VETERANS AND MINDFULNESS: A COMMUNITY-BASED PEER LED INITIATIVE

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DEDICATION

To the incredible veterans and community members who are dedicated to helping the lives of others in need.

&

for Halee, my source for all inspiration.
With mindfulness – the practice of peace – we can begin by working to transform the wars in ourselves.

— Thich Nhat Hanh
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Most importantly, I would like to thank our veterans that have been involved with the HomeFront Initiative. Their dedication to their brothers and sisters and steadfast service to our country should be an inspiration to us all.
ABSTRACT

Post-traumatic stress disorder (PTSD) is a mental health diagnosis that can result from exposure to both chronic and extreme stress. PTSD negatively impacts a disproportionate number of veterans and first responders and is related to a variety of negative health outcomes such as depression, anxiety, chronic health issues, and suicidality and can also impact the families and social support networks of veterans and first responders. Particularly for veterans, the Department of Veterans' Affairs has struggled to meet the needs of veterans recently returning from Iraq and Afghanistan. For both populations, mental health stigma represents another barrier for these individuals to receive necessary services.

This study sought to evaluate the impact of a community-based, peer-led initiative to teach mind-body self-care skills to veterans and first responders in the Wichita, Kansas community. Veteran facilitators were trained and certified through the Center for Mind-Body Medicine to lead a 10 week intervention. A mixed methodological approach and a phenomenological analysis provided insight into veteran and first responder experience.

Results indicated that veterans and emergency service providers benefitted from the group experience. Several themes around self-regulation, mindfulness, and peer support suggest that the psychoeducation, meditation practice, and sharing components of the group contributed to personal growth and new coping skills. Veteran facilitators were viewed by participants as peers and helped contribute to a safe environment. Additional feedback about the group experience was also provided. This study provides support for the further study and implementation of Center for Mind-Body Medicine community-based groups that utilize peer facilitators to teach mindfulness and meditation skills to veterans and emergency service providers.
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<td>CMBM</td>
<td>Center for Mind-Body Medicine</td>
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<td>CPT</td>
<td>Cognitive Processing Therapy</td>
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<td>DBT</td>
<td>Dialectical Behavioral Therapy</td>
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<tr>
<td>DSM-V</td>
<td>Diagnostic and Statistical Manual, 5&lt;sup&gt;th&lt;/sup&gt; Edition</td>
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<td>EMDR</td>
<td>Eye Movement Desensitization and Reprocessing Therapy</td>
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<td>fMRI</td>
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CHAPTER I

INTRODUCTION

Post-traumatic stress disorder (PTSD) is a complex diagnosis that effects a large number of military veterans (Kang, Natelson, Mahan, Lee, & Murphy, 2003). PTSD is a mental health disorder that can result after experiencing a traumatic experience and is often related to a variety of negative health outcomes (Panagioti, Gooding, & Tarrier, 2015). Individuals that meet the diagnostic criteria for PTSD are 80% more likely to have symptoms that meet the criteria for at least one other mental disorder (American Psychiatric Association, 2013). It is a significant problem especially for the military, Veterans Administration, healthcare providers, and veterans and their families. As evidence of this, a 1990 survey found that lifetime prevalence of PTSD for Vietnam veterans was 30.9% for men and 26.9% for women (Kulka et al. 1990). However, the same study found that over half of the veterans deployed to Vietnam experienced clinically significant stress-reaction symptoms, representing around 1.7 million individuals. At the time of the study, approximately 500,000 individuals were considered to have clinical symptoms of PTSD (Kulka et al., 1990). In a sample of 30,000 Gulf War veterans, 12.1% had a diagnosis of PTSD (Kang et al., 2003). Several different studies of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans found that 13% met criteria for PTSD previously while 13.8-14% of veterans met criteria for current PTSD (Seal et al., 2007; Schell & Marshall, 2008; Tanielian & Jaycox, 2008). Additionally, depression among veterans has been linked to both verbal and physical aggression, suicidal ideation, suicide attempts, and self-harm behavior (Angkaw et al., 2013).

Given the adverse negative outcomes for PTSD, there are a variety of treatments that have demonstrated various efficacy at reducing negative symptoms. These have included
traditional therapeutic approaches such as cognitive-processing therapy and prolonged exposure therapy (Walter, Varkovitzky, Owens, Lewis, & Chard, 2014). Among some of the more recent interventions, mindfulness has been a focus that has some promising results. Mindfulness-based stress reduction has been indicated to cause a reduction in stress symptoms, depression, and negative trauma-related appraisals (Goldsmith et al., 2014). In response to the growing literature on mindfulness and success of various programs, new innovative approaches are being implemented with veteran populations.

In this study, approximately 20 veterans and community service providers participated in a nine week mindfulness program designed by the Center for Mind-Body Medicine in Washington, DC. The goal of this program was to increase the practice of mindfulness into daily life and reduce both symptoms of PTSD and stress as it relates to post-deployment adjustment, reintegration, and the military to civilian transition. The program was a small group format designed to build specific meditation skills in a peer to peer environment. Each week, participants listened to a didactic piece about a medication practice, had the opportunity to practice the skill in the group, and then shared with other participants about their experiences. This study explored how a peer-led approach using community-based participatory principles can teach veteran, reservist, and community service provider participants’ mindfulness skills and how these skills can effect stress, anxiety, depression, post-deployment adjustment, and PTSD.

While the intervention model was designed by the Center for Mind-Body Medicine, local implementation was the responsibility of the HomeFront Initiative. The HomeFront Initiative is a local organization that is a collective of veterans, researchers, community members, and national partners. The organization relies on veteran leadership and group facilitators are community-based veterans that have been trained by the Center for Mind-Body Medicine.
HomeFront Initiative volunteers helped organize two interventions in the community in a twelve month time period and were critical in recruitment for the interventions and this study. Groups were comprised of either veterans of various wars or community service providers. Veterans lead these mindfulness peer-support groups in the community at zero cost to the participants.
CHAPTER II

LITERATURE REVIEW

Post-Traumatic Stress Disorder

PTSD is not a new phenomenon for military service members. As early as the 1800’s, soldiers were diagnosed with exhaustion following a combat engagement (Chamberlin, 2012). In the late 19th century, the term “Soldier’s Heart” was frequently used as a label and symptoms were described that closely parallel today’s symptomology of a PTSD diagnosis. According to Chamberlin (2012), the early 20th century gave rise to the terms of “shell shock” and “shell concussion.” While having similar symptoms, an important divergent paradigm started to appear in the literature describing these conditions. Shell concussion was used to describe a neurological disorder that resulted from cerebral concussions due to proximity to exploding shells while shell shock was used to describe psychological disorders that resulted from exposure to extreme violence and trauma (Chamberlin, 2012).

It is important to highlight this distinction as it can partly explain the present dilemma of veterans today. The underlying assumption of shell concussion is that it was the result of a battlefield injury that was entirely outside the control of the individual. Shell shock, however, was the result of an individual’s inability to handle war. Lord Moran, a war psychiatrist in the early 20th century, was quoted describing an individual with shell shock (as cited in Chamberlin, 2012):

There were others who were plainly worthless fellows. One without moral sense had taken a commission under the shadow of compulsion … sitting there with his head in his hands at the
bottom of the trench; he could do no good to the men of 1916. He showed none of the extreme signs of fear he was just a worthless chap, without shame, the worst product of the towns.

In order to avoid the costs of providing psychiatric services to military members, an attempt was made to screen out individuals that were thought to be prone to developing a psychological disorder after exposure to war (Chamberlin, 2012). After this approach inevitably failed, combat psychiatrists began to examine the environmental influences that could potentially cause psychological disorders. It was discovered later that cohesive fighting units could actually act as a protective factor and reduce the impact of exposure to trauma, thus prompting more research into support networks for armed forces in combat (Chamberlin, 2012).

With the increasing numbers of individuals affected by both World War II, the Korean War, and Vietnam, the diagnostic category of PTSD was finally introduced into the Diagnostic and Statistical Manual of Mental Disorders III (DSM-III) and research on the assessment of PTSD started developing (Chamberlin, 2012; Keane, Wolfe, & Taylor, 1987). While this was a major step in providing appropriate diagnoses and services to returning veterans, the notion of individual weakness playing a role in a developing PTSD is still prevalent today and can partially explain the challenges of service delivery to veteran populations.

PTSD in the Military Today

The United States invaded Iraq and Afghanistan in the early 2000’s. These conflicts have resulted in over 1.6 million veterans being deployed in those countries (Seal et al., 2009). A 2007 study found that 25% of the first 100,000 returning veterans from these conflicts received mental health disorder diagnoses (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). In a follow
up study, an analysis of 289,328 OIF/OEF veterans receiving VA services found that 36.9% received mental health diagnoses, 21.8% of those were diagnosed with PTSD and 17.4% were diagnosed with depression (Seal, 2009). It was also found that active duty veterans 25 years of age or younger had higher rates of PTSD and alcohol or drug abuse compared to veterans older than 40 years of age (Seal, 2009). As to be expected, the findings indicated that combat exposure was associated with higher risks for developing PTSD. Another report on the status of psychological and cognitive injuries for OIF/OEF veterans estimated that approximately 300,000 individuals suffer from PTSD (Tanielian & Jaycox, 2008). Estimated costs suggested that both PTSD and major depression in a two year period to be approximately $4 – 6.2 billion for the U.S. Government (Tanielian & Jaycox, 2008).

The Department of Veterans Affairs (VA) is the largest national service provider for veterans. Since October of 2001, approximately 1.1 million veterans have utilized VA care (Department of Veterans Affairs, 2015). The latest report on VA health care utilization found that between January 1st, 2014 and December 31st, 2014, a total of 701,886 accessed VA services (Department of Veterans Affairs, 2015). The same report established that mental disorders were in the top three causes for receiving service with 662,722 veterans receiving services since 2001.

In a study by Hoge and others (2004), anonymous surveys were sent to four combat infantry units (n = 6,201) either before or after deployment in Iraq or Afghanistan. Exposure to combat in Iraq was greater than in Afghanistan and screening for major depression, generalized anxiety, or PTSD was higher in the Iraq sample (15.6-17.1%) than the Afghanistan sample (11.2%). Despite these returning rates of mental health concerns, only 23-40% of individuals that were positive for a mental health disorder actively sought treatment (Hoge et al., 2004). For the individuals that were positive for a mental health disorder, they were twice as likely to report
being concerned about possible stigmatization (Hoge et al., 2004). This study highlights a major barrier to service. Fear of reproach and stigmatization can prevent veterans from seeking much needed services. A recent analysis of reporting procedures indicated that diagnostic misclassification occurred in more than 25% of a sample, suggesting that assessments may not be accurately describing veterans’ experiences or needs (Holowka et al., 2014). These record keeping errors could also be contributing to mistrust and avoidance of VA services.

A more expansive investigation of mental health service utilization and stigma evaluated US army data from 2002 to 2011 (Quartana et al., 2014). Health-related behavior surveys were used (n = 12, 835) and indicated that mental health service stigmatization decreased for both soldiers with and without PTSD. While this was a promising sign, results still suggested that more than half of the participants with a mental health problem still didn’t receive care (Quartana et al., 2014). Similar to these findings, a 2008 report estimated that only about 50% had reported seeking help for a mental health condition (Tanielian & Jaycox, 2008). Additional data suggested that veterans were concerned about confidentiality, unpleasant side effects of drug therapies, and basic ineffectiveness of mental health services (Tanielian & Jaycox, 2008).

The current rates of mental health disorders including PTSD are thought to be due to several factors that distinguish OIF/OEF from past conflicts. Changes in military operations such as extended deployments or more frequent deployments can potentially explain these increases (Tanielian & Jaycox, 2008). Additionally, developments in communication and protective gear, and improvements in training increase survivability of many combat engagements. For example, major physical trauma from combat has a lower mortality rate than from previous wars due to improvements in medicine and battlefield responses and is reflected in a higher wounded to kill ratio than previous conflicts (Tanielian & Jaycox, 2008; McCarl, 2013).
Perhaps one of the more confounding variables is the nature of these recent conflicts. Roadside bombs, improvised explosive devices, and suicide bombers are added stressors that may not have been issues in previous wars (Tanielian & Jaycox, 2008).

Confounding Factors with PTSD

PTSD diagnoses rarely occur in isolation and multiple studies have examined both the short term and long term impacts of exposure to combat trauma. Tanielian and Jaycox (2008) created a model of the consequences of post-combat mental health and cognitive conditions (see figure 1) that provides a framework for understanding an individual’s context and environment in a post-deployment setting. This framework highlights biopsychosocial factors that can either be protective or risk factors for immediate or long term consequences. A number of studies explore several factors in this model.

A study cohort in the San Diego VA system examined PTSD, depression, and aggression for 72 OIF/OEF veterans that were discharged less than three years prior to the study (Angkaw et al., 2013). PTSD symptoms were positively correlated with depression ($r = 0.62$), verbal aggression ($r = 0.44$), physical aggression towards objects ($r = 0.44$), and physical aggression towards others ($r = 0.27$), with all correlations being significant at the $p < .0001$ level, excluding physical aggression towards other ($p < .05$) (Angkaw et al., 2013). While a relatively small sample size, depression was still found to have an indirect effect on certain types of aggression. Given the comorbidity with depression and PTSD, aggressive behavior can be a potential outcome. Within the biopsychosocial model, aggression can have detrimental effects on multiple levels, including health, relationships, and employment.
In a sample of 337 OIF/OEF veterans, combat exposure, alcohol problems, PTSD, and aggression were examined to determine if there was a relationship between alcohol and aggression in this population (Stappenbeck, Hellmuth, Simpson, & Jakupcak, 2014). Findings suggested that at low levels of PTSD symptoms, alcohol problems contributed to nonphysical aggression. Individuals that had higher PTSD severity, however, alcohol problems did not seem to impact likelihood of nonphysical aggression. While not entirely conclusive findings, this
study does indicate that alcohol abuse can further cause behavioral concerns for individuals along the PTSD spectrum.

One final study explored risk-taking behaviors and impulsivity among 234 veterans with PTSD, mild traumatic brain injury (mTBI), or both conditions (James, Strom, & Leskela, 2014). Researchers investigated the impact of mTBI’s with these behaviors with the hypothesis that both PTSD and mTBI’s would have the greatest impact on the measured outcomes. Unexpectedly, the group with PTSD had the same rates of risk-taking behaviors and impulsivity as the PTSD and mTBI group, implicating PTSD as a primary cause for these maladaptive behaviors. In the biopsychosocial framework these maladaptive behaviors can also be attributed to negative outcomes.

**Reintegration, Family Support, and Potential Protective Factors**

Understanding the impact of deployment on veterans and military service members is vital for both reduction of PTSD and positive reintegration. Post-deployment changes can exist on many levels and can lead to potential health-compromising or health-enhancing behaviors. Table 1 provides an outline of potential changes that individuals can experience (Danish & Antonides, 2013). The returning service member is exposed to changes in multiple areas of their lives such social, emotional, physical, or spiritual changes. While having support networks to ease the burden of this transition is ideal, many networks that our armed forces return to may not promote a healthy transition. These problems can come from individuals in these networks dealing with deployment itself or simply lacking either the skill set or understanding of the stressors of deployment or PTSD symptomology.
Deployment and combat stress can be detrimental beyond the individual serving. The culture of life in the military and mission readiness often make families a second priority to military objectives. The impact of this culture can have a devastating impact on service members support networks. In a study by Bergmann, Renshaw, Allen, Markman, and Stanley (2014), 606 army couples filled out questionnaires asking about PTSD, marital satisfaction, and perceived meaningfulness of service. As expected, PTSD was negatively correlated with marital satisfaction and meaningfulness of service for both military members and their spouses. Further analysis revealed that perceived meaningfulness of service for spouses was linked to higher marital satisfaction for spouses, but this relationship did not weaken the impact of PTSD symptoms on marital satisfaction. These findings suggest that marital satisfaction can be impacted by a service members PTSD symptoms, regardless of how meaningful service was perceived by the couple. These findings are not surprising and studies of previous wars on marital satisfaction have found similar results. In one study of Vietnam era male veterans, those with PTSD were more likely to report marital dissatisfaction and problems with reintegration (Jordan et al., 1992).

| Table 1. Post-deployment changes (Danish & Antonides, 2013) |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Social or interpersonal | Personal | Emotional or cognitive | Physical | Spirituality |
| Changes in relationships with family and friends from home (e.g., being misunderstood by them) | Changes in career-related goals | Changes in self-esteem and self-efficacy | Changes in risk-taking behavior (e.g., aggressive driving) | Having difficulty making sense of what you did in combat |
| Changes in job-related relationships and responsibilities | Changes in sense of purpose and meaning | Changes in locus of control | Changes in substance use (e.g., unlimited access to alcohol) | Feeling guilty |
| Changes in service-related relationships | Changes in belief system | Changes in emotional control | Changes in physical activity levels | Having conflicting values |
| Feeling abandoned by the military | Changes in sense of belonging | Changes in cognitive processing | Changes in sleep behavior | Questioning your religious beliefs |
| Feeling unsafe and helpless | Changes in diet and nutrition habits | | | |
Military service can also impact the children of service men and women. An estimated 1 million service members that were deployed in recent conflicts have at least one child (Creech, Hadley, Borsari, 2014). In a meta-analysis of studies investigating military deployment and reintegration on children and parenting, Creech and others (2014) found that regardless of age, emotional and behavioral difficulties for children were related to at least one parent and PTSD symptoms could have a negative impact on parenting during and after military members reintegrated with their families. Challenges for families included more thoughts of suicide and binge drinking for adolescents, shifting roles for parents, increases in healthcare visits, difficulty re-connecting, and communication issues (Creech et al., 2014). These findings were supported in another study with a small sample of military female spouses that examined the impact of extended deployments (Lowe, Adams, Browne, & Hinkle, 2012). Extended deployments, which are more common in recent conflicts, were associated with challenges in parenting for the dependent spouse, particularly attachment bonds between the non-deployed parent and child (Lowe et al., 2012). Given the complexity of these issues and the likely long-term effects for families, reintegration for military members is another challenge. While support networks are essential for PTSD management and recovery, familial networks that are in crisis may have a debilitating impact on overall health, stress, and well-being for the veteran or returning service members.

Another analysis of post-deployment factors and PTSD severity (n = 150) utilized the Deployment Risk and Resiliency Inventory and examined what factors potentially contributed to PTSD severity (Possemato, McKenzie, McDevitt-Murphy, Williams, & Ouimette, 2014). With post deployment variables, PTSD severity was independently predicted by employment status, alcohol use severity, post deployment support, and post deployment life events. Using these
variables, the prediction model accounted for 46% of the variance, highlighting the importance of examining environmental factors that can impact PTSD symptomology.

Despite the potential negative impacts of family stress and home environments, social support networks are critical for transitioning from either deployment or from military to civilian life. Numerous studies have examined protective factors that shield service members from potential negative outcomes through providing social support and enhancing resiliency. One study examined PTSD, depression, resilience, and social support among 272 OIF/OEF veterans (Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009). Regression analysis indicated that veterans with PTSD reported lower levels of resilience and social support compared to the non-PTSD sample. Additionally, increases in resilience and social support were negatively correlated with severity of traumatic stress and depression.

A study by Tsai, Harper-Rotem, Pietrzak, & Southwick (2012) found similar results for the relationship between social functioning, coping, and life satisfaction when comparing PTSD (n = 86) versus non-PTSD groups (n = 78) with PTSD group scores being less than the control group. However, mediator analysis indicated that problems with social functioning was partially attributed to less social support, worrying about unwanted thoughts, and less acceptance of change. The analysis also revealed that lower partner satisfaction was mediated by social avoidance. One final finding was that lack of feeling understood mediated the relationship between PTSD and lower life satisfaction. These results suggest that social support is essential for healthy functioning for individuals with PTSD. In particular, normalizing the experience of having PTSD through sharing experiences with others may be a critical step at helping individuals with PTSD successfully reintegrate.
Danish and Antonides (2013) proposed a life development intervention that addressed the changes of reintegration as challenges that are a normal part of the post-deployment process. Within this framework, challenges that can exist in the biopsychosocial model discussed by Tanielian and Jaycox (2008) are a natural part post-deployment and are not necessarily indicative of a psychological disorder. Furthermore, Danish and Antonides argue for a community-based delivery system that utilizes a public health approach. By reframing successful reintegration as a life goal that requires the acquisition of new skills, returning veterans can focus on actively engaging and improving their social support system, thereby enhancing protective factors that can potentially minimize PTSD symptoms. While reintegration can be a difficult time, particularly for veterans with PTSD, reframing this transition as a normal life process in which goal setting and skill development are required could be of valuable benefit.

Military Culture & Veteran Suicides

Of all of the potential negative outcomes of PTSD, military suicides have received more national media attention and have acted as a catalyst for a numerous military and civilian interventions. In the 2012 Suicide Data Report of the Department of Veterans Affairs, national suicide data was analyzed for 21 states (Kemp & Bassarte, 2012). From this data, national prevalence estimates placed veteran suicides for 2010 at approximately 22 a day. This statistic is only estimated as many states did not contribute data due to reporting issues or not listing military service on death certificates. Additionally, with the recent implementation of the Suicide Prevention and Application Network, suicide events have begun to be recorded since 2008, with an increase in suicide events since the program’s inception. Suicide events can be classified as fatal or non-fatal with non-fatal suicide events being suicide attempts or suicide
ideation. In the year 2012, the Suicide Prevention and Application Network recorded approximately 1,400 suicide events each month, with 95% being non-fatal event. Of all methods of suicide attempts between 2009 and 2012, poisoning was the most frequent at 51% (24,058) with intentional self-harm and firearms being the second and third most frequent methods with 11.5% (5,425) and 10.9% (5,148), respectively. One conclusion that was drawn from this report was that the majority of veterans who had a suicide event were most recently seen in an outpatient setting. While this finding should be interpreted with caution, it could possibly suggest that there is a dramatic need for interventions in outpatient settings to identify and provide services for veterans that display high risk for a suicide event.

A recent national cohort study (n = 211,652) explored the relationship between suicide related behavior, PTSD, traumatic brain injury, and chronic pain (Finley et al., 2015). While only a small percentage of respondents had suicide related behavior (n = 5,653), a multivariate model suggested that PTSD was associated with suicide related behavior, particularly when depression or substance abuse was co-occurring. The researchers advocated for enhanced screening of substance abuse and depression as part of regular suicide prevention efforts. Efforts have even been made to establish a separate diagnostic category for individuals that suffer from PTSD and depression in order to provide enhanced services to this population (Sher, 2009, Sher & Rice, 2009).

A review on public health literature of military suicides examined risk and protective factors (Martin, Ghahramanlou-Holloway, Lou, Tucciarone, 2009). In this review, researchers compared these factors for both military and civilian populations. Veterans, particularly those in reintegration, face both sets of challenges due to their identity as a former service member but also as acquiring a new “civilian status.” For the civilian population, clinical psychopathology
and stressful live events are listed two major risk factors. Hopelessness, impulsivity, and maladaptive coping mechanisms can contribute to both psychopathology and suicide ideation or attempts. For protective factors in the civilian population, restricted access to lethal means (i.e. firearm availability) and social support networks are two factors that can act as buffers against stressors that can trigger suicidal behavior. For the military relevant factors, stressful military events such as deployment, combat trauma, and challenges with reintegration can all be considered risk factors that are unique to the military population. Additional protective factors that are military relevant include resiliency training, although researchers cited a lack of research exploring these variables.

One important consideration when examining PTSD and its relationship to suicides is that many individuals may be negatively impacted by trauma but will never develop enough symptoms to warrant a PTSD diagnosis. However, the absence of a PTSD diagnosis does not remove the exposure to trauma as a potential risk factor. In a study by Jakupcak and others (2011), a sample of returning veterans (n = 275) were assessed for hopelessness, suicide ideation, and PTSD. Results indicated that hopelessness and suicide ideation was more frequent in the group with PTSD, but subthreshold PTSD was also significant associated with these outcomes, although still less likely than the full PTSD diagnosis group. One other important finding was that the subthreshold group was less likely to have received mental health treatment, despite identifying with a major risk factor for suicide.

It is critical to understand how military culture can impact the risk and protective factors associated with PTSD and suicides. Military basic training and culture is designed to often override basic survival instincts of individuals. The major goal of combat training is to engage hostiles and intentionally place yourself in life-threatening situations. Military ceremonies,
awards, and special recognitions celebrate behavior that is dangerous and often risky. Kill counts are often celebrated with things like notches on guns, skulls on aircraft, and military gear is decorated with symbols of death. This culture is designed for survival and the completion of goals and mental health of combatants is considered secondary. After conflicts and during the post-deployment re-adjustment and reintegration, veterans are expected to return to a culture that is counter to what their past experiences have dictated.

In many treatment related areas, the implicit message about suicides in the military may still be that individual weakness is the main source (Bryan, Jennings, Jobes, & Bradley, 2012). In particular, the military message of “mental toughness” actively discourages personal identification of psychological disorders. In a review by Bryan and others (2012), battlefield strategies such as suppression emotions, tolerating pain and discomfort, and avoidance of noncritical, mission related tasks are enforcing negative coping mechanisms that can turn into maladaptive behaviors post-combat. In the same article, it is argued that the concepts of self-reliance, self-sacrifice, and an encouraged fearlessness towards death can contribute to explorations of suicide as an option when facing psychological consequences of trauma post-deployment. The authors posit that prevention efforts to reduce military suicides must take into account this culture and conceptualize the reintegration transition as a new life experience that requires personal growth and development versus the traditional medical model.

The notion of organizational culture influencing behavior extends beyond the military. Individuals in similar service-oriented fields may experience pressure to not acknowledge mental health issues or chronic stress. Work culture, fear of reproach, and mental health stigmas are barriers to both treatment and a healthy workforce. First responders, due to the nature of their work and exposure to chronic stress, are a group that draw several parallels to the military.
Emergency Medical Service Providers: Cultural Parallels

Emergency medical service (EMS) providers are frequently exposed to chronic stress and trauma as a function of their occupation. While there are obvious differences that separate EMS professionals from veteran populations, PTSD rates for EMS are estimated to be around 20% (Bennett et al., 2005). These rates are considerably higher than estimates of PTSD in returning OIF/OEF veterans. Veteran’s exposure to stress certainly extends beyond deployment but EMS providers are in the unique position where every day work can potentially lead to encounters with major trauma and stress. These events are frequently described as critical incidents (Fjeldheim et al., 2014). Literature reviews on the impact of critical incident and occupational stress in EMS personnel have indicated that PTSD, sleeping problems, nutrition and obesity, and cardiovascular disease can develop as a result of this exposure (Hegg-Deloye et al., 2014).

In a study with a national sample of EMS providers in the United States (n = 1,633), Donnelly (2012) examined PTSD symptoms and both chronic and critical incident stress. While only 6.4% reported levels of PTDS symptoms that would warrant a diagnosis, the researcher postulated that social desirability bias and low response rate of those with PTSD possibly explaining the lower than expected PTSD rates. In a regression analysis, PTSD symptoms were still associated with both chronic and critical incident stress. Another national assessment of US EMS providers (n = 34,340) examined depression, anxiety, and stress and found that 6.8% reported being depressed, 6.0% being anxious, and 5.9% reporting being stressed compared to those classified as normal (Bentley, Crawford, Fernandez, & Studnek, 2013). In particular, individuals with a length of employment greater than 16 years had a higher odds ratio of depression (Bentley et al., 2013). It should be noted that in this study the Depression, Anxiety,
and Stress-21 question survey was used and this survey is not typically used for diagnostic purposes, but rather detecting where individuals fall on a spectrum of symptoms (Lovibond, 1998).

In a 2014 study in South Africa, Fjeldheim and others surveyed 132 EMS providers and examined trauma exposure, depression, perceived stress, and physical health symptoms. Results indicated that that 16% of the population met the criteria for PTSD, 28% for depression, and 24% for alcohol abuse. 94% of participants had experienced at least one traumatic event, with individuals that had PTSD experiencing significantly more traumatic events than non-PTSD individuals. The most commonly cited forms of trauma were witnessing a transport accident, with sudden unexpected death of someone close and witnessing someone experience a life-threatening illness or injury both being the second most common. A similar study with Egyptian EMS providers found that EMS providers experience more acute and chronic work-related stressors and had higher PTSD rates and emotional exhaustion than a comparative group (Khashaba, El-Sherif, Ibrahim, Neatmatallah, 2014).

Another study examined prevalence and other correlating factors of PTSD in EMS personnel (n = 617) in the United Kingdom (Bennett et al., 2005). In the UK, paramedics are considered more senior than emergency medical technicians (EMT), but both groups operate in ambulances and respond to emergencies (Bennett et al., 2005). In this study, 21.8% of paramedics and 22.2% of EMTs reported meeting the diagnostic criteria for PTSD. Almost 25% of both groups experienced “probable” diagnoses of anxiety according to the Hospital Anxiety and Depression Scale. Regression analysis also revealed PTSD scores to be associated with organizational factors, length of service, and dissociation at the time of the traumatic event.
In order to provide support services to EMS personnel, peer support models have already been introduced. In the Employee Assistance Program (EAP), a trained EMS provider gives support to peers that includes “psychological first aid.” (Scully, 2011). In this model, a trained peer provides resilience training and self-care skill building exercises for EMS students as a way to build a buffering system against future occupational stress (Scully, 2011). There are many similarities between this type of support service and mind-body skill groups that will be used in this study. With the evidence of EMS providers exposure to stress and documented potential negative outcomes, EMS personnel would likely benefit from participation in mind-body skill groups.

**Clinical Perspectives on PTSD**

PTSD is defined by the DSM-5 as a trauma and stressor related disorder that occurs after exposure to a traumatic event (American Psychiatric Association, 2013). Symptom presentation can change over time and manifest itself in a variety of ways. PTSD symptomology can has four main clusters and can be represented via factor structure (King, King, Orazem, & Palmieri, 2006). The first cluster, *re-experiencing*, is the emotional and perceptual re-living of the event. This can be caused by spontaneous or specific triggers and is an involuntary response. *Avoidance* is the second cluster and is frequently expressed as social isolation or efforts to avoid potentially negative thoughts. The third cluster is *negative alterations in cognitions and moods* and refers to negative psychological states, irrational thoughts or beliefs, and an inability to experience positive emotions. The last cluster of symptoms is *changes in arousal and reactivity* to the traumatic events or observable maladaptive behavior changes such as hypervigilance, self-destructive behavior, anger, and sleep disturbance (American Psychiatric Association, 2013).
In order to receive a diagnosis of PTSD, individuals must have experienced a traumatic event (criterion A), one or more of the symptoms described under each symptom cluster, experience these symptoms for more than one month, and have these symptoms cause distress in an area of functioning (American Psychiatric Association, 2013). Additionally, these symptoms cannot be explained by any other pre-existing condition or substance abuse (2013). However, the clinical manifestation of symptoms can vary depending on the type of trauma endured and a variety of other situational factors. These changes to behavior make emotional regulatory processes challenging and can lead to further complications and the development of comorbid conditions or disorders (Van Boven et al., 2009; Alschuler & Otis, 2014).

**Psychophysiological Basis for PTSD**

As brain imaging techniques have improved in the past 20 years, researchers have been able to gain more information about the psychophysiological changes that occur in the brain for individuals that have PTSD. Brain imaging can allow researchers to explore changes in brain structure, function, and chemistry (Van Boven et al., 2009). For instance, Functional Magnetic Resonance Imaging (fMRI) has been used to measure areas of activation during the presentation of traumatic stimuli (Van Boven et al., 2009). In a review of fMRI studies, Van Boven and others (2013) found that the amygdala, anterior cingulate gyrus, and medial temporal lobe are often activated. Additional brain imaging studies have also indicated changes to the hippocampus and prefrontal cortex in the symptoms of PTSD (Van Boven et al., 2009). The same review found that PTSD was associated with smaller hippocampal volume. Other studies have suggested that atrophic changes in the pregenual anterior cingulate cortex may be caused by a stressful event as opposed to a pre-existing condition (Van Boven et al., 2009).
Other neuroimaging techniques have suggested that exposure to trauma can cause an increase in both PTSD symptoms and cause decreased activation of the medial prefrontal cortex and anterior cingulate (Van Boven et al., 2009). Additional studies have found decreased function in the hippocampus, visual association cortex, parietal cortex, and inferior frontal gyrus and increased function in the amygdala and posterior cingulate (Van Boven et al., 2009). The majority of brain areas indicated comprise the core of the limbic system which has been associated with both memory and emotion (Liberzon et al., 1999). Additionally, the anterior cingulate cortex, orbitofrontal cortex insula, and temporal poles are also implicated, although these are often thought to comprise a “paralimbic” system (Liberzon et al., 1999). However, there is some research that suggests that there could be global brain structure changes as a result of PTSD (Tavanti et al., 2012). PTSD seems to have a widespread effect on both upper cortical regions and interface areas between the limbic system and tele-encephalic structures.

In a study by Liberzon and others (1999), researchers explored the functional role of the limbic and para-limbic system in Vietnam veterans diagnosed with PTSD. Single photon emission computerized tomography was used to measure regional cerebral perfusion after exposure to both a traumatic and non-traumatic control event. The results of the study indicated that PTSD participants had a higher heart rate, skin conductance, and level of distress compared to controls. This coincided with activation of the limbic area at levels exceeding a priori statistical thresholds. This study provided evidence of psychophysiological changes to brain chemistry, behavior, and physiological changes in the body as a result of exposure to traumatic scenes for patients that had been diagnosed with PTSD.

Further studies with fMRI have examined brain activation during script-driven imagery for individuals with PTSD. Lanius and others (2002) examined dissociate responses as a
symptom of PTSD. While PTSD symptoms are typically thought of as hyper-arousal and anxiety, dissociative responses can be also be a resulting symptom, particularly if dissociation was the original response to the trauma (Lanius et al., 2002). Interestingly, the results indicated that different areas of the brain activated in these individuals compared to hyper-arousal responses. The PTSD subjects who experienced dissociation had higher activity in the superior and middle temporal gyri, the inferior frontal gyrus, the occipital lobe, the parietal lobe, the medial frontal gyrus, the medial prefrontal cortex, and the anterior cingulate cortex (Lanius et al., 2002). Heart rates, however, did not increase for these participants, despite the exposure to the trauma script. These findings suggest that PTSD symptomology can be expressed in either an anxiety state or as a dissociative response. The dissociative response is thought to occur as the medial prefrontal cortex inhibits all emotional processing of the limbic system which causes a reduction in emotional expression (Lanius et al., 2002). These findings were later replicated in a study by Nardo and others (2013), providing further evidence of overmodulation of the prefrontal cortex on the limbic system.

In a study by Levy-Gigi, Richter-Levin, Szabo, and Keri (2014), MRI scans were taken of the hippocampus and amygdala of individuals with and without PTSD. The results indicated that there were reduced hippocampal volumes in individuals with PTSD. Additionally, these same individuals were more likely to overgeneralize negative context in learning assignments. These findings suggest that individuals that experience traumatic events and have reduced hippocampal volume may be unable to encode traumatic associations in appropriate context and consequently struggle to make distinctions to other contexts (Levy-Gigi et al., 2014).

Together, these findings suggest that PTSD is a disorder that exhibits psychophysiological alterations in brain structures, activation, and chemistry, and these changes
correlate to observable and measurable behavioral and cognitive changes. While the majority of brain imaging studies have relatively small sample sizes, the literature has been fairly consistent with the presentation of a divergent paradigm for PTSD symptomology. PTSD is now classified as a trauma and stress-related disorder and the prototypical symptoms include hyper-arousal, flashbacks, and isolation. However, dissociation is another possible behavior change that is now included in the DSM-5. The flashbacks and hyper-arousal are thought to be the result of an overly active limbic system that is unregulated by the prefrontal cortex. Conversely, dissociative responses are thought to be caused by overmodulation of the limbic system by the prefrontal cortex. Both symptoms pathways, while functionally different, are the result of failure to maintain regulatory processes between areas in the brain. These psychophysiological deficits can manifest as the cognitive and behavioral conditions described by the DSM-5.

**Current Treatments for PTSD**

**Pharmaceutical and Surgical Interventions for PTSD**

Psychotropic medications can be administered as a possible treatment for PTSD. Oftentimes, these medications are given concurrent with psychotherapy, making evaluation of their effectiveness somewhat challenging. In general, pharmaceuticals have been found to have mixed efficacy and often provide little to no improvement over placebos (Koek et al., 2014). Aside from one alpha blocker drug, Prazosin, large sample randomized control trials for pharmaceuticals have been mostly ineffective (Koek et al., 2014).

In two randomized clinical studies that examined the effects of Prazosin, treatment groups had improvements in sleep quality, duration, and global functioning compared to controls (Raskind et al., 2007; Raskind et al., 2013). In one study, Prazosin was indicated to have also
have caused a significant reduction in the hyperarousal cluster of PTSD symptoms (Raskind et al., 2013).

Direct neuromodulation through deep brain stimulation is currently being considered as a new alternative therapy to PTSD, although this requires invasive surgery (Koek et al., 2014). However, the cost and risks associated with this type of invasive surgery make it an impractical solution. It is also important to note that these interventions utilize the medical model and are designed for symptom reduction. Since many of the challenges that veterans face are situational and environmentally based, symptom-only reduction may not provide long-term solutions that are required for successful reintegration, regardless of PTSD diagnoses.

**Cognitive Processing Therapy**

Cognitive Processing Therapy (CPT) is a social-cognitive based theory. In the realm of PTSD treatment, the ultimate goal is to have the participant regain control over their life by focusing on how the traumatic event impacted their lives (Resick, Monson, & Chard, 2006). It is hypothesized that PTSD symptoms develop as a fear network that is activated in memory and maladaptive behavior is the result of attempts to avoid this activation (Resick et al., 2006). With CPT, participants experience a 12-session therapy that attempts to gain access to the traumatic memory, experience affective components of the memory, and then process those emotions so the trauma will no longer elicit a response that triggers avoidant or maladaptive behaviors (Resick et al., 2006).

Cognitive Processing has had success at alleviating PTSD symptoms, even in the presence of confounding issues. One study examined the impact of CPT on veterans with PTSD (n = 536), with nearly half of participants also meeting the criteria for alcohol use disorders.
(Kaysen et al., 2014). With an average of 9 sessions completed, veterans PTSD scores decreased with medium to high effect sizes, although randomization was not possible as the dataset came from existing medical records.

In a randomized study utilizing a wait-list control design for CPT \((n = 60)\), participation in the 12 week model resulted in significant reductions in overall PTSD scores, individual PTSD symptom clusters, and depression scores (Monson et al., 2006). Additional studies have also examined CPT for PTSD, subthreshold PTSD, and for CPT efficacy in both residential and outpatient facilities and have found similar effects (Chard, Ricksecker, Healy, Karlin, & Resick, 2012; Alveraz et al., 2011; Dickstein, Walter, Schumm, & Chard, 2013; Walter, Varkovitzky, Owens, Lewis, & Chard, 2014).

**Prolonged Exposure Therapy**

Prolonged Exposure Therapy (PET) is considered a “gold standard” for PTSD treatment and is adopted by the VA as a first response treatment for many individuals that experience PTSD (Rauch, Eftekhari, Ruzek, 2012). Similar to the theoretical foundation of Cognitive Processing Therapy, general exposure therapy proposes to change fear structures associated with a traumatic event or events through a process of habituation, extinction, and emotional processing changes. In short, the goal of the therapy is to activate a fear structure and replace pathological components of the response with more realistic and adaptable elements (Rauch et al., 2012). In PET, interventions consist of four domains: psychoeducation, real life exposure, exposure via imagery, and emotional processing (Rauch et al., 2012).

One study, although not with veteran participants, utilized a randomized wait-list control design to examine the effects of PET on PTSD in female assault survivors (Foa et al., 2005).
Participation in PET was associated with reductions in PTSD and depression, along with improvements in work and social functioning. Similar results were achieved with a group of female veteran participants who had PTSD (n = 284), with almost 68% identifying sexual trauma as the worst trauma they had experienced (Schnurr et al., 2007). In the comparison group for the latter study, however, treatment dropout was almost two times higher than an alternative therapy being offered.

One important consideration of PET is that it requires re-living the traumatic experience through physical stimuli or using imagery. There are some critiques of this approach as it may exacerbate symptoms, but studies that have examined this possibility have indicated only a minority of participants experience this problem and still have a net improvement post-therapy (Foa et al., 2002). However, given the typical 12 sessions of PET, exposure therapy during a critical time such as reintegration may not be a suitable choice for many veterans. While one study found that over 50% of veteran respondents with PTSD selected PET over anti-depressants or no treatments (Kehle-Forbes, Polusny, Erbes, & Gerould, 2014), this doesn’t necessarily reflect that PET should be the preferred therapy of choice. In the same study, the perceived credibility of the treatment was the number one reason for selection according to participants, implying that subjective utility of the therapy was important. One possible explanation of these responses could be that PET makes sense conceptually for participants. The notion that stimulus-response conditioning is possible and can be effective is certainly not a new concept. However, given the complexity of reintegration and the importance of protective factors surrounding veterans during this critical time period, PET may not always be an appropriate solution.
Eye Movement Desensitization and Reprocessing

Eye Movement Desensitization and Reprocessing Therapy (EMDR) originates from the cognitive-behavioral tradition and attempts to facilitate desensitization of emotional distress to traumatic events (Shapiro, 1989). Within a treatment, an external stimulus is presented for bilateral stimulation of the eyes during recall of a traumatic event (Albright & Thyer, 2010). The ultimate goal is for desensitization to occur to allow the traumatic memories to be reprocessed and allow for more adaptive cognitions (Logie, 2014). Logie (2014) summarized multiple hypotheses that describe potential underlying mechanisms that allow for this process to occur: rapid eye movement triggers memory consolidation and makes memories less emotional, visual imagery limits working memory so traumatic images become less powerful, or some combination of these mechanisms are to be attributable for the therapy’s success.

While there are some overlaps with previously discussed therapies, EMDR does not require participants to fully immerse themselves in traumatic memories (McGuire, Lee, Drummond, 2014). Contrary to other therapies, moderators of EMDR can at times ask participants to distance themselves from their experiences, despite these being described as cognitive avoidance, an outcome that other approaches attempt to reduce (McGuire et al., 2014). Despite some evidence to suggest that EMDR can be successful at reduction of PTSD symptoms and depression (Carlson, Chemtob, Rusnak, Hedlund, & Muraoka, 1998), a recent meta-analysis of six experimental and three quasi-experimental studies indicated that empirical support for EMDR is limited (Albright & Thyer, 2010). Additionally, the authors of the meta-analysis suggested that the eye movement component was possibly a placebo effect and that much of the therapy was based on exposure therapy principles. Nevertheless, the VA has integrated EMDR as a possible therapy for PTSD patients, despite the current debate over its effectiveness.
Issues with Reporting in Current Treatments

PTSD treatments may be at times combined for a multifaceted approach. Meta-analysis of these therapies have promising results, with an average of 67% of patients completing the treatment and no longer meeting the criteria for PTSD (Batten, Orsillo, & Walser, 2005). However, randomized control trials designed to determine the efficacy of these interventions may not be generating entirely useful results due to stringent internal validity (Batten et al., 2005). In the studies referenced by Batten and others (2005), the exclusion rate for several studies was 30% due to comorbidity issues with potential participants. The paradox generated by this issue is highlighted in the DSM-5 with the statistics on comorbidity with individuals with PTSD. Since as many as 80% of individuals with PTSD may have a comorbid disorder (American Psychiatric Association, 2013), filtering participant samples for PTSD-only diagnoses is not providing accurate information about the entire population.

This can be further complicated by the set criteria for a PTSD diagnosis as described in the DSM-5. Individuals may no longer be clinically diagnosable for PTSD due to participation in these therapies, but individuals may still not be having a truly successful outcome. (Batten et al., 2005). Individuals may no longer experience one particular symptom cluster of PTSD and therefore no longer receive a PTSD diagnosis, but may still have many adverse effects that can be associated with other PTSD symptom clusters. For example, an individual may no longer experience alterations in arousal and reactivity, but still may have negative alterations in cognitions and avoidance of reminders of the trauma.
Paradigm Shifts in Therapy for PTSD

Recent paradigm shifts in therapy have suggested that Acceptance-based and Dialectical Behavior therapies may be more suitable for the unique behavioral challenges associated with PTSD. Beyond symptom reduction, these therapies seek to provide individuals with skills to function beyond the context of the diagnosis (Batten et al., 2005). A focus beyond symptom reduction is necessary. A 2000 review of quality of life with individuals with anxiety disorders found that anxiety disorder diagnoses, even at subthreshold levels, were indicative of a lower quality of life (Mendlowicz & Stein, 2000). Therefore, focusing on alleviation of symptoms related to PTSD and improving overall coping and quality of life is an important strategy for these newer therapies.

Acceptance and Commitment Therapy & Dialectical Behavior Therapy

Acceptance and Commitment Therapy (ACT) was developed and is based on the concept that psychological events are a series of interactions between individuals and the environment and historical context (Hayes, 2006). In this theoretical framework, negative psychological outcomes can be attributed to experiential avoidance and attempting to suppress negative emotions (Hayes, 2006). In order to overcome this behavioral maladaptation, ACT utilizes six core processes: acceptance, or the opposite of avoidance, changing how cognitions are framed, nonjudgmental presence of psychological events, viewing the self in context, reframing values, and making committed actions towards changing behavior patterns (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). While numerous studies have examined the effects of ACT, with positive results, relatively few have explored the potential of ACT in veteran populations with PTSD (Orsillo & Batten, 2005). However, given the core processes of ACT and its theoretical
framework, future studies will likely begin to explore how ACT’s impact in veteran populations, particularly those with PTSD.

While Dialectical Behavior Therapy (DBT) was originally created for borderline personality disorder (Linehan & Dexter-Mazza, 2008), its theoretical framework has utility for veterans and PTSD. While the underlying basis for DBT is for individuals to establish balance, practices within DBT draw on a variety of techniques and strategies used in other therapies in addition to unique skills that are DBT-specific (Linehan & Dexter-Mazza, 2008; Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). Similar to ACT, DBT focuses on context but expands to include constant change as normal and also focuses on the concept individual and environment having reciprocal influence on each other (Linehan & Dexter-Mazza, 2008). This philosophical approach is unique and highly adaptable, making it potentially beneficial for individuals with PTSD or veterans in reintegration. Specifically, DBT’s five functions of treatment are highly applicable in the veteran population: increasing behavioral skills, motivating individuals to reduce dysfunctional behaviors, translate therapy skills into real world skills, improve therapist skills for efficacy of model, and encourage environmental settings to reinforce positive, adaptive behaviors (Linehan & Dexter-Mazza, 2008).

One study of DBT examined the therapy’s impact on suicidal behaviors for a clinical population. A randomized control trial, although with borderline personality disorder participants, found that the DBT treatment group was significantly less likely to make a suicide attempt and were less likely to drop out of the study when compared to other treatments (Linehan et al., 2006). While it may seem difficult to generalize to veterans with PTSD from individuals with borderline personality disorder, the global nature of PTSD and its difficulty to treat make DBT a good candidate for PTSD interventions (Becker & Zayfert, 2001). In particular, DBT’s
 framework of the dialectic of acceptance and change make it ideal for veterans that have PTSD that are in the reintegration process. Becker and Zayfert (2001) argue for DBT’s incorporation into PTSD treatment due to its behavioral foundations and ease of integration into multiple current treatments. One central component of both ACT and DBT is the concept of mindfulness as essential for adaptive behavior changes. As a part of this strategy, mindfulness practices have become incorporated through encouraging awareness of individuals’ internal and external environment (Batten et al., 2005).

**Mindfulness as a Psychological Construct**

Mindfulness has been described as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994). Brown and Ryan (2003), provided a similar definition of mindfulness as “an enhanced attention to and awareness of current experience or present reality.” Given the current use of mindfulness in a variety of therapies and its potential for making an impact in clinical populations, it is necessary to understand how this construct can be described. Accurate measures of mindfulness are important so that changes to mindfulness, ideally due to an intervention, can be documented. Additionally, a mindfulness measure allows for models to be developed that would theoretically demonstrate how an increase in mindfulness could cause a reduction in maladaptive cognitions, emotions, and behaviors.

The Five Facet Mindfulness Questionnaire and Kentucky Inventory of Mindfulness Skills are two self-reported measures that can be used to describe mindfulness and were developed to detect changes to mindfulness that could occur as a result of mindfulness training (Baer et al., 2008; Baer, Smith, and Allen, 2004). One main assumption of mindfulness measures is that they
are multifaceted and mindfulness itself has multiple constructs (Baer et al., 2006; Baer et al., 2008). In order to understand these constructs and their relationship with other psychometric tests, the formulation of the two aforementioned measures of mindfulness and the psychometric properties of these scales will be discussed.

**Kentucky Inventory of Mindfulness Skills**

The Kentucky Inventory of Mindfulness Skills was specifically designed to measure the multiple constructs of mindfulness in clinical and nonclinical samples and to be relevant for populations that are either experienced meditators or have no mediation experience (Baer et al., 2004). Psychometric properties and construct validity were determined through a series of surveys and oversight by clinical experts with experience in mindfulness training. After experts reduced 77 potential questionnaire items to 39 items, factor structure, internal consistency, and scale intercorrelations were examined using three sample student populations (N = 445). An exploratory factor analysis yielded nine factors via eigenvalues, but a scree plot revealed a four factor model for mindfulness with *observing* (α = 0.91), *describing* (α = 0.84), *acting with awareness* (α = 0.83), and *accepting without judgment* (α = 0.87) being the factor labels. Intercorrelations of the total sample (N=445) indicated significant correlations between all factors with the exception of observing and acting with awareness. Test-retest reliability was assessed with subset of the sample and t-tests found no significant differences between each score.

The Kentucky Inventory of Mindfulness Skills is indicative of a multifaceted skill construct that has separate but related factors. Additionally, researchers explored how mindfulness skills are related to other psychological constructs and collected data for correlations...
between mindfulness and the five factor model of personality, brief symptom inventory, trait meta-mood scale, dissociative experiences scale, satisfaction with life, and other measures (Baer et al., 2004). While only in a nonclinical undergraduate sample, multiple significant correlations were identified between mindfulness factors and personality factors, psychopathology, emotional intelligence, alexithymia, experiential avoidance, dissociative experiences, and life satisfaction, suggesting that a mindfulness skillset is theoretically related to other psychological conditions. Table 2 contains all correlations to constructs as reported by Baer and others (2004).

While these measures provide a report of a mindfulness skillset, the traits described by Baer and others (2004) combined with previous data would posit that mindfulness is directly related to overall psychological functioning. To test this, researchers compared mindfulness skills in the student samples to a clinical population of individuals diagnosed with Bipolar Disorder (n = 26). A one-way ANOVA was conducted and significant differences in mindfulness traits were found for the bipolar group with describing, acting with awareness, and accepting without judgment, with all three means for the bipolar group being significantly less than nonclinical samples at the .001 level. These findings provide further evidence that mindfulness may have a connection with psychological dysfunction or maladaptive behaviors.
Further studies have explored mindfulness and their relationship to both psychological dysfunction and overall wellbeing (Baer et al., 2006; Tran, Gluck, Nader, 2013; Williams, Dalgleish, Karl, Kuyken, 2014). Additionally, other questionnaires designed to measure mindfulness have been developed such as the Mindfulness Questionnaire (Chadwick, Hember, Symes, Kuipers, & Dagnan, 2008), Mindful Attention Awareness Scale (Brown & Ryan, 2003), Freiburg Mindfulness Inventory (Walach et al., 2006) and Cognitive and Affective Mindfulness Scale-Revised (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007). While significant correlations at the $p < .01$ levels have been found between the Kentucky Inventory of

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**Table 2. Relationships between mindfulness factors and other constructs in a student sample ($n = 130$) (Baer et al., 2004)**

<table>
<thead>
<tr>
<th>Construct (Scale)</th>
<th>Observe</th>
<th>Describe</th>
<th>Act/Aware</th>
<th>Accept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality (NEO-FFI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.06</td>
<td>-.41**</td>
<td>-.31**</td>
<td>-.42**</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.06</td>
<td>.36**</td>
<td>.15</td>
<td>.17</td>
</tr>
<tr>
<td>Openness</td>
<td>.50**</td>
<td>.20</td>
<td>.01</td>
<td>.04</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.05</td>
<td>.14</td>
<td>.27*</td>
<td>.10</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.20</td>
<td>.37**</td>
<td>.44**</td>
<td>.20</td>
</tr>
<tr>
<td>Psychopathology (BSI-GSI)</td>
<td>-.01</td>
<td>-.33**</td>
<td>-.38**</td>
<td>-.29**</td>
</tr>
<tr>
<td>Emotional intelligence (TMMS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention to feelings</td>
<td>.38**</td>
<td>.31**</td>
<td>-.15</td>
<td>.12</td>
</tr>
<tr>
<td>Clarity of feelings</td>
<td>.26*</td>
<td>.61**</td>
<td>.19</td>
<td>.08</td>
</tr>
<tr>
<td>Mood repair</td>
<td>.09</td>
<td>.29**</td>
<td>.24*</td>
<td>.14</td>
</tr>
<tr>
<td>Total</td>
<td>.34**</td>
<td>.54**</td>
<td>.10</td>
<td>.03</td>
</tr>
<tr>
<td>Alexithymia (TAS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficulty identifying feelings</td>
<td>-.24*</td>
<td>-.60**</td>
<td>-.17</td>
<td>.24*</td>
</tr>
<tr>
<td>Difficulty describing feelings</td>
<td>-.28**</td>
<td>-.74**</td>
<td>-.18</td>
<td>.25*</td>
</tr>
<tr>
<td>External thinking</td>
<td>-.30**</td>
<td>-.26*</td>
<td>-.01</td>
<td>.13</td>
</tr>
<tr>
<td>Total</td>
<td>-.33**</td>
<td>-.66**</td>
<td>-.15</td>
<td>.15</td>
</tr>
<tr>
<td>Experiential Avoidance (AAQ)</td>
<td>-.09</td>
<td>-.35**</td>
<td>-.30**</td>
<td>.26*</td>
</tr>
<tr>
<td>Absorption (Absorption Scale)</td>
<td>.39**</td>
<td>.02</td>
<td>-.17</td>
<td>.16</td>
</tr>
<tr>
<td>Dissociative Experiences (DES)</td>
<td>-.10</td>
<td>-.22</td>
<td>-.28*</td>
<td>-.11</td>
</tr>
<tr>
<td>Life Satisfaction (SWLS)</td>
<td>-.04</td>
<td>.28**</td>
<td>.21</td>
<td>.13</td>
</tr>
<tr>
<td>Impression Mgmt (PDS-IM)</td>
<td>-.01</td>
<td>.24*</td>
<td>.22</td>
<td>.09</td>
</tr>
</tbody>
</table>

NOTE: Act/Aware = Act With Awareness; BSI = Brief Symptom Inventory; GSI = Global Severity Index; TMMS = Trait Meta-Mood Scale; TAS = Toronto Alexithymia Scale; AAQ = Acceptance and Action Questionnaire; DES = Dissociative Experiences Scale; SWLS = Satisfactions With Life Scale; PDS-IM = Paulhus Deception Scales- Impression Management.

*p < .01, **p < .001.

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**Factor Models of Mindfulness**

Further studies have explored mindfulness and their relationship to both psychological dysfunction and overall wellbeing (Baer et al., 2006; Tran, Gluck, Nader, 2013; Williams, Dalgleish, Karl, Kuyken, 2014). Additionally, other questionnaires designed to measure mindfulness have been developed such as the Mindfulness Questionnaire (Chadwick, Hember, Symes, Kuipers, & Dagnan, 2008), Mindful Attention Awareness Scale (Brown & Ryan, 2003), Freiburg Mindfulness Inventory (Walach et al., 2006) and Cognitive and Affective Mindfulness Scale-Revised (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007). While significant correlations at the $p < .01$ levels have been found between the Kentucky Inventory of
Mindfulness (Baer et al., 2004) and these other mindfulness questionnaires, suggesting similar construct measures, the Kentucky Inventory of Mindfulness was the only questionnaire at the time that had empirical evidence of a multidimensional construct of mindfulness as determined by factor analysis (Baer et al., 2006).

Further assessment of the multidimensional nature of mindfulness by Baer and others (2006) led to a survey comprised of all five aforementioned mindfulness questionnaires for a total of 113 items. In a sample comprised of 613 students, an exploratory factor analysis with a scree plot interpretation yielded a five-factor solution, with four factors being identical to the factors identified in the Kentucky Inventory of Mindfulness Skills and an additional factor labeled as non-reactivity to inner experience.

Both the four and five factor model of mindfulness were also examined by Baer and others (2006) using a hierarchical model of mindfulness, with each facet representing a first order factor and mindfulness representing a second order factor. With the four factor model, fit indices were identical between the hierarchical and non-hierarchical model, suggesting that a multidimensional model of mindfulness is appropriate. The five factor model of mindfulness also had good fit for both hierarchical and non-hierarchical models, although researchers recommended the five factor hierarchical model be interpreted with caution due to sampling concerns.

**Benefits to a Multidimensional Mindfulness Construct**

While several other measures of mindfulness have been developed and are often used, the Kentucky Inventory of Mindfulness Skills and Five Factor Mindfulness Questionnaire seem to provide the best measures for different facets of mindfulness (Baer et al., 2004; Baer et al.,
Given the evidence of mindfulness as a multidimensional concept, it is advantageous to measure these dimensions independently versus a summative score or as a unidimensional construct for several reasons. First, specific measures of each dimension provide a more detailed explanation for an operational definition of mindfulness versus a single score. While single scores can be used to provide “cutoff” points for potential group placement for statistical analyses, these types of interpretations don’t adequately describe the variety of skills that can be attributed to mindfulness development and training. Second, there are clinical advantages towards measuring mindfulness as a multidimensional construct. It is possible that particular facets of mindfulness, for example, acting with awareness, could have stronger relationships with psychological disorders or components of disorders. Understanding the unique relationship between each particular facet and potential alleviation of symptoms or other psychological constructs helps inform both researchers and clinicians. For example, Baer and others (2006) explored the relationship between each facet of mindfulness and other psychological constructs. The results were similar to the previous analysis by Baer and others previous work (2004) and significant positive correlations were found with openness to experience, emotional intelligence, and self-compassion. Predicted negative correlations were found with other maladaptive constructs such as dissociation, neuroticism, thought suppression, and emotional regulation. Complete findings are located in Table 3.

Mindfulness as a multifaceted construct can also potentially inform researchers about an individual mindfulness skill that is particularly advantageous to a clinical population. Finally, measuring separate components of mindfulness can inform researchers of the efficacy of mindfulness training and other interventions. As mindfulness training in a variety of interventions is now becoming more common, it is useful to be able to understand how specific
interventions or trainings build a mindfulness skillset. Being able to compare changes in dimensions of mindfulness scores can help improve both the quality of interventions and be informative about potential dosage concerns that can arise during the development of trainings.

Table 3. Relationships between the five facets of mindfulness and other constructs in a student sample (n =881) (Baer et al., 2006)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Observe</th>
<th>Describe</th>
<th>Act aware</th>
<th>Nonjudge</th>
<th>Nonreact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted positive correlations</td>
<td>.42***</td>
<td>.19***</td>
<td>.02</td>
<td>-.07</td>
<td>.18***</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>.22***</td>
<td>.60***</td>
<td>.31***</td>
<td>.37***</td>
<td>.21***</td>
</tr>
<tr>
<td>Self-compassion</td>
<td>.14***</td>
<td>.30***</td>
<td>.40***</td>
<td>.48***</td>
<td>.53***</td>
</tr>
<tr>
<td>Alexithymia</td>
<td>-.08</td>
<td>-.68***</td>
<td>-.42***</td>
<td>-.34***</td>
<td>-.19***</td>
</tr>
<tr>
<td>Dissociation</td>
<td>.27***</td>
<td>-.32***</td>
<td>-.62***</td>
<td>-.49***</td>
<td>-.12</td>
</tr>
<tr>
<td>Absent-mindedness</td>
<td>.16***</td>
<td>-.28***</td>
<td>-.61***</td>
<td>-.41***</td>
<td>-.15***</td>
</tr>
<tr>
<td>Psychological symptoms</td>
<td>.17***</td>
<td>-.27***</td>
<td>-.48***</td>
<td>-.58***</td>
<td>-.32***</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.07</td>
<td>-.23***</td>
<td>-.44***</td>
<td>-.55***</td>
<td>-.32***</td>
</tr>
<tr>
<td>Thought suppression</td>
<td>.16***</td>
<td>-.23***</td>
<td>-.36***</td>
<td>-.56***</td>
<td>-.22***</td>
</tr>
<tr>
<td>Difficulties emotion regulation</td>
<td>-.02</td>
<td>-.38***</td>
<td>-.40***</td>
<td>-.52***</td>
<td>.36***</td>
</tr>
<tr>
<td>Experiential avoidance</td>
<td>.12</td>
<td>-.23***</td>
<td>-.30***</td>
<td>-.49***</td>
<td>-.39***</td>
</tr>
</tbody>
</table>

NOTE: In each row, the largest correlation is shown in bold, and correlations that differ significantly from the largest (p < .01) are shown in italics.

Psychophysiological Evidence for the Effects of Mindfulness

Both Kabat-Zinn’s (1994) and Brown and Ryan’s (2003) definitions of mindfulness suggest that mindfulness is a cognitive, effortful process and would therefore have some sort of psychophysiological basis. While mindfulness research is still in its infancy compared to more traditional psychological constructs, brain imaging technology and studies on possible neural mechanisms for mindfulness have provided insight into this process.

Since mindfulness has been posited to be a healthy emotional regulation strategy, studies with either clinical populations or with individuals that don’t engage in healthy emotional functioning provide opportunities for examining the potential psychophysiological mechanisms of mindfulness. For example, Murakami and others (2015) observed brain activity via fMRI
while individuals viewed emotional stimuli and either engaged in a mindful approach or emotional suppression. The mindful approach requested participants to "observe objectively and describe their subjective feelings or thoughts in their minds, and physiological changes in bodies, not with voice but just mentally, and to not suppress the emotions that are evoked by viewing the negative pictures." While both response types resulted in a reduction in amygdala activity, previously established to be indicative of an emotional response, brain activity varied greatly between regulation strategies. For individuals that engaged in emotional suppression, there was activation of the ventrolateral prefrontal cortex, suggesting a top-down control that resulted in a reduction in amygdala activity. However, the mindful approach resulted in activation in several areas including the dorsal anterior cingulate cortex, anterior insula, and medial prefrontal cortex. In particular, the activation of the medial prefrontal cortex has been associated with the parasympathetic response (Lane et al., 2009). The findings suggest that multiple cognitive and emotional processes were used during the mindful approach and that these recruited several neural networks that engaged a parasympathetic nervous system response that was different from a top-down cognitive response of emotional suppression.

In a study by Zeidan, Martucci, Kraft, McHaffie, and Coghill (2014), MRI scans were used to examine the relationship between anxiety and mindfulness meditation. Fifteen healthy participants MRI scans were compared before and after a four day mindfulness meditation training. Before and after each individual training day, state anxiety was also measured in addition to the pre- and post-test collection. Results indicated that meditation reduced state anxiety. MRI scans revealed a meditation-related activation of cognitive and affective control areas in the anterior cingulate cortex, anterior insula, and ventral medial prefrontal cortex that was inversely related to levels of anxiety. Another interesting finding of the study was that an
alternative to mindfulness meditation, asking individuals to pay attention to breath, did not attenuate state anxiety, suggesting that the active processes in mindfulness meditation were responsible for the observable effects.

In a review of studies that utilized fMRI’s to measure activation and changes due to mindfulness training, meditators, and trait mindfulness, Marchand (2014) found evidence to support the notion that global brain changes can occur as a result of mindfulness or meditation. Many areas implicated in previously mentioned studies such as the frontal regions, prefrontal cortex, anterior and posterior cingulate cortices, amygdala, hippocampus, basal ganglia, and thalamus. Additional studies have implicated the amygdala as an area that can be impacted by mindfulness practices (Way, Creswell, Eisenberger, & Lieberman, 2010; Ziedan et al., 2014).

**Mindfulness and PTSD**

Mindfulness interventions have had success at alleviating stress in multiple studies for different populations (Baer, Carmody, & Hunsinger, 2012; Bowlin & Baer, 2012; Bullis, Boe, Asnaani, & Hofmann, 2014). Mindfulness based interventions for individuals suffering from PTSD have shown that these practices can have significant impacts on PTSD symptoms. Kearney and others (2013) assessed outcomes of a Mindfulness-Based Stress Reduction (MBSR) program using 47 veterans in randomized control trials. In the MBSR, participants met for 2.5 hours for 8 weeks and a one day, seven hour session (Kearney et al., 2013). In each session, participants practiced mindfulness meditation, received homework, and asked questions and received instructions from instructors who had met professional guidelines for teaching MBSR (Kearney et al., 2013). At the two and four month follow-up, more veterans in the mindfulness
group had clinically meaningful changes in mental health-related quality of life and PTSD symptoms compared to typical treatments.

Kearny and others (2012) did a similar assessment of another MBSR program with veterans and found significant improvements in PTSD and depression (standardized effect size $d = -0.62, p < 0.001$; depression $d = -0.70, p<0.001$). This MBSR study followed the standard MBSR program and PTSD symptoms were reduced in the re-experiencing, active avoidance, emotional numbing, and hyper-arousal clusters (Kearney et al., 2012). In another study of mindfulness based psychotherapies, participants had decreases from pretreatment to post-treatment scores in both PTSD symptom checklist and depression respectively $d = -0.73, p<0.01$ and $d = -0.54, p<0.04$ (Goldsmith et al., 2014). These studies suggest that building a skillset of mindfulness can have positive effects at reducing PTSD symptoms.

Another randomized control trial of mindfulness with nurses experiencing PTSD found that eight week outcomes for PTSD symptom reductions were higher in the experimental group (Kim et al., 2013). Additionally, there were reductions in serum cortisol levels which can be attributed to changes in stress levels as well. A study by King and others (2013) examined both PTSD symptoms and compliance with an eight week mindfulness based program. A majority of participants completed the assignments (75%) and had meaningful improvements on PTSD symptoms as measured by their total score on the clinician administered PTSD scale and the avoidance subscale. In the related study, data collected from participants indicated that mindfulness-based approaches were well received by many veterans and contributed to clinically meaningful drops in PTSD scores (Liberzon, 2013). The same study analyzed brain imaging and found changes in neurocircuitry with participants, including decreased amygdala activation.
This is significant as amygdala function is a typical site for physiological change with PTSD symptomatology (Liberzon et al., 1999).

Related to mindfulness practices, spirituality well-being can also have a positive effect on reducing PTSD symptoms. In a study by Bormann, Liu, Thorp, and Lang (2012), findings suggested that spirituality, described as having meaning, purpose, and connectedness could reduce severity of PTSD symptoms. Specifically, the group that practiced emotional regulation and relaxation experienced the greatest effect (Bormann et al., 2012). These results match findings of Currier, Drescher and Harris (2014) that indicated lower spirituality scores being linked to more severe PTSD symptomatology. Although different interventions, spirituality practices may be related to mindfulness interventions, particularly with relaxation techniques and emotional processing.

**Center for Mind-Body Medicine Training Model for Mindfulness Skills**

The Center for Mind-Body Medicine offers training to individuals to build mindfulness based skills to reduce stress and improve self-care. The skills used in this program include meditation, biofeedback, movement, guided imagery, drawings, autogenic training, or learning to control one’s own physiology, genograms, or family history diagrams, and breathing techniques (Gordon, Staples, Blyta, & Bytyqi, 2004). These techniques are designed to train individuals to develop psychological, emotional, and physical abilities that can alleviate stress by providing tools for self-care (Gordon et al., 2004). In a training program for medical professionals, participants had significantly higher life satisfaction scores after the training (Staples & Gordon, 2005).
Additionally, the Center for Mind-Body Medicine (CMBM) has used these trainings to provide services for individuals suffering from PTSD. In a study with Kosovo high school students following the Serbian offensive against Albanians in the late 1990’s, 139 students participated in the CMBM training (Gordon et al., 2004). With this population, 90% of the city had been destroyed and most individuals had family members or friends killed in the violence (Gordon et al., 2004). In the three various participant groups, between 66% and 96% of students had mild to severe PTSD as measured by the PTSD Reaction Index (Gordon et al., 2004). Significant reductions in these scores immediately following the training. At the follow up measures, only 2% of students in one particular group had severe PTSD scores, suggesting that the CMBM training had dramatic effects (Gordon et al., 2004).

In another study with children in Gaza, 571 youth and adolescents participated in the CMBM training (Staples, Abdel Atti, Gordon, 2011). In Gaza, an estimated 25% of the young population have PTSD and there was a major prevalence of exposure to military violence (Staples et al., 2011). Post training, there were significantly reduced PTSD and depression symptoms as well as a decrease in sense of hopelessness (Staples et al., 2011). At a seventh month follow up, the decrease in sense of hopelessness, and depression subscale scores of interpersonal problems, ineffectiveness, and negative self-esteem were still fully maintained (Staples et al., 2011). These results of both studies in Kosovo and Gaza suggest that CMBM trainings are effective at reducing PTSD associated with violence in diverse populations of different cultural backgrounds.
Center for Mind-Body Medicine: Training for Veterans

Given the previous literature on mindfulness interventions and their success with alleviating symptoms of PTSD in veterans, as well as the development of self-care skills, mindfulness based interventions have potential to become part of the standard interventions veterans who have PTSD or are struggling with post-deployment adjustment issues and reintegration. The success of the CMBM training model provides further support to the idea that non-traditional approaches towards treating symptoms of PTSD may be more successful and economical than current treatments. An important consideration of mindfulness interventions is that the techniques learned are applicable beyond the scope of PTSD symptomatology. In a review of current therapies, Batten and others (2005) advocate for a self-care model that seeks to build positive coping skills and extend beyond the negative effects of trauma. Given the complex nature of PTSD and the potentially chaotic environment veterans can be exposed to post-deployment, a self-care model using mindfulness requires development, research, and dissemination.

Additionally, the CMBM training can be peer driven. Recently, eight veterans from Wichita were trained on CMBM techniques by certified practitioners. With a coordinate effort to replicate the CMBM model here in Wichita, local veterans and community service providers had the opportunity to participate in mind-body skills groups. A peer-supported model has the potential to create change for veteran participants. As the Wichita VA serves over 30,000 veterans in the surrounding 59 counties, there is an opportunity to build a peer support model for mindfulness training. With the prevalence of PTSD in the military and the lack of capacity for timely services for veterans, peer-support models will become more important in meeting the needs of military service members.
Research Questions

The following research questions were developed for this study:

1. How can we better understand the experiences of veterans and community service providers exposed to chronic or extreme stress or trauma and how does this exposure negatively impact individual’s health and wellbeing?

2. How did participation in the CMBM peer led group impact mindfulness skills as described by participants and facilitators?

3. How did participation in the CMBM peer led group impact stress symptoms as described by participants and facilitators?

4. How did participation in the CMBM peer led group impact overall health and wellbeing for both participants and facilitators?
CHAPTER III

METHODS

Mind-Body Self Care Groups

This research assessed the impact of a community-based intervention for veterans and community service providers designed to reduce the stress of post-deployment re-adjustment, reintegration, and high stress environments. Veterans and community service providers had the opportunity to participate in a peer-led mind-body group facilitated by other trained veterans who received certification to lead groups from the Center for Mind-Body Medicine in Washington, DC. This ten week program consisted of meeting for two hours a week to learn meditation skills, education, and feedback that have been shown to reduce stress and improve emotional coping. Each week, participants met in a small group format to learn a new skill and practice. Locations were churches or local university spaces. Group activities included drawing, autogenic training and biofeedback, meditation, guided imagery, dialogue with a symptom, genograms, relationship with food and mindful eating, closing drawings, and a closing ritual. Group organizers attempted to have each group be comprised of seven to ten participants.

Participants

Participants in this study were veterans and community service providers in the local community. Individuals in these populations have a documented exposure to chronic stress and potential trauma. Both trained veteran facilitators and group members assisted in data collection by participating in individual interviews. All participants were recruited to Mind-Body Self Care Groups through word of mouth and social networks. Due to the commonality of veterans and
community service providers, purposive sampling was used for data collection, with all group members being solicited to participate in an interview. The HomeFront Initiative was critical in recruitment for individuals in this study and group facilitators encouraged members to share their experiences with the researcher. Several veterans were interviewed that experienced the training directly from the Center for Mind-Body Medicine. With a small group of facilitators and two mind-body pilot groups conducted, the potential sample pool of participants was approximately twenty and the majority of group participants elected to participate in the interview process.

**Qualitative Inquiry**

Qualitative research can be used to collect data about experiences in a community settings that is unique to that population (Creswell, 2013). An important consideration of qualitative research is for the researcher to focus on participants’ meanings while maintaining reflexivity (Creswell, 2013). By maintaining reflexivity, researchers can allow participants’ descriptions of their experiences to not be influenced by the subjectivity of the researcher. Creswell (2013) referred to this subjectivity as “conceptual baggage” and argued that researchers must acknowledge that their past experiences influence current perceptions in order to gain objective insight into others’ lived experiences. In this study, a deeper understanding of veteran and community service member’s lived experiences as it relates to stress and trauma is necessary. Furthermore, the nature of the intervention requires detailed descriptions of personal experiences to understand and interpret its impact on participants.

Due to the similarities among veterans and community service providers, a phenomenological approach is best suited to understand the collective meaning of participants’ experiences. Phenomenological research seeks to create a description of an experience that
applies to all individuals in a particular group (Creswell, 2013). For this study, it was important to understand both the impact of stress and trauma on individuals’ lives and how Mind-Body Self Care Groups impact individuals’ perceptions of their experiences and ability to cope with challenges in their daily lives. Additionally, it is essential to understand how the Mind-Body Self Care Group processes influences participants and facilitators.

Phenomenology is a form of qualitative research that seeks to create meanings from descriptions of experiences (Moustakas, 1994). Creswell (2013) described several key features of phenomenology. As previously discussed, bracketing, or the researcher identifying subjective perceptions of the phenomena, is essential to providing objective descriptions of participants’ experiences. In this study, the researcher also received training from the Center for Mind-Body Medicine and has worked with several veteran participants for the previous three years. Phenomenological data was collected through individual interviews and analyzed to determine both the “what” and “how” of the groups’ collective experiences (Creswell, 2013). As the research goal is to capture a detailed explanation of both participants’ relationship with stress and trauma and the impact of the intervention, a transcendental approach is best suited for this task. In transcendental phenomenology, data is reduced to statements and organized by themes (Creswell, 2013). From this, a textural (what) and structural (how) description provide an overarching explanation of the experience (Creswell, 2013).

**Psychometrics and Scales for Quantitative Measures**

Several quantitative measures for these research questions were developed to assess the impact of the group and for possible utility in later mind-body groups. With a limited sample size, significant findings were unlikely but data collection for a later analysis was attempted. The
Kentucky Inventory of Mindfulness Skills (KIMS) is a validated scale that measures four elements of mindfulness: observing, describing, acting with awareness, and accepting without judgment (Baer, Smith, and Allen, 2004). The KIMS is a 39 question self-report questionnaire that uses a 5 point Likert scale response (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Both exploratory and confirmatory factor analysis have shown support for a four factor model of mindfulness (Baer et al., 2006). In a study to examine mindfulness and other variables, Baer and others (2006) found positive correlations with the KIMS and meditation experience $r^2 = .33, p < .001$, emotional intelligence $r^2 = .61, p < .001$, and self-compassion $r^2 = .49, p < .001$. Additionally negative correlations were found between mindfulness as measured by the KIMS and psychological symptoms $r^2 = -0.42, p < .001$, thought suppression $r^2 = .42, p < .001$, difficulties in emotional regulation $r^2 = -0.56, p < .001$, and experiential avoidance $r^2 = -0.44, p < .001$ (Baer et al., 2006).

The Depression, Anxiety and Stress Scales (DASS) is a 21 item questionnaire that measures the negative affective states of depression, anxiety, and stress (Lovibond, 1998). This questionnaire has shown good convergent validity with other scales to distinguish differences between depression and anxiety and all three measures have alpha coefficients above .80 (Lovibond, 1998).

The Post-Deployment Readjustment Inventory (PDRI) is a 36 item questionnaire that asks about symptoms and levels of functioning in the following domains; career, health, intimate relationships, social readjustment, concerns about deployment, and PTSD symptoms (Katz, Cojucar, Davenport, Pedram, & Lindl, 2010) For the purpose of this study, the PTSD symptom questions will be removed since measured elsewhere. This questionnaire was originally designed from qualitative interviews of returning soldiers from Operation Enduring
Freedom and Operation Iraqi Freedom and each subscale has been found to have strong internal consistency and high correlations with other standardized measures of symptoms (Katz, 2010).

The Life Events Checklist-5 and Posttraumatic Checklist-5 (LEC-5 and PCL-5 respectively) are questionnaires designed to evaluate if a traumatic event has occurred in an respondents life and measures 20 DSM-5 symptoms of PTSD as related to the most traumatic event (Weathers et al., 2013). The self-reporting scale of each item of the PCL-5 allows respondents to rank the severity of each symptom. PCL-5 scores can be evaluated a variety of ways and cutoff points for interpretation are variable depending on research questions (Weathers, 2013).

**Quantitative Data Collection and Analysis**

The quantitative data collection schedule was as indicated below:

Group Participants: O1  T  O2

A pre-test comprised of several scales was administered prior to group participation to establish a baseline for later comparisons. Select demographic information was also be collected. A post-test survey immediately followed at the conclusion of the groups. The majority of participants either did not fill out both surveys or did not enter their personal identifier, therefore making a baseline comparison impossible.

**Qualitative Data Analysis**

Creswell (2013) provides a procedure for qualitative data analysis that is specific for phenomenological inquiry. In order to maintain an objective analysis of the data, the researcher must first identify their own experience with the phenomenon (Creswell, 2013). This process,
described as bracketing, is an essential part of the qualitative analysis (Creswell, 2013; Moustakas, 1994). In order for analysis to begin, complete transcriptions for each participant interview was created utilizing a local transcription specialist.

The first step of analysis involves listing all significant statements that are relevant to the experience, a process often described as horizontalization (Moustakas, 1994; Creswell, 2013). From this list of relevant participant expressions, redundant and overlapping statements are removed (Creswell, 2013). Moustakas (1994) provided two criteria for each statement in order for it to be included for later analysis. First, the statement must contain a description of the experience that is necessary. Second, the statement must be able to be abstractly described and labeled. For example, vague descriptions that have no real connection to the experience are removed. The next step is to group statements according to larger meanings or themes, also described as clustering (Creswell, 2013; Moustakas, 1994). The final step in data organization is a trustworthy or validity check of both statements and their grouped themes. According to Moustakas (1994), each theme should either be explicit in the original transcription or similar to explicit statements made by participants.

From these themes, both a textural and structural description are created for each participant (Moustakas, 1994). These are the corresponding “what” and “how” of the individual experiences. An important part of these descriptions is including supporting verbatim statements that allow participants’ own words to describe the experience and not necessarily rely on solely the researcher’s thematic labeling. The final step of the phenomenological analysis is the creation of a composite description of the experience. This composite description is typically a summative paragraph that provides an overview of the experience and the context that it occurs (Moustakas, 1994; Creswell, 2013).
CHAPTER IV

RESULTS

Demographics

Approximately twenty individuals participated in the Center for Mind-Body Medicine training that were either Sedgwick County Emergency Medical Service Providers or veterans of American military service and interviews were conducted with fifteen of those participants. Seven individuals identified as having PTSD during the interviews and the majority of interview participants had been exposed to trauma. Three veteran facilitators were interviewed as well as two veterans that had received training directly from the Center for Mind-Body Medicine.

For veteran participants, the Army, Navy, Air Force, and Marines were all represented. The minimum time of service reported was two years with a maximum service record of thirty years. Veterans held a variety of positions during their service with five veterans experiencing combat in either Operation Enduring Freedom or Operation Iraqi Freedom. Two veterans had combat experience in other theaters, including Vietnam. Table 4 contains participant demographics. Table 5 contains themes from interviews with veteran participants. Table 6 contains themes from EMS participants. Interviews were transcribed and then analyzed using NVivo 11 Software. The quantitative assessment had a substantially low return rate and data collected was not included in this analysis. Participants either did not choose to fill out the survey, did not return surveys that were distributed, or failed to write in an assigned code so post-test data could be compared to baseline data for each individual.
Table 4. Participant Demographics

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Gender M, F</th>
<th>Years of Service $M$ (SD)</th>
<th>Combat Exposure (n)</th>
<th>Trauma Exposure (n)</th>
<th>Self-Identified PTSD (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterans</td>
<td>11</td>
<td>10, 1</td>
<td>11.7 (9.2)</td>
<td>7</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>EMS</td>
<td>4</td>
<td>2, 2</td>
<td>8.25 (3.5)</td>
<td>-</td>
<td>4</td>
<td>1</td>
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<tr>
<td>Marines</td>
<td>1</td>
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<tr>
<td>Air force</td>
<td>2</td>
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<tr>
<td>Navy</td>
<td>2</td>
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<tr>
<td>Army</td>
<td>6</td>
<td></td>
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<tr>
<td>Theme</td>
<td>Example Statement</td>
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<td>Military Experience</td>
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<tr>
<td>Change in identity</td>
<td>I think it was probably the greatest, the largest experience, the largest thing that has affected my whole life since becoming an adult.</td>
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<tr>
<td>Trauma exposure</td>
<td>I was suddenly confronted with not only [my friend’s] death in a combat scenario, but also my own mortality.</td>
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<tr>
<td>Trauma impact</td>
<td>There are no rules, you do that however you can. That means you are going to be rude, crude and socially unacceptable, and you are following procedures.</td>
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<tr>
<td>Reintegration</td>
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<tr>
<td>Trauma</td>
<td>I used to get some night terrors that would wake me up. I would come under attack, I would be in a fire fight or something and it’s a reoccurring dream, it’s the same one, so I know what’s going to happen.</td>
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<tr>
<td>Challenges</td>
<td>It opens your eyes, because the civilian world, it’s kind of a mindset, well they just don’t understand.</td>
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<tr>
<td>Appeal of Groups</td>
<td>At some point you just have to come to terms with something is bothering you, something is wrong and that you have to do something about it.</td>
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<tr>
<td>Group Experience</td>
<td>There was some real stuff, I mean heavy duty stuff came out in the lives of some of the people in the small groups.</td>
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<tr>
<td>Impact of Mind-Body Training</td>
<td>Absolutely believe in the mind-body model and I am trying to be more knowledgeable about when my body is trying to tell me something, and then what I can do to calm my mind down or calm my anxiety down and the skills that that showed me were a few tools.</td>
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<tr>
<td>Group Feedback</td>
<td>It gives you that hope that this works, that you do have control over your own body and your thoughts.</td>
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<tr>
<td>Peer Support</td>
<td>Other veterans that were there, helped me out a lot, helped me out to focus, and to see that they could do it, I could do it.</td>
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<tr>
<td>Facilitator Experience</td>
<td>It’s rewarding in seeing the reactions of the people and to see them become open and come to grips with the fact that I can do something, here is something tangible that I can take with me and use on a daily basis.</td>
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<tr>
<td>Change in Mindset</td>
<td>Just being aware of what might cause your stress and see it coming or be able to deal with it when it shows up.</td>
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<tr>
<td>Continued Practice</td>
<td>I use imagery quite a bit, place I go to on the beach; It’s given me back control.</td>
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</tbody>
</table>
Veterans’ Military Experience

Veteran participants described various experiences during their military service. Regardless of military branch or length of service, participants discussed their military service as a powerful experience that helped shape their current identity and perspective. Military training was described as both challenging and rewarding and offered experiences that would not be available with any other career choice. For some, it provided experience and skills that later translated to a civilian career.

“I think it was probably the greatest, the largest experience, the largest thing that has affected my whole life since becoming an adult. It’s what shaped my being I guess.”

For veterans that deployed to theaters of war, combat experiences were profound but all shared some similarities. The challenges of deployment often included missing family gatherings and partners, and significant events in the lives of their support networks. Combat deployments also typically included exposure to violence, human suffering, and trauma. One veteran discussed his introduction to the war after arriving in Vietnam:

“When I got there, there was a guy, a VC, who was badly wounded. His, most of his stomach was gone but he was still alive. The platoon I was sent with, the idea of this was, we were supposed to go meet with our peer and kind of climb in their hip pocket for that two weeks and see how it’s done. Well, the platoon they sent me to had been ambushed about 20 days earlier and they had lost all their leadership. They pulled us in from our ambush site to pull security while they cleaned up that ambush site and searched these guys for intel.
So my Lieutenant is standing there on the radio. The battalion company was pressing him for information – what was the body count – that’s what everybody wanted to know – Jesus Christ. At the time, we all thought that was what we needed to be paying attention to, but it didn’t take us too long to learn that was upper echelon’s thing to tend to and we didn’t need to be paying attention to that. So he’s getting a lot of pressure and he’s as green as I am and the medic kept asking him, “What do you want me to do with this guy?” About the third time the medic asked the Lieutenant while he was trying to talk on the radio, he said, “Just do whatever you normally do.” Those guys carried a d-handle shovel for digging in at night. See, where I went you never dug foxholes because water table was above ground level, but up there you did. He had this d-handle shovel and it had about 8 or 9 holes in it where it had been perforated by claymore that had taken all these guys out 20 some days earlier and they carried that around to remind them of Lopez. Lopez was a guy they liked that carried that shovel. So that medic walks up to this guy and says “This is for Lopez.” He sticks his M16 up to this guy’s head and pulls the trigger. I’m looking at this thinking Holy Christ I’ve just witnessed an atrocity! This was five days in. I’m thinking holy crap! What do I do? So all my people are out on perimeter on security and the Lieutenant is there and I pull him aside and say “Fuck sir did you see what they just did? Hell that’s an atrocity!” He looked at me and says “You shut the fuck up, these guys all have loaded guns!” So I say “okay”… so that was my introduction.”
For veterans recently returned from Iraq or Afghanistan, extended deployments took a toll on soldiers as they were often in combat events for a longer duration that other wars. Soldiers in supervisory or leadership roles also had the added responsibility of looking after the health and wellbeing of other soldiers in addition to their own safety and wellbeing.

“A lot of my soldiers were struggling with being gone for 9 months, anywhere from 6 months to 9 months gone with the unit, come home for a couple months and then deploy for 15 months… you didn’t have facilities, you didn’t have traditional showers, you didn’t have the normal meal rations. You had MREs in your truck and water in your truck and you survived off your truck, slept in your truck.”

In addition to the often unpleasant deployment environments, engagements with the enemy could result in witnessing the deaths of American soldiers. The loss of friends and fellow combatants had a dramatic impact on the wellbeing of soldiers.

“I was suddenly confronted with not only [my friend’s] death in a combat scenario, but also my own mortality.”

Combat engagements could often prevent military members from being in frequent contact with their families or lead to soldiers to omit sharing their experiences with their support networks. The inability or unwillingness to share some experiences with family members could often add the stress of deployments.

“When we lost [two soldiers], that was 2003 and even though I don’t talk to my wife about it, we would be on the phone one time, on the satellite phone and all of a sudden we got incoming rounds, so I just had to say hey, gotta go, there’s a bad connection or something like that.”
In response to these experiences, combat veterans described a variety of coping mechanisms that were useful during their deployments. These coping strategies could range from anger, the desire for retribution, binge drinking, and an acceptance of the potential outcome of their own death as the result of combat operations.

“The sad reality is you get kind of used to it because it happens. You know that it is going to happen and if it’s your day, it’s your day. If you’re the lucky guy that doesn’t get hit and walks away, then you were lucky. So it’s all by random.”

Military training was described as being intentionally designed to keep soldiers busy and often prevented any significant processing of combat events, even after they would return stateside. Particularly for combat units, post-deployments routines would require more training exercises with little free time. In general, participants described their responses to trauma as limited and often involving emotional suppression as there were usually more important tasks to complete.

“It was compartmentalized, push that away, lock it up, you have a mission, mission orientated, focus on that so you can make an accomplishment on whatever the goal was.”

“I didn’t dwell on the stuff much after the fact. I just concentrated on what would I need to survive the next one. Do I need more water, do I need more ammo, do I need more claymores, do I need more smoke grenades, do I need more frag grenades…”
Military training encouraged individuals to remain mission focused and either ignore or actively suppress emotions or thoughts unrelated to the task at hand. These skills were effective at keeping military members alive and enabled a high level of functioning in combat environments.

Reintegration

When veterans transitioned home from deployment or ended their military service, the reintegration process brought with it a new host of challenges. Even without prevalent symptoms related to trauma exposure, participants still articulated having difficulties with changing roles, routines, and priorities. This was often attributed to the drastic cultural differences between the military and civilian world.

“I initially intended to stay in and make a career out of it, I didn’t see my second child until she was four months old. And that made me start wrestling everything with family, you know, does career come first or does family come first… it’s like a fish out of water, after deployment because it’s the whole idea of feeling there was a purpose for your life, to try to figure out what purpose can I have that is bigger than what I just had. So really having to wrestle with that was tough… it was pretty meaningless for about six or seven years”

There was a consistent theme of feeling misunderstood and isolated from civilians that had never served. For individuals whose job required constant interactions with civilian peers or bosses, there was often a struggle to communicate and work effectively. Some participants described having a lifetime of experiences of never fitting in and feeling isolated from much of the civilian world.
“I worked for an oil company, had a job with them for almost 26 years. So it wasn’t like I didn’t maintain, raise a family, do all of this stuff. But we never fit in.”

Veterans with families discussed family dynamics as both rewarding and challenging. For some, building relationships with younger children was a rewarding experience as many had missed several years with their children during deployments. For others, the transition to spending more time with their children brought difficulties.

“As I transitioned from the military to civilian life my son would call me angry dad…. it was an eye opener because I am not an angry dad, I’m a restrictive dad, I’m the one who is the enforcer. He’s like ‘No dad, you are always angry. No matter what I do you are always angry.’”

Veterans that had exposure to combat and trauma had additional challenges that impacted the reintegration process. These could include emotional processing of situations experienced during deployments, not understanding the impact of their prolonged exposure to stress, and inability to communicate their problems to their support networks. For those receiving services for PTSD or service-related injuries, frequently changing doctors or medical practices were described as frustrating and unhelpful and could even worsen symptoms or the experience of veterans.

“The process of therapy was the Army would give me a doctor for three months and then change it up on me and give me a new doctor. Or I would be with a doctor for say a month and a half, and then they would give me a new doctor. So it was starting over and starting over and it was very challenging, it was very frustrating, and I got to where I just shut down.”
For some participants, flashbacks or nightmares were common occurrence and made adjustments to civilian life even more challenging. Despite available services provided by the VA or other providers, flashbacks could occur for months following deployments.

“I used to get some night terrors that would wake me up. I would come under attack, I would be in a fire fight or something and it’s a reoccurring dream, it’s the same one, so I know what’s going to happen. Every time something detonates right beside me and air fills up with dirt, blocks out the sun, everything goes black…. somebody starts touching me and I start swinging on them and I end up like waking myself up from elbowing the wall or something.”

For other veterans, basic activities such as operating a vehicle would be a challenge as they had driven in convoys with Iraqi National Police and had been subject to roadside bombs. For others, the lack of connection between service experiences and trauma and its impact with reintegration took years to understand and led to loss of support networks and even spouses.

“Going through enough one-on-one stuff, I have been able to determine that that is the root thing, I have to feel safe… if I had been aware enough at the time I would have recognized it because I could have related, but I didn’t put two and two together quick enough. By the time I did my wife was gone.”

While there were many examples of struggles with functioning during the reintegration process, the majority of veteran participants discussed finding meaningful careers and purpose after their military service. For those that had experienced combat or trauma, there was a general understanding of connecting their symptoms to their experiences and how it influenced their current behavior and perspectives.
Appeal of Groups

The most prevalent reason for wanting to participate in a mind-body group training was the desire to help other veterans or people. Regardless of their service length, combat exposure, or PTSD diagnosis, all participants described some type of willingness to assist others. Other reasons cited for wanting to participate in the group included increasing self-awareness, coping skills, and gaining experience with meditation. Some individuals described also feeling burned out and wanting to learn how to be able to not feel as exhausted or drained.

“I was having problems again, and it seemed like every year, every six months I felt like, I would say I’m coming in for a tune-up. Work again was getting to me, just people were just being stupid, so it was really building up, so [a counselor] suggested a few things I could try, the meditation, and I thought that was pretty cool, and he suggested I try this group out.”

Group Experience

Veteran participants described both optimism and some skepticism going into the group experience. Once the group started and had moved through several sessions, however, participants noticed changes in the group dynamic and reflected that it felt more comfortable as the group proceeded. The facilitation process and weekly structure were described as beneficial by participants, even if it didn’t align with their original expectations for the group.

“I went in kind of expecting, I thought it would be talking about things, talking through things, but it wasn’t. It was, the group techniques, seemed like each week was like a different skill, kind of checked in and talked
about different things that might have been bothering us. Each week it was like they gave us a different skill to work on, a coping skill. I didn’t realize that’s what it was going to be, which was pretty cool I thought.”

Several participants found different activities during group to be beneficial. Guided imagery was a common exercise that was cited as being effective. For those that found one particular meditation activity to be frustrating or not useful, they were still able to describe its value by witnessing it benefitting someone else in the group. There was an enjoyment of watching others make progress and observing others’ practice having an impact on them. The check-in procedure utilized at the start of the group as well as the sharing piece after the experiential component allowed for individuals to openly discuss some of their experiences.

“There was some real stuff, I mean heavy duty stuff came out in the lives of some of the people in the small groups. And it was like people are real, you know?”

An important consideration with the sharing components of the group was that facilitators did not require individuals to participate if they chose not to. This contributed to a safe and comfortable group setting for individuals.

“There was no pressure to have to speak, which I appreciate that because I have been in groups where if you didn’t speak you were kind of singled out as a non-participant or something like that, and this was a much more comfortable environment, one in which there was no pressure.”

Compared to experiences some veterans had in other group settings, the current group took a different approach when people were speaking to the group during check-ins and sharing of experiences. The focus was shifted towards allowing others to speak and being aware of how
that impacted oneself as opposed to sharing opinions on others’ experiences or stories. Group guidelines specifically state that participants are to only speak to their own experience and avoid commenting on others’ sharing. This structure was attributed to a unique peer setting.

“It was really different than whatever we did at the VA. In all the groups I have been in, it was always bring your problems up and we’ll talk about what’s been going on, how you have been affected, and this wasn’t [similar to those experiences]. We had to check in every day and just kind of talked about what had been on our mind that day…. we all kind of vented I guess you could say or just opened up and then went into working on a skill, so that was different.”

Impact of Mind-Body Training

Veteran participants described a variety of positive impacts from participation in the training. Given the breadth of exercises that were introduced, different exercises resonated with different individuals. While some exercises were described as challenging or unappealing, participants typically still described observing the benefits that others experienced during those exercises, thus providing credibility to the various exercises in the training. The metaphor of a “toolkit” in reference to meditation exercises to use when needed was a common expression.

Several participants reported an increase in different types of self-awareness as a result of the group. This increase in self-awareness was described in terms of cognitive, emotional, and physiological awareness. The ability to become more aware of these internal events allowed veterans space to choose a reaction versus an instinctual response.
“I have become more aware of my physiological changes, the things, like I carry stress across my shoulder blades and in my neck… I can feel that if I can breathe, you know?”

In some circumstances, increased awareness provided insight for participants about emotions related to their service and deployments. These emotions could be either positive or negative.

“I got a lot of hatred for the people over there, they’re idiots, and all that came out. So that is what I learned about myself is all that hatred that I have inside me that’s built up, that’s pent up, that I need to let out, they brought that to my attention.”

Participants also discussed changes with their ability to interact with others. In particular, participants described being more calm and receptive to others. This increase in non-reactivity during interactions with others was considered beneficial and a direct result of skills gained in the group and yielded tangible benefits for veteran participants outside of the group.

“I am able to hang out and relax, listen to my wife and my son when they talk and not be reactive but just listen, not try to fix their problems.”

**Group Feedback**

Veterans provided several responses when asked to provide general feedback about the group and their experience. Similar to describing the observable benefits of the training such as stress reduction and relaxation exercises, veteran participants described a positive experience that was both unique and transformative. In particular, the safety experienced in the group was described as leading to trust among group members and facilitators.
“I can’t believe how well this works. The level of trust that has developed in three days, I have seen three years’ worth of time pass in a PTSD group to get to the level we are at in three days here, that level of trust that you will just lay it open, man. That is raw nerves you are exposing and feel safe enough to do that. So there is no doubt in my mind that this process works.”

Participants discussed the transformation on a personal level. The ability to utilize skills in the group to have a tangible impact was critical. The connection between mindfulness exercises and their impact on individual’s physiology had a profound impact and was described as empowering.

“It gives you that hope that this works, that you do have control over your own body and your thoughts, to be able to, I mean it seems so simple when you practice it and even it’s simple in explaining it to the point that it almost seems too simple, that people can’t grasp it because it’s so simple.

The skills used in the training were utilized beyond the group and impacted personal relationships in a positive way. The increase in self-awareness and allowed some participants to more effectively communicate with their families and social support networks.

Veterans also provided feedback on potential changes to the group and described challenges they encountered. For several combat veterans, there was a recommendation for a group with only combat veterans as they often have unique experiences and challenges that extend beyond non-combat military experience. However, combat veterans still reported that the group was a useful experience, despite the group being comprised of both combat and non-combat veterans of various service branches.
For veterans that may have severe or persistent mental health disorders, including PTSD, the group experience had its challenges. One participant that described having multiple mental health diagnoses commented on the difficulties of a nine-week group commitment. Another commented on observing a particular exercise that triggered a memory of combat in Vietnam for another participant.

“The instructors had a session where we lay on the floor and close our eyes… there was an older gentleman in there, a Vietnam vet and he really had a tough time with it and then he missed the [next group session]. And then he came back and said I couldn’t do that because all I can do is lay there with my eyes closed and see, you know, when you do a kill, when you are out fighting, you take off the dog tags and rip off all the paper you can from the bodies of the enemy to try to figure out what the hell is going on, he said ‘I had flashbacks and all I could smell was blood and urine.’”

The veterans that provided this feedback still commented on having a powerful experience in the group and benefiting from the skills learned, although acknowledging their diagnoses causing them to possibly have a different experience from other participants.

**Peer Support**

Peer support, both in and out of the group was a critical part of a veteran’s ability to reintegrate into civilian life and cope effectively with both expected and unexpected challenges. The ability to talk and spend time with others that had shared experiences was hugely important. For the group, the ability to witness others describing personal struggles had a normalizing effect on participants’ own experiences.
“There are a lot of adjustments I have made, I am letting people in. Bits and pieces of my family that I used to shut out, which because hearing how people have been shut out of their lives, the group members, and how they have shut them out, kind of twisted my mind a little bit, changed it a little bit, I have been doing that all along and I need to change my mind and bring them back in. It’s a very powerful experience.”

Regardless of differences in service length or military branch, the common theme of exposure to stress was a relatable topic for all group members. The ability to witness others having a positive experience or utilizing a skill in the group was beneficial. For some veterans that struggled with emotional expression or self-awareness, having other veterans model behavior or engage in strategies to overcome barriers was useful.

“I struggle a lot with feelings. I am still, I’m not an emotional man, I am but I’m not. I don’t display them outwardly. I usually push things down and to talk about them is not my nature, and to overcome that was very hard. And once I, I don’t know, I mean other veterans that were there, helped me out a lot, helped me out to focus, and to see that they could do it, I could do it.”

The ability to witness peers struggle with mental health issues had a profound impact for some veterans. Although outside of the group setting, one veteran described their experience working with the Warrior Transition Unit and observing the impact of military service and the “suck it up and drive on” mentality. In particular, witnessing other soldiers recovering from stress and trauma and having a positive reintegration as a result of receiving services helped reduce their own perceptions of stigmas around both mental health and receiving mental health services.
Facilitator Experience

Veterans that were in facilitator roles commented on their experiences as both group leaders and participants. For the group process, facilitators commented on the challenges and rewards associated with having a leadership role and guiding participants for a nine week program. For veteran facilitators, several challenges included giving individuals space to determine if they wanted to participate in individual exercises and allowing them to form their own opinions on various exercises and the overall experience. The balance between facilitation and leadership required skills to navigate personal differences and the individuality of each participant.

“Kind of like in AA you can try to get somebody to quit drinking, but if they are truly not ready themselves they’re not going to quit.”

Additionally, one veteran facilitator that had received previous clinical training noted the challenges associated with not intervening or providing feedback to participants sharing experiences as would have normally been the case in a traditional clinical setting.

“With this you just kind of let it lay there sometimes and acceptance of it and that stillness has been different. It is hard at times.”

However, the same individual also commented on the differences compared to traditional group therapy settings that contributed to a powerful experience among participants. In particular, the relaxed nature of the group settings and the ability to share or remain silent contributed to a setting that was in contrast to traditional therapy.

“The platform is trust as always, but how it comes to be feels like more of a vehicle of just natural communication between people in these groups than when you have to kind of go through an intake assessment, poking and
prodding to get where someone needs to go anyway. I think the groups have felt more natural.”

For individuals with more experience running groups, facilitators commented on the fluidity of the program model and its ability to be both flexible to the demographics of participants and various levels of education. Opportunities for more experience as both a co-facilitator and sole facilitator were desired by the group leaders. Individuals that had co-facilitated described the benefit of having a “safety net” with another facilitator to watch group members and cover material that may have been missed.

Facilitators also commented on the rewarding nature of the position. The observation of others’ successes and personal benefits from the model was a common theme that was experienced by all facilitators.

“You will see them come in… tensed up, but when they leave they are relaxed and they are able to take a few minutes out of their day and participate in self-care and help themselves so when they leave they definitely have a little bit more upbeat in themselves, they are a little bit more positive.”

The dual role of participant and leader allowed facilitators to directly benefit from the exercises as well. Several commented on feeling better about themselves and noticing reductions in stress during the group experience as well.

**Change in Mindset**

Veteran participants described a shift in thinking as a result of their group experience. Several individuals discussed incidents after the group when increased self-awareness and an
ability to engage in a relaxation exercise had a positive impact. For some, reflecting on past experiences with the knowledge and skills gained in the group allowed for a new perspective.

“I can think of many times where they were rapid and where my emotions went all over the board based on trauma exposure and not knowing how to slow the cart down and analyze what was going on around me. That has given new meaning to those experiences and almost a little bit of regret. It’s almost like wishing I had known then what I know now.”

Most participants described a change and shift in thinking when exposure to the group, peer support, or a powerful meditation exercise enabled them to view the benefits of both the training and mindfulness.

“I don’t think my perspective changed very much but just my overview of how it affected me or how it affects me now. Don’t give it as much power to affect me or make me mad... I am more mellow towards everything that happened.”

The ability to be less reactive was attributed to the group experience and allowed veteran participants to approach new situations with the ability to understand how to interact with others more effectively. As participants described what mindfulness meant to them, various responses indicated lower reactivity, increased self-awareness, and an ability to be more receptive to others.

“[Mindfulness] just means noticing what your thoughts are, noticing what they tell you to do, noticing what the pull is and then really taking a step back and thinking through what do I want the outcome to be and what truly represents me and how I want to behave and navigate this world, and then acting according to that as opposed to seeing a situation, rapidly assessing
it and then moving on. What does it look like to slow down and really think about what you are doing?”

This shift in mindset and utilization of relaxation techniques and skills learned in the group were attributable to many of the positive experiences of veterans both within and outside of the group.

Continued Practice

As the interviews occurred at various time intervals after the group experience, participants were able to reflect on continued practice of the skills they had learned. While participants described the change in mindset and increased self-awareness as fairly constant since the training, the frequency of use of actual mindfulness and meditation exercises varied greatly. For some, it was a skill that they could draw on when needed but was otherwise not a regular behavior.

“When I recognize the need, it’s there for me to utilize and I do and it’s effective at that point. But I can’t tell you that that is my first go-to, it’s not a habit.”

For individuals that practiced skills regularly, there was a clear benefit and a tangible impact. Various practices could be used to reduce stress and allow for meaningful and productive interactions with others.

“I use imagery quite a bit, place I go to on the beach, it’s given me back control, if you will, to be able to say that that stress and those worries don’t have to be in control of me, I can be in control of them.”

Several veteran participants framed mindfulness exercises as a skill that needed to be practiced in order to be effective. Despite this recognition, some participants were aware of barriers to regular practice. Several barriers included the stigma of engaging in a mindfulness
exercise in public, lack of time for devoted practice, individual stubbornness, and personal discipline. For some veterans, there was awareness of how a meditation or stress-relaxation exercise could have benefitted a situation and this realization would often come after a negative reaction to an event or interaction. Several veterans discussed that continued practice in another group experience would help provide both regularity and additional exposure to the exercises in a safe and supportive environment.

For veterans that had experienced severe trauma and had discussed struggling with either PTSD or reintegration, the skills and experience gained in the group were described as valuable tools that would be useful in combination with other services and resources as they continued to move forward with their lives. Despite the challenges of often day to day interactions or difficulties, the skills and knowledge learned in the group were continually utilized to improve overall functioning.

“I still fight a battle about wanting to revert, but it’s a lot more, at least I have a switch now, finding that switch that I know I can control and that’s something that through therapy and through this class and the group and stuff that I am starting to find that off switch, and it is hard, but I am able to turn it off. I am able to disengage the immediate reactions to somebody cuts me off, somebody drops a book in class, I don’t immediately freak out, I don’t immediately go off on my kids for startling me in the middle of the night or something like that, or the dog barking in the middle of the night, I don’t immediately, you know, just gung ho, there’s baby steps.”
Table 6. EMS Themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMS Experience</strong></td>
<td></td>
</tr>
<tr>
<td>Job Appeal</td>
<td>I mean it is kind of cliché, but obviously to help people.</td>
</tr>
<tr>
<td>Trauma exposure</td>
<td>…mom was running the four-year-old down the street in her hands who had been shot point blank by dad right in the face.</td>
</tr>
<tr>
<td>Chronic stress</td>
<td>I’m leaving a scene where you just told somebody their child is dead and then going to a call where somebody is just cold and this is the fourth time they have called 911 or they are just hungry and they want to go to the ER or things like that, that’s difficult to switch your mentality.</td>
</tr>
<tr>
<td>Work Culture</td>
<td>The tough guy façade is very real and that is one of the biggest reasons people kill themselves I’m sure is because they just don’t know how to get that stuff out.</td>
</tr>
<tr>
<td>Impact of Trauma</td>
<td>I was a mess because I didn’t have a good explanation for it.</td>
</tr>
<tr>
<td>Interest of Groups</td>
<td>I have been told about the benefits of mindfulness practice and meditation and that in my own like personal experience, in therapy and like that, but I never practiced it.</td>
</tr>
<tr>
<td>Group Experience</td>
<td>I enjoyed about the group, the breathing and stuff like that, and I really enjoyed the conversation.</td>
</tr>
<tr>
<td>Impact of Mind-Body Training</td>
<td>I would say that I noticed that probably half way through, so it’s like something has changed where I am not having this instantaneous visceral response like I used to.</td>
</tr>
<tr>
<td>Peer Support</td>
<td>We could relate to each other, like we went to work and we knew exactly what the other person was talking about. So we could vent our stressors.</td>
</tr>
<tr>
<td>Change in Mindset</td>
<td>It’s okay to present yourself that way as a person in control of one’s self, and in control of situations but if something is bothering you, it doesn’t make you any less tough if you gotta talk about it to make you okay.</td>
</tr>
<tr>
<td>Continued Practice</td>
<td>At work with the breathing, I can do that if I feel myself getting pissed or if I feel myself getting amped up on a call or whatever, but that’s easy to do. The focus meditation is not as easy to do with that, but at home I think time is one of the biggest barriers that we run into, everybody is in a hurry nowadays</td>
</tr>
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</table>
Emergency Medical Service (EMS) Providers

EMS participants described both their interests in their career choice and the demands of their profession and responses for participants were similar. For providers, individuals reported the excitement of the job being appealing. Additionally, providers described a desire to assist others in need. The fast pace of the job and the constantly changing demands depending on the nature of emergency calls were reported as enjoyable aspects of the position.

“I mean it is kind of cliché, but obviously to help people. Plus I like the adrenaline rush of it. It’s highly unlikely we will get bored. And I have a short attention span so it keeps me on my toes.”

However, participants also described a demanding job that has frequent exposure to both chronic stress and trauma. The shift schedules of EMS require long hours and the unpredictability of emergency calls contributed to the accumulation of both stress and anxiety. As providers would have to respond to calls that were at the end of the shift, shifts could often run longer than 12 hours and could run numerous back-to-back calls in one shift.

Exposure to trauma and chronic stress

Two types of stressors were described as having the greatest impact for EMS providers. The first was the stress of encountering a life threatening situation or traumatic event. These events are called critical calls and participants referred to them as “good calls” as they believed it was a good use of their time and resources.

“Shootings, stabbings, things like that where you are really involved in the call, to us make it a good call.”

Despite the classification as a good call, these situations would often result with exposure to severe human suffering and trauma. These events had a profound impact on providers.
“We got called out to a baby not breathing and when we got there the baby was completely stiff… the little sister was like four and she kept asking me if her little brother was going to be okay, so I always think of that every time I hear the name Jack because that was the baby’s name… this little girl’s voice saying her brother’s name was a heartbreaker.”

Other critical calls include EMS responses to homicides and violence that some providers struggled to understand and process. The desire to rationalize the behavior and outcomes of these often violent events was often a source of frustration.

“We got called to a house out west where a family, two young kids and a mom and a grandma, they had all been shot by dad… when we got there, we were actually the first anybody there because we were just right down the street, we stood off and waited for the police department because it was a shooting, and that lasted just barely long enough for an officer to get there, and mom was running the four-year-old down the street in her hands who had been shot point blank by dad right in the face. The kid was crying, screaming, all that stuff.”

While these events represent exposure to trauma, there were other stressors encountered by EMS providers. In general, most providers described being able to respond effectively and rely on their training to provide services during these critical calls.

Other major stressors for the profession involve non-critical calls from people that were perceived as abusing the 911 system. Many of these calls were not emergency related but still required EMS to respond. While not considered a traumatic experience by providers, these events were still described as a major chronic stressor.
“People who are 911 abusers, they put a different level of stress on you. It’s not that I am mentally fatigued, I’m not physically fatigued because there is really nothing that I have done other than provide a ride, it’s just that exhaustion of abuse… there is not a whole lot I can do about that.”

Particularly after responding to a critical call, providers considered working with “911 abusers” as exhausting and draining of personal resources.

“I’m leaving a scene where you just told somebody their child is dead and then going to a call where somebody is just cold and this is the fourth time they have called 911 or they are just hungry and they want to go to the ER or things like that, that’s difficult to switch your mentality.”

As shifts run for 12 hours or more for EMS personnel, participants could respond to numerous critical and non-critical calls during their workday. While there would be some indication as to the nature of the emergency, providers would often have to be reactionary to the situations they encountered on the scene.

**Impact of trauma and chronic stress**

Exposure to trauma and chronic stress has a negative impact on EMS providers. Participants described fatigue, irritability, and impaired functioning. Stress from work was also reported to carry over into personal lives and could impact relationships and general wellbeing.

“I lost of bunch of weight at one point in time and it put a significant strain on my marriage.”
This type of stress and the nature of work often had a caustic effect on providers. Despite their training, some individuals didn’t always make the connection between work and its impact on health and functioning.

“I was a mess because I didn’t have a good explanation for it… never making that connection, that cumulative stress might actually affect you as a person…. because nah, I’m okay, I know what I’m doing. Yeah, you see bad stuff but that is just work, that is what I get paid for, it’s no big deal.”

Providers all described a general ignorance of symptoms or symptom severity and contributed much of it to work culture or their training. While all participants considered themselves trained and competent at responding to emergencies, there was little to no training on self-care after an encounter with a critical call or a stressful work experience.

“We are just trained to deal with it and it’s gone and you are good to go, regardless of whether that is true or not, that is how we are molded I guess.”

Participants often described avoiding emotional or cognitive processing of these critical care events and referred to strategies such as suppressing thoughts or staying busy by focusing on other tasks. While the agency had an established debriefing procedure following critical calls, participants expressed varying opinions on the impact of the actual debrief process. In general, most participants reflected that support structures in place were not adequate nor utilized for EMS providers if they should need them.
"I have ran a lot of very graphic, very horrible calls and I have never once been involved in a debriefing…. it seems like the only time that is offered to us without asking for it are like high profile really bad situations that you might be involved in."

The exposure of chronic stress and chronic exposure to human suffering has a clear impact on EMS providers. The work environment necessitates individuals to always be prepared for the next situation or call and rarely allows for opportunity to process any of these events in a meaningful way. As a result, many providers described feeling uncomfortable discussing any potential repercussions of this type of environment. The desire to maintain a composure of professionalism and personal resiliency to stress was a common theme.

"The tough guy façade is very real and that is one of the biggest reasons people kill themselves I’m sure is because they just don’t know how to get that stuff out."

Providers also recognized the similarities of their work culture to other occupations and commented that expectations of behavior and professional standards did not allow for individuals to open up about emotional experiences or mental health problems.

"…military, fire, police, EMS, over time they kind of all mimic each other in a sense that nope, no emotion, you gotta be tough…"

Several participants discussed the lack of training on self-care or how to manage the impact of chronic stress and exposure to trauma. Despite the opportunities for debriefing after critical care incidents and the intensive training required to be a provider, no participant could recall any specific training on self-care or the impact of work stressors.
“We are not given any education or anything like that prior to being thrown out here and saying okay you are good to go, you have gone through the schooling and you got your patch and now you are a paramedic, there you go.”

The work culture and environment described by participants is one that prides itself in professional and immediate emergency responses that require both composure and specific medical training. However, there is little to no discussion or resource for the self-care of EMS providers, despite their exposure to trauma and chronic stress that is unparalleled in most non-emergency public service professions.

**Interest in Mind-Body Groups**

EMS providers cited various reasons for agreeing to participate in the ten week intervention. Among the most frequent was a willingness to learn new skills that would potentially benefit both their work and personal lives. A common theme described was a desire to avoid consistent exhaustion or prevent burnout at work.

“I had caught on to the fact that I was starting to get not necessarily burned out, but I could definitely tell that at some calls, like in that situation where you had the person you had dealt with four or five times that night, I had noticed that I was a lot more snappy I guess with them.”

For individuals in a supervisory role, there was a need to be able to identify burnout or stress in others and have the resources necessary to assist their team members. An increase in knowledge and skills about the impact of stress would enable providers to engage in more informed self-care and potentially avoid several negative outcomes.
“We can really make a difference by giving people knowledge and skills and tools that they can use to prevent getting to a point where they are having a panic attack or at least some awareness of some of the things that they may experience.”

However, there was some apprehension from group members that were uncomfortable with potential group dynamics or sharing experiences with other providers and reflected the work culture that does not always value acknowledgement of mental health issues.

“You don’t want to be looked at differently, which I think we had a very good group so I don’t know that that was necessarily an issue, but I knew coming into it that it was going to be difficult for me to open up to people.”

**Group Experience**

EMS providers reported a positive experience during the ten week training. Despite some initial reservations about group dynamics as several supervisors were included in the group, participants felt at ease throughout most of the group experience.

“I knew coming into it that it was going to be difficult for me to open up to people because there are only a handful of people of my very good friends that I think I have ever done that to so being in a group with coworkers and people you don’t know was a challenge for me.”

For the process and structure of the group, participants reflected enjoying the experience and style of facilitation. The similar structure of each week allowed members to manage expectations for time and content.
“Really liked the group kind of just meditation, the check-in, the meditation, and I feel like I experienced kind of a slow rhythmic breathing, but being able to do that on a regular basis was good practice.”

As there were some reservations about the group, participants cited that the veteran facilitators being able to introduce the material in a relatable way that convinced participants to try exercises and experiment with different relaxation techniques was beneficial and a unique approach. The peer nature of the facilitators allowed for meaningful connections with some group members.

“One of the things that I appreciated about [the facilitator] was his description of what, coming from his background, experiencing the training, etcetera, ‘I am just like you guys, I thought this was a bunch of hippie crap, and this is really, oh if you believe in it, it will work and kind of voodoo type stuff, but there really is something to it.’”

Throughout the group process, participants described enjoying the opportunity to spend time with peers in a supportive environment and practice meditation skills on a regular basis. The frequent practice of these skills yielded tangible benefits for many participants.

“Over the course of weeks, it was nice to have that dedicated time because I would walk out of here with what I would just say a brand new perspective on the priorities of life. I’m not going to say I walked out all the time care free, but I certainly felt better afterwards and had more of a clear head.”
The use of tools to measure body temperature during autogenic or biofeedback training was cited as a profound moment that highlighted the potential benefits of meditation practice. The direct evidence displayed by using a body temperature measurement device provided validity to the process for many participants.

“I think one of the biggest impacts was when they did the finger probe thermometers because a couple of the people in my group that were able to do that, that was concrete evidence to them that wow, I just mentally changed the temperature of my body.”

**Impact of Mind-Body Training**

Participants described multiple benefits that resulted from the training. These benefits ranged from improved interactions with peers to noticeable differences in handling stress and improved self-awareness. These changes had a positive impact in both work and personal settings.

“I noticed that probably half way through, so it’s like something has changed where I am not having this instantaneous visceral response like I used to. I felt more collected about those triggers that I think would otherwise set that off.”

With the ability to notice increases in stress, EMS providers had the opportunity to engage in a variety of strategies to remain calm and potentially handle situations differently. Utilization of exercises learned in the group were often a strategy for participants.
“We get tired and we get stressed and we get irritable and my ability to better understand myself gives me a better ability to find ways to deal and get past that without lashing out and without being a jerk.”

For one individual, increased self-awareness of stress and exposure to trauma allowed them to reflect on the possible long-term outcomes of remaining in their profession. Ultimately, the group experience led them to the conclusion that a career as an EMS provider was not feasible long term.

“It made me more self-aware if I did have PTSD or any type of effect from my job, from the stress of it… and I really didn’t think I did until now. It makes me think that I can’t do this job long term. Like I used to want to make this my career and retire from this, but I don’t think I can do it.”

For other providers, the ability to “wind down” after work or engage in a behavior to remove tension or stress related to work experiences was described as valuable for participants and a major benefit from the training.

**Peer Support**

Another aspect of the group experience was the peer connection and support felt during the training. The check-in provided opportunities to share stories and participants reported feeling less isolated after listening to others speak about their experiences that were often relatable for other group members.
“I certainly feel more connected with the individuals in the group, it certainly humanizes people and regardless of what your range is, you are a human being and you have struggles just like other people, and we all have our demons so to speak, and nobody is exempt and I would hope that by sharing with that group that they feel that way because I certainly do.”

Having this type of social support and a network to “vent” about problems or work experiences was useful. In particular, having facilitators and group members that had experienced similar situations was cited as being important to the social support. The peer nature of the group was an essential part of the process for participants.

“They can kind of understand it better… it’s a little bit easier to talk to them than it is people who haven’t been in that situation.”

The connection experienced by group members extended beyond the conclusion of the group. The relationship with some supervisors that were in the group was described as feeling different as well. Having both shared experiences of the profession and the group process allowed members to form a support network that extended beyond group meetings.

“We also kind of formed a bond with other group members that have even, we have talked afterwards since we haven’t met in the group and things and I think that has opened an avenue also that they were a part of it so they kind of knew what was going on during the sessions and you kind of have that bond.”
**Change in Mindset**

EMS providers described a change in perspective regarding both their work and their own abilities regarding stress management. Several participants referred to specific instances of being able to bring more compassion to individuals that required EMS assistance. In particular, individuals that were chronic users of the 911 system were viewed differently and interactions with that population often had better outcomes than previous encounters.

“The breathing exercises and things like that have helped me a lot to not maybe come off so abrasive with them and do more of the education thing, whether they take it or not and they call me back ten minutes later, it still helps me not to lash out at them.”

With increased self-awareness, providers discussed the ability to handle situations differently and adopt a more patient-centered perspective. For one supervisor, they were able to adopt a similar check-in strategy with team members after responding to a critical call. Another participant described encouraging his family members to participate in mindfulness activities as well.

EMS providers described changes in mindset to diagnose their own levels of anxiety or stress and respond effectively with a skill or exercise that they had acquired during the training. Additionally, several participants admitted to being more open about potentially receiving help in the future if necessary.

“Being able to understand… it’s okay to present yourself that way as a person in control of one’s self, and in control of situations but if something is bothering you, it doesn’t make you any less tough if you gotta talk about it to make you okay.”
Continued Practice

Although providers discussed numerous benefits from the experience, providers still cited barriers to continual practice such as time restrictions, inability to focus, and environmental restrictions. Other concerns included wanting and seeking out additional outlets for stress and anxiety. However, EMS participants described the importance of meditation and mindfulness training and the continued benefit of having gone through the group and its potential for application in a larger context.

“The mindset [of EMS providers] needs to shift, so I think classes like this and things like this are pushing that in the right direction certainly.”
CHAPTER V

DISCUSSION

Discussion

This study sought to examine the impact of a veteran-led mind-body skills training for both veterans and emergency service providers. A phenomenological approach and interviews with intervention participants and facilitators yielded data that provided insight into the research questions posed for this study. Although originally designed as a mixed methods study, quantitative data collection was not feasible due to a variety of factors. However, interviews provided sufficient data to allow for a meaningful analysis.

Holistic Perspectives

All participants in this study described exposure to trauma or stress as a result of their occupation. It is necessary to consider these experiences from a holistic perspective rather than a symptom-based point of view. Many of the current treatments recommended by the Department of Veterans’ Affairs operate from the perspective of symptom-based services as the primary objective and may be missing key elements necessary for recovery. Understanding the context that individuals operate and the cultural norms and values of their professions help frame the experience of trauma and extreme stress and enable current treatments to be more effective.

For EMS providers, their very employment and livelihood is attached to an occupation that responds multiple times a day to traumatic situations. Additionally, the culture of the workforce as described by participants requires an external projection of calmness and professionalism, despite the natural consequences of exposure to trauma and chronic stress.
Similar to the military, EMS work culture doesn’t reward acknowledgement of deprivation of mental resources or overall health. The work culture doesn’t allow for mental health crises as they potentially pose a threat to service delivery and assurance of professionalism during emergency situations.

For EMS providers in this study, the combination of both chronic stress associated with encounters with individuals perceived as abusing the system and critical call response cost a dramatic reduction in personal resources that would often culminate in maladaptive behavior and negative functioning in both a personal and professional context. It is crucial to understand that this negative functioning should be considered a typical response to chronic and extreme stress and is not a result of personal failings or individual weakness.

Another important consideration in a holistic perspective of EMS culture is the lack of training provided to EMS providers for tools or processes to handle the stress associated with their profession. While all providers described having the skills and knowledge to respond effectively to situations encountered on the job, no participant described any preventative training on how to handle these encounters after the fact. Moreover, the standard response for responders by EMS management to crises was described as both ineffective and rarely utilized by employees. The general attitude of participants suggested that individuals viewed themselves as on their own and isolated for dealing with issues related to stress and trauma.

For veterans, a holistic perspective of both military experience and reintegration is necessary. Despite the exposure to trauma and violence experienced by many veteran participants, their military service was still viewed as a positive experience. This paradoxical perspective is critical to understanding veterans’ experiences. Different from many traumatic events experienced by typical populations, veterans’ trauma exposure is also connected to a
larger sense of purpose, mission, and comradery among fellow veterans. Conversely, for example, an individual that experiences a traumatic event such as an assault or rape, the interpretation behind the event is relatively straightforward, although obviously with its own set of challenges. For veterans, however, trauma is deeply assimilated with positive memories as well, making the experience more difficult to navigate after the fact.

For many veterans that had experienced combat and trauma, adaptive behaviors during deployments in theaters of war were similar to EMS providers in that they encouraged emotional avoidance or suppression and a mission-oriented response that often had very little cognitive or emotional processing of events. Veteran participants did not describe any training provided by the military to cope with these events during deployments aside from standard training practices. This active avoidance was likely in the best interests of military objectives but not in the best interests of veteran health and well-being. Symptom ignorance can be a useful short-term solution but is not conducive to overall functioning long-term.

Aside from trauma, the identify shift from a military culture to civilian life also has its own difficulties. The loss of a sense of higher purpose and social isolation experienced by many veterans added more challenges to the reintegration process. These experiences highlight the need to frame the reintegration process in terms of both a drastic shift in culture and also a significant personal loss. The expectation to a return to normalcy after deployments is not only unrealistic, it is likely maladaptive for many veterans. As with any loss, a transitional state should be expected that has both trends of positive and negative cognitions and emotions. It would be more useful for veterans and healthcare providers to consider the reintegration process a major life event instead of a return to the status quo prior to service or deployment. As with
any significant event, acquisition of new skills, behaviors, and adaptive mechanisms are helpful and frequently necessary.

The holistic perspective of veterans’ reintegration considers not only the experiences described above, but also the impact of trauma and chronic stress. In addition to a transitional time period, the influence of traumatic experiences adds a level of depth and challenges that are intensely unique to veterans. Simple daily tasks such as driving can be complicated by experiences during deployments. For some veterans, lack of sleep and inability to regulate emotions in response to common stressors could also create tension among their social support systems. A deadly cycle of general social isolation combined with reductions in critical social support systems as a result of maladaptive behaviors can obviously escalate a poor reintegration process and lead to several negative outcomes. The holistic perspective that takes into consideration this transitional process and the impact of trauma is critical for both understanding the veteran experience and providing services to veterans.

Skills for Trauma, Stress, and Reintegration

Given the nature of EMS providers’ employment and veterans’ experiences with reintegration and the impact of trauma and stress, acquisition of new adaptive skills are a logical solution to the challenges encountered by both groups. For all participants, there was a clear deficit in current training in how to cope with severe trauma and chronic stress. While an argument can be made for incorporating preventative coping skills into military training prior to deployment, it is unlikely that any significant developments in this area are going to be utilized by the military in the near future. Therefore, skills training after deployments for military members is the smart solution, albeit not the first choice. For clinicians and veteran service
programs, it is vital to view the veteran experience as a sequence of events along a timeline that involves loss, personal reflection, trauma, and growth. Coping skills, knowledge about psychological processes, and peer support to assist in reintegration are useful for each step in this process.

Veteran participants reflected the need for more adaptive skills by discussing the challenges in functioning during their reintegration process. However, it is important to consider that virtually all veteran participants had already connected many of their personal challenges directly to their military experiences. Given that overseas engagements have been drastically reduced in the last few years, many of the participants had finished their service obligations several years ago and had significant time to both reflect on their experiences and potentially receive mental health services that helped provide knowledge about how their own experiences shaped their current perspective. It is impossible to determine if this awareness was due to the intervention or personal reflection since individual’s service. However, regardless of where individuals were at in the reintegration process, veteran participants described a desire for an improvement in overall functioning. Additionally, veterans expressed a desire to have a skillset to reach out and assist other veterans in need. Not only does this reinforce the concept of comradery in the military even beyond service, but it also provides support that veterans are strong candidates for facilitator training. Their personal experience combined with a deep understanding of military culture and values allows them to reach out to other veterans in a way that is rarely achieved by non-veteran service providers. Interviews with veteran facilitators further support this notion. The instant respect and buy-in during the orientation process of groups by other veterans suggest that the peer dynamic of the group is critical (Hundt, Robinson, Amey, Stanley, & Cully, 2015).
For EMS providers, the appeal of mind-body groups suggested recognition of a need for new skills for both self-care and patient management. Several providers discussed wanting to avoid burnout and improve their responses to patients, particularly when it was a non-critical call. The input from EMS participants suggests that the current culture of EMS may not be conducive to optimal service delivery for both patients and providers. While technical skills training provide EMS providers the tools to operate effectively to respond to medical crises, there was a deficit with self-care training and participants recognized the potential benefit of mindfulness training to fill that void.

**Mindfulness and the Group Experience**

This intervention combined three components, psychoeducation, meditation experience, and peer support, to provide a unique experience for participants in an effort to increase mindfulness skills for all participants. The concept of mindfulness, despite having the potential to be a vague concept to the lay individual, was accurately described by multiple participants in the groups. Concepts of self-awareness, emotional regulation, and non-reactivity were common themes. Interestingly, although participants had no awareness of the factor model of mindfulness proposed by Baer and others (2008), the concepts mentioned paralleled several constructs of mindfulness in the theoretical model. These results suggest two things. First, the intervention was successful at introducing the concept of mindfulness to participants that were previously unaware of the concept. Second, there is likely convergent validity between the mindfulness knowledge and skills developed in the group and at least one theoretical model of mindfulness.

The skill of mindfulness combined with meditation exercises are a logical response for individuals that have experienced chronic stress and trauma (Kim et al., 2013). The intentional
focus on the present moment combined with deep breathing and relaxation techniques are well suited for initiating a parasympathetic nervous system response – the body’s natural remedy to alleviate symptoms associated with stress and anxiety (Gordon et al., 2004). However, it is necessary to view the acquisition of these skills in the group context and not as only a skillset.

Similar to both the EMS profession and veteran’s experiences, viewing the group experience holistically provides insight into how program components interact for maximum impact. Specifically, the combination of psychoeducation, mindfulness practice, and peer support create a unique dynamic and process for group members. For EMS providers, witnessing other group members have positive experiences with certain exercises increased the overall face validity of the training. The educational component connected the exercises to both EMS providers’ previous experiences and also provided a context to understand the underlying mechanisms of how meditation practices can positively influence stress and the symptoms of trauma.

For veterans, the psychoeducation component not only provided knowledge about the impact of their service experience, but also how mindfulness skills could be utilized as a resource for coping and post-deployment adjustment. The metaphor of a “toolkit” that held various mindfulness and meditation exercises was frequently expressed by participants and reflected an understanding of self-regulation strategies for dealing with stress. Similar to EMS providers, veterans witnessing certain exercises having dramatic impacts on other participants increased face validity of the process and for the potential impact that it could have on themselves.

During each group, veterans had multiple opportunities when they were encouraged to be mindful and present. This time of self-reflection occurred during the start of each group and after any meditation exercise. The impact of these experiences extended beyond the group as
veterans also described circumstances when being mindful of their surroundings yielded positive impacts. This was particularly true when interacting with family members and social support networks. Veterans, many who cited struggling with relating to their family, described positive developments in their relationships with their families and support systems as a result of practicing skills learned in the group.

For veterans that had exposure to trauma and experienced trauma symptoms either presently or in the recent past, the skillset and understanding of mindfulness can help reframe their past experiences as described by participants in this study. As trauma and stress symptoms are often related and manifest in similar ways, skills learned in groups are somewhat ubiquitous and can be applied in a variety of situations (Bowlin & Baer, 2012). Since veterans in the group had a diversity of experiences and trauma exposure, it is likely that the application of self-awareness and self-regulation are useful skills for individuals in various places on the trauma spectrum. Clinical implications of this would suggest that for individuals that have either PTSD or subthreshold PTSD would benefit from acquisition of these types of skills. Additionally, individuals that are struggling with stress related to work or the reintegration process would also benefit from utilizing these skills.

**Reductions in Stress and Improvements in Functioning**

Conclusions about this intervention’s impact on stress and overall functioning are presented by the qualitative data from participants. Given the descriptions from participants about improvements in self-regulation and knowledge regarding the impact of stress, they believe there were numerous positive outcomes as a result of this intervention. It is important to
note that participants reported more from a positive psychology framework of skill development compared to solely symptom reduction.

Perhaps one of the most beneficial outcomes of the intervention was participants’ ability to interact with others in their support networks more effectively. An increase in social functioning and thereby support will likely act as a protective factor against future negative outcomes (Pietrzak et al., 2009). For EMS providers, this could be social support from both families and other EMS providers, particularly those that had also gone through the training. Another benefit for EMS was the increased ability to respond effectively to the needs of their patient, regardless of the severity of the call. A critical component to the EMS experience was also the recognition that acknowledgment of mental health issues was not a sign of weakness or a personal failure. Rather, it is an expected consequence given the nature of work and the daily stressors and encounters with human suffering. This is a dramatic shift in thinking that could begin to change a work culture that does not always value the mental health of its providers.

For veterans, reductions in stress and increases in overall wellbeing were attributed to the intervention. Veterans described both knowledge and skills that allowed them function more effectively in a variety of settings. For example, one veteran described a situation when he became of aware of his stress, engaged in a relaxation technique, and then subsequently noticed an improvement in his ability to focus at a lecture in school. This active application of self-awareness, non-reactivity, and strategic follow-through with a newly learned skill suggests that veteran participants are benefitting from the intervention in multiple ways. Similar to EMS, several veterans openly expressed using techniques in a multitude of settings, thereby improving relationships with family members and allowing veterans to respond more effectively to unexpected situations. These situations could range from classroom performance, work
performance, and general everyday activities, demonstrating the diversity of the skills learned in the training.

Given the literature on the importance of social support networks for veterans, particularly on their impact with PTSD severity, improvement in social network functioning and the increase of social contacts with individuals that also shared the group experience likely have immeasurable benefits for participants (Pietrzak et al., 2009; Possemato et al., 2014) Witnessing others describe challenges and share similar stories and benefit from the experiential components of the group had a significant impact for many participants. The peer nature of the group appears to be a critical component of the intervention.

The psychoeducation component of the intervention also had an effect of reducing stigma surrounding mental health. The increase in knowledge regarding the impact of stress and the normalizing of veterans’ experiences, particularly those with combat deployments, had a positive impact for many veteran participants. Similar to EMS providers, military culture doesn’t allow for open conversations about mental health or the personal impact of stress and trauma exposure. Creating an environment that allowed for both education and sharing of experiences seemed to have a normalizing effect that reduced stigmas that can often occur with this population. For some participants, these conversations and knowledge helped reframe previous experiences during deployment and early in their reintegration process. Positive changes in overall functioning for veterans is likely attributable to the normalization process of understanding the impact of stress and trauma that occurred during the groups as a result of education and peer sharing.
**Cultural Parallels**

While data from EMS and veteran groups were analyzed separately, there were noticeable similarities between the experiences of both groups. Both populations share a work culture that values intensive training, professionalism, and a task and mission oriented focus. In many cases, the mission or job requires individuals to place other priorities above personal safety and security. The cultural parallels between both groups suggest that first responders and veterans can benefit from these types of interventions. While the EMS group was composed of only EMS participants, facilitators were veterans and were reported to still have credibility with group members. It is likely that groups that mix veterans and first responders as participants would yield positive benefits for participants given the cultural similarities among groups.

One exception may be for combat veterans. Several combat veterans that participated described a desire for a group comprised of solely combat veterans. Given the unique environments and situations encountered by these individuals and the shared identity as combat veterans, it is possible that combat veterans would be better suited for a more homogeneous group of participants which is similar across a wide range of self-help groups (Cloud, Rowan, Wulff, & Golder, 2007). However, it should be noted that combat veteran facilitators that experienced training in civilian groups still expressed establishing a connection with other group members, suggesting that cultural similarities may not always be needed for an effective and meaningful group.

**The Safe Container**

The concept of a safe container is essential to the experience of participants and the overall impact of the intervention (Gordon et al., 2008; Gordon, Staples, He & Atti, 2016).
Facilitators were specifically trained to follow a model designed by the Center for Mind-Body Medicine in which the concept of a safe container was introduced (Gordon et al., 2004). The safe container refers the structure of the group where facilitators outline basic rules of conduct and provide participants with space to choose to engage with themselves during exercises and share only as they feel comfortable. Reports of participants regarding the importance of the safe container help explain the trust between group members and the peer connection often felt among participants and can be attributed to several factors. First, the structure of each group was identical. The opening mindfulness exercise with a check-in, followed by a didactic piece, member sharing, and a closing exercise was the same each week and helped manage expectations even though actual content could vary greatly.

Second, group participants reported feeling encouraged to self-reflect and engage in introspection as opposed to commenting or talking about others. One veteran commented on the stark difference between his group therapy experiences as no group member or facilitator would ever provide commentary or editorialize his own experiences. Additionally, participants were never required to share their own experiences unless they felt comfortable. Facilitators were trained to provide opportunity and space for each individual to have a turn to talk, but never require or demand a participant to speak. This lack of pressure likely reduced certain stress or anxiety that exists in other group settings.

Another critical component of the safe container was the lack of personal self-disclosure that was needed in order to be a group member. In these groups, facilitators clearly stated during orientation and at the onset of the group that PTSD was not a requirement for group participation. For veteran participants, individuals were only required to identify as a veteran. Personal diagnoses, combat experience, and trauma were never presented as a prerequisite for
nor were group members ever identified as having such experiences by facilitators. The intentional open dynamic and lack of pressure for participants created a unique atmosphere that encouraged more openness and trust to develop among group members.

Lastly, the facilitators being veterans who were in a dual role as both a facilitator and participant is in contrast from many traditional group therapy settings. While facilitators had the responsibility of maintaining the safe container and following the structure of the group and the timetable for each session, they also shared their experiences. This shift in power dynamics from a traditional setting where a clinician would often be somewhat removed from members closely models other support groups in alternative community settings (Adame & Leitner, 2008). The comment from a veteran participant that described his shock at the level of trust built in such a short time period compared to years of group therapy is arguably attributable to this safe container that is built within the group sessions.

Implications

These findings have implications for both the veteran and first responder communities. First, it is necessary for policy creators and stakeholders to recognize that the unique position that individuals in these professions experience on a regular basis. For the veteran population, basic training is designed to modify individual’s perceptions and coping mechanisms so that they remain mission focused and goal oriented during times of extreme stress and potentially traumatic experiences (Bryan et al., 2012). While useful in a military setting, many behaviors associated with this style of thinking would be considered maladaptive in most other contexts (Bryan et al., 2012). During the reintegration process, veterans can encounter many situations where these behaviors are not conducive to a healthy transition to a civilian life (Danish &
Antonides, 2013). It is essential to view this transition as a process that requires both time and support.

For many veterans, this transition can occur without major issues or assistance. It is important to note that the great majority of veterans are well-adjusted and likely functioning just as well or even better than their civilian counterparts. For too many others, however, the reintegration process is riddled with obstacles and challenges. Veterans in these positions require culturally appropriate services that take into special consideration their experiences both in the military and potentially prior to service (Danish & Antonides, 2013; Bryan et al., 2012).

A confounding factor during this transition is the impact of PTSD. The manifestation of PTSD symptoms with hyper-arousal and/or dissociative behaviors adds new difficulties for veterans in virtually any context. For those attempting to also reintegrate into the civilian world, the challenges associate with this transition can be filtered through a trauma lens (Danish & Antonides, 2013). The loss of identity, mission oriented lifestyle, and unit mentality are essentially also losses of protective factors that could potentially mitigate many of the negative outcomes associated with PTSD in the veteran population (Bryan et al., 2012). PTSD should not be viewed as an isolated event or issue for veterans. It is imperative that PTSD be viewed in context with the reintegration process and both processes being addressed. Reductionist approaches that attempt to alleviate only symptoms ignore other issues that are vital to rehabilitation and the shift to a civilian life (Bryan et al., 2012; Danish & Antonides, 2013).

For emergency medical service providers, chronic stress and exposure to trauma are a virtual guarantee. While paramedic school prepares individuals by providing the technical skills and knowledge to respond effectively to these emergencies, participants discussed how there is little to no acknowledgment of how prolonged exposure in these environments can influence
EMS personnel in both short and long-term settings. Different from a military deployment, which typically has an end date, EMS providers are constantly in these environments as a function of their work. The repetitive nature of responding to potentially traumatic situations each shift creates an environment where maladaptive behaviors and negative health outcomes are likely to be generated. It may be necessary to consider policy changes that would allow for meaningful services for EMS providers that are experiencing difficulties as a result of the nature of their work. As described by study participants, the current underutilization of debriefing procedures following severe critical calls and stigma associated with asking for help as described by participants suggest that mental health of EMS providers is not currently discussed in an open way that will materialize in a meaningful or effective response.

Interventions such as the one in this study are a potential way to address these issues. The unique combination of psychoeducation and relaxation techniques presented from veteran facilitators in a small group setting can assist individuals with a variety of problems related to work as EMS providers or veterans during reintegration. The intentional avoidance of talking about diagnoses and the focus on being present allows for the participants to engage in mindful activities and creates for a unique dynamic among other group members. Additionally, the relaxation techniques are skills that can be employed in virtually every setting and can extend beyond the group. This intervention works to create a safe container for individuals to self-identify areas of personal struggle if they choose and engage in meditative and mindful practices. Sharing this experience with others likely amplifies these effects as participants have the opportunity to witness others discuss problems and practice techniques (Adame & Leitner, 2008). The veteran leadership creates a natural buy-in to the group process that may not exist in traditional mental health settings, further creating a unique experience. This experience can fill a
current service gap for both EMS providers and veterans that are struggling with reintegration. Particularly for EMS providers, who have identified a need for a revised debriefing process following a traumatic event, this model can potentially be utilized to meet this demand. At the very least, the mediation skills can be taught to EMS providers as tools for responding to critical incident stress.

There are numerous advantages to this approach and these advantages support dissemination of this intervention to other communities. The model’s flexibility allows facilitators to run these groups in almost every setting as long as there is access to a private area. At no cost to participants and relatively minimal training for veteran facilitators compared to traditional clinicians, this can be a cost-effective way to provide services for multiple populations. There is also the peer connection component that can extend beyond the group sessions. Participants can form bonds with other members due to the shared experience and have a new support network beyond the intervention as well. The multitude of benefits as described by both participants and facilitators strongly suggest that this intervention can have a dramatic impact when implemented successfully.

**The Leadership Paradox**

When considering implementing an intervention with populations similar to the ones in this study, it is important to frame the program in a context that will resonate with potential participants. Given the cultural challenges surrounding mental health with veteran and first responder populations, the presentation of the intervention and language used to describe it can have a profound impact on its perception. Any training that is framed as stress management or mindfulness may encounter resistance. Similar to the culture of both the military and EMS as
described by participants, there may be hesitancy with any large scale coordinated attempt at an intervention that directly or indirectly deals with mental health issues.

The paradox of leadership is the idea that a stereotypical leader is not going to usually have mental health crises nor have challenges in dealing with stress. Therefore, a possible solution to this problem is to move away from a model of self-care and mental health skills and frame this intervention in terms of leadership training. The appeal of the groups in this intervention as described by participants was to have a skillset to reach out and assist others, whether that was in a professional EMS context or helping out other veterans in need. It would be prudent to explore the idea of this intervention as a leadership training or self-development program as opposed to a mindfulness intervention designed to alleviate stress and cope with potential symptoms of PTSD. The ability to achieve buy-in from participants and stakeholders is crucial to the success of any community-based initiative.

**Challenges with Community-Based Interventions**

As with most community-based interventions, this study experienced several challenges that limited both data collection and programming. This study was originally designed as a mixed method analysis of the intervention. However, the community groups were not conducive to quantitative data collection in a pre-test and post-test structure. Many veteran participants elected to not answer the survey instrument provided to them. As each group is designed for a maximum of twelve participants, several groups are needed for adequate statistical power to detect meaningful changes in outcomes and variables of interest.

For the EMS population, there were numerous scheduling difficulties due to the cycling shifts of EMS participants. EMS providers typically work different shifts on alternating weeks,
making a regular schedule of meeting times nearly impossible. For these groups to continue to occur for both of these populations and allow for in depth evaluation on psychological measures and health outcomes, the data collection process must be incorporated into the group schedule more effectively. This would likely require veteran facilitators to take an active role in the distribution and collection of quantitative assessments. Other strategies should also be explored in the future to determine the most effective ways to assess the impact of this intervention.

Limitations to this Intervention

It is important to view this intervention in context with other psychological interventions. This intervention, and mindfulness-based interventions in general, are not a cure-all for mental health problems. As research continues to investigate the benefits of these types of programs and trainings, it will become clearer as to how these interventions can help individuals that experience atypical amounts of stress and exposure to trauma. As this was a preliminary investigation into the application and impact of this intervention, there are many questions that remain about the most appropriate use of the model. For example, this model may not be well-suited for veterans in inpatient settings or for individuals that have comorbid conditions such as traumatic brain injuries or addiction. A particular concern with the veteran population would also be the presence of suicidality among potential participants. Facilitators are trained to respond to many scenarios but risk of suicidality is intrinsic with the veteran population and deserves special consideration.

Another important consideration is the temporality of this type of intervention. While data was not directly collected on this topic, several veteran participants described interactions with the VA system for a variety of mental and physical health issues. It is necessary to explore
when this intervention would be best utilized by this population as to not compete with those services and to have the goal of ultimately complementing any other services that veterans are receiving. This type of intervention would seem to best fit veterans that are in the reintegration process and have reached a certain level of stability as to be able to function in small group settings. There is no data available to determine how veterans receiving intensive clinical services and receiving psychoactive pharmaceuticals would react in these group settings, although it is possible that current participants would fit one or more of these descriptions. The challenge of the community group is that there is less control of the participant pool than traditional intervention and research settings. Additionally, recruitment of group participants was a challenge in this intervention despite the level of support from community partners.

For EMS providers, a similar question of temporality exists. This intervention could theoretically be implemented in response to a major critical event or traumatic situation or be adopted as a preventative approach for EMS personnel. With scheduling issues being an ever present challenge in this population, EMS management buy-in is critical for program success in this population. Similar questions regarding comorbidity and concurrent clinical services for potential group members also exist with this population. While screening practices would enable for some insight into these questions, this type of inquiry may be perceived as too invasive and create a barrier for participants as opposed to providing data to researchers.

Study Limitations

While smaller sample sizes are often typical in qualitative studies, participation in post-group interviews was challenging and several group members elected to not contribute or were not available, thus minimizing the sample size. However, both sufficiency and saturation were
achieved early in the interview process due to the common experiences of both veterans and emergency medical service providers. Every available participant was interviewed and provided enough data to provide a meaningful analysis and description of the phenomenological experience of veterans and emergency medical service providers. Regardless, a larger sample may have provided more heterogeneity in responses.

Additionally, a mixed method approach would be an alternative strategy for demonstrating the impact of this intervention that may provide more insight into the overall benefits of group participation. However, quantitative data collection was unable to provide useable data for analysis. This could be due to the formatting of the community groups or potentially the types of questions asked in the assessment. It may be necessary to revisit question phrasing and language and determine if alternative scales or a shorter assessment would be more effective. It may be helpful to frame symptom reductions as skill developments and include participants as co-researchers to alleviate these potential concerns. Despite this limitation, qualitative data analysis provided insight into the impact of these groups.

As is the case so often in participatory research, the researcher was intentionally involved with the organization and implementation of this intervention and worked closely with several participants. It is possible that the interview process contained some bias and interviewees avoided providing critical feedback on the intervention or their own experiences. However, a trustworthy relationship with participants and a structured interview guide with set questions being used with each interview session and the presence of both constructive and negative feedback suggests that interviewees were honest with their responses.
CHAPTER VI

CONCLUSION

This study sought to examine the experiences of both veterans and emergency service providers exposed to chronic and extreme stress and understand the process and impact of participation in a veteran led community-based program. Veteran leaders were trained by the Center for Mind-Body Medicine and led a ten week program designed to teach meditation skills and psychoeducation, and have peer sharing in an alternative setting. A qualitative inquiry with facilitators and group participants yielded several important findings that have implications for how we can better understand veterans’ and emergency service providers’ experiences and provide valuable community-based services to meet their needs.

It is necessary to view the experiences of veterans and emergency service providers from a holistic perspective. This perspective should take into consideration both training and work culture as these have a profound impact on both the experiences and perceptions of individuals in these circumstances. Current training models in these professions may not include training on self-management and stress or provide clear directions or incentives for seeking assistance if needed. Given the potential regular exposure to chronic stress and extreme trauma of these professions, it is important to identify resources that can assist with stress reduction and provide education to individuals in these positions. Community-based groups such as the veteran led groups described in this study are a potential solution to these problems.

For the veterans and emergency service providers that participated in the veteran led groups, participants reflected having both a positive and a meaningful group experience.
Veteran facilitators were useful in achieving participant buy in and the creation of a safe space allowed for personal reflection and growth. The psychoeducation components combined with meditation practice provided a new skillset that was useful with dealing with stress relate to service or their job and every day encounters with other people. In addition, sharing their experiences in a peer setting helped normalize their experiences and helped provide further evidence of the potential impact of developing mindfulness skills.

Veteran led programs like the mind-body groups here that are alternative and community-based have the potential to have a tremendous impact for other veterans and first responders. The peer nature of veteran leadership and the unique approach to reduce stigmas around mental health through psychoeducation and peer sharing make this a valuable program that can be replicated in other community settings. These types of interventions can not only fill a potential service gap for first responders and veterans but also complement existing services for these populations. Considering the relatively low cost of training facilitators, these approaches can also be a cost-effective way of reducing negative health outcomes for these populations as well.

Future research will be needed as this intervention continues to be carried out by veterans in the community. It will be important to identify quantitative metrics for success and to ensure model fidelity. Additionally, it will be necessary to identify the integral community, clinical, and academic partnerships that are needed to support these types of community initiatives. As the need for the military and first responders is likely going to continue to grow in the future, evaluating and improving this model as an alternative and community-based approach for providing support and resources to individuals in need will only become more important.
CHAPTER VII

FUTURE RESEARCH

While the data and conclusions drawn from this study provide substantial evidence of this community-based veteran led intervention having a positive impact for participants, numerous questions remain that should be addressed in future studies. The impact of this intervention should be assessed quantitatively. A quasi-experimental approach would provide empirically robust data given the restrictions and challenges of community-based research.

A major challenge in this task is identifying what psychometrics best represent the changes experienced among participants. While this study originally sought to provide data on multiple measures, including PTSD and mindfulness, survey length and design are issues to consider. Pilot testing of surveys to allow for feedback from participants would be useful in this regard. Ultimately, organizational stakeholders and community partners may dictate what outcomes are of the most interest and that may supersede theoretical questions on the impact of mindfulness skills and the group experience on PTSD and other symptoms. Additionally, it may be more constructive to focus less on symptom reduction and rather measure positive changes such as coping skills, self-efficacy, and perceptions of social support.

However, given that factor analysis is possible for both mindfulness and PTSD constructs, this type of intervention may be a unique opportunity to empirically analyze the impact of mindfulness facets on PTSD symptomology utilizing advanced linear and structural equation modeling. This type of research could further both fields of PTSD and mindfulness research and help establish more convergent methods of measuring both phenomena.
Building the organizational capacity to hold a multitude of these groups is quite an undertaking and would be required for a large sample study that would generate enough statistical power for a complex quantitative analysis. Future studies could also explore how community and academic partnerships can best be utilized to organize and implement these community-based initiatives. As there are still significant technical skills needed for facilitator training and data collection, community-academic partnerships are best suited to successfully plan and execute these types of interventions. Given the difficulties with group recruitment efforts, partnerships with large veteran service organizations such as local Department of Veterans’ Affairs hospitals and mobile clinics may be a solution to this challenge.

Finally, there is a need to explore the diversity of group participants in order to create a dynamic that maximizes benefits for participants. With the potential for these groups to be held in various communities with veteran and first responders participating together, the list of potentially confounding variables is endless. However, it is necessary to establish parameters for this type of intervention to determine where and how it can be most effective.
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REFERENCES (continued)


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Qualitative Inquiry Questionnaire - Military Version

1. What branch of the Armed Forces were/are you in?
   a. How long have you served? Where have you served?
2. Can you talk about your experiences during your service and deployments?
   a. Thinking back, what were the most influential moments for you?
   b. Can you talk about stressors during deployment?
   c. How did stress and/or trauma impact those experiences?
   d. During your deployment, how did you cope with challenges?
3. After your deployment, what were your experiences?
   a. How did you deployment impact you?
   b. What changed from before and after your deployment?
   c. Why do you think those changes occurred?
4. What was appealing to you about the Mind-Body groups?
   a. What were you looking for/hoping to find?
5. What’s been important to you as a facilitator? (Facilitator only)
   a. What has your experience been as a facilitator?
   b. Has the opportunity to lead groups had an impact on you?
   c. What would you do differently?
6. Can you talk about your experience in the Mind-Body group?
   a. What changes have you noticed with your own behavior or thoughts?
   b. Did other group members have an impact on you?
   c. What does mindfulness mean to you?
7. In the last 10 weeks, has your perspective on any of your experiences changed?
8. What kinds of changes have you noticed in your ability to deal with stress?
9. What other changes have you experienced as a result of the Mind-Body group?
10. Have you been able to keep practicing the skills you learned in group?
    a. If not, what barriers have prevented you from using them?
    b. What would make it easier for you to continue practicing these skills?
1. Why did you choose the EMS profession?
   a. How long have you been an EMS provider?
2. Can you talk about your experiences during your time as an EMS provider?
   a. Can you talk about stressors related to work?
   b. How did stress and/or trauma impact those experiences?
   c. How do you cope with challenges?
3. At the end of a typical shift, how do you feel?
   a. What would make a shift “bad?”
   b. Do you notice any differences from how you react to a typical shift compared to a bad shift?
   c. Why do you think those differences or changes occur?
4. What was appealing to you about the Mind-Body groups?
   a. What were you looking for/hoping to find?
5. Can you talk about your experience in the Mind-Body group?
   a. What changes have you noticed with your own behavior or thoughts?
   b. Did other group members have an impact on you?
   c. What does mindfulness mean to you?
6. In the last 10 weeks, has your perspective on any of your experiences changed?
7. What kinds of changes have you noticed in your ability to deal with stress?
8. What other changes have you experienced as a result of the Mind-Body group?
9. Have you been able to keep practicing the skills you learned in group?
   a. If not, what barriers have prevented you from using them?
   b. What would make it easier for you to continue practicing these skills?
Institutional Review Board Approval

Date:  April 13, 2015

Principal Investigator: Gregory Meissen

Co-Investigator(s): Dan Clifford

Department: Psychology

IRB Number:  3366

The Wichita State University Institutional Review Board (IRB) has reviewed your research project application entitled, “HomeFront Initiative”. The IRB approves the project according to the Federal Policy for the Protection of Human Subjects. As described, the project also complies with all the requirements and policies established by the University for protection of human subjects in research.

This approval is for a period of one year from the date of this letter and will require continuation approval if the research project extends beyond April 12, 2016.

Please keep in mind the following:

1. Any significant change in the experimental procedure as described should be reviewed by the IRB prior to altering the project.
2. When signed consent documents are required, the principal investigator must retain the signed consent documents for at least three years past completion of the research activity.
3. At the completion of the project, the principal investigator is expected to submit a final report.

Thank you for your cooperation. If you have any questions, please contact me at ext. 6945.

Sincerely,

Michael Rogers, Ph.D.
Chairperson, IRB
Informed Consent Form

Purpose: You are invited to participate in a study to assess the helpfulness of the HomeFront Initiative. We hope to learn how we can continue to improve our program and how the skills you will learn will benefit you as a veteran. Your participation allows us to help reach more veterans and their families and continue to provide valuable resources to veterans in need of assistance.

Participant Selection: We are asking every veteran that participates in the HomeFront Initiative to consider participating in an interview and are anticipating interviewing sixty veterans.

Explanation of Procedures: If you decide to participate, you will be asked several open-ended questions regarding your experiences with the military and how the mind-body skills training may have had an impact. We estimate this interview to take approximately one hour. These interviews help us understand your experiences. These interviews will be recorded for data analysis purposes. The recording will be deleted within 8 weeks of the interview and transcripts will be deleted post data analysis. Recordings will be stored under lock and key in the Psychology Department of Wichita State.

Discomfort/Risks: This interview asks questions about your experiences with the military and the mind-body skills training. It’s possible that you may be uncomfortable answering some questions as they pertain to your experiences. If at any point you feel uncomfortable or no longer wish to continue, you may decline to answer or quit the interview. As a reminder, the Veteran Crisis Hotline is 1-800-273-8255 and Press 1 to speak to a qualified individual.

Benefits: This interview helps us understand your experiences and allows us to measure the helpfulness of our program from participants. Collecting this data will enable us to reach out and help more veterans and allow us to continue our work at providing resources to veterans in need.

Confidentiality: Every effort will be made to keep your study-related information confidential. However, in order to make sure the study is done properly and safely there may be circumstances where this information must be released. By signing this form, you are giving the research team permission to share information about you with the following groups:

Wichita State University
Institutional Review Board Approval
03/28/16 – 03/27/17

Department of Psychology
Office for Human Research Protections or other federal, state, or international regulatory agencies and/or the Wichita State University Institutional Review Board

The researchers may publish the results of the study. If they do, they will only discuss group results. Your name will not be used in any publication or presentation about the study.

**Refusal/Withdrawal:** Participation in this study is entirely voluntary. Your decision whether or not to participate will not affect your future relations with Wichita State University or members of the HomeFront Initiative. If you agree to participate in this study, you are free to withdraw from the study at any time without penalty.

Contact: If you have any questions about this research, you can contact us at:

Dan Clifford  
1845 Fairmount St.  
Wichita, KS 67260  
316-978-3039  
drclifford@wichita.edu

Greg Meissen  
1845 Fairmount St.  
Wichita, KS 67260  
316-978-3039  
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If you have questions pertaining to your rights as a research subject, or about research-related injury, you can contact the Office of Research and Technology Transfer at Wichita State University, 1845 Fairmount Street, Wichita, KS 67260-0007, telephone (316) 978-3285.

You are under no obligation to participate in this study. By signing and dating below, you are indicating that:

You have read (or someone has read to you) the information provided above, you are aware that this is a research study, and you have voluntarily decided to participate.

________________________
Name (Printed)

________________________
Signature

________________________
Date

________________________
Email/Address

________________________
Witness

________________________
Date