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Holly Katherine Robinson
Gardner-Webb University

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HOPE is a 4-Legged Word: How Service Dogs Can Help Veterans Suffering from Combat-Related Post Traumatic Stress Disorder

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Holly Katherine Robinson

Accepted by the Honors Faculty

____
Dr. James Morgan; Thesis Advisor

____
Dr. Tom Jones; Associate Dean; Univ. Honors

____
Dr. Eddie Stepp; Honors Committee

____
Dr. Robert Bass; Honors Committee

____
Dr. Candice Rome, Honors Committee

____
Dr. Lorene Pagcaliwagan Honors Committee

Abstract

As the rate of posttraumatic stress disorder (PTSD) continues to increase among our veterans returning from the War on Terror, the need for alternative treatment options is becoming more critical. One such alternative is the use of psychiatric service dogs specially trained to assist those living with PTSD. However, little empirical research has been conducted to support the legitimacy of this treatment option. This present study sought to explore the benefits that could be gained from the use of a service dog to treat PTSD by exploring relevant literature. The training the dogs receive as well as the possible problems with utilizing this treatment option are discussed. To deepen the implication of the study, a summative content analysis was performed on ten testimonies from veterans who have received a service dog to ameliorate the symptoms of their PTSD. Many subthemes were extracted through this process, but the dominant theme was one of hope and gaining a new "leash" on life. Although this present study did not provide empirical evidence to support this treatment option, it did allow for implications to be drawn from the analysis of the testimonies and provided possible reasons why service dogs are able to help relieve the symptoms of this disorder.

Hope is a 4-Legged Word

The terrorist attacks on September 11, 2001, sent a new generation of American troops into a vicious war against a faceless enemy in Iraq and Afghanistan. The atrocities they endured left a lasting impact, leaving behind both visible and invisible wounds as well as psychological scars. They returned home to a system ill-equipped to help ease their struggles, to a culture that did not understand the effects of trauma. Medications and disability benefits were the only solutions they were given, and even those were difficult to come by for most. This left many feeling forgotten and hopeless. Veteran suicides began to skyrocket, as many felt it was their only option (*News21*, n.d.).

With traditional treatments failing to help with the ever growing problem of posttraumatic stress disorder (PTSD), some veterans began to seek out more unconventional methods of treatments. This led many to realize the healing power of psychiatric service dogs. These dogs, specifically trained to help with the symptoms of PTSD, were able to fill a hole in the hearts of their veteran handlers. Not only did they help with the symptoms of anxiety and depression, but they also allowed the veterans to overcome their fears to live a more fulfilling life (Peltz & Gandbhir, 2016).

Posttraumatic Stress Disorder

PTSD can occur after a person is exposed to life-threatening or violent events. This can include accidents, violent attacks, rape, natural disasters, and war. In the past, it was thought this condition applied solely to military service members, but it is now recognized as a disorder that can affect anyone of any age after a trauma. However, it should be noted that not everyone exposed to a traumatic event will develop PTSD. There are individual

differences in the ways in which a person responds to and copes with high stress events (Keane, Marx, & Sloan, 2009).

The cause of this disorder can be traced back to the body's flight-or-fight response. During a high stress situation that the brain perceives as life-threatening, various chemicals rush into the hippocampus and amygdala. These two parts of the brain are associated with emotion, memory, fear, and thought processes. When PTSD takes hold, the individual will relive their trauma again and again through nightmares, flashbacks, or the prevalence of intrusive thoughts. Acting on their fear, they often avoid locations their brain associates with the trauma, and sometimes this avoidance will expand to people. At reminders of the trauma, such as the anniversary, sufferers become highly distressed. A major factor in this disorder is that the sufferers are hyperaroused, leading to difficulty sleeping and concentrating and causing them to be hypervigilant to danger even in non-threatening situations (Keane et al., 2009).

Former Army Captain Louis Carlos Montalvan described PTSD as a way of dwelling on the past and being unable to let it go. His time in Iraq left him with PTSD and a traumatic brain injury (TBI). His book *Until Tuesday* delves into his struggles and the hope he found after receiving a service dog. Recounting his personal experience with the disorder, he writes:

> PTSD is a dwelling disorder; it makes a person psychologically incapable of moving beyond the traumas of his or her past. The mess hall, the uniforms, the training exercises: they all triggered memories of my worst moments in Iraq. When I wasn't distracted by work, I was lost in the past, trying to shift through the details to figure out where I had gone wrong. Betrayal and anger were my watchwords, feelings that

> never really left me, even in my best moments. But I also wheeled through cycles of outrage, frustration, helplessness, sadness at the loss of friends, guilt, shame, grief at the loss of my life's work, and an ever-present bone-deep loneliness that seemed to entomb me like a ceremonial cloth. (Montalvan, 2011, p. 87).

Modern veterans like Captain Montalvan are facing a much different struggle upon the return home than older generations of veterans have. The War Against Terror in Iraq and Afghanistan was unlike any other war in terms of emotional and physical demands of those serving. The length of the war meant large numbers of service members were required to deploy multiple times, resulting in years of cumulative combat service. Many started displaying signs of PTSD while in combat. There was still a lack of understanding among the military, and in the field there were insufficient resources to deal with the growing problem. Sadly, many "were often urged to buck up and stay on mission," which led to a feeling of shame surrounding their problems (Zoroya & Leys, 2016, Chapter 2, para. 11).

According to statistics from Wounded Warrior Homes (2016), one in five veterans returned with PTSD, and as of 2016, over 540,000 veterans have been diagnosed with the disorder (*Wounded Warrior Homes*, 2016). As high as this number is, it is believed that up to 20% of cases go undiagnosed (*TM for Veterans*, 2017). This high number of unreported and untreated cases is largely due to the stigma surrounding the disorder (Taylor, Edwards, & Pooley, 2013).

With the rise of PTSD among modern veterans, there has also been a spike in veteran suicides. A recent study by the Department of Veterans Affairs (VA) found that 20 veterans commit suicide every day. In 2014, the VA found that veteran suicides made up 18% of nationwide suicides—but the veteran community only accounts for 9% of the population.

Even more disturbingly, from 2001 to 2014, civilian suicide rates jumped to 23.3%, but veteran suicide rates rose to over 32% (Shane & Kime, 2016). In 2013, service member deaths by suicide surpassed deaths in combat (Zoroya, 2014).

PTSD is considered an invisible disorder—that is, there are no physical signs of the disorder. "You can't see PTSD but it is always there" (Hill, 2012, para. 6), one veteran of her experience. The invisible nature of the disorder adds to the stigma many veterans will face upon their return home, which is what many find to be the most difficult. In his personal journal, one Marine said that he "came home from war only to become lost in the fog of another war" (Zoroya & Leys, 2016, Chapter 1, para. 11). That is the reality of the disorder that many do not understand. The struggle with PTSD is like a war inside the mind (Montalvan, 2011). The expectation is for these veterans to take some time to themselves and then move on with their life, but as Captain Montalvan points out, that is not possible with PTSD. "Everyone knows you don't grow back a leg that's been blown off by an IED," he writes, "but everyone assumes you can heal a brain that's been scarred. You can't" (Montalvan, 2011, p. 193). This can lead to the veterans feeling incredibly alone, and many turn to alcohol or other drugs in order to cope. Substance abuse has become a widespread problem among veterans with PTSD (Zoroya & Leys, 2016). The VA offers counseling and medications in order to control symptoms and promote a better way of living with the disorder (U.S. Department of Veterans Affairs, 2017), but the problem still persists.

Brief History

Dogs have long been a part of human history. Ever since the first canine made its way into human society, the benefits of having these animals around became apparent. Throughout history they have been used as hunters, herders, protectors, and companions.

This gave rise to the idea of dogs helping people with disabilities. In the late 1920's, guide dogs for the blind became widely accepted, but there were other needs aside from visual impairment (*Assistance Dogs*, 2013). A doctor named Bonnie Bergin was the pioneer that first looked into other ways in which dogs could assist their owners. She was actually the first to coin the term "service dog" in order to differentiate these dogs from common house pets. Due in part to Dr. Bergin's research and advocacy, training dogs for specific tasks to assist their owners emerged with growing popularity in the 1960's. It was not until 1990 that the passing of the Americans with Disabilities Act (ADA) legally defined a service dog and their ability to provide assistance to those suffering from a wide range of disabilities (*Assistance Dogs*, 2013).

Since the ADA passed, the uses for service dogs have continued to expand (*Assistance Dogs*, 2013). Modern society utilizes dogs to alert for medical issues, such as diabetes or seizure disorders. They can help children suffering from autism and assist those with balance and motor issues. Thanks to specialized training, service dogs can perform a variety of tasks to help their handlers, including carrying vital medication, opening doors, turning lights on and off, and moving heavy objects (Winkle, Crowe, & Hendrix, 2011). There is very little resemblance between the modern service dog and a household pet. They have transformed the lives of their handlers, and serve willingly as a helper and loyal companion (*Assistance Dogs*, 2013).

When veterans began returning from the Middle East ravaged with posttraumatic stress, experimental programs began popping up across the nation to implement the use of service dogs in the lives of these suffering heroes (Colin, 2012). One of these programs was called Warrior Canine Connection. Founded in 2006 by Rick Yount, the program required

the veterans to spend six weeks training with their dog. The results were immediately apparent. Even the most isolated veterans were drawn in by the dog's charm (Jackson, 2014). The need for praise throughout the training process helped emotionally numb veterans learn to express emotion again. Teaching the commands facilitated communication and helped teach the veterans to "be assertive not aggressive, a distinction some struggle with" (Colin, 2012, para. 4). The naturally alert nature of the dogs helped put the minds of these hypervigilant service members at ease—they knew their friend was keeping watch (Colin, 2012).

These results helped raise awareness of this potential new option for PTSD-sufferers. Congress commissioned studies to prove the validity of the claims (Colin, 2012), but it was not until 2012 that the idea of veteran service dogs took off (*Assistance Dogs*, 2013). While many still held to the tried-and-true evidence-based treatments provided by the Department of Veterans Affairs, there were some—including health care professionals and therapists—who began recognizing that these treatments may not be adequate in and of themselves for all veterans. This non-conventional treatment of using service dogs, paired with more traditional treatments, proved successful in allowing these war-torn heroes to return to a more fulfilling life (Jackson, 2014).

The Various Benefits a Service Dog Can Offer

Physiological Benefits

Numerous studies that have looked at self-reports from those who have suffered a trauma have found that those with PTSD are more likely to have physical health issues. A theory as to why this occurs is that trauma causes neurochemical changes in the brain that

have biological and behavioral effects. The changes could merely put the sufferer at a greater risk for certain physical problems, such as hypertension and heart disease (Jankowsi, 2016).

Short-term. There have been many studies to suggest that companion animals such as dogs can improve physical health for a few minutes or seconds (i.e., short-term) through either physical contact or being near a familiar animal (Wells, 2009). Stroking or petting a dog or other animal has been proven to decrease blood pressure and heart rate (Shiloh, Sorek, & Terkel, 2003; Vormbrok & Grossberg, 1988; Wilson, 1991). These benefits are found more frequently when the animal is familiar to the subject (Astrup, Gantt, & Stephens, 1979; Baun, Bergstrom, Langston, & Thoma, 1984). Since veterans with PTSD are at a greater risk for cardiac problems, this decrease of blood pressure and heart rate from petting their dog could be especially beneficial (Jankowsi, 2016).

The mere presence of a dog can also offer health benefits, such as "helping to lower autonomic responses to conditions of moderate stress" (Wells, 2009, p. 525). Studies have shown that the presence of an animal such as a dog was able to lower blood pressure responses to certain stressors, such as reading aloud and having to mentally solve arithmetic problems (Friedmann et al., 1983; Allen, Blascovich, & Mendes, 2002).

Studies like these help suggest that dogs can serve as moderators of short-term stress (Wells, 2009). This can be a particularly vital benefit to veterans suffering from PTSD. Due to the nature of PTSD, particularly the hypervigilance, certain public or social situations can be highly stress-inducing. The presence of a service dog in these situations can help calm the veteran, thereby decreasing the negative physiological effects of stress that could be detrimental to future health (Montalvan, 2011).

Long-term. There has been considerably less research conducted on long-term physical health improvements (i.e., benefits lasing a week or more, even years). However, the existing studies provide evidence that animals can potentially prevent ill health, which has proven supportive of the idea of pet owners being healthier than nonowners. On average, pet owners visit the doctor less than those without pets (Headey, 1998; Siegel, 1990), and they have far less frequent minor ailments, such as headaches or colds. Dog owners have been found to maintain this less frequent occurrence of minor ailments for up to 10 months after adopting a dog (Serpell, 1991).

Dogs may also help in regards to physical conditions that are chronic. One interesting study found that male pet owners had significantly lower risk factors for coronary heart disease than those with no pets (Anderson, Reid, & Jennings, 1992). Another study found that elderly pet owners had lower levels of serum triglycerides, which are associated with a greater risk for heart attacks and other heart issues (Stavenow & Kjellstrom, 1999). Given the problems veterans with PTSD can have with heart problems and heart disease (Jankowsi, 2016), a service dog, or even a companion dog, could help to mitigate this potential problem.

Psychological Benefits

Facilitating social interactions. One of the problems associated with PTSD is that those affected have difficulty forming and/or maintaining social connections. The reason for this is not clearly known, but given the behavioral changes—such as anger and withdrawal—and the emotional numbness many veterans experience, it can be inferred that these symptoms make it difficult for veterans to connect in normal ways with those around them (U.S. Department of Veterans Affairs, 2017). In addition, for veterans of long combat tours, the process of reintegrating into civilian life can be exceedingly difficult. The dramatic shift

in surroundings from an active war zone to a civilian environment can often leave veterans feeling alienated and unable to connect (Duca, n.d.), which leads to social difficulties. For them, PTSD causes an "inability to act differently in ordinary society than [they] did in combat" (Montalvan, 2011, p. 159).

Studies show that dogs can ease this burden of forming social connections. Dogs are, by nature, very social animals with a good reputation among the general population. Through numerous studies, it has been found that simply taking a dog on a walk in a public place significantly increases the owner's chance of having conversations with complete strangers as opposed to walking alone (McNicholas & Collins, 2000; Wells, 2004) . The features of the animal allow it to act as this "social catalyst" for the handler. For example, younger dogs have a higher chance of evoking responses than older dogs, and dogs perceived to have a better temperament or more aesthetically pleasing markings are more likely to spark social interactions. This can be easily seen with companion animals, but the effects become even more obvious in the case of a service dog and its handler (Wells, 2009).

In addition to fulfilling the roles these dogs are trained for, it has been shown that service dogs can act as a "strong social [catalyst], helping to normalize relationships with other people" (Wells, 2009, p. 528). One study concerning this effect of service dogs was conducted by Hart and colleagues. Their findings indicate that wheelchair users accompanied by their service dog had a significantly higher chance of encountering friendly approaches from complete strangers. Without their service dog, the likelihood of approaches was very minimal (Hart, Hart, & Bergin, 1987). By law, service dogs are allowed to accompany their handlers into a variety of settings that do not allow companion animals. Their ability to be with their handler in any situation is "one of the gifts of a service dog," because no matter the

situation, and no matter what the handler is going through, the dog "can be there for [the handler] wherever [they] are, even when no other dogs are allowed" (Montalvan 2011, p. 218).

These results point to a very promising outlook for veterans struggling to adjust in a social setting, but there is more to the service dog-handler relationship than merely increasing the likelihood of interactions with strangers. While this interaction can be helpful, chances are minimal that these interactions will lead to any sort of relationship or attachment between the stranger and the veteran. Connecting and being part of a relationship is something veterans with PTSD may need to re-learn. It may be possible that the dog itself can be the key to this problem. The continuous presence of the dog, in addition to the training programs that facilitate a deep connection between handler and dog, may lead to a close bond being formed between the members of the service dog team (Jackson, 2014; Wells, 2009).

Firstly, the idea of attachment between the dog and the handler must be explored. While the attachment theory of John Bowlby (1969, 1979) was intended to address the bond between a parent and their child, applications can be drawn for the human-dog relationship. After all, humans are capable of developing strong emotional ties to their pets, leading them to consider their pet as "part of the family," or to treat the animal in the same way they would a child (Wells, 2009, p. 530). For a veteran struggling to connect or attach themselves to anyone, attachment to their service dog could act as a stepping stone to later facilitate attachments to humans (Taylor et al., 2013). The attachment to their service dog could open the door for improved psychological health that may help improve psychological well-being (Wells, 2004), which would better equip them to connect with others.

However, it has been suggested that the supportive functions of a human-dog relationship have a greater impact on the benefits the dog can provide. Social support was defined by Cobb (1976) as information leading one to believe they are loved, esteemed, and belonging to a network of mutual obligation. By this definition, pets could easily be included into a person's social support network. Many people consider their pets to be nonjudgmental and noncritical. A dog can always be there during troubling times when humans may not be. Behaviors such as energetic greetings "create the impression of unconditional love, faithfulness, and dependability" (Wells, 2009, p. 531). This could apply more so to service dogs, as they display the aforementioned characteristics in addition to the various tasks they willingly perform for their handler. Service dogs also have a greater ability to "be there in times of trouble" (Wells, 2009, p. 531) because service dogs are with their handlers in situations where companion animals would not be allowed.

Veterans suffering from PTSD often find that people do not understand their struggles. Their friends, and sometimes even their family, may tell them to get over it or move on, simply because they do not fully understand the weight of the internal battle these veterans are fighting daily. This is especially difficult for veterans with no physical wounds from their time in battle, because there is still a serious misunderstanding among the general public about invisible wounds. Captain Montalvan explained this issue and shed light on the damaging effect it can have on suffering veterans:

> It's a belief that those who suffer from PTSD are malingerers by nature, and that if they were just stronger, like real warriors, their affliction would be cured. . . It encourages the young veteran to believe that his problems are a matter of weakness, that real men don't suffer pain, and that admitting to nightmares, anxiety, and

antisocial behavior would be an embarrassment to himself and his family (Montalvan, 2011, p. 230).

This lack of empathy and understanding may lead to the shattering of the veteran's social support because they are unable to rely on others during their struggle. A service dog is so easily able to become a social support for these veterans due to the perception of the dog being nonjudgmental and noncritical about the veteran's condition (Wells, 2009). Numerous veteran handlers have attested to this fact. One such veteran handler is Bill Stump, a former combat engineer, who got his service dog Woody from a non-profit organization that trains and pairs these dogs with veterans. In the aftermath of his time in combat, he faced the rejection and lack of understanding from those closest to him. Due to his PTSD and mild traumatic brain injury (TBI), Stump lost his family and everything he owned. Woody was a blessing for him. For the first time in a very long time, there was "no judgment... no 'get over its [sic].'" With Woody by his side, there was only "I love you, let me lick you in the face" (Walsh, 2016). Since Woody was there for him when no one else was, the dog became not only his helper, but also a form of social support. Captain Montalvan also had a similar experience. After feeling ashamed of his struggles with PTSD and the drinking problems that stemmed from it, he felt alone and rejected. His service dog Tuesday was able to fill a hole in his heart and be there for him even when his family was not. In his book, he wrote:

> His dedication and loyalty were more than I could ever ask from my parents or my siblings or any human being. It was something only a dog could give. When he lay beside me with his dog-breath sighs, it was if he was saying, *Give me your sadness. I will take it, as much as you need. If it kills us both, so be it. I am here* (Montalvan, 2011, p. 195).

The perceived social support provided by the service dogs may help explain some of the various benefits that can come from the relationship of the dog and the handler. High social support levels (between humans) have been shown to significantly improve the emotional and physical resiliency after a major procedure such as a bone marrow transplant (Hochhausen et al., 2007). Numerous studies have drawn the conclusion that perceived social support may have a greater impact on positive health outcomes than the actual support (Pierce, Baldwin & Lydon, 1997; Ratnasingam & Bishop, 2007; Smith, Ruiz & Uchino, 2004). This may lend more credibility to the benefits experienced in a human-dog relationship, simply because the human part of the equation may mentally represent support from the dog (Wells, 2009). Indeed, many veterans have attested to the fact that they perceived their dogs as "a nonjudgmental outlet for their pent up emotions," which allowed them to have a better peace of mind, and opened the door for new opportunities to strengthen their social connections with humans (Taylor et al., 2013, p. 598).

Loneliness and isolation. Due to the difficulties mentioned previously of adjusting into civilian life and forming and maintaining social connections (Duca, n.d.; U.S. Department of Veterans Affairs, 2017), loneliness and isolation are other challenges veterans with PTSD face (Taylor et al., 2013). One major reason this occurs is that the veterans have difficulty expressing affection for their loved ones. As one veteran said, "I couldn't show affection, couldn't hug my kids" (Collin, 2012, para. 3). Without meaning to, the veterans isolate themselves as their social connections break away. As a result, loneliness sets in. Another explanation can be traced back to the symptomology of the disorder itself. Those suffering from PTSD are in a constant state of watchfulness, or hypervigilance, which keeps them on edge and always on the lookout for danger. This can make leaving the safety of their

home an incredible struggle. Eventually, some veterans become like hermits, too afraid to leave the relative safety of their homes, therefore isolating themselves (Taylor et al., 2013).

Thanks to a substantial increase in research on this topic, there is now the idea that dogs can reduce the loneliness and isolation felt by the owners. Most of this research has been conducted in an institutional setting, such as hospitals and even prisons. Corson and numerous colleagues (Corson & Corson, 1978; Corson, Corson, Gwynne & Arnold, 1975; Corson, Corson, Gwynne & Arnold, 1977) were some of the first to assess the effect animals could have on the people residing in various institutions. Their original study involved withdrawn and uncommunicative patients living in a psychiatric unit who interacted with self-chosen dogs every day. Of the 47 that participated, five improved significantly, and some psychological improvement was seen in every patient. A more "scientifically robust" experiment was later performed by Salmon and Salmon (as cited in Wells, 2009) to determine the effects a residential dog had on the elderly in a nursing home. It was found that the residents were more alert, responsive, and happy in staff reports. A more recent study conducted by Bernstein and associates found that visits from shelter rescued therapy animals (including both dogs and cats) allowed for more social interactions and long conversations between those residing in a nursing home (Bernstein, Friedmann, & Malaspina, 2000).

Studies on this topic have also entered prisons. As in any other institutional setting, prisoners often combat feelings of loneliness (Wells, 2009), and like veterans, also isolate themselves from the rest of society (Taylor et al., 2013). However, it must be clarified that prisoners isolate themselves by committing crimes, whereas veterans isolate themselves due to the crippling nature of the trauma-induced symptoms they suffer from.

In order to improve the psychological well-being of prisoners across the country, numerous programs have started that require an inmate to care for and train a dog, usually for a specific purpose (Wells, 2009). One such organization is Puppies Behind Bars. The idea for the program came when founder Gloria Stoga researched the very first prison/guide dog program that was engineered by veterinarian Thomas Lane in 1997 (Stoga, 2017). Stoga was inspired by this program, and by 1998 she was placing puppies with inmates at the Bedford Hills Correctional Facility for Women to be trained as guide dogs for the blind. But after the terror attacks that shook the nation on September 11, 2001, Stoga was compelled to help first responders, specifically law enforcement. A year later, her program had expanded to train explosives detection canines for the police (Stoga, 2017).

As veterans began returning from the conflict in the Middle East ravaged with physical and psychological wounds, Stoga was moved to expand her program once more. The guide dog program was replaced with a service dog program for veterans. Starting in 2008, the program brought wounded veterans into the prison to allow the inmate to train both the dog and the handler. The puppies live with their inmate trainer for two years before being donated to a wounded veteran (Stoga, 2017).

This amazing program serves many purposes. Firstly, it impacts the prison and the lives of the inmates who are puppy raisers. Getting to see the transformation of their dog and knowing the impact it will have in a veteran's life helps them "learn what it means to contribute to society rather than take from it" (Stoga, 2017, Our Mission, para. 1). They no longer have to isolate and build a wall "around their emotions in order to survive in prison" (Stoga, 2017, History, para. 7), Instead, they are able to connect with the dog as they train it, and find a purpose again that allows them to feel pride in their accomplishments. For some, it

can also foster feelings of hope for a brighter future. Secondly, the program impacts the lives of the veterans who receive the dog. The service dog is able to help them regain their independence once more, and offers security in the midst of their battles (Stoga, 2017).

For veterans, programs like these give them a friend that will help get them out of the prison of their homes. There are many instances where veterans went months, sometimes even longer, without leaving the perceived safety of their home (Taylor et al., 2013; Montalvan, 2011). A dog entering the equation will drastically change this. Unlike cats or smaller pets, "dogs need to be walked" (Montalvan, 2011, p. 532), which will inevitably result in the veteran leaving the house and increasing their physical activity level. As discussed before, walking with a dog greatly increases the chances of social interaction, which will begin to break the cycle of loneliness and isolation (Wells, 2009).

Depression. Many returning veterans with PTSD also suffer from depression. It has been found that 30%-50% of individuals with a PTSD diagnosis display significant symptomology of major depressive disorder (MDD). The comorbid relationship between these two disorders can result in more severe symptoms of both conditions, which can complicate treatments. In addition, since chronic PTSD symptoms often "appear to be treatment-resistant" (Campbell et al., 2007, Introduction, para 4) these significantly increase in their complexity if the sufferer also has MDD, further complicating treatment (Campbell et al., 2007). Since this comorbid relationship between PTSD and MDD is so common, the effects a service dog could have on depressive symptoms must be explored.

There have been many studies conducted which focus on the effect dogs can have on depression. One study found that pet-owning AIDS patients with a shallow social support system did not suffer from depressive symptoms as frequently as those who did not own a pet

(Siegel, Angulo, Detels, Wesch, & Mullen, 1999). Service dogs for the hearing impaired have been shown have a significant and long-lasting impact in reducing the depressive symptomology in their handlers (Guest, Collis, & McNicholas, 2006). Hoffmann and his associates found that pairing a wheelchair-bound patient with a service dog significantly decreased negative affect scores and the symptoms of depression (Hoffman et al., 2009). Yet another study found that elderly at a long-term care facility displayed a significant decrease in depression scores after visiting with dogs (Le Roux & Kemp, 2009).

Those veterans who struggle with severe depression often find themselves battling thoughts of suicide (Campbell et al. 2007). A staggering statistic from 2013 found that deaths by suicide in the veteran community surpassed the number of deaths in combat (Zoroya, 2014). Currently, it is reported that a sobering average of 20 veterans take their own lives every day (Shane & Kime, 2014). After all these men and women have done for the American people, 20 suicides a day is far too many. There is hope, however, that service dogs could help with this problem.

Due to the effect dogs can have on decreasing levels of depression, as well as providing comfort and support, the presence of a service dog could potentially decrease the chances of the veteran handler taking his or her own life. Countless testimonials can be found on the internet crediting their dog with saving their life. Many went from thinking of suicide daily and some even attempted suicide. Receiving the service dog was able to change this for many veterans. One veteran, who was suicidal before receiving his service dog, proclaimed with a smile that now he wants to live, if not for himself then for Maya, his dog (Velick, 2011). Dogs are not self-sustaining; they rely on their human handlers for their basic needs of survival (Angel, 2015). If a strong bond is formed between the dog and handler during

training, the veteran will be more motivated to adequately care for their new companion (Stoga, 2017).

Relying on another living being and being relied on by another for survival is a feeling combat veterans are familiar with. During their deployment, their team becomes like their family. They rely on each other for support and cover, and can go into a firefight confidently knowing that the guy to their left and right has their back. They reciprocate that dedication to their teammates, often fighting to protect the lives of their brothers instead of their own. Their battle buddies are always there, and they feel safer knowing someone is watching out for them (Luttrell & Robinson, 2007).

Leaving the military and suddenly being without those battle buddies can leave many veterans feeling unsafe, adding to their hypervigilance (Taylor et al., 2013). Thanks to the training service dogs receive, they can become that battle buddy for their veteran handlers. Dogs are naturally watchful and alert, and can provide a sense of comfort for the handler. Even in the most crowded situations, the handler can know that their service dog is watching out for them, just like their battle buddies did during the war. One anonymous veteran spoke out about this characteristic of service dogs when asked about his time in Iraq with his fellow service members:

> In Iraq we were told: "Never go anywhere without a battle buddy to watch your back." That's exactly what [my dog] does for me (Taylor et al., p. 9).

Anxiety. PTSD is classified as an anxiety disorder, therefore every sufferer of PTSD struggles with feelings of anxiety, whether from the prevalence of intrusive thoughts or the increase in arousal and reactivity (O'Haire, Guerin, & Kirkham, 2015). Research suggests that service dogs may be able to reduce anxiety for their handlers. Hoffmann and associates

found that after only 30 minutes with an assistance dog, patients with a diagnosis of MDD showed a significant drop in anxiety scores. (Hoffman et al., 2009). Another study focused on anxiety levels in patients hospitalized from heart failure. After just twelve minutes with a volunteer therapy dog group, the anxiety levels of the patients significantly decreased (Cole, Gawlinski, Steers, & Kotlerman, 2007). Veterans can encounter the most anxiety when re-experiencing aspects of their trauma. It has been shown that the presence of a dog during a situation as stressful as a re-experiencing event can anchor the handler if they are able to focus on the dog. This can serve as a reminder to the handler that danger is no longer present. The ability of the dog to act as a distraction from the re-experiencing episode can lower anxiety levels (Yount, Ritchie, Laurent, Chumley, & Olmert, 2013).

As mentioned previously, dogs require physical activity, which in turn can increase the levels of physical activity in the life of the handler. It is well known that regular physical activity has may benefits on physical and mental health. One of these benefits is a reduction in anxiety. Therefore, because of the very nature of the dog and its physical needs of regular exercise and play and its dependence on the handler to provide these activities, it can be inferred that the dog is able to act as a buffer to stress and anxiety for the owner (Dever, 2015).

Hyperarousal. According to the Medical Dictionary (2009), hyperarousal is defined as "excessive responsiveness to sensory stimulation" (*Medical Dictionary*, 2009). Due to the nature of PTSD and the way it affects the brain, particularly the amygdala, which is responsible for fear responses, sufferers of the disorder are often in a hyperaroused state which includes difficulty sleeping and/or concentrating. It also involves hypervigilance, which can be increased for those with combat-related PTSD (Keane et al., 2009). Every

person experiences this fight-or-flight response to danger, but "for ordinary people, it only lasts a few seconds." In the minds of those with PTSD, "hyperarousal [is] a near permanent state" (Montalvan, 2011, p. 150). Due to the nature of the trauma and the conditions these veterans were surrounded by during their tours of combat, those with PTSD are often on constant high alert for the kind of threats they would have encountered in their arena of war. Former Army Captain Luis Carlos Montalvan describes this hypervigilance of war perfectly in his book *Until Tuesday*. Montalvan writes:

> It's not the fear of death that damages the mind in a combat zone. I never thought about that. It's the constant state of watchfulness, the hypervigilance necessary to survive day after day as a small unit among thousands of possible enemies. After a while, my body stopped understanding that it was under stress and started thinking that watching for death, always, was simply the way to live. When you can laugh about gunfire and mortar rounds, instead of ducking them, your mind has changed (Montalvan, 2011, p. 59).

Treatments for the disorder usually center around this aspect of the symptomology. A popular treatment option is exposure therapy, which requires the veteran to recount the trauma to a therapist. While the long-term goal is to change how the veteran reacts to these stressful traumatic memories, the process of recounting the worst days of their lives can produce discomfort and sometimes even fear responses (U.S. Department of Veterans Affairs, 2017). A study conducted by Barker and colleagues (2003) looked at the affects animal-assisted therapy (AAT) could have on patients undergoing electroconvulsive shock therapy, which also has the potential to illicit fear and anxiety responses. They found that AAT could prove therapeutic in cases where treatment is fear-inducing. These results were

found in a condition that paired patients with an animal for just fifteen minutes before entering their treatment (Barker, Panduranqi, & Best, 2003). Given that service dogs are with their handlers at all times, it can be inferred that the therapeutic effect of the dog's presence could be far more significant than it was in the 2003 study.

Renewed sense of purpose. While serving in the military, service members develop a strong sense of identity tied to the military culture. After discharge, they are faced with the task of forming a new identity in the civilian culture. This acculturative stress—that is, the stress of adjusting to a different culture—is very similar to the stress immigrants face when entering a new country. However, when most Americans think of a military homecoming, they picture it as a joyous occasion instead of a stressful one that is akin to an immigrant's struggles of integration. This adds to the lack of understanding veterans may face upon returning home. Their loved ones may have an expectation for them to resume normal life, and may become confused or discouraged when that does not happen (Duca, n.d.).

Acculturative stress has a profound impact on a person's mental health. It can either create a problem or increase the severity of a pre-existing problem. In the case of a veteran suffering from PTSD, the acculturative stress they face upon returning to civilian life could easily exacerbate the symptoms. Due to this struggle of reintegration, many returning veterans find themselves in a state of limbo, feeling that they do not belong anywhere. They can no longer find their identity in the military, and they feel they do not fit into the normal life of an American citizen. Not only does this increase feelings of loneliness and add to the issue of isolation, but it can cause severe identity issues. In addition, traumatic experiences can make it more difficult for the veteran to form an identity. This situation leaves many

feeling lost and hopeless, which may be one reason for the high number of veteran suicides (Duca, n.d.).

Unlike the World Wars, when returning veterans and active duty personnel received a high amount of respect from the civilian community, those involved with the War on Terror are often seen through the lenses of a person's political opinion of the war. Speaking of their personal struggles in relation to the war can lead outsiders (that is, those who do not understand the military side of the war) to launch into a political commentary of the war. Commentary like this can lead to the veteran—as well as their families—feeling as though society cannot possibly understand their internal battles, or even that their sacrifices are unappreciated. It can be a difficult shock to confront. In their careers with the military, veterans were surrounded by like-minded people. They worked hard, served as respected leaders, had confidence in their abilities, and were filled with a great sense of purpose at the mission before them. Returning home and struggling to reintegrate into a society where they have no clear role, only to be misunderstood by the very people they fought to protect can be disheartening. This increases the divide between the veteran and society, and makes the formation of a new identity much more difficult (Duca, n.d.).

Service dogs can also help with this identity struggle and help the veteran regain their confidence and find a new sense of purpose in their post-military lives. Those in the service dog training community are well aware of this area of difficulty faced by many veterans with PTSD. Therefore, it is a major focus in training the dog. These animals are trained with the purpose of instilling confidence and independence in the day-to-day functioning of their handlers (Rodriguez, 2017).

When it comes to confidence, many veterans feel lost or confused at suddenly being without the confidence they had in the military. Their confidence can be drained by the acculturative stress and the pressure of dealing with their symptoms (Duca, n.d.). Many are frustrated that they can no longer go to the movies with their family (Colin, 2012), attend sporting events (Scism, 2015), or even make a simple run to a convenience store (Montalvan, 2011). Their fear of public places can be traced back to the hypervigilant nature of the disorder which keeps the veteran on constant watch for threats (Taylor et al., 2013). For example, the movie theater poses a threat due to the dark, enclosed space. One veteran who struggled with this very issue said, "I would constantly be scanning for who was going to come stab me from behind" (Colin, 2012, para. 1). Sporting events or other public places brought the stress of crowds and unfamiliar faces, and an overload of sensory stimuli. For Captain Montalvan, the walk from his New York apartment to a convenience store brought with it uncertainty and high levels of stress that would leave him emotionally fragile for days (Montalvan, 2011).

Service dogs can help ease this fear veterans face, allowing them to regain their confidence when entering a public place (Rodriguez, 2017). Due to their training, the dogs can allow the handler to feel at ease in public spaces. Captain Montalvan's service dog Tuesday allowed him to conquer his fears of the confined New York subways and the bustling streets. Tuesday acted as a sort of indicator for him to let him know whether a situation was safe or not. "When I jumped at shadows," he wrote, "I saw him out of the corner of my eye and thought, *Tuesday's calm so there's nothing there, everything's fine*" (Montalvan, 2011, p. 153). This allowed for a gradual reintegration into civilian life. Montalvan was able to travel and speak about his experiences in front of large crowds,

forming a new identity as a service dog handler and advocate for wounded veterans. With renewed confidence, he was able to venture out more often and form lasting social connections when before, he would only leave his apartment to buy alcohol. The trips outside would leave him bedridden for days, sometimes weeks. But Tuesday allowed him to overcome his agoraphobia. "Often I just needed his courage to push me over the threshold," he said of his service dog, "because with agoraphobia and PTSD the first step is the hardest of all" (Montalvan, 2011, p. 218.) Due to the courage he gained from his dog, Montalvan was able to live a more fulfilling life. Tuesday gave him confidence that, together, they could tackle all the stresses daily life threw at them (Montalvan, 2011).

Medication cannot give someone their confidence back. It cannot help them form a sense of identity, and it certainly cannot help them find a new purpose in life once they feel their purpose is lost. Medication can only mask symptoms or help alleviate the severity of the symptoms. But a service dog is not a medication. It is a living creature with its own mind and individual needs. Dogs are not self-sustaining; they need their owners to feed them and play with them. Their human companions ensure they are taken care of in every way (Taylor et al., 2013). Additionally, these dogs enter public places such as restaurants, therefore they need to remain well-groomed. Service dogs are not able to keep themselves in a condition that meets these standards. Therefore, this responsibility must fall to the handler. By making sure the dog is taken care of and all its needs are met, the veteran can find a new purpose in this new task. Captain Montalvan found this was true in his own life:

> It was my responsibility, after all, to keep him looking good, because I took him into places no other dogs were allowed. . . It was my duty as a service dog owner to make

sure Tuesday wasn't just passable, but better groomed and behaved than even the best pet dog (Montalvan, 2011, p. 213)

A service dog handler must take into consideration the grooming of the dog, but also attend to injuries the dog could receive from the required activities. There is a responsibility to ensure the dog's paws remain healthy and properly cared for, especially when the service dog team walks frequently. They must be on the lookout for health issues and sore spots that could prevent the dog from performing adequately. The vest could create sores and certain physical tasks, such as acting as a brace for the veteran, could cause joint issues. The health of the dog should be the handler's top priority (Montalvan, 2011), and can give the handler "a sense of purpose again" (Scism, 2015, Dogs help their handlers. . . para. 2).

Dogs also thrive on mental stimulation. Since service dogs need to be on top of their game when performing their required tasks, daily training can be beneficial for both the dog and the handler. This not only reinforces commands the dog has already learned, but it can be an opportunity to teach the dog new commands. Daily training and sharpening of skills allows for adequate mental stimulation for these dogs who are so willing to please. It also allows for bonding between the members of the service dog team (Montalvan, 2011) and exposes the veteran to the positive outcomes that can be gained from training a dog.

A new trend is starting up that uses veterans to train service dogs for other veterans. These trainers have PTSD or other problems related to their time in the military, but they are not training the dog for themselves. The U.S. Department of Veterans Affairs (VA) has implemented a program that incorporates this into the treatment programs of veterans with PTSD. The program takes place at the VA clinic in Palo Alto called Menlo Park. In this program, a young dog is put into the care of the veterans for a few months. The veteran is

required to teach commands the dog will need to know for his life as a service dog, where it will go on to help another struggling veteran (Cramer, 2014).

The training benefits the dog and prepares it for life with its handler, but it also acts as a form of therapy for the veteran trainer and allows them to "focus on something other than [their] symptoms" (Cramer, 2014, Getting Out of. . . para. 5). It can allow the veteran to open their minds up to alternate treatment methods when traditional ones are failing. The dog gets them engaged in their own treatment and recovery, and working toward a goal can make them feel as though they have a purpose. The training process can also help these veterans with their social difficulties. Even though the dog is not theirs and only spends a few months with them, learning to interact properly and effectively with the dog can give them enough confidence to effectively interact with others in their life, such as their family or even their therapist (Cramer, 2014). The skills they learn from interacting with the dog in their care can help give them confidence to enter public social life once more.

There is also the added bonus of training the dog for a fellow veteran. Veterans tend to look out for one another; they're still tied together by an unspoken bond of military service, even if they never served together. Having the opportunity to give back to their fellow veterans can give them a feeling of being involved in a community. "It's very rewarding for me to train a service dog for another veteran," one veteran trainer said. "It's a good way for me to give something back" (Cramer, 2014, A Friend in Need, para. 5). One of the therapists at Menlo Park, who is an advocate of the program, had this to say about the effectiveness of service dog training:

> Once you're out of the military, you can sometimes start to question who you are and if you still have a purpose in life. Training a service dog gives you purpose, focus,

> and a sense of accomplishment. It reminds you that you have value, which you can still contribute, that you have something to give (Cramer, 2014, Some Comfort Here, para. 6).

Knowing that the dog they trained will go on to help a fellow veteran live their life to the fullest can give the trainer a sense of pride and inner strength—both of which are crucial to overcoming acculturative stress and forming a new identity for themselves (Duca, n.d.).

For the veterans who receive these dogs—either trained by prisoners, fellow veterans, or one of the numerous programs across the country—their lives change for the better. Numerous testimonials can be found in public domain, and all point to the same result: these dogs are capable of saving lives. The chief executive officer for one such program, Rory Diamond of K9s For Warriors, said this of the program and the impact it has made:

> When these warriors get to our program, most of them have told us that this is their last hope to get their lives back. Their last chance to be a father, mother, husband, or wife to their families again. When they graduate the program with their new dog, they have started on the road to become that person again. To see these people working again, going back to school, or coaching their kids' little league teams... it really confirms that what we are going works. (Robinson, n.d., para. 27).

These dogs allow for a renewed sense of strength and purpose. They change and save lives, and allows for the veterans to find an identity once again as they fight to adjust to life after military service. Captain Montalvan recognized this and saw it in his own life. He came to realize that achieving personal goals and forming a cohesive identity is a process that must be tackled one step at a time, "whether that's training an army for combat or learning to thrive with war wounds and a service dog" (Montalvan, 2011, p. 167).

Specific training for assistance with PTSD. Most of the benefits dogs offer could be coincidental, especially if the dog had no formal training. With a service dog, however, the animal receives years of training to specifically prepare the dog for life with their veteran handler. Due to the training that targets the symptoms of PTSD, the effects upon the handler can increase drastically.

Before discussing the training of service dogs, it is important to distinguish the difference between a service dog, a therapy dog, and an emotional support animal. In the general public, there is a severe lack of understanding of the differences between these three very different dogs, and the terms are often used interchangeably. This blurring of the lines can create problems and misunderstandings, therefore it is vital to clarify the ways in which service dogs stand apart. A service dog is recognized and protected by the Americans with Disabilities Act (ADA), and is highly trained to assist their handlers. The official ADA definition is as follows:

> A service animal is a dog that is individually trained to do work or perform tasks for a person with a disability... Generally, title II (i.e., state and local government services) and title III (i.e., public accommodations and commercial facilities) must permit service animals to accompany people with disabilities in all areas where members of the public are allowed (U.S. Department of Justice Civil Rights Division, 2011, p. 1).

Contrary to common belief, service dogs are not pets. While they do live permanently with their handler, they are classified as working dogs and have received years of specialized training to allow them to assist their handlers. They are often confused with therapy dogs. Unlike service dogs, therapy dogs do not receive rigorous training, but instead undergo a temperament test to determine whether or not the dog is suitable for interactions with others.

Most dogs belong to the handler, and are brought inside therapeutic settings with special permission to participate in AAT in settings such as hospitals, nursing homes, or even schools. These dogs are present to help engage people so that they can achieve set goals such as improvement in motor skills, which would be determined by the participant's doctor. Due to the effect the presence of a dog can have, therapy dogs are also used to improve the wellbeing of people in long term care facilities, nursing homes, or children's hospitals. They are able to enter these environments with special permission from the manager of the facility, but they are not granted the same public access as service dogs due to their lack of training (Taylor et al., 2013).

Emotional support dogs (ESD) are mostly pets who provide comfort and support for their owners. While they can be prescribed or recommended by health care professionals to those living with psychiatric disabilities, ESDs do not have legal protection service dogs do under the ADA. In special cases, these dogs can accompany their owners on aircraft and can live in residences where pets would usually not be permitted, but they are essentially no more than a well-behaved pet that provides the same general comfort any dog would to their human counterparts (Taylor et al., 2013).

The training service dogs receive to specifically help with PTSD (among various other conditions and disabilities) separate them from their K9 counterparts and distinguish them as more equipped to help a struggling combat veteran. The aforementioned benefits provided by dogs can be seen in a service dog team, but the training adds yet another layer to the benefits they can provide. An anonymous social media commentator spoke of this difference:

> There's no argument that all dogs, including pet dogs with no specific training at all, provide benefits to their handlers. Petting a dog relieves stress and can lower your blood pressure. Having a dog gets you out and about because the dog needs to go outside. Having a dog gets you talking to other people because people like dogs and will approach to pet. But none of those things make a service dog. Comparing pet emotion support companion dogs to service dogs is really talking about two different things (Taylor et al., 2013, p. 605).

The healing power of service dogs is made possible by the training. Those who train service dogs for veterans with PTSD have a deep understanding of the disorder and train the dogs for tasks that target the various debilitating symptoms that make PTSD so problematic (Yount et al., 2013).

The first use of service dogs for treatment of PTSD was during WWII, when the disorder was known as battle fatigue. Since then, the utilization of service dogs for PTSD has evolved to include many tasks that help the veteran regain control of their life (Shubert, 2012). Many programs cater to the individual needs of the veteran and train the dog based upon the symptoms the veteran struggles with the most. For other organizations, the dogs are all trained the same way and are still able to provide service to their handlers (Montalvan, 2011). The training allows the dogs to "instill a sense of confidence, safety, and independence" for the veteran handler (Rodriguez, 2017), which can open the door for the veteran to return to a normal life outside their military service.

One example of the training of a service dog is that of "watching" the handler's back in public (Rodriguez, 2017). Dealing with the hypervigilance of PTSD without the comfort of having their battle buddies with them to help look out for trouble, many veterans do not

feel safe venturing out into public spaces. As pointed out by Taylor and colleagues (2013), the need for safety is the second tier on Maslow's hierarchy of needs, topped only by basic survival needs. If the need for safety is not met, this can add to the emotional distress that is already present with PTSD. As mentioned previously, a service dog can become the battle buddy for their handler (Taylor et al., 2013). The command of "watch my back" instructs the dog to sit at the handler's side and literally watch their back. Knowing their service dog is keeping an eye out on the things going on behind them can allow the veteran to relax, particularly in public places (Peltz & Gandbhir, 2016).

For some veterans, entering or even exiting a room can be anxiety-inducing. While in Iraq or Afghanistan, veterans were constantly looking for enemy concealment positions. On the return home, many continue this trend and expect threats to lurk around corners or behind tables or desks. To give the veteran a sense of comfort and safety in these situations, service dogs can be trained to search a room or house before the veteran enters to confirm there are no threats. They can even be instructed to exit a room first and look down both sides of the hall. If there is someone walking down the hall that could potentially startle the handler, the dog will alert, letting the handler know of the stranger ahead of time to avoid a startle response. Tasks like these that provide a sense of safety can go a long way in promoting the healing process for struggling veterans (Peltz & Gandbhir, 2016).

Large crowds can often be a concern for veterans. They can easily find themselves scanning for threatening faces or becoming overwhelmed by sensory stimuli (Peltz & Gandbhir, 2016). Veterans can also be uncomfortable having strangers invade their personal space. It may cause them to feel threatened and trigger their fight response (Taylor et al., 2013). Service dogs can help their handlers conquer large crowds by using their body to act

as a physical barrier between their handler and strangers (Rodriguez, 2017). The dog keeps people out of their handler's personal space, and allows them to feel more at ease in crowded situations. If the handler needs a quick escape from a crowded area, the leash can be extended to allow the dog to walk out in front of the handler to clear a path to a more secluded area. In this scenario, the dog would use its body to act as a bulldozer, bumping and nudging strangers to create enough space for their handler to pass safely through (Montalvan, 2011).

Some veterans suffer from physical injuries in addition to PTSD. They may have a limited range of movement or difficulty getting out of bed or out of the floor. For these veterans, the dogs are trained to calmly use their body as a brace, allowing the handler to use the dog's hips and shoulders as an added support (Rodriguez, 2017). For those with balance issues due to a TBI, a handle may be attached to the service dog's vest that allows for a steady support when needed (Montalvan, 2011). The dogs are also trained to retrieve dropped objects, drag heavy objects, open doors, and even assist in dressing and undressing (Montalvan, 2011; Peltz & Gandbhir, 2016).

One of the more comforting tasks the dogs are able to perform relate to the anxiety that comes with PTSD. The dogs are trained to recognize signs that the handler is experiencing anxiety, whether due to agoraphobia, intrusive thoughts, or even a flashback. When the dog sees these indicators, they are trained to nudge and lick them in order to pull the veteran out of the past and back to reality. Through nudging, pawing, or even cuddling and hugging, the service dog forces the handler to focus on them, allowing them to shift their attention long enough to calm down (Peltz & Gandbhir, 2016).

Perhaps the most remarkable service these dogs provide is waking their handler from nightmares (Rodriguez, 2017). Nightmares and night terrors are common with PTSD. Instead of finding relief from the distress of daily living at night, they often encounter more distress as they relive the worst moments of their lives. Sleep often eludes them, and sometimes a fear of sleeping can develop (Taylor et al., 2013). During training, the dogs learn to recognize when their handler is trapped in a nightmare. The indicators can include restlessness, thrashing, or calling out (Peltz & Gandbhir, 2016), or even a rise in heart rate and increased breathing (Taylor et al., 2013). The procedure the dogs are trained to follow can vary from each organization (Rodriguez, 2017), but the result is the same: the dog wakes the handler up from the nightmare and stays by their side to provide comfort until they are calm again. Some dogs may even pull the covers off their handler and turn on the lights in order to wake them up and snap them back to reality (Peltz & Gandbhir, 2016).

Potential problems. Despite the numerous benefits that can come from using a service dog to treat PTSD, there are a few problems that could arise. Some handlers could put unrealistic expectations onto the animals, expecting them to be a miracle cure and then being disappointed when their expectations are not met. Since a service dog is always on duty, some could argue that the dog is not given adequate down time and is under too many performance demands. There is also the potential risk of injuries to the dog, particularly when acting as a brace or moving heavy objects. When in a crowd, the dog could be stepped on by busy commuters that do not see them, which could easily cause harm to the animal (Shubert, 2012). Walking in urban areas could injure the dog's feet, either by walking on hot asphalt or stepping on debris, rocks, or sharp objects. The responsibility of ensuring these do not become problems falls to the handler. It is their job, as a service dog handler, to make

sure their partner is healthy and ready to perform. Many handlers take time out of their day to physically inspect the dog for injuries or sore spots, and care for their feet to make sure there are no injuries (Montalvan, 2011).

If the handler is physically handicapped, by a spinal injury, amputation, or other joint injury, the dog may not receive adequate exercise (Shubert, 2012). Handlers have found ways around this issue. Captain Montalvan, for example, suffered from physical injuries that restricted his movement and forced him to rely on a cane. While he couldn't take Tuesday out for a run, he was still able to take him out and play fetch at local dog parks. The task wasn't physically demanding for Montalvan, and a long game helped Tuesday burn off any excess energy with exercise. The experience proved to be therapeutic for Montalvan. He wrote:

> Instead, I was transported. I hadn't expected it, but when I saw Tuesday leaping and wrestling with the other dogs, I felt like it was me out there, running, jumping, doing things my physical body was no longer able to do (Montalvan, 2011, p. 207).

A struggle that is perhaps unique to service dogs is the constant transportation. While most pet dogs ride in cars from time to time, and therapy dogs travel to hospitals and schools, service dogs must face more frequent transportation, depending on the activity level of the handler. The living area of the handler also plays a role, and could determine the type of transportation. For example, a service dog team living in a big city would need to face public transportation systems on a daily basis. This can provide a number of challenges for the dog. While they are trained to remain calm, and go through desensitization to chaotic situations, the confined area of a subway or bus and all the smells present could be overwhelming for the dog. It could induce stress in the animal, or even distract it from the handler. Thankfully,

this is not a problem for all service dogs. Some, like Tuesday, enjoy public transportation (Montalvan, 2011; Shubert, 2012).

There is also the issue of the general public. While service dogs are becoming popular for a variety of physical and mental health problems, there is still a great deal of confusion among the general public, particularly business owners, as to the laws set forth by the ADA (Taylor et al., 2013). For those unfamiliar with the ADA laws allowing full access to service dogs, many handlers face confrontations when trying to enter stores or restaurants. The business owners may be concerned for the health of their other customers, such as those with allergies, or they may worry that dog hair will get into the food at a restaurant. While these are valid concerns, the health and well-being of the handler, who needs the dog as a medical necessity, is the priority, and their right to free access is protected by law. The business owners often demand to see proof that the dog is in fact a service dog—such as an identification card or certificate from a service dog registry. However, registration is not required by law; only proper training that allows the dog to perform tasks to aid the handler in a physical or psychological way. Under the guidelines of the ADA, business owners are only allowed to ask two questions of a service dog team:

> Is the animal required because of a disability?
>
> What work or task has the animal been trained to perform? (Brennan, 2014, Handler's rights. . . para. 1)

Asking the handler for any proof of disability, or asking why the dog is needed, is considered harassment and invasion of privacy. This can be particularly common in the case of a handler with a disorder such as PTSD. There are no outward, physical signs of the disorder, adding to the stigma surrounding it and many other mental disorders. Without a proper understanding

of the role of psychiatric service dogs, business owners may be inclined to believe the handler is faking their ailment simply to bring their pet into the restaurant with them (Montalvan, 2011).

Unfortunately, there are very few people in the general public who know these laws, so harassment and denying of access to service dog teams is all too common. For those with psychological disorders, such as veterans with PTSD, this can be very troubling. Due to their symptoms, public outings can be draining. Adding in an embarrassing conflict with a store owner or restaurant manager can be very upsetting, and can lead to a increase in anxiety. Captain Montalvan faced this obstacle often with Tuesday. He had this to say of the issue:

> People with service dogs are by definition in a fragile mental or physical state; that's why they need the dog. Fighting discrimination is tiring, especially for a group for whom ordinary chores or social interactions are often physically and emotionally draining (Montalvan, 2011, p. 198).

A major issue that adds to this problem is the prevalence of fake service dogs. Thanks to online service dog registries that do not ensure a dog has had proper training, some individuals may register their pet as a service dog just so they can take their pet with them in their daily travels. Since these dogs have not had the proper training, there have been many incidents of these fake service dogs biting strangers and causing a disturbance in public places. Not only is this illegal, but it also discredits those who actually have legitimate, highly trained service dogs that they need for daily living (Montalvan, 2011).

A solution to these issues would be educating the public on proper procedures when interacting with service dog teams and making the federal laws regarding access very clear. Since service dogs are becoming more common in our society, this is a problem that will

only grow unless businesses are made aware of the importance of service dogs and why they are protected. Also by increasing the knowledge of the general public about what a service dog actually is—and clarifying that they are not just well-behaved pets—may lessen the likelihood of pets being falsely registered as service dogs, and may help business owners recognize a fake service dog. Educating would go a long way in diminishing this obstacle, therefore allowing handlers like battle scarred veterans to return to a normal life.

Method

Anecdotal evidence regarding the impact service dogs can have in the lives of veterans abounds, however there has been very little empirical research done to provide precise support for this treatment option (Taylor et al., 2013). While this study is unable to provide such validating research, it does dive deeper into the research to provide an analysis of testimonies from combat veterans whose lives have been changed by their service dogs.

Design

A qualitative analysis research design was used, which included a summative content analysis. This allowed for extensive analysis in order to identify key words and phrases, draw conclusions, compare common themes found within the content, and develop an overarching theme for the entire study (Hsieh & Shannon, 2005). A qualitative analysis not only allows for an opportunity to examine the meanings, patterns, or themes in a text, but also lets the researcher understand the social implications in both a subjective and scientific manner (Taylor et al., 2013).

The first phase of the analysis was a summative content analysis in which key words and phrases were identified for the test data, which allowed for comparisons and interpretations. The second phase was a continuation of the summative content analysis

which identified common themes. Those themes were explored in-depth in order to provide a better picture of the implications of the test data. In addition, an overarching theme was developed to capture the essence of the entire study. This was also explored, allowing for implications to be drawn and related back to the existing empirical research.

Qualitative analysis of content is a widely accepted research method, but there are issues that must be addressed. Considering the source of the text is important in order to recognize any potential filters used in the text. For example, there could be a potential for the text to include a perceived reality (e.g., media reports, reports from organizations with an agenda, testimonies from those who are speaking on behalf of an organization) in relation to an issue in order to fit the content in the context of the issues being addressed (Taylor et al., 2013). After much thought, it was concluded that this issue cannot be completely controlled for. The testimonies used in this study all have filters and biases, given the subject matter for which the speakers are trying to raise awareness. While not controlled for, the issue of potential filters and biases was acknowledged throughout the process of analyzing testimonies, which came from the following sources: advocacy frames (i.e., published in reports from service dog organizations or reported by a veteran who considers him/herself a spokesperson for a service dog organization), media frames (i.e., reporters who potentially "play up" the story), and personal frames (i.e., first hand testimonies from veterans with a service dog who want to promote this treatment option for the benefit of other struggling veterans) (Taylor et al., 2013).

For this study, testimonies available on public domain were analyzed for common themes relating to the potential benefits service dogs can offer. All testimonies were from post-9/11 war veterans who have seen active combat. All received a diagnosis of PTSD

following their time in combat and have sought out the help of a service dog in order to mediate their symptoms of PTSD and some other conditions (such as TBI or physical injuries). The analysis sought out common themes present in all testimonials regarding the veteran's life before and after the service dog. Once the analysis was complete, the common themes were applied to the existing empirical research and psychological theories in order to further confirm and psychologically explain the healing power of psychiatric service dogs for veterans suffering from combat-related PTSD.

Data Collection

Various print and media sources available on public domain were assessed to gather data. Search engines (e.g., YouTube, Google) were utilized to search out pre-determined key words (e.g., PTSD service dogs, veterans and service dogs) in order to find stories of the relationship between combat veterans and service dogs. Ten accounts were chosen for inclusion in this study, all of which were published on advocacy websites (i.e., service dog organizations [e.g., K9s For Warriors, Semper Fido, Puppies Behind Bars, Paws and Stripes]), media outlets (i.e., news reports and TV stories [e.g., USA Today, CBS News]), or self-reported testimonies (i.e., personal accounts [e.g., YouTube, biographical books, open letters to the service dog]). The testimonies included relate only to contemporary veterans who a) served in the Iraq/Afghanistan conflict in the War on Terror, b) had been diagnosed with PTSD upon their return from combat, and c) had chosen to seek out a service dog to ameliorate the symptoms of their PTSD. The testimonials included were chosen above other testimonies due to their inclusion of the veteran's story both before and after receiving their service dog. This allowed for common themes to be developed regarding their lives with and

without a service dog in order to compare the two. Demographic information regarding the ten veterans testimonies involved in the study can be found in Table 1.

Procedures

After extensive research on public domain sites and published books, ten testimonials were chosen for inclusion in this study. Each testimonial was recorded verbatim and studied thoroughly until the author was familiar with the individual content of each testimony. Verbatim quotes pertaining to common themes were extracted from each testimony for analytic purposes to determine the state of the veteran's life before the dog and how much their life changed after the dog. The quotes were separated into two groups: one pertaining to life before the service dog and the second pertaining to life after/with the service dog. Within each of these groups, a summative content analysis was performed in order to extract key words and phrases. A second summative content analysis was done comparing the two groups to one another, which allowed for common themes relating to the change the veterans underwent to become apparent. Through this, a theme relating to the entire study was found.

Analysis

After verbatim quotes were extracted from each of the ten testimonials, all quotes were divided into groups (before the dog and after/with the dog). The first phase of summative content analysis allowed for key words and sub-themes to be generated within each group. The second phase of summative content analysis allowed for the comparison of the two groups in order to determine sub-themes. The overarching theme for the study was discovered through this process and reported in relation to psychological principles in order to explain why the relationship between a service dog and veteran handler is so beneficial.

Results

The results will be reported under headings relating to the phase of the summative content analysis. Results pertaining to a certain group and category will be reported under corresponding headings.

Phase 1: Key Words

Below are the perspectives of the pre- and post-service dog ownership experiences that veterans had concerning their PTSD. Keywords for each group are italicized.

Perspectives on the veterans' pre-service dog ownership experiences with PTSD. Prior to receiving their service dogs, the veterans opened up about their constant state of *anxiety* and *hypervigilance* (i.e., constant feelings of *immense anxiety* and *analyzing everyone* as *a potential threat*; going into crowded situations and *feeling trapped* and *overwhelmed*; having *panic attacks*; having reoccurring thoughts that they were *back in the war*; going into crowded places and *scanning for exits* in order to *have a way out* if something happens). They also indicated that their PTSD symptoms took a great toll on their minds, leaving them in a constant state of *fight* (i.e., feeling *angry all the time*; *yelling* at family members or loved ones; *endangering* family members through reckless actions) or *flight* (i.e., feeling the need to *avoid* those they love or *wanting no part* of any human contact; being *unable to connect* with their loved ones; being *unable to go out in public*). Eventually, this *constant state* of hypervigilance would leave them *exhausted* to the point where they would stay *locked away* for a few days or even a few weeks. Nighttime brought no relief, and even presented more problems (i.e., being *scared to sleep* or *struggling to fall asleep*; experiencing *nightmares* or *flashbacks* of *horrific memories*). This cycle of exhaustion led many to a *dark* place where

they were *isolated*, *depressed*, and even *suicidal*. Each day was like its own *internal battle* to survive. Some turned to their *prescribed medications* in an attempt to find relief, but instead found that the medications *only made things worse*. Others turned to self-medicating with *alcohol*. Those who still found no relief often spent time contemplating how to *end it all* and *take their own life*.

Perspectives on the veterans' post-service dog ownership experiences with PTSD. After going through a non-profit organization to receive a fully trained psychiatric service dog, the veterans reported an undeniable *bond* and a strong *relationship* with their dog. The service dogs seemed able to *sense their distress or anxiety* and provide *comfort* and *distraction* in order to *pull their minds back to the present*. In crowded or stressful situations, their service dog would *ground them* by providing the comfort of *physical touch*, reassuring *pressure*, and/or pawing at them. At night, the dogs would *wake them from nightmares* and *stay by their side* until they were *calm*. They could *sleep better* because they had a *sense of security* knowing that there was someone *watching out for them*. The *comfort* and *security* provided by the dogs both day and night allowed for the veterans to feel as though they were a *new person* with a *new life*. They saw their dog as a *companion* and a reliable *battle buddy* that filled a hole in their lives. The veterans felt *protected* and *safe* in *crowded places* knowing that their dog was with them to *watch their back* and *alert them to danger*. With this new sense of security, they were able to *go out into public* again, and even *reconnect with people*. Many reported that they were able to *regain control of their mind* and *be hopeful* and *confident* about their futures thanks to their dogs. They felt as though they had a *purpose* again, and were able to *regain their confidence* and *live their lives* more fully. Some even

credited their service dog with *saving their life* and *saving their relationships* with their spouses and children.

Phase 2: Themes

The summative content analysis of the veteran testimonies was continued between the before and after/with groups. This allowed for the emergence of subthemes, as well as the study's overarching theme. The results for each subtheme will be discussed below.

Subtheme 1: Safety. Maslow included safety in his second tier in the hierarchy of human needs (Taylor et al., 2013). The veterans in the study expressed repeatedly that they struggled to feel safe upon their return from the War. They were in a constant hyper-aroused state, always on the lookout for danger and potential threats. One veteran explained a potential reason behind this issue, which was echoed by many other veterans in the study:

> In Kuwait, you knew who you were fighting. Iraq and Afghanistan was so different. You were never in a safe area (Peltz & Gandbhir, 2016).

The veterans grew so accustomed to being on guard and feeling unsafe that it carried over into their lives back in the states as they tried to reintegrate into civilian life. Many found this troubling and difficult, and was the core root of many of the other problems they experienced as a result of their PTSD. This is illustrated as follows:

> I'm thinking somebody's after me, you know, I'm back in Afghanistan... (Peltz & Gandbhir, 2016).
>
> You're always hypervigilent, make sure nobody's after you, make sure there's no bad guys. I used to find myself walking into rooms and identifying exits. Going into restaurants and have to sit in the corner (Paws and Stripes Inc, 2014).

> I slept with a gun under my pillow each time I came back from deployment, just because I didn't feel safe. I did not feel secure without some type of weapon on me at all times (K9s For Warriors, 2014a).

Their dogs appeared to have a profound impact in relieving the stress associated with this issue, and were able to instill a sense of security and safety that they had gone without for so long. Having the dog with them at all times, even in the most stressful environments, gave them a sense of reassurance that someone was watching out for them:

> For someone with PTSD, a service dog offers security. He watches your back, he provides the security that your squad, your Marines, used to provide for you (K9s For Warriors, 2014b).
>
> That's a testament to the power of service dogs. They're psychological body guards. They make you feel secure and comfortable, merely by their presence... They give you confidence, when there was little but doubt and anxiety before (Montalvan, 2011, p. 115).
>
> My favorite [command] is "watch my back" where she stands on my left side and she faces backwards, and if anybody is coming from behind, she'll notify me (K&N).
>
> When we're walking, he'll position himself in such a way t keep people from coming up behind me, or at least let me know if somebody is coming up behind me so I'm not startled by somebody walking past me (Bayer US, 2014).

Due to their former feelings of unease and lack of security, they followed their natural human nature and went to the place they felt was the safest, which often led them to isolate themselves in their homes or apartments. As illustrated below, many reached a point where they were unable to leave this safe space:

> I lived in the basement for two years when I came back from Afghanistan because I couldn't go out in public (K9s For Warriors, 2014b).
>
> I was somebody that led, you know, 275 men into combat, and now I was somebody that couldn't even get up out of my basement to go get a pack of gun from a 7-11 (K9s For Warriors, 2014a).
>
> . . . I couldn't go to the grocery store. Walking into CVS to ask for Tylenol would have me sweating and my heart pounding and stuttering (Bayer US, 2014).

The dogs brought about an immense change in their lives, allowing them to feel safe enough to venture out of their homes and reintegrate into normal life. Many said that it would not have been possible without their dogs, because they rely on their dogs so much for assistance with this very basic task:

> It finally clicked why I have this dog. Because not one time—I went into Target—and not one time did I think, you know where the hell am I at? What's going on? Who's back there? This dude looks like Hajji. You know, oh a little alarm went off over there, and my chest starts getting tight, and all that stuff—not one time, and the reason is is [sic] because I was totally focused on her. And it's like, okay, I get it now (Peltz & Gandbhir, 2016).
>
> The difference was night and day. . . . At the end of the tree weeks [of training with the dog], I could walk through a grocery store with absolutely no problem. There was no heart pounding, there was no sweating, and there was no stuttering (Bayer US, 2014).

Often, noises or situations that would remind them of their experiences in Iraq or Afghanistan would bring them right back to that moment, leave them feeling like they were

suddenly back in the war and under threat. This would cause extreme feelings of anxiety, and even produce negative behaviors such as anger or aggression:

> I just completely—just the anxiety was through the roof, it was horrible. I couldn't really think about anything but, "oh my God, I'm not gonna [sic] have a way out and I feel trapped," and [it was] completely overwhelming (Peltz & Gandbhir, 2016).

> Later that evening [on the 4th of July], my mom and my sister took me to the fireworks, which we had done every year since we were kids. So I didn't think anything of it, and we're sitting there and the smaller fireworks didn't bother me as bad, but when they started setting off the larger ones, the sound of them coming out of their cannon sounded a lot like the patriot missile going off. A very hollow kind of thud sound. And then when they would explode in the air, feeling the repercussion of that in my chest just brought be right back to Iraq, and I ended up curled up in a ball just crying (Bayer US, 2014).

> It was just extreme anger for no reason. Or there was a reason in my mind, but you look back at it, and you're like, "nah, that was dumb." You know, why did I freaking yell at my kid? Why was I freaking endangering my family by the way I was driving? (Paws and Stripes Inc, 2014)

This all changed for the veterans when their service dog entered their lives. The presence of the dog acted as a sort of calming force that pulled their attention away from the situation, allowing their mind to relax:

> . . . as he calms down I start to feel myself calm down . . . (Paws and Stripes Inc, 2014).

> You know, she reads me like a book. She can tell when I'm stressed out, she can tell when uh, when I need her the most (Peltz & Gandbhir, 2016).
>
> You know, he just does a great job, and he can tell right away if there's something going on with me. Man, he'll put his hundred pounds into my leg, or he'll pull me a little bit, or look at me. He's picking up on something and he's trying to get me to focus on him, and not focus on what's pissing me off or who's pissing me off (Paws and Stripes Inc, 2014).
>
> Just sitting there, being with her, I don't have to think about all those other things. My mind kind of stays in motion and I have her to think about and not that other stuff (K9s For Warriors, 2015).

Being put at ease like this helped them regain control of their emotions and reign in their stress, which had a positive ripple effect on other areas of their life.

Night terrors and nightmares are also a common thing these veterans experienced. They would either struggle to go to sleep because they did not feel safe or secure, or they woke up from a horrific nightmare confused, scared, and disoriented. It was a real struggle for them, and the exhaustion it caused them only worsened their other symptoms:

> I actually got to the point where whenever I came back, I would have to play the opening scene of *Saving Private Ryan* to get to sleep at night because I was so used to the noise (Hartogs, 2013).
>
> I was afraid as hell to sleep. It's really funny. The infantry teaches us to own the night from day one. We're the world's most scary thing in the dark, and the thing we own is the thing we fear (K9s For Warriors, 2015).

All of these veterans saw a noticeable change in this area of their life after receiving their service dog. Not only did they feel safer sleeping at night because they knew their dog was watching out for them, but they were also spared the nightmare and/or the aftermath of the nightmare because of their dog's presence and comfort:

> Every time I woke up from a nightmare, disoriented and wondering whether I was in Sunset Park or Al-Waleed or a bombed room somewhere in south Baghdad, Tuesday was standing beside the bed, waiting for me to reach out for him (Montalvan, 2011, p. 150).
>
> I probably slept the best I've slept in ten years last night. I woke up one time. And I feel so much better because I'm sleeping, because I had my buddy, and she was awesome. She just snuggles right up next to you, and it's great. It's just comforting to know that she's there (Peltz & Gandbhir, 2016).

Sleeping better at night allowed these veterans to have more energy, which in turn allowed them to be more concentrated and ready to face each day. This is perhaps one of the greatest benefits the service dogs provided for these veterans. Instances like these allow the veterans to have more energy to live their lives to the fullest, and it is all thanks to their four-legged friends.

Subtheme 2: Socialization. Veterans have been shown to struggle with interacting with others. This is due in part to their struggles of reintegrating into civilian life (Duca, n.d.), but also because their need for safety can drive them to isolate themselves (Taylor et al., 2013). The veterans echoed this in their testimonies:

> [When] I retired in 2010, I wanted no part of anybody. I didn't want to be around my kids. I couldn't connect with my husband who's a combat veteran (Peltz & Gandbhir, 2016).
>
> Isolated. Anxious. Obsessed with the war. . . and with the past. In a way, I suppose I hadn't come all the way back, and that made me reluctant to meet the people I had always loved (Montalvan, 2011, pp. 138-139).

Since the dogs allowed their veteran handlers to feel safe, secure, and confident, they were able to venture out more. Since dogs increase the chances for socialization in public places (Wells, 2004), their chance encounters with people began to increase, allowing them to become more comfortable with the idea of socializing and connecting with other people. While this interaction still felt unnatural and stressful for some of the veterans, they turned to their service dog for comfort, seeking out physical touch as reassurance that everything was going to be okay:

> By the second day [of having Tuesday], I developed the habit of touching him whenever I spoke. Even then, it wasn't a conscious movement. There was a trigger in my brain that, since coming home from Iraq, caused me to tense up when my mouth opened, and touching Tuesday released it somehow (Montalvan, 2011, p. 114).
>
> That's why they matched me up with Neema, cause she's such a social dog. She'll seek it out—when she's allowed to. She'll look at me and look at them like, "you gonna [sic] let me interact with this person?" (Hartogs, 2013).
>
> I hadn't gone out with anyone, anywhere, even for a coffee, in more than a year. That's the size of the difference Tuesday made in my life. He changed everything in me, right down to my heart (Montalvan, 2011, p. 178).

The dog's social nature is not the only reason these veterans were able to form connections with people again. They learned how to connect again by first forming a connection with their dog. Those paired with rescue dogs felt a connection to the animal through a shared difficult past. Others clung to the team concept, something that is deeply ingrained in military culture. For many, the bond they shared with their dog was something they had not experienced since coming back from the war:

> I don't know exactly what you went through before we met, but I like to think that we're both veterans who have survived our own wars (K9s For Warriors, 2016).
>
> She will lay on my foot, and just that pressure of her on my foot—it's almost like having my battle buddies next to me. It's amazing. She's my other half (Revival Animal Health, 2015).
>
> And then I went back to my small apartment alone with Tuesday, and curled up with him in our queen-sized bed, and felt not a warm blanketlike love enveloping me but the warm contentment of two hearts melting into one. Because this was my true home, I realized then. Not the apartment or the bed or New York City or even the proud embrace of my parents, but the moment at the end of every day of my life, whether I succeeded or failed, when Tuesday tucked me in (Montalvan, 2011, p. 252).

Subtheme 3: A better life. While their need for safety effected many areas of the veterans' lives, other aspects greatly impeded their ability to live their lives to the fullest. The disorder also left a noticeable impact on their life in terms of how it changed them. This is explained in the following quotes:

> Just as serious, though, was my loss of confidence. The world no longer felt benign, and I no longer felt natural in it (Montalvan, 2011, p. 184).

> I can trace the moment when everything changed, when something snapped. April 5, 2005, I was serving in Iraq as a combat medic when our unit got hit with that IED. Nothing could have prepared me for what I saw that day, and nothing prepared me for life back home (K9s For Warriors, 2016).
>
> Unfortunately, I brought a lot of baggage home with me that I didn't intend to bring, and I didn't really realize how severe it was. . . (Peltz & Gandbhir, 2016).

Added to this feeling of being different, of being changed, was the symptoms that many did not understand at first. These symptoms began negatively affecting their lives in a variety of ways:

> I didn't know what PTSD was, or that I was even suffering from it. I was a prisoner in my own home, unable to sleep without a nightmare. I was taking 14 different medications a day, but they made things worse, not better (K9s For Warriors, 2016).
>
> My mind was worse. Flashbacks, black thoughts, bad dreams. I woke up almost every night in a sweat, convinced I was back on the ground at Al-Waleed, awaiting the assassin's knife. During the day, without duties to distract me, I dwelled on the war. I walked step-by-step through battlefields and relived my anniversaries: my first combat, my first dead body, my first kill the day I escaped death, and all the other dates that never leave a soldier's mind (Montalvan, 2011, p. 86).

Their service dogs were able to change a lot for them in this regard. They saw a change in themselves even after the first few months, and it made them realize that getting a service dog had been the right choice for them in their recovery:

> His bouncy energy and eternal optimism made everything seem easy, and after months of darkness that was exactly what I wanted from my service dog: an easier life (Montalvan, 2011, p. 108).
>
> This is a new me now. I still have those thoughts, I still think about that kid. My new life now is this dog watching my emotions, watching how I'm thinking, because she picks up on it (Revival Animal Health, 2015).

The changes and transformations became even more evident after an extended time with their dogs, and many reflected on the impact their service dog had made in improving their life:

> Axel hit the reset button for me and started everything over (K9s For Warriors, 2014b).
>
> You [the service dog] allow me to use your shoulders and hips as a brace when my war torn body is too sore to get up. You sleep in my bed, always making sure I am safe in my dreams. You have saved my marriage, and have completely enriched my children's lives. And best of all, I can't remember the last time I had a suicidal thought (K9s For Warriors, 2016).
>
> He had produced a profound change in my life, something I knew my mother couldn't comprehend. I was more focused on the present and less apt to spiral into damaging thoughts. I slept better. I was more social. I was more confident in my body. And, as my mama no doubt appreciated, I drank less. Much less (Montalvan, 2011, p. 147).

The demons these veterans faced before getting their dogs often brought them to dark places. Many leaned on medications, either prescribed or not, and some turned to alcohol for relief from their mental anguish:

> They got me on this med and that med, you know, and my hopes are to get off all those meds. . . (Peltz & Gandbhir, 2016).
>
> I was self medicating: anxiety pills, drinking, depression meds—all of it at once. It wasn't fun (K9s For Warriors, 2015).
>
> I was drinking heavily. I was on 32 different medications (K9s For Warriors, 2014b).

Worse than that, many faced suicidal thoughts that plagued them frequently. Some attempted to take their own lives while others often found themselves planning ways to kill themselves:

> Worst of all, there was a constant thought of taking my own life (K9s For Warriors, 2016).
>
> This particular time, I was at the light. I smelled the burnt blood, the gunpowder—and I was done. I couldn't deal with it no more [sic], so uh, I was going to run my truck into a tree and just be done with it (Revival Animal Health, 2015)

The healing presence of the dog in their lives helped ease these dark thoughts and, for many, large numbers of prescription medication became a thing of the past. The smiles and tail wags of their service dogs were able to chase away thoughts of suicide:

> I don't think I'd be here [without Lilly] (Revival Animal Health, 2015).
>
> Axel saved my life, there's no doubt about it, hands down. If Axel hadn't come into my life, if [the service dog organization] hadn't come into my life, I would be dead. No doubt about it (K9s For Warriors, 2014a).

With their new companion by their side, facing every day with them, they were able to find a new purpose and get a new outlook on life. Many credited their dogs with giving them a second chance. They had renewed confidence, positivity, and optimism—something

many had lived without for years. The following quotes illustrate the new life these veterans are striving for each day with the help of their furry friends:

> For the first time in years, I felt comfortable most days and confident about the future. I wasn't just surviving; I was beginning to build a life and a productive career (Montalvan, 2011, p. 177).
>
> It's about getting better and making your quality of life better. Being able to do this, man, being able to go camping, be able [sic] to go to Disney Land or Disney World, and not be afraid to do stuff anymore that I used to enjoy doing. Stuff that I've missed (Paws and Stripes Inc, 2014)
>
> With Tuesday so attuned to my needs, I regained my confidence. I knew he was going to be there if I stumbled and that knowledge, along with Tuesday's vigilance for cracks and other hazards, caused me to fall less. He was my stabilizer; he helped me gain control of my mind and body, even without a handle to hold (Montalvan, 2011, p. 184).

Overarching theme: Hope. Through analysis of quotes pertaining to life both before and after/with the service dog, an overarching theme for the entire study became clear: one of hope that allowed these veterans to gain a new "leash" on life. Their four-legged companions, friends, mentors, and saviors allowed these veterans to feel hope for the future for the first time in years. They have a reason to get up each morning, and a reason to make it through each day. Their dogs were able to give them purpose, and teach them how to live—truly live—once again. When before their days were filled with anxiety and darkness, as they wrestled with an internal war that fractured their lives, their days are now filled with tail wags, dog kisses, and the unconditional love that can only come from a dog (Montalvan,

2011). Out of all that was said in the ten testimonies analyzed for this study, the following quotes best capture the hope that can exist between a wounded veteran and a service dog:

> He's my cane. He's my balance. He's my alarm clock, my medicine schedule, my life coach and emotional mentor. He's my companion. My friend. My ballast. My hope. What else? What more can I offer in his honor? I shrug. "He's Tuesday," I say (Montalvan, 2011, p. 246).
>
> Captain, you truly are my best friend. You've got my back. I have an amazing life now, because of you. You saved my life, man. You've made my life better than I ever thought it could be. Thank you (K9s For Warriors, 2016).

Discussion

After evaluating existing empirical literature and research regarding the benefits of the human-dog relationship and analyzing testimonies of veteran service dog teams, the legitimacy of this treatment option is apparent. While empirical research exclusively targeting this treatment is scarce, there are studies currently underway. The VA is conducting their own research (U.S. Department of Veterans Affairs, 2017), as are many organizations around the country who provide service dogs to veterans suffering from PSTD and other war-related injuries. For example, This Able Veteran, a non-profit organization in Illinois, is conducting a study on the veterans who graduate from the program in order to obtain statistical data (This Able Veteran, 2017). Perhaps the largest study being conducted by one of these organizations involves cooperation between Purdue University and K9s For Warriors, a non-profit in Florida. The aim of this longitudinal study is to determine whether or not veterans experience changes in their "PTSD symptom severity, physiological arousal, and social competency compared to those receiving usual treatment services while on the

waiting list to receive a PTSD service dog" (Rodriguez, 2017, The OHAIRE Lab's Research. . ., para. 1). The hope is that these studies will provide a solid, scientific basis to support the claims made by the veterans included in this study.

However, there is still a question concerning why this treatment has changed so many lives. After looking at scientific literature regarding the benefits of a human-dog relationship and closely analyzing the testimonies from veterans with service dogs, it has become clear that the relationship itself could be the reason service dogs are so useful, particularly to veterans suffering from PTSD. The positive effects of this relationship can produce a ripple effect throughout the veteran's life, vastly improving life-satisfaction and quality of life.

According to Maslow, the human need for safety is second only to the basic survival needs of food, shelter, and water. The nature of the bond between the handler and the dog, in addition to specific training, can allow the veteran to feel safe in the presence of his dog, thereby satisfying this need (Taylor et al., 2013). By feeling safe again and venturing out into public and forming meaningful relationships, their quality of life will improve. As a result, their overall life satisfaction will improve as well, which is reflected in the analysis of the testimonies.

John Bowlby's theory of attachment is another consideration that could play a role in the benefits experienced by these veterans. As discussed previously in this paper, humans have a tendency to feel attached to pet dogs, as if they are part of the family (Wells, 2009). This attachment can lead to feelings of security, but also act as a stepping stone, allowing the veterans to re-learn how to form attachments to humans (Taylor et al., 2013). Once the veterans feel safe again and develop an attachment to their dog, they may find it easier to interact with people again, and be more comfortable doing so because their dog is with them.

A veteran included in this study, Captain Montalvan, echoed this in his book when discussing his re-integration into normal interactions with others. "Perhaps that's why I find it so easy to laugh and joke with the other owners at the dog run—because Tuesday showed me how" (Montalvan, 2011, p.241). Not only does their service dog allow them to feel secure in an environment that was once stressful and alien, but they are able to rely on their dog for support as they step out into the unknown and develop close personal relationships once again.

Another possible explanation could be explained in terms of one theory relating to the formation of PTSD. This theory relates the disorder to classical conditioning, in which normal, non-threatening stimuli present during the trauma (i.e., sights, smells, or sounds) produce the fear response seen in PTSD through pairing those stimuli with fear-inducing stimuli (i.e., any stress-inducing situation found in combat). Experiencing these conditioned stimuli after the initial trauma can lead to the same feelings experienced during the trauma. Higher-order conditioning could also be the cause, which includes associating similar or neutral cues to the conditioned stimuli, thereby eliciting the same fear response. This could eventually lead to one trigger, or conditioned stimulus, to activate the responses linked to other stimuli, increasing the intensity of the reaction. This same process of conditioning can apply to happy moments and responses as well. In the same way, sights and sounds present during a happy moment can become conditioned stimuli leading to the same happy emotions experienced during the event (Paunovic, 1999).

If PTSD and its treatment are viewed from the perspective of conditioning, the role that service dogs play can be explained in terms of counterconditioning. This works by using the same conditioned stimulus that once produced a fear response and reconditioning them to

produce a positive response that will negate the fear and stress. If the dog is present in a situation where the veteran is triggered by one of these conditioned stimuli, the dog's actions or mere presence could produce reactions strong enough to counteract the fear, thereby extinguishing or diminishing the fear response experienced in the presence of the conditioned stimuli (Paunovic, 1999). Many veterans included in this study expressed how their dogs allowed them to experience emotions again, and how they were happier because of it. Simply being capable of experiencing these positive emotions in the face of conditioned stimuli could be enough to begin the process of counterconditiong. While the dog and the feelings it produces in the veteran may not be the only thing in the veteran's life that can be a tool for counterconditioning, many certainly credit their dogs with giving them the ability to feel those emotions again, particularly optimism and laughter. Eventually, the veteran's anger or guilt associated with the trauma may be lessened or even eliminated altogether (Paunovic, 1999).

Following this same theory, another explanation could lie in Pavlovian extinction. This occurs when a stimulus no longer produces the conditioned response. Some have called this phenomenon the destruction of what was learned during the conditioning process, but there is evidence to suggest otherwise. A more probable theory involves the idea that extinction is simply a process of re-learning. After extinction takes place, the stimuli that are encountered have the potential to produce two learned responses. The response that is produced is dependent upon the context the stimuli appear (Bouton, 2004).

Within the context of the handler-service dog team, extinction could be achieved by the dog preventing the fear response. Part of the dogs' training involves nudging the handler back to the present, which keeps the handler from experiencing the response that was

previously elicited by the stimulus (e.g., loud noises, crowded spaces, etc.). However, evidence exists to suggest that extinction heavily relies on context. Therefore, if the veteran experiences extinction in the presence of his service dog, encountering the condition stimulus without the service dog could result in reinstatement of the conditioned response (Bouton, 2004). This was also illustrated by one of the veterans in the study:

> If I didn't have Axel—if I stepped foot out into New York City right now, I don't even know what the heck would happen. I could probably be out there for about five minutes before my system would overload and I would have to come back in here and lock myself in a room for three days (K9s For Warriors, 2014a).

The dog provides a context of safety and security that allows for extinction to take place. Without the dog, the context reverts back to what it was prior to the veteran receiving the service dog, which could result in the reinstatement of the conditioned response, even after extinction has taken place (Bouton, 2004; Taylor et al., 2013).

These are merely plausible theories to explain why service dogs have been so useful for veterans struggling with PTSD, and could potentially provide a framework for an in-depth empirical study. This study looked at pre-existing empirical research regarding human-animal interactions and related it to the modern veteran's struggles with PSTD by analyzing public domain testimonials. While the study did not allow for empirical evidence, it did allow for the formation of theories that help explain why service dogs can be used as a viable treatment option for veterans suffering from PTSD.

It is the hope that current ongoing studies and future studies will provide solid evidence of the effectiveness of service dogs, so that in the future service dogs will be more easily obtainable for veterans in need. It may also help raise public awareness of this

treatment option, which may remove the ridicule some handlers can face in public places. Most importantly, evidence such as what is presented in this study and that which will be presented by the ongoing studies may reach a veteran who is in need, and open his or her mind to consider the healing power of service dogs.

Conclusion

In conclusion, while this present study was not an in-depth case study that provided empirical results, it did help illustrate how lives are being changed, and even saved, by these intelligent and loyal animals, and provided insights into why this relationship can be so beneficial. While these service dogs are not a cure for PTSD, they are able to help these deserving veterans take their lives back and live the lives they fought for. Although ongoing research is underway, more research needs to be done in order to solidify the results displayed in the testimonies of the veterans who have chosen to pursue this non-conventional treatment path. With a greater awareness and support from government agencies like the VA, perhaps even more veterans can get a new "leash" on life, and experience the life-altering hope that these four-legged saviors can offer.

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Appendix

Table 1

Name	Gender	Branch	Served in	Diagnosis	Organization
Luis	Male	Army	Iraq	PTSD, TBI, Spinal Injury	Educated Canines Assisting with Disabilities
Ben	Male	Army	Iraq	PTSD	K9s For Warriors
Tracy	Female	Army	Iraq, Afghanistan	PTSD	Puppies Behind Bars
Jason	Male	Marines	Afghanistan	PTSD, TBI	K9s For Warriors
Joe	Male	Army	Iraq	PTSD, TBI	K9s For Warriors
Lawrence	Male	Army	Afghanistan	PTSD	Paws and Stripes
Kevin	Male	Army	Iraq	PTSD	Puppies Behind Bars

Randy	Male	Army	Iraq	PTSD	K9s For Warriors
Mark	Male	Army	Afghanistan	PTSD	Puppies Behind Bars
Melissa	Female	Army	Iraq	PTSD	K9s For Warriors