma-informed mindfulness-based cognitive therapy will experience a statistically significant decrease in post-traumatic symptomatology as evidenced by posttest scores. It is this student researcher's second hypothesis that the dropout rate of study participants from treatment will be 10% or less in this study due to the practicality and convenience of the online treatment modality.

## Chapter Two

### Design and Methods

Feasibility studies are used to determine whether an intervention is appropriate for further testing, and it is proposed that there are eight general areas of focus that they address: acceptability, demand, implementation, practicality, adaptation, integration, expansion, and limited-efficacy testing (Bowen et al., 2009). This study was designed to examine an adaptation of classic MBCT to treat PTSD symptoms among veterans; as such, it will provide the reader with a session-by-session description of each of the trauma-informed treatment modifications for veterans, fully integrate them into MBCT's classic curriculum, and test its feasibility as a potentially viable treatment model with 11 veterans who endorse significant post-traumatic stress symptoms. In doing so, this study expands upon the promise of MBCT as a viable treatment for trauma in veterans found by the one published study that applies MBCT to a veteran population with post-traumatic stress symptomatology (King et al., 2013). In addition, the student researcher designed the pilot study to address one of the biggest threats to successful trauma treatment across treatment modalities; namely, attrition. Historically, dropout rates from PTSD treatments are reported to be around 50% (Schottenbauer, et al., 2008); and even higher for veterans at 68% in one study (Garcia et al., 2011). Consequently, to increase the likelihood that the therapy sessions will complement the veterans' personal and professional schedules, the student researcher offered study participants the flexibility of signing into their weekly therapy sessions from their home computer and/or smart phone (at any safe location) and offered several days and times when the TI-MBCT therapy sessions could be received. As a result, the student researcher expected the dropout rate of study participants from treatment to be 10% or less in this study.

The brief intervention was delivered to veterans during four, 75-minute individual treatment sessions delivered over a video teleconferencing platform for four consecutive weeks. As noted above, a last-minute decision was made to conduct all treatment sessions over a HIPAA-compliant video conferencing (telehealth) platform due to the rapid spread of the COVID-19 virus in the United States and to comply with all Center for Disease Control (CDC) recommendations related to the pandemic.

### ***Participants, Sample Size, and Recruitment***

The student researcher used a convenience sampling strategy to identify a pool of 11 veterans who were interested and eligible to participate in the pilot study. The student researcher spoke with a number of his colleagues in Los Angeles, CA who provide behavioral health services to veterans for referrals. For instance, the student researcher made several educational announcements about the pilot study during monthly video-conferencing-based meetings sponsored by the Los Angeles Veterans Collaborative and the American Legion, Post 43 in Los Angeles, CA. The student researcher also disseminated study flyers to various veteran service providers throughout Los Angeles County and posted study information on social media websites such as LinkedIn and Facebook. Ultimately, 14 referrals of potential study participants were provided by the Los Angeles Gay and Lesbian Center Senior Veterans Initiative, American Legion, Posts 43 and 283, US VETS, and private practitioners in Los Angeles, CA. Eleven of the 14 veterans referred to the study qualified to participate and were admitted.

Participants were considered suitable for inclusion in the pilot study if they were a military veteran; aged 18 or older and earned a score of 31 or higher on the PTSD Checklist for DSM-5 (PCL-5), which is optimally efficient for diagnosing PTSD in veterans (Bovin et al., 2016). In addition, participants were considered for inclusion in this pilot study if they endorsed

symptomatology suggestive of subsyndromal PTSD, a clinical condition noted in the literature (Gurevich et al., 2002; Ciechanowski et al., 2004) that includes trauma-related symptoms that cause significant functional impairment in patients but fall short of the full diagnostic criteria of PTSD found in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association, 2013).

To identify potential study participants in this category, the student researcher used a two-step procedure established by Marshall et al. (2001) to determine a diagnosis of subsyndromal PTSD: the student researcher noted participants' acknowledgement of Criterion A for PTSD [exposure to actual or threatened death, serious injury, or sexual violence, learning that a traumatic event occurred to a family member or close friend; experiencing repeated or extreme exposure to aversive details of the traumatic event (APA, 2013)] plus endorsements of the following four PTSD symptoms: reexperiencing, withdrawal/loss of interest, insomnia, and avoidance as indicated on completed PCL-5 measures.

### ***Measures***

All pre- and post-treatment PTSD assessments were self-administered using Qualtrics software; therefore, there were not any raters participating in the study. In addition, all study participants were asked to complete the following three self-administered scales at pre- and post-treatment to measure potential changes in PTSD symptoms at the end of the study.

First, the student researcher e-mailed participants electronic links to the PTSD Checklist for DSM-5 (PCL-5) to help determine eligibility to participate in the study and to measure study outcomes. Participants independently completed the checklist and were considered suitable for inclusion in the pilot study if they obtained a score of 31 or higher on the PTSD Checklist for DSM-5 (PCL-5) or if they endorsed symptomatology suggestive of subsyndromal PTSD.

The PCL-5 is a 20-item self-report measure that assesses the 20 DSM-5 symptoms of PTSD. The PCL-5 has a variety of purposes, including monitoring symptom change during and after treatment, screening individuals for PTSD, and making a provisional PTSD diagnosis (Blevins et al., 2015). The internal consistency of the PCL-5 was satisfactory, with Cronbach's alpha ranging from 0.56 to 0.77 (Sveen et al., 2016) and PCL-5 test scores demonstrated good internal consistency (.96), test-retest reliability ( $r=.84$ ), and convergent and discriminant validity (Bovin et al., 2016). Moreover, according to Bovin et al. (2015) "signal detection analyses using the [Clinician-Administered PTSD Scale for DSM-5] CAPS-5 revealed that PCL-5 scores of 31 to 33 were optimally efficient for diagnosing PTSD, which suggests that the PCL-5 is a psychometrically sound instrument that can be used effectively with veterans ... and used to identify veterans with probable PTSD" (p.1). In the current study, the Cronbach's alpha at pretest was .961 and at post-test was .959, demonstrating very good internal reliability.

The Impact of Event Scale-Revised (IES-R) (Weiss & Marmar, 1997) is a 22-item self-report measure (for DSM-IV) that assesses subjective distress caused by traumatic events; it includes 7 new items from the previous version to assess the third PTSD symptom cluster, hyperarousal (Horowitz, Wilner, & Alvarez, 1979). The scale showed high internal consistency at  $\alpha=0.96$  (Creamer et al., 2003). Items of the measure correspond directly to 14 of the 17 DSM-IV symptoms of PTSD. Respondents are asked to identify a specific stressful life event and then indicate how much they were distressed or bothered during the past seven days by each corresponding "difficulty" listed on the questionnaire. For example, one difficulty listed on the measure is: "I had trouble falling asleep." After reading this phrase, the respondents are then asked whether this symptom relates to the specific stressful life event, which they listed at the top of the page. If there is no relationship between the symptom and the specific stressful life

event, the respondent selects “Not at all.” If, on the other hand, there is a relationship between the two, respondents may choose any one of the following: “A little bit,” “Moderately,” “Quite a bit,” or “Extremely.”

The IES-R in the study was used to assess whether or not improvements were made in categorical symptoms of PTSD found in the DSM-5 (American Psychiatric Association, 2013), including improvements in the veterans’ experience of intrusive symptoms (e.g., repeated memories of the trauma), avoidance symptoms (e.g., avoiding external reminders of the trauma), and hyperarousal symptoms (e.g., feeling jumpy or easily startled). The frequency of each item is rated from 0 (not at all) to 4 (extremely) to capture intensity.

The IES has been found to be sensitive to change, in terms of detecting changes in clinical status over time as well as relevant differences in the response to traumatic events of varying severity by different groups (Weiss & Marmar, 1997). In their study of four different population samples, Weiss and Marmar (1997) reported that the internal consistency of the three subscales was found to be very high (Briere, 1997). The US Department of Veteran Affairs identifies the use of this tool as suitable for conducting research with military veterans on its website. In the current study this measure demonstrated good internal reliability with a Cronbach’s alpha at pretest of .951 and at post-test .936.

The Mindful Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) is a 15-question scale and was used to assess each study participants level of mindfulness or present-moment awareness in daily life. The MAAS is designed to measure a conceptualization of mindfulness as “the presence or absence of attention to, and awareness of, what is occurring in the present moment” (Brown and Ryan 2003, p. 824). When taking the MAAS, respondents are presented with statements about personal experiences like sensing emotion, noticing physical

tension in the body, and being cognitively aware of the process involved in getting from one destination to another. For instance, respondents are presented with statements such as: “I find it difficult to stay focused on what's happening in the present,” “I could be experiencing some emotion and not be conscious of it until sometime later,” and “I break or spill things because of carelessness, not paying attention, or thinking of something else.” After reading the statements, they are asked to select one of six Likert-scale responses (from “1 - Almost Always” to “6 - Almost Never”) that best represents the applicability of the statements to their own lives. The higher the cumulative score on the measure, the higher one’s level of mindfulness.

Although a newer measure of mindfulness awareness, the MAAS has demonstrated promising evidence of its overall value in assessing how attentive a person is to what is taking place in the present (e.g., driving to work, eating dinner) versus individuals who seemingly go about their day on “automatic pilot,” unconsciously caught up in thoughts about the past or the future. For instance, one study (MacKillop and Anderson, 2007) found the MAAS to have high internal reliability for both subsamples of women ( $\alpha = 0.89$ ) and men ( $\alpha = 0.87$ ) as well as strong correlational relationship between the individual items within the measure and the psychological construct of mindfulness. MacKillop & Anderson, (2007) reported the internal consistency of the scale is  $\alpha=.87$  and support the MAAS “as a valid measure of mindfulness” (p. 289). (Carlson & Brown, 2005). In the current study this measure demonstrated good internal reliability with a Cronbach’s alpha at pretest of 0.87 and at post-test 0.89.

It should also be noted that this student researcher systematically asked study participants the following questions to understand how the delivery and completion of home practices could be enhanced as well as to examine their preferences for telehealth versus traditional in-person therapy:

1. What prevented you from completing all of the home practice assignments?
2. What would have made it easier for you to complete the weekly home practice assignments?
3. Do you feel as though telehealth made it easier for you to attend the weekly therapy sessions?
4. Would you prefer telehealth therapy over in-person trauma therapy in the future?

### ***Classic MBCT Versus Brief Trauma-Informed MBCT***

Trauma-Informed Brief Mindfulness-Based Cognitive Therapy (TI-MBCT), developed for use in this pilot study, is a four-week individual-based treatment program for military veterans who exhibit symptoms of Post-Traumatic Stress Disorder (PTSD). The TI-MBCT curriculum is firmly founded upon the theory and concepts of Mindfulness-Based Cognitive Therapy (MBCT), a manualized treatment program for individuals with a history of clinical depression. It is, therefore, critical to begin with a review of the “nuts and bolts” of classic MBCT before explaining the core concepts and philosophy that undergird TI-MBCT.

MBCT is an eight-week group-based intervention that blends mindfulness meditation that has its origin in Buddhist spiritual practices (Hanh, 1976) with more contemporary cognitive behavioral therapy techniques developed by Western scholars of psychology and psychiatry like Albert Ellis and Aaron Beck (Oatley, 2004). The clinical aim of MBCT is to prevent depressive relapse by encouraging participants of the program to make a “radical shift” in their relationship to thoughts, feelings, and body sensations associated with depression (Segal et al., 2013); first, by actively identifying types of negative automatic thoughts (e.g. “If I try something new, I’ll fail”) that routinely lead to depressive mood states and, then, by consciously choosing to refocus their attention away from the activating thought and onto a neutral stimulus like the sensations of

breathing. Additionally, MBCT encourages the application of mindfulness-based skills such as the importance of being fully in the present moment, approaching unpleasant experiences with a sense of curiosity rather than disdain, allowing life's circumstances to be "just as they are," being more able to perceive thoughts as mental events that may or may not correspond to reality, and being more capable to care for oneself with kindness and compassion (Segal et al., 2013).

Like classical MBCT, novel TI-MBCT employs cognitive theory to help explain how inaccurate cognitive appraisals of particular situations may lead to high levels of emotional and physical distress for veterans with traumatic personal histories. A combat veteran who holds tremendous guilt about the death of a comrade while deployed in Iraq may misinterpret current day-to-day situations inaccurately as a result of this trauma. Noticing an unusual facial expression made by a supervisor may, for instance, cause him to misconstrue the "oddity" as a personal judgement against him. Consequently, he may inaccurately believe that he "isn't doing enough to help" and a "failure as an employee." In response to these types of day-to-day trauma-based misinterpretations, TI-MBCT provides participants with individualized learning opportunities to practice new cognitive skills that will enhance their ability to recognize how trauma-related events (e.g., memories, flashbacks, distressing body sensations) may activate negative automatic thoughts in daily life and how particular cognitive distortions that may lead to impaired judgment, negative mood states, and unwanted behaviors such as verbal or physical aggression.

In addition, TI-MBCT encourages the practice of mindfulness meditation to help participants gradually cultivate a "welcoming stance" toward trauma-related thoughts, negative emotions, and distressing body sensations that they might otherwise reject. While it is human to want to avoid physical pain (Asmundson et al., 1999; Wiech, et al., 2013), persistent avoidance

of discomfort may ironically perpetuate it (Navraatilova et al., 2014). The same may hold true for avoidance of psychological pain: the more a person tries to escape from distressing PTSD symptoms, the greater the likelihood that their trauma-related symptoms will increase in intensity (Thompson, et al., 2010; Tull et al., 2004). To help veterans break this cycle of distress, TI-MBCT teaches participants skills to gradually take an “open” and “accepting” stance toward their trauma symptoms, because doing so is associated with several positive benefits such as the alleviation of PTSD symptoms, a greater sense of personal wellbeing, and an overall enhanced quality-of-life (Felleman et al., 2016; Kearney et al., 2016; Polusny et al., 2015; Stephenson et al., 2016). In this way, TI-MBCT builds upon King et al.’s (2013) discovery that veterans who are able to mindfully approach their trauma symptoms with a sense of *curiosity* and *acceptance* are less likely to avoid distressing PTSD symptoms such as highly distressing thoughts and emotions. Figure 1 below briefly summarizes the topics and skills that are introduced to veterans in each of the four TI-MBCT therapy sessions:

#### Four-Session Course of TI-MBCT Therapy for Veterans with Post-Traumatic Stress

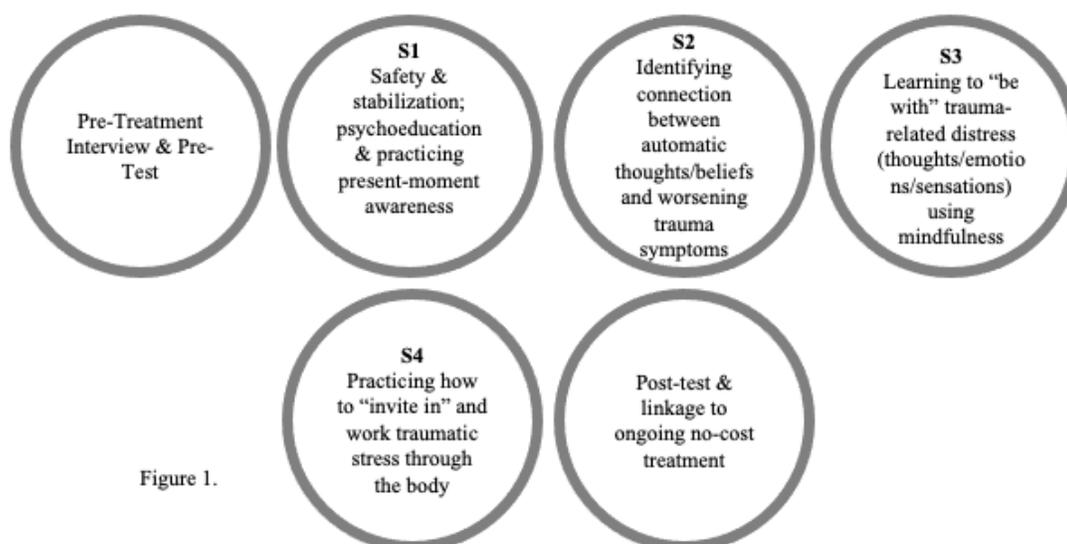


Figure 1.

### *Trauma-Informed Adaptations*

PTSD symptoms are varied. In fact, the DSM-5 arranges PTSD symptoms into four distinct categories to capture the breadth of the traumatized individual's typical experience of emotional distress; these categories include: intrusion symptoms, avoidance of stimuli associated with the traumatic event, negative alterations in cognition and mood, and marked alterations in arousal and reactivity (5th ed.; DSM-5; American Psychiatric Association, 2013). To address the breadth of PTSD symptoms during the TI-MBCT therapy sessions, the student researcher has made the following trauma-informed adaptations to the classical MBCT curriculum:

1. *Including Trauma-Informed Psychoeducation.* The TI-MBCT curriculum includes psychoeducation about PTSD and the effects of trauma on the mind and body. The student researcher/therapist began the program by reviewing the following definition of psychological trauma with each study participant: "Psychological trauma is problems that are experienced in the mind and body as a result of a having experienced a distressing event or events." The student researcher purports that establishing a shared definition of psychological trauma will promote a common treatment language, instill a sense of collaboration, and help veterans establish a basic understanding of the trauma from the outset of treatment.

Second, the student researcher/therapist briefly reviewed the neurobiology of trauma to increase the participant's knowledge of how trauma can influence the brain and body and to encourage self-compassion. To this end, the student researcher/therapist discussed the following: how trauma cues within one's environment can activate the "fight-flight-freeze" response, the role that stress hormones play in emotional dysregulation (via the hypothalamic-pituitary-adrenal axis), and why traumatic responses

in the body are autonomic in many situations. This practical discussion of trauma may have had the added benefit of helping veterans to release any sense of guilt or shame when they interpreted (or were told) that their “angry outbursts” or “out-of-control” behaviors were harmful to others and were due to a personal character defect or incorrigible “brutish” nature. In other words, providing veterans with a trauma-informed lens through which to view post-trauma experiences may help them to thoughtfully consider how at least some of their past behaviors can be explained by the physiological influence of trauma may have had upon the nervous system.

2. *Introducing the Cognitive Model of Trauma.* The student researcher/therapist introduced participants to the Cognitive Model of Trauma (Figure 2.1), which he adapted from Ehlers & Clark’s (2000) cognitive model of post-traumatic stress disorder. The Cognitive Model of Trauma (see Figure 2.1) built upon the trauma-informed psychoeducation participants received by deepening their understanding of how reminders of trauma have the potential to activate distorted thinking and misguided emotions and behaviors. For example, if a veteran communicated feeling “stuck” in the belief that he is completely to blame for a comrade’s passing (e.g., “I could have saved him, if I would only have ...”), the student researcher/therapist offered him the opportunity to: (1) reflect upon what internal or external event (e.g., flashback, a particular smell) may have activated the thought; (2) identify the type of thinking (e.g., All-or-nothing) that may best characterize the belief associated with the event; (3) label his negative emotions (e.g., guilt, anger) and distressing body sensations (e.g., tightness in the chest); (4) identify the behavior connected to this cycle of distress. Through the process of assisting veterans with the task of identifying activating events and distorted beliefs surrounding their trauma (making

the unconscious conscious), the student researcher intended to help them develop the skills to begin to interrupt distorted beliefs leading to negative mood states and behavioral disturbance.

3. *Addressing Treatment Ambivalence in Veterans.* Certain aspects of military culture such as the encouragement veterans may have received during military training to “control one’s emotions” under duress as the means of enhancing one’s survival and “completing the mission,” (Arkin & Dobrofsky, 1978, p. 297) may ignite skepticism about the value of engaging in psychotherapy. In other words, the idea of identifying and openly expressing emotions in therapy may evoke fear of being perceived as “weak” —the antipole to military ethos, which stresses the importance of independence, self-reliance, and effectiveness as a soldier. Subsequently, the veteran may decline the offer to participate in TI-MBCT (a “therapy” program) or suppress felt desires to openly talk about and express emotions while engaged in treatment.

In preparation for this possibility, the student researcher applied Lorber and Garcia’s (2010) recommendations for addressing such culture-based ambivalence by providing participants with psychoeducation about the neurobiological basis of emotion (as noted above), which involved a brief overview of the limbic system and its role in facilitating autonomic responses as a form of protection. The student researcher also attempted to normalize the experience of emotional distress for veterans by defining it as “a natural reaction to a war zone” and to deployment(s), whether or not the veteran engaged in combat (Lorber & Garcia, 2010, p. 299). Lastly, to soften the edges of skepticism about participating in the TI-MBCT program, the student researcher educated veterans about the classic connection between avoidance of trauma reminders and the

exacerbation of trauma symptoms. “Like lowering the fire under a whistling pressure cooker, talking about past trauma usually helps to ease one’s troubling emotions,” the student researcher explained to skeptical “would-be” study participants.

4. *Using Culturally Sensitive Language.* The curriculum includes use of language that is supportive of military culture. For instance, the DSM-5 term, “Post-Traumatic Stress Disorder” (5th ed.; DSM–5; American Psychiatric Association, 2013) is replaced with “post-traumatic stress” or “post-trauma adaptation” when speaking about trauma with veteran participants. Using DSM nomenclature to describe trauma may offend participants who perceive phrases such as “Post-Traumatic Stress Disorder” or “PTSD” as euphemisms for pathology—far-flung from their conceptualization of trauma symptoms as “normal reactions” to the stress of engaging in military service that anyone might develop in similar circumstances.

It is also important to note that the curriculum includes the use of “invitatory language” whenever possible. As trauma expert, Judith Herman says: “No intervention that takes power away from the survivor can possibly foster her recovery, no matter how much it appears to be in her immediate best interest” (Herman, 1998, p.133); therefore, the language that the student researcher applied throughout the study thoughtfully “invited” participants to partake in the in vivo exercises and home practices; keeping in mind that all participants are military-trained and may automatically associate a therapist’s instruction with a “command” by the person “in charge” of the therapy sessions. For example, the invitation to participants to “either close your eyes or keep them half-open” during a voluntary sitting meditation communicates that they—not the

therapist—are ultimately in control of their choices and their bodies throughout the program.

5. *Using Regular Check-Ins and Subjective Units of Distress Scale (SUDs)*. This student researcher ensured that participants were knowledgeable about use of the SUDs scale as a therapeutic tool to communicate when exercises become emotionally overwhelming. To this end, the student researcher invited participants to rate their subjective levels of emotional and physical distress using a 1 – 10 scale where one represents “no distress” and 10 represents the “highest level of distress they have ever experienced.” After these individualized mental models of distress were complete, the student researcher prepared participants to partake in mindfulness meditations by inviting them to practice “sitting with/allowing” levels of distress that rate at a “4 or below,” by becoming curious about the very character of the sensations (temperature, size, whether or not the sensation changes over time or remains constant). For levels of discomfort that are rated between a 5 or 6, the student researcher gently invited participants to shift their posture to ease their discomfort or to refocus their attention upon a pleasant or neutral part of the body. Finally, for levels of distress that rated 7 and above, the student researcher instructed participants to pause their practice altogether and work with him to reduce their emotional distress in the moment. In addition, the student researcher conducted a mood check with participants at the end of each session to ensure that their distress levels were maintained within their window of tolerance. He was available for at least 10 minutes after every session to address any concerns that participants had related to emotional dysregulation.

6. *Shortening In-Vivo Sitting Meditations and Home Practice Exercises.* To support participants who may not be experienced in meditation or familiar with “sitting with” distress, the length of the home practice-based mindfulness meditations was shortened from 45 minutes to 15 - 20 minutes for the first two weeks; however, session three encouraged participants to sit for 30–40-minute meditations to adjust for advances in their ability to practice for longer periods of time.

### **Trauma-Informed MBCT, Session-By-Session**

The following is a detailed summary of the trauma-informed components of the TI-MBCT curriculum:

#### **The Pretreatment Interview**

The student researcher/therapist arranged a 60-minute individual meeting with each prospective participant to review several important aspects of the TI-MBCT program such as how the skills of the program might prove helpful in addressing their trauma-related symptoms, especially those that they described as most disturbing. The student researcher/therapist also discussed the importance that every participant complete weekly home practice assignment to enhance the therapeutic strength and fidelity of the treatment program. In addition, the student researcher/therapist discussed the emotional challenges participants may face as a result of addressing trauma-related issues that they may have avoided in the past. For instance, the student researcher/therapist shared that participants may experience increased emotional dysregulation during mindfulness practices and simultaneously shared how “learning to be with discomfort” is a primary part of trauma recovery in TI-MBCT.

Finally, the student researcher/therapist used the pre-treatment interview to discuss “housekeeping” items such as establishing the limits of confidentiality; identify if the veteran has

experienced any recent or past suicidal or homicidal ideations; determine whether they have access to firearms or other lethal means, identify if they currently have a regular individual therapist. The student researcher/therapist electronically administered the PCL-5 and answered any questions the veteran had about the treatment. If, by the session's end, the veteran qualified to participate in the study and shared their desire to move forward, the student researcher obtained the address/location where they would be signing on for telehealth treatment each week and asked them to sign the study consent form to proceed.

### **Session One: Awareness and Automatic Pilot for Trauma Survivors**

The first session was used to: (1) Review the core concepts of mindfulness and cognitive therapy contained within TI-MBCT; (2) Establish a common definition of psychological trauma. The definition of psychological trauma that was introduced to study participants was the following: "Psychological trauma is problems that are experienced in the mind and body as a result of a having experienced a distressing event or events."

More specifically, the first TI-MBCT session introduced the concept of mindfulness and highlighted how present-moment awareness contrasts with the more "automatic" mode of being in which individuals tend to go about their day with little awareness of the type and quality of thoughts, feelings, and body sensations experienced in the present moment; are more likely to react to situations in their environment in ways that may lead to a personal crisis or worsening mood. On the other hand, cultivating an active awareness of these internal states (thoughts, feelings, sensations) may prevent emotional distress and help participants gradually become more aware of how past trauma may be heavily influencing their emotions and the choices that they make in their daily lives.

Key trauma interventions:

1. *Use of language.* The student researcher/therapist avoided using the terms PTSD or Post-Traumatic Stress Disorder as the term “disorder” may be activating to some veterans who may consider the term as a pathological label, especially to those who post-traumatic stress is attributed to their military service. Similarly, words like “trigger” and “target” were also eliminated from all discussions with participants to prevent unnecessary activation of trauma symptoms.
2. *Body Scan Meditation.* The student researcher/therapist reviewed the therapeutic intentions of the body scan meditation with participants thusly: “To enhance awareness of thoughts, feelings, and body sensations; to view distress in the body as temporary phenomenon common to many people with a history of trauma, rather than negative experiences that require some type of immediate action to resolve—ultimately, to help you make a *radical shift in their relationship* to the thoughts, feelings, and body sensations that contribute to trauma-related stress and negative mood.” The student researcher/therapist, then, invited participants to watch the three-minute YouTube video entitled: “The Fly and the Samurai” (Song, 2006) to visually illustrate how one’s “struggle” with post-trauma related symptoms like distressing body sensations and distorted thoughts, can heighten anxiety and increase the intensity of felt trauma symptoms. The warrior theme of the short film was secondarily included in this first section of the treatment to help the veteran begin to connect military culture with the less familiar treatment culture of the program.

### *Agenda for Session One*

- Establish the orientation of the individual sessions.

- Communicate expectations regarding confidentiality and privacy, including discussion of the limits of confidentiality.
- Review core concepts of mindfulness and definition of psychological trauma.
- Review how TI-MBCT might be helpful in working with trauma symptoms.
- Show video: “The Fly and Samurai.”
- Facilitate the raisin exercise.
- Feedback and discussion of the raisin exercise.
- Body scan practice – About 10 minutes.
- Feedback and discussion of the body scan.
- End the class with a short, 2- to 3-minute “focus on the breath” meditation.

Home practice:

- The student researcher/therapist introduced home practice for the week and discussed how important completing it is to making sound treatment progress (the student researcher/therapist did not collect participants’ Home Practice Record Forms to prevent potential feelings of guilt or shame if they did not complete all of the home practice assignments for the week)
- 17-minute Body Scan 6 of 7 days.
- Mindfulness of a routine activity.

***The Therapeutic Purposes of the Raisin Exercise***

1. To provide participants with the opportunity to differentiate between the experiences of being “mindfully aware” of the present moment and operating on “automatic pilot.”
2. To demonstrate how the practice of consciously paying attention to the details of one’s present moment experience can enhance their ability and willingness to learn to “be with”

sensory stimulation rather than avoid it. This is an important first step for trauma survivors to learn to gradually work through distressing thoughts, emotions, and body sensations related to past trauma.

### ***Introducing the Raisin Exercise***

The aim from the outset was to teach the course as experientially as possible; as with other practices in this program, participants learn first by having a mindful experience and then trying to make sense of the experience for themselves with the guidance of the student researcher/therapist. The Raisin Exercise is an excellent introduction to mindfulness for veterans who have been traumatized because it provides an experiential rather than a verbal “problem-solving” opportunity to begin to understand an object using the five senses. Experiential avoidance is one of the classic signs of PTSD and has been associated with maintenance of trauma symptoms (van Minnen & Hagenaars, 2010); therefore, learning to use the mind to fully focus on a specific present-moment experience (like studying the many characteristics of a raisin) is perhaps the first step in helping participants to gradually approach their trauma symptoms as a “curious observer” of their discomfort rather than an unconscious participant of their pain.

### ***The Therapeutic Purposes of the Body Scan***

1. To provide participants with the opportunity to develop the skill of interoception through exposure to and acceptance of commonly occurring sensations in the body.
2. To provide participants with the opportunity to practice remaining “at ease” with commonly occurring unpleasant sensations in the body.
3. To provide participants with the opportunity to practice remaining “at ease” with unpleasant body sensations that may be linked to past trauma.

### *Introducing the Body Scan*

A major aim of offering the body scan meditation to participants was to provide participants with an opportunity to cultivate a detailed awareness to each part of the body over a significant period of time. For individuals who have experienced trauma, it may also help them develop the ability to minimize emotional reactivity during a crisis by learning how to remain “non-reactive” to uncomfortable body sensations during the in-session meditations. That said, it seemed helpful for the student researcher/therapist to introduce the body scan meditation to the participants thusly: “The body scan in this therapy has two primary purposes: (1) To increase awareness of each part of the body; (2) To notice and practice “being with” any discomfort in the body (e.g., tightness, pain) that may happen to arise during meditation, which may or may not be related to past trauma. The following introduction to the body scan was written by the student researcher/therapist and discovered to be a useful tool to help participants connect the meditation with their personal experience of trauma:

Some people who have experienced trauma in their lives may find it emotionally activating to focus their attention on the body or may become disturbed when experiencing strong sensations in the body. If this is the case for you, you are invited to rest your attention upon neutral objects of attention such as sound that is happening inside or outside of the room. Some people may find it helpful to briefly open their eyes and find an object that is appealing to them and then, close their eyes refocusing on the memory of the object in their mind’s eye. I am available to check-in with you at any time after the completion of the body scan if you

need to consult about anything that may have come-up for you during your meditation.

### ***Extending Practice into Daily Life***

Offering participants, the opportunity to extend their learning of TI-MBCT concepts, skills and techniques is a core component of this therapeutic program. As Segal et al. (2013) explains: “The real business of MBCT is learning by experiencing for ourselves. This is why the home practice is so central and not an optional extra” (p. 128). Experiential learning facilitated through the practice of daily meditation practice (formal and less formal) may increase the likelihood that participants will begin to experience the many benefits associated with mindfulness and mindfulness-based cognitive therapy in connection with their trauma-related stress.

### ***Daily Mindfulness***

The intention of presenting participants with the opportunity to practice mindfulness on a daily basis was to help them begin the process of integrating mindfulness skills into the fabric of their daily lives. The intention was that overtime, the daily application of mindfulness practices to everyday situations would increase the likelihood that participants would be able and willing to apply these therapeutic tools and techniques to moments when they are emotionally and physically activated by post-traumatic distress.

### **Session Two: Living in Their Heads**

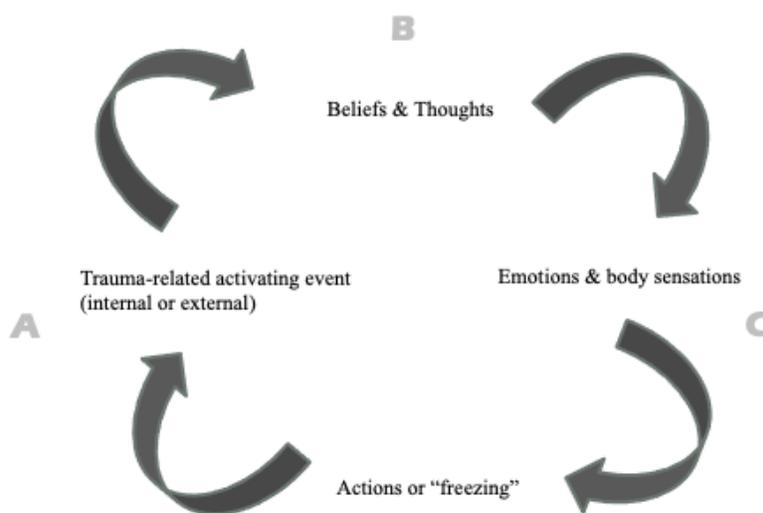
This second session continued the emphasis on noticing the differences between thinking and direct awareness of experience. For example, by becoming attuned to sensations in the body as a way to disengage from distorted thinking and automatic patterns of reacting, which may be associated with past trauma. This concept was highlighted and reinforced through the additional

practice of mindful breathing and when participants used their mental concentration to identify physical sensations in the body, from the tips of their toes to the crown of their heads, during the body scan meditation. What is more, the second session added tools from cognitive therapy to the participants' growing repertoire of TI-MBCT skills by introducing the Cognitive Model of Trauma and the Pleasant Events Calendar. For individuals with histories of trauma, understanding the plausible links between faulty thinking related to their past trauma and strong emotional and physical responses in the body can promote a sense of hope for recovery from post-traumatic stress.

Key trauma interventions:

1. *Cognitive Model of Trauma & Thoughts and Feelings Exercise*. Helping participants understand how past trauma may influence how they interpret situations in everyday life was one of the key components of this week's session. To accomplish this task, the student researcher/therapist introduced participants to the Cognitive Model of Trauma (Figure 2.1), which he adapted from Ehlers & Clark's (2000) cognitive model of post-traumatic stress disorder. Like the cognitive model of post-traumatic stress, the Cognitive Model of Trauma helps to explain how negative cognitive appraisals of activating events may lead trauma survivors to experience distress in the form of hyperarousal and anxiety, whether or not they are in actual danger. Furthermore, the student researcher/therapist borrowed the step-by-step "flow" of Beck's Cognitive or A-B-C Model (Beck, 2011) in cognitive therapy to provide participants with a practical understanding of the sequence of negative beliefs, emotions, and behaviors commonly occur when a trauma survivor is activated by a reminder of past injury. This student researcher/therapist further explained that an activating event could either be an internal (e.g., memory, flashback, sensation) or external (e.g., sight, sound, smell) trauma

reminder, or both. Doing so, seemed to help veterans conceptualize how they may be easily activated by events that commonly occur in their everyday lives. The introduction of this cognitive framework also seemed to help participants to begin to imagine that, through the application of cognitive therapy tools introduced within the TI-MBCT program, they could find a practical “way through” their post-traumatic stress and its sequelae. Figure 2 is an illustration of the Cognitive Model of Trauma:



**Figure 2. The Cognitive Model of Trauma**

Following this detailed discussion of the Cognitive Model of Trauma and other cognitive-behavioral concepts, the student researcher/therapist introduced the “Thoughts and Feelings” exercise (Segal et al., 2013, p. 160-162) to reinforce how emotions and behaviors are often determined by one’s interpretations of particular life events (as described in the original MBCT curriculum) and to provide participants with a practical opportunity to apply the A-B-C (event-belief-emotion) concepts to an actual situation that they might encounter in daily life. Finally, the student researcher/therapist added a brief discussion of how body sensations and “freezing” may

be considered a reasonable consequence of having been activated by a trauma-related event as this is not clearly illustrated in other cognitive models of PTSD. A sample of a completed Cognitive Model of Trauma was then given to participants to enhance learning and to demonstrate cultural responsiveness by the student researcher/therapist (See Appendix A).

### *Agenda for Session Two*

- Body scan practice (five - eight minutes).
- Review of body scan practice.
- Home practice review—including a discussion of difficulty experienced during home practice.
- Review of the Cognitive Model of Trauma.
- Facilitation of the Thoughts and Feelings exercise.
- Introduction of the Pleasant Experiences Calendar.
- Facilitation of the 10-minute sitting meditation.

### Home practice:

- Body scan, four out of seven days.
- 10 minutes of mindfulness of breath meditation, once per day until the next group.
- Pleasant Experiences Calendar (one example daily).
- Mindfulness of a routine activity.

### *The Therapeutic Purposes of Thoughts and Feelings Exercise*

1. To demonstrate how our emotions and reactions are often determined by our interpretations of events in our lives.
2. To demonstrate how our reactions to situations may be influenced by past trauma.

3. To demonstrate how the act of noticing trauma symptoms can help prevent intense traumatic reactions.

### ***Introducing the Thoughts and Feelings Exercise***

The Thoughts and Feelings exercise puts cognitive therapy into practical terms by applying it to a social situation to which most people can relate. To mentally prepare study participants to thoughtfully partake in the Thoughts and Feelings exercise, the student researcher/therapist briefly reviewed the tenets of trauma-informed cognitive therapy by posing the following Socratic questions:

1. “Can you think of a time you were activated by a reminder of past trauma such as a memory or flashback?”
2. “How did these reminders influence your thinking at the time?”
3. “What kind of thoughts do you remember having after being upset by these reminders?”

The student researcher/therapist then used the participant responses to the questions to introduce the idea that our thinking influences how we react to life’s circumstances, especially when one has been activated by a reminder of past trauma.

### ***Connecting the Thoughts and Feelings Exercise with the Cognitive Model of Trauma***

To meaningfully adjust the Thoughts and Feelings exercise to suit the specific mental health needs of traumatized veterans, student researcher/therapist asked participants the following questions after guiding them through the (Thoughts and Feelings) exercise:

1. “What types of thoughts might come to mind if this happened while you were experiencing a trauma symptom?”
2. “How might being able to notice trauma symptoms in the moment help you prevent feeling distressed in the future?”

Next, the student researcher/therapist reinforced the idea that one's reactions to situations may be influenced by past trauma by reviewing the Cognitive Model of Trauma with the study participants. In this way, the student researcher/therapist invited participants to create a mental model in their mind's eye of a bridge with three arches to connect: (1) their experience of being activated by a trauma cue; (2) their cognitive misinterpretation of an innocuous event related to their trauma-related distress; (3) the culmination of a negative mood state as a result of the misinterpretation.

### ***Summary of Intentions for the Pleasant Experiences Calendar***

1. To invite participants to begin to notice more of the positive things that are happening in their lives.
2. To provide participants with the opportunity to begin countering “negativity bias.”
3. To provides participant with the opportunity to become more aware of the unique thoughts, feelings, and sensations when they are engaged with pleasurable experiences.

### ***Introducing the Awareness of Pleasant Experiences***

It was helpful for this student researcher/therapist to briefly review the concept of negativity bias with participants (i.e., the tendency to weigh negative information more heavily than positive Kiken et al., 2011), as a way to lay the foundation for explaining the therapeutic purpose and plan for use of the Pleasant Experiences Calendar. If participants learn (or are reminded of) the psycho-biological tendency to focus more upon the negative aspects of life—including the negative repercussions of their past trauma—they may be more interested in learning about tools and techniques to counteract this ominous “habit of the mind.” The Pleasant Experiences Calendar could be one such instrument. Accordingly, in his own words that follow, the student researcher/therapist noted how...

a key to our survival as a human race was once remembering the ‘signs of danger’ ...generation after generation. According, the brain evolved to help ensure our survival by keenly identifying all of the negative aspects about our moment-to-moment and day-to-day experience. While this was an asset for our ancestors, it now threatens our happiness and sense of wellbeing. One way to counteract this ‘mental habit’ is to practice noticing the positive aspects about our lives and the pleasure that naturally comes from these experiences. The Pleasant Experiences Calendar can strengthen this practice.

The student researcher/therapist then proceeded to handout the Pleasant Experiences Calendar (Segal et al., 2013, pp. 175-176) and explained how to complete it.

### ***Introducing the Sitting with the Breath Meditation***

Learning how to focus, and maintain focus, upon one set of body movements like the sensations of the breathing may create the conditions wherein participants become skillful at gradually refocusing their attention away from triggering trauma-related memories or distorted thoughts and onto a neutral or non-stimulating plane of reference. This may ultimately have a calming effect. In the “sitting with the breath” meditation participants practiced noticing distractions (e.g., passing thoughts or images) and then, practiced “letting them go” by quietly repeating the word “thinking” to themselves and then, refocusing their attention upon the breath, an ever-present anchor for the mind. In this way, participants seemed to get a sense of what it feels like to mentally “decouple” themselves from distressing thoughts, emotions, and body sensations that may normally become entangled with, leading to an emotional crisis.

### **Session Three: Gathering the Scattered Mind**

For trauma survivors, the mind can often consciously or unconsciously be caught-up in thinking about the past vis-à-vis trauma-related thoughts and memories; a mental routine that can have a strong impact upon one's mood and behavior. By learning to actively recognize these “habits of the mind,” participants can build upon the skills introduced in last week's session by making the conscious choice to use the breath or body as a mental anchor for bringing awareness back to the present moment. Having such a stabilizing point-of-reference can be incredibly helpful when experiencing trauma-related disturbances. Consequently, the aim of this session was to provide participants with the opportunity to begin to learn to “stay present” and “be with” physical sensations that may be related to past trauma, rather than avoiding or struggling with them. For instance, during this week's 20-minute sitting meditation participants were invited to engage in mindful stretching when uncomfortable physical sensations arose. The mild discomfort of stretching tight muscles offered an opportunity to “let go” of their struggle with pain and offered them the opportunity to practice with separating physical sensations from thoughts and feelings about them.

Key trauma interventions:

1. *Sitting Meditation: Mindfulness of the Breath and Body.* The sitting meditation is an exercise to help participants cultivate the ability to focus their attention on the present moment; a way of letting go of thoughts of the past and the future. It may, therefore, become a useful tool for traumatized veterans to disengage from rumination about past trauma as well as a technique to notice the different aspects of trauma-related disturbances in the body; to see them for what they really are—localized points of discomfort that will ultimately pass or change with time if they are not engaged.

2. *The Unpleasant Experiences Calendar*. The student researcher/therapist used the Unpleasant Experiences Calendar in this week's session as an opportunity to formally introduce the concept of aversion to participants for the first time. Aversion was defined in the program as having a negative reaction to unpleasant experiences like emotional distress, uncomfortable body sensations, and unwanted memories related to past trauma. The clinical purpose of adding aversion to the participants' growing body of knowledge about mindfulness and trauma was to give them insight into the influence aversion has in intensifying their emotional and physical distress in the body.

### ***Agenda for Session Three***

- 20-minute sitting meditation (awareness of breath and body; how to respond to trauma-related symptoms).
- Practice review of sitting meditation.
- Home practice review, including body scan, mindfulness of breath, and Pleasant Experiences Calendar.
- Three-minute breathing space and review.
- Mindful stretching and review.
- Setting-up Unpleasant Experiences Calendar practice.

#### Home practice:

- 20-minute "Stretch and Breath" meditation on days one, three, and five.
- 10-minute mindful movement on days two, four, and six.
- Unpleasant Experiences Calendar (a different experience each day).
- Three-minute breathing space, three times daily.

### ***The Therapeutic Purposes of the Sitting Meditation***

1. To provide information about the “mind-body connection” and how body sensations can become a gateway for understanding how past trauma operates in one’s life on a day-to-day basis.
2. To provide an experiential framework for learning how to identify and therapeutically approach trauma-related distress in the body.
3. To provide participants with the opportunity to regard thoughts as thoughts, feelings as feelings, and body sensations body sensations, nothing more, nothing less.

### ***Introducing the Sitting Meditation***

The student researcher/therapist prepared participants to engage in the mindfulness practice by briefly acknowledging the possibility that unprocessed trauma may reside in the body and become manifest in any number of distressing body sensations such as physical pain, muscle tension, elevated heart rate, which may be felt during the sitting meditation; as such, the student researcher/therapist engaged participants in a brief didactic review of the Subjective Units of Distress Scale (SUDs) and how to use it as a reference point for evaluating the intensity of trauma-related manifestations during the sitting meditation. When participants noticed any distressing body sensations, the student researcher invited them to practice remaining “open to” and “accepting” of physical manifestations that are rated at a four or below on the SUDs scale; suggesting that they do this by becoming curious (rather than judgmental) about the very nature of the sensations (temperature, size, whether or not the sensation changes over time). The student researcher/therapist also noted that they could also shift their posture to ease discomfort or refocus the attention upon a part of the body that feels pleasant to them or at least neutral (without pain). For physical disturbances that are rated at a five or above, the student

researcher/therapist noted that participants could choose to: (1) Shift their posture to ease discomfort; (2) Engage in mindful stretching; (3) Altogether pause the meditation and, if necessary, check-in with the therapist. The student researcher/therapist also read from the following script that he wrote specifically to introduce this sitting meditation to veteran trauma survivors:

As you sit, you might notice that some sensations may be particularly intense, such as physical aches and pains; perhaps you may notice muscle tension or bracing or even an increased heart rate, which may or may not be associated with past trauma. Perhaps these body sensations draw your attention to these sensations and away from your intended focus on the breath and body. If this happens, you may want to use these times to experiment with intentionally shifting your posture, momentarily refocusing on sound, or remaining still and bringing the focus of awareness into the region where you are feeling the intense body sensations with a sense of curiosity and openness.

If you choose to remain still, you are invited to explore, with gentle and wise attention, the detailed pattern of sensations perhaps by asking yourself the questions: “What, precisely do the sensation feel like?” “Where exactly are they?” “Do they feel constant from one place in the body or move from one part of the body to another?” Not so much thinking about them as just feeling them. You may want to use the breath as a vehicle to carry

awareness into such regions of intensity in the body, “breathing in” to them, just as you did in the body scan. Breathing out from those sensations, perhaps saying to yourself: “softening” and “opening” with the outbreath. You are also invited to acknowledge how the uncomfortable sensations are just *one thing* that is happening in the body and that, as we may notice how these sensations change from moment-to-moment, we can recognize that they are temporary experiences, which will soon pass.

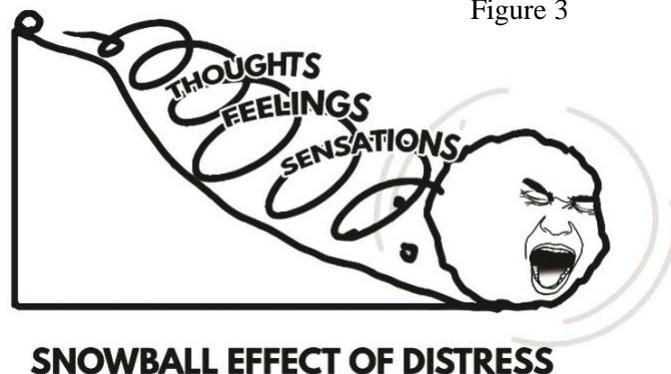
### ***The Therapeutic Purposes of the Three-Minute Breathing Space***

1. To provide participants with the opportunity to cultivate an active awareness of thoughts, feelings, and body sensations on a moment-to-moment basis.
2. To equip participants with tools to prevent an emotional crisis by noticing potentially problematic thoughts, feelings, and body sensations while they are still manageable.
3. To provide participants with a practical way of reestablishing contact with the present moment at any point throughout the day, especially when they may find themselves activated by an external or internal trauma.

### ***Introducing the Three-Minute Breathing Space***

To introduce the Three-Minute Breathing Space meditation, the student researcher/therapist encouraged participants to think of their thoughts, emotions, and body sensations as a metaphorical snowball small enough to hold in one's hands that rests at the top of a snow-covered mountain. He asked them to imagine further that they were having a bad day and that the snowball contained their negative thoughts, emotions and body sensations accumulated from the day. If participants became mindfully aware of the elements of their distress (e.g.,

frustration, tightness in the shoulders) while the snowball was still small, they may easily be able to put this astute awareness into action by doing something to release the distress like taking a walk in the park or calling a friend for support. On the other hand, if by continuing life on automatic pilot, they remained unaware of their particular level of distress, it may grow to become overwhelming like a snowball rolling down the side of a snow-



covered mountain until it speeds to an unstoppable pace and size. The student researcher/therapist called this metaphor: “The Snowball Effect of Distress” (see Figure 3) and used it to help participants understand how regularly practicing the Three-Minute Breathing Space could help them to identify and address negative thoughts, feelings, and body sensations before they become unmanageable.

### ***Introducing Mindful Stretching***

The simple practice of focusing attention onto the physical sensations brought about by stretching the body is another practical tool that participants can use to refocus one’s attention back onto the present moment and provide momentary relief from uncomfortable body sensations, which may be related to past trauma. The student researcher/therapist introduced mindful stretching as yet another tool that participants could use to take better care of themselves.

### ***Introducing the Unpleasant Experiences Calendar***

To introduce the Unpleasant Experiences Calendar (Segal et al., 2013, p. 211) the student researcher/therapist reviewed how one’s natural tendency to “push away from” or avoid trauma-

related symptoms tends to reinforce the belief that trauma-related symptoms are intolerable and should be avoided at all costs. Furthermore, the student researcher/therapist noted that “dodging” trauma-related symptoms may increase the likelihood of making future attempts to “escape from” rather than to “be with” and desensitize the discomfort. It may also keep participants engaged in a vicious cycle of unrelenting mental health problems, including substance use and other addictive behaviors.

#### **Session Four: Recognizing Aversion and Its Antidote: Allowing/Letting Be**

This final session of the program was intended to deepen participants’ understanding of the many ways they may compulsively resist, or attempt to escape from, unpleasant experiences in their lives such as physical or emotional pain, which may only intensify their suffering and delay their recovery from post-traumatic stress. As an antidote to this vicious cycle, the student researcher/therapist suggested to participants that applying practical mindfulness skills like allowing unpleasant experiences to “be as they are” (without struggling against them) may help them gain a wider perspective of their symptoms by learning to relate differently to their difficulties. For example, instead of “pushing away from” trauma-related thoughts, heightened emotions, or uncomfortable body sensations (e.g., flashbacks, hyperarousal, tachycardia), extending an open and accepting attitude toward these disturbances may help to reduce the painfulness of the experience much like releasing the struggle against Chinese finger handcuffs ultimately releases the body from captivity. It is important to note that the story told of a “king who had three sons” (p. 269) and the Inviting Difficulty In and Working it through the Body meditation (p. 277) from the original MBCT manual (Segal et al., 2013) was added to this final session to enhance the curriculum.

Key trauma interventions:

1. *Introducing the Therapeutic Theme: Aversion & Allowing/Letting Be.* Student researcher/therapist opened the session by reading the story told of a “king who had three sons” (Segal et al., 2013, p. 269-270) as a vivid illustration of how it is possible, and even preferable to practice being open and accepting of the many manifestations of trauma, including distressing thoughts, memories, and body sensations. For further emphasis, the student researcher/therapist invited participants to consider how avoiding the manifestations of trauma in their lives may have intensified these symptoms and unintentionally created additional problems in their lives such as substance abuse. Moreover, to encourage critical thinking about the potential benefits of directly addressing one’s trauma symptoms, the student researcher/therapist offered the following questions to participants to thoughtfully consider:

- “How might you be avoiding trauma in your life?”
- “What are the costs of avoiding trauma, if any?”
- “How might avoiding trauma affect those you care about?”
- “How might you benefit from facing your trauma?”

The student researcher/therapist recorded participant responses on a virtual white board for emphasis and to encourage further self-reflection.

2. *Trauma-Informed Home Practice Review.* During the review of home practice, the student researcher paid close attention to shares from participants that suggested that they experienced trouble facing trauma-related manifestations during the sitting meditation that was assigned as home practice. When these problems were noted, the student researcher/therapist used the following transcript (that he wrote) as a guide for responding to such shares:

Sometimes during your meditation, you may experience unpleasant thoughts, emotions, or body sensations that are related to past trauma. This, of course, doesn't mean that you are doing something wrong. Meaningful mediation practice is being able to notice and to gradually become open to both pleasant and unpleasant experiences—including those that may be related to trauma. During these times, you are invited, as best you can, to notice the trauma-related discomfort and then, return your attention to the breath or to sound; shifting your body positioning or pausing the meditation, if you feel the need.

That said, the student researcher/therapist took special care to ensure that his responses to participants descriptions of problems experienced during sitting practice were individualized to meet their particular needs.

3. *Trauma-Informed Review of the Unpleasant Experiences Calendar.* To encourage discussion about unpleasant experiences related to trauma that participants noticed when completing the Unpleasant Experiences Calendar, the student researcher/therapist asked the following question: “Whether or not you noted this in your calendar, do you believe that any of your unpleasant experiences this week were related to trauma?” Asking this question was intended to encourage participants to critically “rethink” whether “a pain in the body was just a pain” or whether, for example, the unpleasant body sensation was an intelligent body-based message to them about past trauma.
4. *Automatic Negative Thoughts and Symptoms of Trauma.* During the second part of the session, the student researcher engaged participants in a focused discussion of: (1) The

particular types of thoughts that may be shared by people with histories of psychological trauma; (2) How these thoughts may fuel trauma symptoms. To illustrate these concepts and provide specific examples, the student researcher/therapist screen-shared a copy of the Automatic Thoughts Questionnaire at the beginning of this discussion and asked if the participant recognized any of the items on the list. This offered the opportunity to open a discussion about how automatic thoughts may be linked to distressing feelings (e.g., depression, anxiety), unpleasant body sensations (e.g., sweating, headaches) and unwanted behaviors (e.g., substance use, verbal aggression).

5. *Diagnostic Criteria for Post-Traumatic Stress Disorder.* While the Segal et al. (2013) manual suggests reviewing the diagnostic criteria for major depressive episode, the diagnostic criteria for PTSD was eliminated from this adapted curriculum because soliciting this “disorder-based” language would likely be emotionally activating for veterans for the reasons noted above.

6. *Sitting Meditation: Inviting Difficulty in and Working with it Through the Body.*

The student researcher/therapist generally followed the meditation instructions found in the MBCT manual (Segal et al., 2013, p. 277) to facilitate the “Inviting Difficulty in and Working with it Through the Body” meditation, which invites participants to consciously “sit/be with” distressing body sensations that are connected to particular thoughts and emotions, however, to more directly meet the needs of traumatized veterans, he encouraged participants to (once more) consider using the SUDs scale as a practical method for evaluating the intensity of trauma-related manifestations during the meditation . Moreover, he directly invited participants to use this meditation to practice working with distressing body sensations that may be related to past trauma. In other

words, in this meditation participants were invited to be “open” to noticing trauma-related thoughts and emotions as they occurred during the meditation; to evaluate the intensity of these symptoms using the SUDs scale; to become aware of any physical sensations in the body that come along with a particular thought or emotion that are rated at a five or below on the SUDs scale; and then to work these thoughts and emotions through the body using the breath and comments that were spoken by the student researcher to help cultivate acceptance of difficulty. Finally, the student researcher/therapist noted to participants that if at any time, the sensations became too disturbing for the participant, they could choose to: (1) Refocus their attention onto sound or an object in the room; (2) Shift their body positioning; (3) Pause the meditation altogether and consult with the student researcher/therapist.

7. *Building Upon Military Tradition.* The student researcher/therapist ended the program by engaging participants in a closing ritual that builds upon military tradition.

#### ***Agenda for Session Four***

- 10-minute sitting meditation--awareness of breath, body, sounds, then thoughts and choice less awareness.
- Practice review of sitting meditation.
- Home practice review, including sitting meditation, Unpleasant Experiences Calendar, and three-minute breathing space.
- Read the “King and His Three Sons” as introduction to the focus on aversion versus allowing/letting be.
- Defining the “territory” of trauma: Review the Automatic Thoughts Questionnaire adapted for trauma survivors.

- Three-minute breathing space and review.
- Inviting Difficulty In and Working with It Through the Body.
- Discuss how best to keep up momentum developed over the past three weeks.
- Discuss plans and link them to positive reasons for maintaining the practice.
- End the class with tradition and a concluding brief mediation.

### ***The Therapeutic Purposes of Mindfulness of Sounds & Thoughts Meditation***

1. To practice noticing the habit of the mind to “attach to” or “push-away from” experiences that naturally occur during the course of a sitting meditation.
2. To provide participants with the opportunity to practice “letting go” of the desire to make things different; in particular, things in life that we don’t like such as uncomfortable body sensations.
3. To invite participants to develop non-judgmental mental “openness” to whatever happens to arise in the mind and/or body, especially to those experiences commonly judged to be unpleasant in nature.

### ***Therapeutic Purposes of the Negative Automatic Thoughts Questionnaire***

1. To notice the presence of automatic thoughts related to past trauma.
2. To recognize the possible link between negative automatic thoughts and the activation of trauma symptoms.
3. To consider how applying the skills of mindfulness can prevent entanglement with negative automatic thoughts.

### ***Introducing Negative Automatic Thoughts Questionnaire***

Do trauma symptoms arise out-of-nowhere, or do they have identifiable precursors? To introduce the part negative automatic thoughts play in the activation of trauma symptoms,

student researcher/therapist briefly explained the routes through which trauma symptoms may stem: (1) Unconsciously through the limbic part of the brain; (2) Consciously through the prefrontal cortex when negative automatic thoughts are registered in that particular area of the brain. For instance, a thought like: “I am in constant danger” (especially for veterans) has the potential to spark a flurry of negative emotions like fear and anxiety as well as sudden hypervigilance and release of stress hormones like cortisol and adrenaline. Subsequently, the student researcher/therapist suggested that participants try skillfully responding to such thoughts by actively labeling them using statements such as: “Here is the mind’s reaction to trauma” and “Even *this* is just a thought, nothing more, nothing less.” Knowing about the existence of negative automatic thoughts, how they may intersect with trauma, and how to skillfully work with them was intended to provide participants with a much-needed sense of relief that the source of their emotional struggles is identifiable and altogether treatable.

### ***Automatic Thoughts Questionnaire***

The student researcher/therapist adapted the following questionnaire from Segal et al.’s (2013) MBCT manual (See Appendix B for Handout Template):

### ***Automatic Thoughts Questionnaire for Those Who Have Experienced Trauma***

Listed below are a variety of thoughts that may pop into people’s heads. Please read the list and notice what happens as you do.

Do you recognize any of them? Which thoughts feel most familiar to you?

- When you feel anxious, how often do thoughts like these occur?
- When you experience memories of past trauma, how often do thoughts like these occur?
- When you don't feel safe in your body because of distressing body sensations, how often do thoughts like these occur?

- How much do you believe these thoughts when they are happening?

And, what about when you are feeling well? How often do these thoughts occur then? And how much do you believe them?

I don't think I can go on.	I feel fear so I must be in danger.
I'm so weak.	I must be a failure that I can get over this.
I can't stand this anymore.	I am guilty because people got hurt.
Something must be wrong with me.	I can't trust anyone.
I think I'm going to die.	Something bad is going to happen to me.
My future is bleak.	I'm a bad person because I let something bad happen.
The world is unsafe.	I should have rescued other people.
I'm so weak period	It's all my fault.
I can't stand this anymore.	We are in grave danger all of the time.
Something must be wrong with me.	I can never feel close to anyone again.
How did I let this happen?	I can't trust my own judgment.
People in authority cannot be trusted.	I am in constant danger.

When we feel activated by past trauma, thoughts like these often feel like “the truth” about us and about the world. But, in fact, they are symptoms of post-traumatic stress—just as a high temperature is a symptom of the flu. Becoming aware, through mindfulness, that they are just “the voice of trauma speaking” allows us to step back from them and begin to choose whether to take them seriously or not. Perhaps we can learn simply to notice them, acknowledge their presence and then, let them go.

***Therapeutic Purposes of the Inviting Difficulty in Meditation***

1. To identify the particular skills of mindfulness that can be used to shift one's mindset toward difficulty, from one that is averse to one that is accepting.
2. To provide the opportunity for participants to practice embodying an open, accepting and kind attitude toward difficult emotions and body sensations that may be related to past trauma.
3. To provide participants with the safe space to informally challenge negative automatic thoughts related to painful emotions and body sensations that seem to communicate messages such as: "I can't handle this!" "If I feel these emotions, I'm going to die!"

### ***Introducing the Inviting Difficulty in Meditation***

In this exercise, participants were invited to practice intentionally allowing things to be exactly as they were in the moment—even if they discovered the moment to be unpleasant or slightly to moderately distressing. Purposefully practicing moving into unpleasant experiences was intended to help participants to counter habitual avoidance reactions. For participants with history of trauma, this can be challenging at first, but represents a major turning point in breaking-out of the cycle of avoidance, of "letting go" of the struggle with one's thoughts, emotions, and body sensations related to past trauma.

### ***Suggestions for Ending Treatment***

The student researcher/therapist took this last individual session as an opportunity to review the many mindfulness-based skills participants have learned over the course of the program to help them more successfully manage their trauma symptoms. For instance, this student researcher/therapist reiterated the skill of identifying negative automatic thoughts as a tool to interrupt the cycle of thought-emotion-behavior dysregulation. The student researcher/therapist also reminded participants how noticing aversion in the mind and then,

refocusing on the breath and body may be helpful in transforming how one relates to psychological and physical pain, which often characterizes episodes of post-traumatic stress.

What is more, the student researcher/therapist used this discussion as a springboard for opening a concluding discussion about the practical ways in which participants can continue practicing in the future. The student researcher/therapist briefly mentioned an article that suggests that regular completion of mindfulness skills “outside of class” is correlated with “the capacity for mindfulness in everyday life” (Carmody & Baer 2008, p.24), and invited participants to consider the following questions:

- “What skills have I found most useful in this program?”
- “How has practicing these skills helped me so far?”
- “How might these tools benefit me in the future?”
- “How might these tools benefit the people in my life, if I were to practice them in the future?”

The student researcher/therapist recorded participant responses on a virtual white board for emphasis and to encourage further self-reflection.

### ***Closing with Tradition***

There are many military customs and traditions that are instituted to establish patterns of behavior that enhance the military way of life (Schading & Schading, 2006); as such, you may wish to prepare a “goodbye” ritual to symbolically mark to the end of therapeutic relationship and to the veteran’s involvement with the TI-MBCT treatment program. If you would like you may mail participants an inexpensive memento like small, polished stones (“warrior stones”) to remember their experience within the TI-MBCT program. Accordingly, the student researcher/therapist invited veterans to participate in a closing tradition to symbolize their

accomplishment of completing the TI-MBCT treatment program. The student researcher/therapist displayed a “mindful warrior stone” on camera and explained that the purpose of the stone was to “bestow honor” (like a medal of honor) upon their demonstrated commitment and courage to actively participate in their own healing during the past several weeks of treatment. Next, the student researcher/therapist reviewed the individual strengths and therapeutic progress made by each veteran and created therapeutic space and time for them to make any closing comments they wanted to share. In this way, the closing tradition acted as a reminder of the TI-MBCT experience and the tools readily available to them should they choose to continue practice the tools of the program. On a much deeper level, closing with tradition may help to validate a renewed psychological connection to other veterans who, like them, are working through symptoms of post-traumatic stress.

### **Therapist Qualifications**

The student researcher delivered the trauma-informed mindfulness-based cognitive therapy interventions in this study. The student researcher is a licensed clinical social worker, board-certified by the American Board of Clinical Social Work Examiners in the practice of clinical social work. He completed his Master of Social Work degree at the University of Denver in 1997 and has 24 years of post-graduate mental health experience as well as several years of specialized training in mindfulness and Mindfulness-Based Cognitive Therapy (MBCT) from UCLA’s Mindful Awareness Research Center and UC San Diego’s Center for Mindfulness. Moreover, he completed a 30-hour training in MBCT led by Zindel V. Segal, Ph.D., one of the original creators of MBCT, during a week-long residential training for mental health professionals in 2014.

The student researcher is an adjunct clinical professor of trauma studies at the University of Denver, Graduate School of Social Work and is a doctoral candidate at the University of Pennsylvania, School of Social Policy and Practice where he is conducting research on innovative mindfulness-based approaches to treating psychological trauma. He is a member of the International Society for Traumatic Stress Studies and specializes in treating adults with symptoms of PTSD/trauma and anxiety online and in-person in his private practice office in Los Angeles, CA.

In addition, the student researcher's professional experience includes providing skills-based trainings to organizations about the intersection between mindfulness meditation and the prevention of vicarious trauma and empathic distress in today's challenging workspaces complicated by the COVID-19 pandemic.

### **Fidelity**

It is important to note that the fidelity of each of the brief mindfulness sessions was supported by the use of "checklists" to ensure that all components of the manualized group therapy curriculum are addressed within each group session. The student researcher/therapist completed "Yes/No" checklists (See Appendices) at the end of every individual session to ensure treatment fidelity, and each checklist included a complete list of the mindfulness exercises to be included in each therapy session as noted in the original MBCT manual (Segal et al., 2013) written by the authors of the classic MBCT program. A box marked "Yes" was checked by the student researcher/therapist when a mindfulness activity was completed during the individual session.

## **Analyses**

To describe the sample as a whole, descriptive statistics were conducted for all variables, including means, standard deviations, and ranges for all continuous demographic variables and pre-test levels of the dependent variables (PTSD Checklist for DSM-5, and each of the four subscales, Impact of Event Scale-Revised and each of the four subscales, and the Mindful Attention Awareness Scale (MAAS)). Frequencies were conducted for all categorical demographic variables.

Hypothesis testing was conducted using repeated-measures t-tests to test differences between pre and post-test scores of 1) PTSD Checklist for DSM-5, and each of the four subscales (Intrusion, Avoidance, Neg C&M, Arousal), 2) Impact of Event Scale-Revised and each of the four subscales (Intrusion, Avoidance, Arousal), and 3) the Mindful Attention Awareness Scale (MAAS). Because multiple tests were run for each measure of the DV, a Bonferroni Correction was utilized to protect against Type 1 errors when determining significance. Five tests were run using the PTSD Checklist, therefore the critical cutoff  $p$ -value for each test using the PTSD Checklist was adjusted to  $p < 0.01$  ( $0.05/5 = 0.01$ ). Four tests were run using the Impact of Event Scale, therefore the critical cutoff  $p$ -value for each test using the Impact Event Scale was adjusted to  $p < 0.03$  ( $0.05/4 = 0.03$ ).

## **Confidentiality**

The student researcher reviewed the definition of confidentiality as it related to the research study and emphasized the importance of maintaining confidentiality as a study participant. Moreover, the student researcher reminded study participants about the importance of maintaining confidentiality of information shared during sessions, especially if they happened to know other veterans participating in the study. Any research-related documents such treatment

notes were kept in a locked metal filing cabinet in the student researcher's private counseling office; only the student researcher had access to this filing cabinet. Finally, all electronic records related to this study were "de-identified" and securely kept on a laptop computer that required a complex password to unlock its contents.

### **Protection of Human Subjects**

The research team made all necessary efforts to protect the health and psychological wellbeing of study participants. For example, after the study participants were identified, the student researcher conducted online pretreatment interviews with all potential study participants to obtain consent and to answer any questions about any aspect of the study that participants had. In obtaining consent forms to participate in the study, the student researcher carefully reviewed the following items with each study participant: the purpose of the research, the duration of the study, and how their pre- and post-test scores could be used in the research study. Study participants were then informed about any potential risks of participating in the mindfulness-based interventions such as a possible increase in emotional distress as a result of attending to (rather than avoiding) traumatic material such as memories of disturbing events. Furthermore, the student researcher informed potential study participants that he would address any and all questions or concerns that may arise throughout the entire treatment process. In addition, all participants were given a 24-hour-a-day Veterans Crisis Line number to use if they experienced discomfort when the therapist was not available. The student researcher also asked study participants to verify the physical location from which they signed on to attend each therapy session.

Finally, the student researcher communicated that there may be no benefit to participating in the study and described their right to refuse or withdraw from the proposed study. The student

researcher also provided a list of referrals to VA and non-VA clinics that provide evidence-based PTSD treatments at no-cost to study participants following their completion of the TI-MBCT study program.

## Chapter Three

### Results

#### *Quantitative*

**Sample Description.** A total of 11 individuals participated in the study, all of which were Veterans. Ten participants identified their gender as Cisgender Male (91%), with the remaining respondent identifying as a Cisgender Female. One participant identified their race as Asian/Pacific Islander (9%), two participants identified as Black/African American (18%), three identified as Hispanic/Latino (27%), four identified as White (36%), and the remaining participant reported that the race they identify with was not listed (9%). Participants ranged in age from 23 to 68, with an average age of 56 ( $sd=13.71$ ). All participants were Veterans, with two having served in the Air Force (18%), three in the Army (27%), two in the Marines (18%), three in the Navy (27%), and one respondent reported having served in both the Marines and the Navy.

#### **Testing of Hypotheses**

##### *PTSD Symptoms*

Statistical analysis of pre- and post-test measures did not support the student researcher's hypothesis that veterans would experience a statistically significant decrease in post-traumatic symptoms as a result of receiving the TI-MBCT intervention. As shown in Table 1, average scores of PTS were lower at post-test than pre-test on all measures, but not statistically significant. Post-test scores of the PTS subscale *Intrusion* were significantly lower than pre-test scores at  $p<0.05$ , although it was not significant at the adjusted  $p<0.01$  level identified using the Bonferroni Correction [ $t(df)=score, p\text{-value}$ ]. None of the other PTS measures were significantly different at post-test: PCL-5 Total Score [ $t(9)=-2.10, p=0.07$ ], PCL-5 Avoidance [ $t(9)=-2.13,$

$p=0.06$ ], PCL-5 Neg C&M [ $t(9)=-1.85$ ,  $p=0.10$ ], PCL-5 Arousal [ $t(9)=-1.93$ ,  $p=0.09$ ], IES-R Total score [ $t(9)=-1.24$ ,  $p=0.25$ ], IES-R Intrusion [ $t(9)=-1.86$ ,  $p=0.10$ ], IES-R Avoidance [ $t(9)=-0.40$ ,  $p=0.70$ ], IES-R Arousal [ $t(9)=-1.72$ ,  $p=0.12$ ]. Mindfulness Awareness Attention scores increased from pre-test to post-test, although the difference was not significant [ $t(9)=1.91$ ,  $p=0.09$ ].

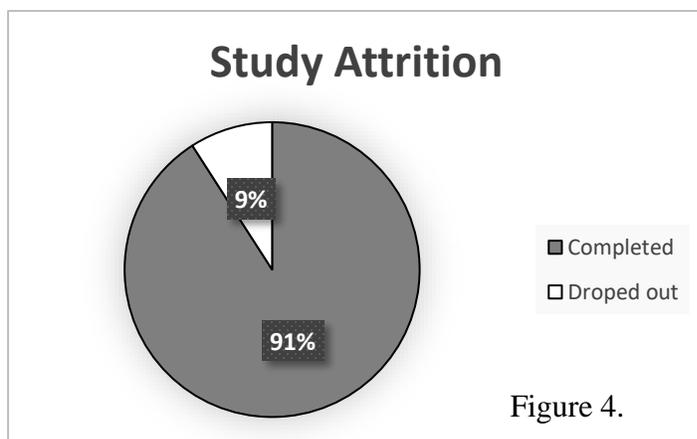
**Table 1**

**Paired T-Tests of Pre- and Post-Test Changes in PTS and Mindfulness**

	Mean	SD	SE of Mean	Mean difference	Paired <i>t</i> test		
					<i>t</i> -value	<i>df</i>	<i>p</i> -value
PrePCL-5	45.40	17.86	5.65	-12.9	-2.10	9	0.07
PostPCL-5	32.50	16.33	5.16				
PrePCL - Intrusion	11.50	5.04	1.59	-3.1	-2.21	9	0.05
PostPCL - Intrusion	8.40	3.95	1.25				
PrePCL - Avoidance	5.30	1.95	0.62	-1.5	-2.13	9	0.06
PostPCL - Avoidance	3.80	1.55	0.49				
PrePCL - Neg C&M	15.90	6.32	2.00	-4.8	-1.85	9	0.10
PostPCL - Neg C&M	11.10	6.17	1.95				
PrePCL - Arousal	12.90	5.78	1.83	-3.7	-1.93	9	0.09
PostPCL - Arousal	9.20	5.35	1.69				
PreIES-R	40.60	18.48	5.84	-6.9	-1.24	9	0.25
PostIES-R	33.70	15.92	5.04				
PreIES - Intrusion	14.70	7.10	2.25	-4.2	-1.86	9	0.10
PostIES - Intrusion	10.50	5.52	1.75				
PreIES - Avoidance	13.10	4.53	1.43	-0.6	-0.40	9	0.70
PostIES - Avoidance	12.50	5.52	1.75				
PreIES - Arousal	14.30	7.10	2.25	-3.8	-1.72	9	0.12
PostIES - Arousal	10.50	6.50	2.06				
PreMAA	46.40	11.68	3.69	6.8	1.91	9	0.09
PostMAA	53.20	12.06	3.82				

**Attrition Rates**

By contrast, analysis of attrition rates in this study did support the student researcher's second hypothesis that 10% or less of participants would dropout before completing the



treatment program. As shown in Figure 4, of the 11 participants who enrolled in the study, only one (9%) dropped out after attending the pretreatment interview and his third therapy session; the remaining 10 participants (91%)

attended the pretreatment interview and all four treatment sessions.

### ***Fidelity***

The student researcher/therapist accurately followed the classic MBCT curriculum (apart from the trauma adaptations) 98% of the time when delivering the brief trauma informed mindfulness treatments to study participants; however, there were two instances (2%) the original text was not pursued to ensure the safety and psychological wellbeing of veterans. Two veterans reported experiencing high levels of trauma-related distress arising from events that unexpectedly occurred in their personal lives during the week before their fourth therapy session. As both veterans rate their distress at a level “between six and seven” on the SUDs scale, the student researcher/therapist made a clinical decision not to engage them in a final mindfulness meditation, which would have asked them to deliberately “invite in” (additional) distress into the body.

### **Qualitative**

#### ***Feasibility of Telehealth for Trauma Treatment***

Another finding from the study was that an overwhelming majority of participants identified a strong personal preference for telehealth over traditional in-person PTSD therapy, affirmatively answering the research question that telehealth is a feasible option for trauma

treatment. Ninety percent (90%) of the study participants stated that, given the choice, they would want to receive trauma treatment using video conferencing. One (10%) indicated that he would prefer that all of his future trauma therapy sessions be facilitated over videoconferencing, eight (80%) stated that they would like to begin their treatment with an in-person session followed by stand-alone telehealth-based therapy sessions, and one (10%) indicated that he would prefer that all of his trauma therapy sessions be conducted in-person. The following are statements made by study participants about their personal preference for telehealth: “The convenience of telehealth helped tremendously!” “It would have been torture getting to your office ... telehealth made therapy more comfortable for me to finally start dealing with my emotions ...” “Telehealth definitely made it a lot easier than driving to your office ... with all of the traffic!”

### ***Call for Technologically Enhanced Trauma Treatment***

The majority of veterans in this study reported that they did not complete significant amount of their assigned home practice throughout the week largely due to “forgetting,” interference from mental health symptoms, and not knowing how to best integrate this added responsibility into their day-to-day routines. To address these issues, 90% of veterans in the study identified that having access to a smartphone app that could be programmed to remind them to complete their home practices would have significantly increased their homework compliance and helped them better adapt to their particular mood states throughout the week. For instance, one veteran reported that he was often forgetful of completing his home practice assignments due to his military-related disabilities: “I forgot to do a lot of the home practices probably because of my traumatic brain injury and also because it's hard for me to concentrate when I'm feeling depressed, which is a lot of the time ... having some type of alarm on my

phone would have been helpful to help me to remember to do the exercises.” Another reported: “Having a calendar reminder on my phone would have helped me to remember to practice when I am overworking and distracting myself from feeling any emotional pain.” Finally, two other veterans suggested that the phone app reminders to meditate could compliment their established behavioral health routines such as taking their daily prescribed medications. “I could have done these [meditations] when I took my medications,” one said.

## Chapter Four

### Discussion and Conclusion

#### *Reducing Veteran Attrition*

This pilot study represents, to the best of the student researcher's knowledge, the first investigation of the feasibility of a brief trauma informed MBCT treatment for veterans with post-traumatic stress. Moreover, it is one of few pilot studies to examine the feasibility of trauma treatment with veterans using a tele-health platform. While statistical analysis of pre- and post-test measures did not support the hypothesis that the intervention was useful in significantly reducing PTSD symptoms, the findings showed that the brief trauma-informed mindfulness therapy was not harmful to veterans, in that all of the scores on the three measures of post-traumatic stress showed improvement in the predicted direction. What is more, the use of a telehealth approach to engage veterans in a brief trauma treatment showed a compelling decrease in attrition rates, especially when compared to the dropout rates identified in studies using traditional modes of PTSD therapy with other veterans. Whereas 91% of participants in this study successfully completed all five required online PTSD therapy sessions (one pretreatment interview and four treatment sessions) to complete the program, of the participants who were assigned to in-person treatment at a VA health care PTSD clinic, 13.4% did not attend their first therapy session and 22.4% dropped-out after attending the fourth session (Niles et al., 2018)—leaving only 64.2% of veterans in the study who completed four or more sessions of traditional trauma treatment. While no firm conclusions can be drawn by making these comparisons alone due to the stark differences in sample sizes (11 participants versus 67), the juxtaposition points to a larger body of knowledge, which (like the pilot study) suggests that PTSD treatment with veterans using telehealth may remarkably reduce attrition. For instance,

Moreland et al. (2011) used telehealth to deliver PTSD treatment to veterans in their study and recorded a small dropout rate of only 15%. Similarly, Yuen et al.'s (2015) study saw attrition rates settle at 29.7% when veterans received trauma treatment via telehealth. By contrast, 38% - 68% of veterans who received traditional in-person PTSD therapy, in several other studies, dropped-out of treatment well before its completion (Garcia, et al., 2011; Gros, et al., 2013; Gros, et al., 2011).

### ***Strengthening Veterans' Commitment with Telehealth***

The student researcher makes the argument that it is the fundamental elements of *convenience, practicality, and choice* that telehealth affords, which may help secure veterans' participation overtime. For instance, the adaptability of telehealth in the study seemed well aligned with the expressed needs of study participants. All of the veterans in the pilot study signed into their therapy sessions from the convenience of their living rooms or home offices; in fact—out of necessity—one veteran signed into his third therapy session from his mobile smartphone at 8 o'clock in the morning while sitting in his car in a parking lot near work. "I work three jobs to make ends meet, so this is the only time and place that I am able to make therapy and it is helping me learn about my feelings," he explained. Indeed, the application of video teleconferencing to deliver trauma treatment to veterans equipped the student researcher/therapist with the technical flexibility to "join" with clients "wherever they were" by maintaining a critical and fluid connection to them despite unexpected changes in their daily schedules. It also provided clinical opportunities for the student researcher/therapist to demonstrate compassion for the challenges veterans faced when trying to balance work- and family-related responsibilities with uninterrupted access to trauma treatment; such expressiveness and sensitivity from the therapist appeared to strengthen therapeutic rapport and increase the veterans' motivation to

remain engaged in treatment despite these hurdles. This qualitative information adds to the growing body of knowledge that telehealth is a feasible treatment modality for veterans seeking help for their trauma symptoms.

In addition, telehealth equipped the student researcher/therapist with opportunities to fuse the trauma-informed principle of empowerment (Herman, 1998) to his work with veterans in the study with the intention of helping them counteract the autonomic “fight-flight-freeze” response, which often operates just beneath the level of consciousness in traumatized individuals (Hall et al., 2012; Thompson et al., 2014). Choice is a form of empowerment; as such, offering veterans fundamental choices about *when, where, and how* to receive trauma treatment in this study seemed to equip them with opportunities to practice self-assertion skills by asserting their needs “in-the-moment” rather than “freezing” or “fleeing.” For example, if a veteran reacted to past trauma with some form of freeze response, it is possible that they are unusually sensitive to situations that involve authority (especially if their trauma was military-related) and may, therefore, respond to the thought of asking the therapist (a type of authority figure) to meet outside of the traditional boundaries of therapy by momentarily regressing to a state of speechlessness and inaction. Accordingly, being able to exert real influence over the course of their treatment by choosing alternative therapy delivery options (like the veteran who asked to sign into his therapy session using his smartphone while sitting in his car before work) seemed to create the conditions wherein veterans may have been better equipped to correct cognitive distortions around relationships and authority.

### ***Mindfulness as Stabilizing Adjunctive Therapy***

Data analysis of the brief mindfulness intervention used in the study did not intensify veterans' PTSD symptoms, in fact, it showed steady *decreases* in PTSD symptoms over a four-

week period of trauma intervention; this is noteworthy because research shows that the “gold standard” PTSD treatments widely administered to veterans, such as CPT and PE tend to agitate trauma symptoms (Eftekhari et al., 2020; Steenkamp, 2015) and is one of the reasons veterans report as a motivating factor for dropping out of these exposure-focused therapies (Hundt et al., 2020). By contrast, the stabilizing effect that the brief mindfulness intervention seems to have had for traumatized veterans in the study implies that it may be useful as an adjunctive therapy to traditional trauma treatments because it may help to *reverse* the negative affect, which may be activated during traditional PE and CPT therapy sessions. In other words, adding a brief mindfulness session to the weekly administration of traditional PTSD treatments may help veterans *remain* in traditional PTSD therapies longer because they are better able to cope with the distress of repeatedly reviewing recollections of their past trauma. Ideally, veterans would receive the complimentary mindfulness sessions following their receipt of CPT or PE to promote emotion regulation and the development of mindfulness-based coping skills.

### ***New Approaches to Increase Home Practice Compliance***

Upon reflection, it is this student researcher’s belief that the general lack of home practice adherence by participants is strongly linked to the unremarkable statistical outcomes of this study. With such a brief four-session treatment intervention it seems imperative that participants dutifully complete all practice exercises between therapy sessions to make the treatment dosages vigorous enough to promote significant symptom change. To increase home practice completion in the future, the student researcher suggests trauma therapists might consider making supportive contact with veterans between treatment sessions for the purpose of coaching them through the assigned home practices for the week. As noted earlier, the majority of veterans in this study reported that they did not complete significant amount of their assigned

home practice throughout the week largely due to “forgetting,” negative mood states, and having difficulty integrating this added responsibility into their day-to-day routines. Studies have shown that homework supports improvement in therapy and homework compliance is a significant predictor of outcome (Kazantzis et al., 2000; Mausbach et al., 2010); as such, including a strategic intervention such as a coaching call between trauma therapy sessions like those used in Dialectical Behavior Therapy (Ben-Porath, 2015; Limbrunner et al., 2011) may be a practical way to promote home practice compliance in veterans engaged in trauma treatment. A coaching call may help to: (1) answer questions veterans may have about “how to” complete a particular meditation exercise; (2) engage veterans in critical thinking about how to incorporate the home practices into their daily routines; (3) provide psychoeducation about the relationship between homework completion and therapeutic outcomes; (4) instill hope when veterans are feeling hopeless and depressed. Building upon the qualitative findings of the study, trauma therapists may also consider how integrating innovative approaches to trauma therapy such as smart phone apps like the PE Coach 2, PTSD Coach, and COVID Coach (available from Apple and Android app stores) can enhance home practice completion and overall treatment motivation. Reger et al., (2013) suggest that use of the PE Coach, a smartphone application (app) that allows treatment homework to be directly accessed, completed, and tracked by the client, may increase homework compliance and overall fidelity of the trauma treatment. Like the PE Coach app, this student researcher suggests that future use of the MBCT-based apps like the MBCT Oxford app (which has been inoperable due to technical issues) would reinforce the psychoeducation topics covered by the therapist in session, provide easy access to the week-by-week home practice assignments, audio-based guided meditation practices, a system for recording completion of weekly home practices, and the option to send questions to the trauma therapist about the home practice.

Similarly, use of electronic text and email reminders found in HIPAA-compliant scheduling software for therapists can be routinely built into trauma treatment for veterans to gently remind them of their home practice commitments.

Equally noteworthy is the possibility of employing veterans who are trained as peer support specialists to assist with making the weekly coaching calls to veterans engaged in trauma-informed mindfulness treatment as it may add a unique element of social support that could enhance the motivation of veterans to complete all home practice assignments. In fact, MacEachron and Gustavsson (2012) found that increased perceived peer support from other veterans significantly reduced PTSD symptoms among 216 Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans who attended Vets4Vets peer support weekend retreats. Vets4Vets is a national grassroots program whose mission is to improve the psychological well-being of returning OIF/OEF veterans. This finding supports data from similar research studies that linked reduced social support with increased PTSD symptom severity in veterans (Pietrzak et al., 2010; Ozer et al., 2003); moreover, it reinforces the empirically supported belief that “peer support is an important component of mental health services for improving psychological well-being among veterans” (MacEachron & Gustavsson, 2012, p. 586). As peer support has been increasingly utilized within the Department of Veterans Affairs (Hundt et al., 2015) and other types of mental health treatment for veterans (Chinman et al., 2008; Barber et al., 2008), the feasibility of incorporating peer support specialists into trauma-informed mindfulness programs to treat veteran PTSD is promising.

### ***PTSD Symptoms***

Receipt of a brief mindfulness-based intervention was not demonstrated to be a feasible option for reducing PTSD symptoms severity within the veteran population at this time. This

lack of statistical significance may be a matter of sample size (power) rather than a lack of the effect of the treatment. A sample size of 15 or more participants in the study might have shown different results. Second, the low rate of completion of weekly home practice assignments by veterans—a core component of the brief mindfulness treatment—may have also contributed to the underperforming outcome of PTSD symptom reduction in the study. This student researcher would expect that diligent completion of all weekly home practice assignments may have increased the benefits of the treatment for veterans and consequently decreased their trauma symptoms by a statistically significant measure.

### ***Amassing Trauma Therapy Sessions***

To reduce PTSD symptomatology in veterans at statistically significant levels, it may be necessary to increase the TI-MBCT treatment program to include the entire eight sessions of classic MBCT within the four weeks of TI-MBCT. This would ensure that veterans receive two, 60–75-minute sessions per week and may increase the efficacy of the brief intervention and the likelihood that participants would receive an additional four hours of treatment, along with the increase in the time of practice they receive by completing the weekly home practices, by the end of the program. In fact, amassing multiple therapy sessions into shorter amounts of time appears to be a growing trend for some evidence-based trauma treatments. For instance, Foa et al.'s 2018 study showed that massed Prolonged Exposure Therapy (10 sessions over 2 weeks) delivered to military personnel with PTSD was noninferior to spaced therapy (10 sessions over 8 weeks) of treatment with the control group.

### **Implications for Social Work Practice**

Applying a person-in-environment perspective to work with clients has always been a fundamental part of social work practice since the early years of the profession (Akesson, et al.,

2017; Cornell, 2006; Turner, 2017). In fact, Mary Richmond (1922), a principal social work thinker developed one of the first conceptualizations of the ecological model of practice through her involvement in social casework at the time. In *What is social casework?*, she defined the person-in-environment perspective as “those processes which develop personality through adjustments consciously effected, individual by individual, between men [sic] and their social environment” (pp. 98–99) and emphasized the importance of applying this model to foster a fundamental understanding of how transactions between individuals and their environment impact one another in helpful or harmful ways; as such, she purported that social workers should be “no more occupied with abnormalities in individual than in the environment...no more able to neglect one than the other” (p.98). In other words, the person-in-environment approach is essential to the practice of social work because it allows clinicians to critically examine whether a “goodness of fit” exists between person and environment that contributes to the client’s wellbeing or a “poor fit,” which produces symptoms and requires another level of intervention by the social worker (such as social justice advocacy) on their behalf.

While this dually focused perspective remains both a critical and credible component of contemporary social work practice, the technological advancements of the 21st century adds another element to the composition of a client’s social environment and generates new questions for the profession such as: “How might Richmond adjust the person-in-environment perspective to include telehealth and other technologies within the practice of social work?” “What constitutes a ‘goodness of fit’ when telehealth is included as a part of the social work intervention?”

This student researcher suggests that social workers must necessarily view their practice as intimately tied to technology because technology is intimately tied to the individuals they

serve. According to recent surveys conducted by the Pew Research Center (2019), 81% of Americans own smartphones and nearly three-quarters of U.S. adults now own a desktop or laptop computer; as such, the student researcher would argue that the common practice of including communication-based technology (and other technologies) within social work interventions instantly enhances the quality and feasibility of services offered to clients. To further illustrate this point, the student researcher has developed the following equation for the reader's consideration:  $S = P + E^{(t)} \times SW^{(t)}$ . The equation represents a model for social work practice within the 21st century. In simple terms, the equation can be explained as follows: Service *equals* the person in their technologically enhanced environment *multiplied by* the power harnessed by the technologically savvy social worker. More specifically: Whenever a social worker includes telehealth and other information- and communication-based technologies in their ecological approach to assessment and intervention, the social worker's practice is enhanced and quality service to the client is generated. While this is an oversimplification of what constitutes good social work practice, the formula may be useful as a rudimentary model to further promote the regular use of contemporary technologies (e.g., videoconferencing, smartphone apps, texting, interactive scheduling software, social media, cloud storage) within classic social work intervention. What is more, it moves social workers closer to meeting the long-term goals of the profession: Recently, the American Academy of Social Work and Social Welfare (AASWSW) and the Society for Social Work and Research (SSWR) stated that "harnessing technology for social good" is one of the "grand challenges" for the social work profession (Berzin, et al., 2015; Coulton et al., 2015).

It is important to note that the student researcher's equation for social work practice in the 21st century can be expanded to include social work interventions made at the meso- and

macro-levels of client care. If, for instance, a client is in critical need of telehealth but cannot afford reliable internet connection, the social worker may intervene by identifying and linking them to local community partners with the resources to help resolve the problem. Perhaps the social worker has identified and established a relationship with a local library, agency, or community center that is willing to provide a Wi-Fi-equipped private room to clients with demonstrated need. At the macro-level, social workers can intervene to address the social problem of financial insecurity at the county and state levels by supporting the creation of new laws or by advocating to redirect public funds to clients in need of telehealth-based mental health treatment. Social work interventions that address the larger symptom-producing social problems enhance the “goodness of fit” between the client, the social worker, and available technologies; moreover, they reinforce the profession’s commitment to addressing social problems and challenging social injustice (NASW, 2000) and expand the influence of the social worker to three distinct levels of client care: micro, meso, and macro.

### **Study Strengths and Limitations**

The first and most obvious limitation is the study’s sample size. It would be optimal to have 15 or more participants in the study to test the feasibility and preliminary promise for treating veterans with post-traumatic stress with a brief mindfulness-based cognitive intervention. The sample size makes it difficult to draw any firm conclusions from the small group of veterans assembled in this pilot study. Ideally, a randomized control trial with at least 20 veterans in each condition should be conducted to examine the possible benefits of a brief mindfulness-based cognitive therapy intervention. Second, all quantitative measures in this study are self-reported, which could result in biased data. Moreover, the independent nature of completing the questionnaires may have unintentionally created a situation wherein veterans may

have misinterpreted questions in the PCL-5 about PTSD due to their unfamiliarity with such clinical language; that said, adding the therapist-led Clinician-Administered PTSD Scale (CAPS), a structured diagnostic interview that assesses posttraumatic stress disorder diagnostic status and symptom severity (Blake et al., 1990), which was recently updated to reflect changes to the PTSD criteria for the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) to the line of trauma assessments in the study may have clarified any such misunderstandings. Because the CAPS-5 requires the identification of a single index trauma to serve as the basis of symptom inquiry, clearly defines trauma symptoms, and affords the opportunity for the therapist to answer clarifying questions during the clinical interview, it may eliminate the likelihood that participants would endorse other behavioral health symptoms (e.g., anxiety, depression, emotional dysregulation related to an argument with a friend) as true PTSD symptoms. Finally, this study included largely cisgender male veterans with symptoms of post-traumatic stress. Only one female veteran participated in the study. However, the study did have racial and ethnic diversity and almost all completed all sessions.

### **Future Research and Conclusion**

The preliminary evidence from this study is encouraging as it suggests that veterans may benefit from a brief trauma informed mindfulness intervention because their PTSD symptoms appeared to positively respond to the study's four-session regimen, and veterans clearly demonstrated that they are more likely to remain in a condensed trauma treatment (despite obstacles such as avoidance and conflicting personal responsibilities) than traditional trauma therapies. While this may be true, more research is needed to determine efficacy. Accordingly, future research might examine the feasibility and efficacy of trauma-informed mindfulness as a

stabilizing adjunctive therapy using randomized control trials to compare treatment outcomes between veterans engaged in treatment-as-usual (i.e., CPT/PE) and those receiving CPT/PE along with trauma-informed mindfulness interventions. More rigorous pilot studies using a randomized design might additionally examine the potential relationship between increased home practice compliance—through the use of weekly coaching calls and smartphone apps—and increased efficacy of the intervention. Finally, researchers might investigate the utility of amassing eight sessions of trauma informed mindfulness based cognitive therapy into a four-week program to further enhance the feasibility of the intervention.

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## Appendices

### Appendix A

#### Cognitive Model of Trauma Worksheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Please complete the following worksheet shortly after experiencing an upsetting event and bring it with you to your next session.

<u>ACTIVATING EVENT</u> <i>How was I activated?</i> <i>Was it internally (e.g., trauma memory, flashback, thought)?</i> <i>Was it externally (e.g., sight, sound, smell)?</i>	<u>BELIEFS ABOUT EVENT</u> <i>What were my beliefs about the activating event?</i>	<u>EMOTIONAL &amp; BODY-BASED CONSEQUENCES</u> <i>What were my emotions?</i> <i>How did my body react?</i>	<u>ACTIONS OR "FREEZING"</u> (Additional behavioral consequences) <i>What did I do (or not do) in response to the activating event?</i>
Example: I was walking down the street and saw someone that looked like the person who abused me when I was a child.	"I'm still not safe." "Something bad could happen to me again."	Afraid and anxious. My heart started beating faster and my jaw tightened.	I picked-up the pace so I could get to the office as fast as I could.

## Appendix B

### Automatic Thoughts Questionnaire

Listed below are a variety of thoughts may pop into people's heads. Please read the list and notice what happens as you do.

Do you recognize any of them? Which thoughts feel most familiar to you?

- When you feel fearful and anxious, how often do thoughts like these occur?
- When you experience memories of past trauma, how often do thoughts like these occur?
- When you don't feel safe in your body because of distressing body sensations, how often do thoughts like these occur?
- How much do you believe these thoughts when these things are happening?

And what about when you are feeling well? How often do these thoughts occur then? And how much do you believe them?

I don't think I can go on	I feel fear so I must be in danger
I'm so weak	I must be a failure that I can't get over this
I can't stand this anymore	I am guilty because people got hurt
Something must be wrong with me	I can't trust anyone
I think I'm going to die	Something bad is going to happen to me
My future is bleak	I am a bad person because I let something bad happen
The world is unsafe	I should have rescued other people
I'm so weak	It's all my fault
I can't stand this anymore	We are in grave danger all of the time
Something must be wrong with me	I can never feel close to anyone again
How did I let this happen?	I can't trust my own judgment
People in authority cannot be trusted	I am in constant danger

When we feel triggered by past trauma, thoughts like these often feel like “the truth” about us and about the world. But, in fact, they are symptoms of post-traumatic stress—just as a high temperature is a symptom of the flu. Becoming aware, through mindfulness, that they are just “the voice of trauma speaking” allows us to step back from them and begin to choose whether to

take them seriously or not. Perhaps we can learn simply to notice them, acknowledge their presence and then, let them go (Adapted from Segal et al., 2013, pp. 234-235).

## Appendix C

### TI-MBCT Fidelity Checklist

#### Session One

Completed?

Yes No

- Establish the orientation of the individual sessions.
- Communicate expectations regarding confidentiality and privacy, including discussion of the limits of confidentiality.
- Review core concepts of mindfulness and the definition of trauma.
- Show video: “The Fly and Samurai.”
- Facilitate the raisin exercise.
- Feedback and discussion about the raisin exercise.
- Feedback and discussion of the body scan.
- Discuss home practice.
- End the class with a short, two to three-minute focus on the breath.

Home practice assignments:

Reviewed and issued?

Yes No

- Body scan for six out of seven days.
- Mindfulness of a routine activity.

## TI-MBCT Fidelity Checklist

### Session Two

Completed?

Yes No

Body scan practice.

Review of body scan practice.

Home practice review—including a discussion of difficulty experienced during home practice.

Review of the Cognitive Model of Trauma.

Thoughts and Feelings exercise.

Pleasant Experiences Calendar.

10-minute sitting meditation.

Home practice assignments:

Reviewed and issued?

Yes No

Body scan, six of seven days.

10 minutes of mindfulness of breath meditation, six of seven days.

Pleasant Experiences Calendar (one example daily).

Mindfulness of a routine activity.

## TI-MBCT Fidelity Checklist

### Session Three

Completed?

Yes No

20-minute sitting meditation.

Practice review of sitting meditation.

Home practice review, including body scan, mindfulness of breath, and Pleasant

Experiences Calendar.

Three-minute breathing space and review.

Mindful stretching and review.

Setting-up Unpleasant Experiences Calendar practice.

#### Home practice assignments:

Reviewed and issued?

Yes No

20-minute “Stretch and Breath” meditation on days one, three, and five.

10-minute mindful movement on days two, four, and six.

Unpleasant Experiences Calendar (a different experience each day).

Three-minute breathing space, three times daily.

## TI-MBCT Fidelity Checklist

### Session Four

Completed?

Yes No

10-minute sitting meditation--awareness of breath, body, sounds, then thoughts and choiceless awareness.

Practice review of sitting meditation.

Home practice review, including sitting meditation, Unpleasant Experiences Calendar, and three-minute breathing space.

Read the “King and His Three Sons” as introduction to the focus on aversion versus allowing/letting be.

Defining the “territory” of trauma: Review the Automatic Thoughts Questionnaire adapted for trauma survivors.

Three-minute breathing space and review.

Inviting Difficulty In and Working with It Through the Body.

Discuss how best to keep up momentum developed over the past three weeks.

Discuss plans and link them to positive reasons for maintaining the practice.

End the session with tradition and a concluding brief meditation.