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ACT and Veterans: A Multiple Baseline Study Using ACT To Treat Anxiety Disorders in U.S. Military Veterans

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ACT AND VETERANS: A MULTIPLE BASELINE STUDY USING ACT TO TREAT
ANXIETY DISORDERS IN U.S. MILITARY VETERANS

by

Jeremiah E. Fruge

A dissertation submitted in partial fulfillment
of the requirements for the degree
of
DOCTOR OF PHILOSOPHY
in
Psychology

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ABSTRACT

ACT and Veterans: A Multiple Baseline Study Using ACT to Treat Anxiety Disorders in U.S. Military Veterans

By

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Utah State University, 2023

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Department: Psychology

There are 18 million Americans, roughly 7% of the population, who are Veterans. In contrast with the general population, Veterans have a high likelihood of exposure to psychological harm during their military service. Studies indicate prevalence rates for anxiety disorders in Veterans can be four times higher than in the general population, though few examine treatment. Military culture is an additional factor which is important to account for when treating Veterans. For example, within the military an emphasis is placed on values and committed action which may mean this population will benefit more from certain therapies than others such as Acceptance and Commitment Therapy (ACT). ACT places an emphasis on values-based actions and perseverance through distress which aligns well with military culture, though careful testing is needed for relevance, acceptability, and feasibility in a Veteran sample. As such, the present study aims to test the relevance of ACT for anxiety disorders in Veterans using a multiple baseline design and an a priori culturally adapted treatment protocol consisting of 10 treatment sessions. Four participants were recruited and completed the treatment protocol with all participants showing significant improvements in psychological flexibility,
decreases in avoidance, and overall improvements in daily functioning. Three participants maintained these treatment gains at the one-month follow-up. Participants indicated the modifications made to the protocol were effective in helping them engage with and utilize the skills learned in treatment. The results of this study indicate that ACT shows promise as a relevant and acceptable treatment in this population.
PUBLIC ABSTRACT

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Jeremiah E. Fruge

There are 18 million Americans, roughly 7% of the population, who are Veterans. In contrast with the general population, Veterans have a high likelihood of exposure to psychological harm during their military service. For example, studies indicate Veterans are diagnosed with anxiety disorders in some cases four times higher than in the general population, though few studies examine treatment. Military culture is an additional factor which is important to account for when treating Veterans. For example, within the military an emphasis is placed on values and committed action which may mean this population will benefit more from certain therapies than others such as Acceptance and Commitment Therapy (ACT). ACT places an emphasis on making values-based choices even when anxiety is present, which aligns well with military culture. As such, the present study aims to test ACT for anxiety in Veterans using a multiple baseline design and a culturally adapted treatment protocol consisting of 10 treatment sessions. Four participants were recruited and completed the treatment protocol with all participants showing significant improvements in their ability to make values-consistent choices even when feeling distress, and increased meaningful engagement in their lives. Three participants maintained these treatment gains at the one-month follow-up. Participants indicated the modifications made to the protocol were effective in helping them utilize the skills learned in treatment. The results of this study indicate that ACT shows promise as a relevant and acceptable treatment in this population.
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Jeremy Fruge
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CHAPTER I

INTRODUCTION

In the United States there are approximately nineteen million Veterans, which is just under 10% of the adult population, and represent a population with specific healthcare needs that differ from the general population (U.S. Census Bureau, 2017a). Since the 1990s, military members and veterans have been receiving more of their healthcare services outside of Department of Defense (DoD) and Department of Veterans Affairs (VA) facilities which has prompted an increased need for awareness of military culture especially within behavioral health services (Meyer, 2015). The VA has been seeking to establish partnerships with community providers across the nation to help provide quality care for this population. Services offered by psychologists is particularly needed within this population as the prevalence rates of mental health diagnoses is high. Studies have indicated over a twelve-month period, thirty-six percent of veterans receiving care at VA facilities will meet criteria for one mental health diagnosis (Seal et al., 2009). Additionally, this population is at an elevated risk for suicide, with rates approximately 1.5 times higher than the non-Veteran adult population (U.S. Department of Veterans Affairs [VA], 2019). Many studies have looked at specific disorders (e.g., PTSD or depressive disorders) while anxiety disorders are often left unexamined in this population even though prevalence rates can be three to six times higher among Veterans compared to the civilian population. This is an important area for examination and treatment, and can be well met by community providers when they are armed with an understanding of military culture and experiences.
Service members are placed into a culture which has its own history, tradition, language, customs, and norms early in their military career. Service members are taught the values of their given branch (e.g., honor, courage, and commitment for the Navy and Marine Corps) and their actions are expected to align with these values and the customs of their branch. Additionally, military culture places a large emphasis on the group rather than the individual, often to including taking care of equipment before an individual attends to their own needs. The military is a high-stress environment which can build intense bonds of camaraderie among service members further amplifying the drive to take care of those around the individual rather than their self. Many aspects of military culture may increase the efficacy and effectiveness of certain forms of psychotherapy. Given the high prevalence of anxiety disorders, strong connections with values, and acceptance of difficult life circumstances; Acceptance and Commitment Therapy (ACT) stands to be well suited to meet the needs of the military and veteran community.

To date, few studies have examined the effectiveness and efficacy of ACT within this population, though it does show promise. ACT has been rolled out nationally within the VA to treat depression and has shown efficacy and effectiveness (Walser et al., 2012). ACT has shown high levels of effectiveness and efficacy in treating anxiety disorders in the non-Veteran population (Twohig & Levin, 2017). Given ACT’s emphasis on values consistent actions, acceptance of one’s internal experience, and goal of breaking down avoidance, it appears to be a treatment that will align with common experiences and ideals of the military. The current study utilized a multiple baseline design to assess the effectiveness of ACT in treating anxiety disorders within this population. A small sample size increased the importance of idiographic information from each participant and to
begin assessing for behavioral changes which are indicative of psychological flexibility. Secondary questions this study aimed to address are the importance of cultural matching between therapist and patient, effectiveness of using military based metaphors, and other aspects of military culture which affect or influence engagement in treatment.

Participants completed survey batteries at four time points while completing daily check-in questions during baseline, treatment and at one-month follow-up. The data from this study can be used to inform future treatment protocols and studies within this population.
CHAPTER II

LITERATURE REVIEW

U.S. Military Veterans

For this paper, the reader will notice the term Veteran is capitalized throughout the document. This is a deliberate choice and is done following the Department of Veterans Affairs (VA) style guide and out of respect for those who have served their country (VA, 2022). For the purpose of this paper, the term Veteran will utilize the same definition that U.S. government and VA utilizes under Section 101(2) of Title 38 which is “a Veteran is a person who served in the active military, naval, or air service, and who was discharged or released therefrom under conditions other than dishonorable” (“Title 38 Veterans’ Benefits,” 1958). Veterans of all ages represent approximately 7.7% (18,939,219 Veterans) of the total U.S. population, with the majority of those Veterans being affiliated with Vietnam era to current day conflicts (U.S. Census Bureau, 2017a). Within the State of Utah, Veterans represent approximately 6% (125,074 Veterans) of the population, with similar distributions: the majority being from the Vietnam era to current day conflicts (U.S. Census Bureau, 2017b). While Veterans do not represent the majority of the population, they do represent a large subset and one that needs appropriate care. Previous researchers have shown that only approximately one-third of Veterans receive physical and mental health care from the VA, and since the 1990s, this care has been increasingly provided by non-VA/military therapists. This equates to approximately 12,689,295 Veterans receiving care outside of the VA (Meyer, 2013, 2015; U.S. Census Bureau, 2017a). In a recent report, the VA stated that building community partnerships is
a primary goal to help provide adequate care to a population that is at a heightened risk for suicide, psychopathology, and physical health issues (VA, 2019).

**Veterans and Mental Health Issues**

Due to the nature of being in the military, Veterans have likely been exposed to high stress environments, loss of friends or family, and/or traumatic events. This places this population at a particularly high risk for a variety of psychopathologies and physical health issues. Veteran suicide is a well-known tragedy, and the rates of Veteran suicide was 1.5 times higher when compared to non-Veteran adults (VA, 2019). In 2017, Veterans accounted for 13.5% of all deaths by suicide among U.S. adults while representing only 8% of the U.S. population (VA, 2019). When compared to other Veteran age groups, Veterans aged 18-34 years old had the highest suicide rate in 2017 while the absolute number of suicides was highest among older Veterans aged 55-74 years old (VA, 2019). Beyond suicide, Veterans are at a particularly high risk for other forms of psychological distress. Of Veterans who were seeking medical and/or psychiatric care at the VA, and had at least one clinical visit during the study period (Seal et al., 2009), 36.9% received a mental health diagnosis (21.8% diagnosed with posttraumatic stress disorder [PTSD], and 17.4% received a depressive disorder diagnosis). Prevalence of specific types of anxiety disorders (e.g., panic disorder [PD] and generalized anxiety disorder [GAD]) are often not reported in the epidemiological studies for Veterans, instead the prevalence of the group of anxiety disorders is presented (Milanak et al., 2013; Seal et al., 2007). This leads to uncertainty in prevalence for different anxiety disorders and likely a lack of research into possible treatments for this population.
In 2007, of Veterans seeking services at a VA facility, 25% received a mental health diagnosis, with 44% receiving one diagnosis, 29% received two distinct diagnoses, and 27% received three or more mental health diagnoses (Seal et al., 2007). Of those diagnosed with a mental health disorder, approximately 23% received an anxiety disorder diagnosis (Seal et al., 2007). Studies looking at specific anxiety disorders have indicated that some disorders, such as GAD is 4-6 times higher among Veterans compared to the general population (Milanak et al., 2013). Rates of PD were nearly triple that of the general population (Gros et al., 2011). Alternatively, rates of social anxiety disorder (SAD) are lower when compared to the general population (Kashdan et al., 2006). Increasing focus on this class of disorders seems appropriate given the studies which indicate higher prevalence of anxiety disorders in Veterans. The risk for these forms of psychopathology may be associated with the type of work Veterans complete in the service of their country, being mindful of this and recognizing that the military and Veterans have their own culture which is distinct from the general population can inform how we provide treatment.

**Military Culture**

For the purposes of this study, culture is defined as a set of beliefs, values, norms, history, traditions, and language held by a group which are transmitted from one generation to the next by members of that culture. This process occurs early within the military during basic training where recruits are taught the language, practices, expectations, history, traditions, and acceptable standards of behavior by their instructors in basic training. The military has its own culture, based upon its own values, laws, traditions, history, language, customs, and day-to-day norms (Johansen et al., 2013;
Meyer, 2015). Young service members are first indoctrinated into this culture during their initial training in a given service branch, and this culture permeates their lives especially if they serve on active duty (Meyer, 2015). For service members who serve in the National Guard, Air National Guard, and Reserve units, they may have a weaker bond with the military culture given their infrequent contact with it given they are more often engaged in their typical “civilian” jobs and the dominant culture of the region they live in. Individual branches have their own distinct cultures that have more impact on an individual as they are trained, educated, and spend most of their time interacting with members of their branches. Within branches, a given military occupational specialty (MOS) will also convey other aspects to further build this culture. A unique aspect of military life is the identity of being a service member, particularly on active duty. They engage in this piece of identity every day of the year for the entire duration of an enlistment, and this culture and identity persists beyond service (Atuel et al., 2015; Sanghera, 2017). The values and norms of military life often require service members to place the value of the team above themselves, serving an important function in military life (Meyer, 2015; Sanghera, 2017). This population is unique, has its own unique culture, thus, it is my hypothesis that understanding and adapting treatment to better map onto this group can improve treatment outcomes.

Cultural Competence and Adaptation

One important step to being aware of differences in culture and their impact on treatment is being culturally competent. The construct of cultural competence was discussed by S. Sue (1998), where he stated that “cultural competence is the belief that people should not only appreciate and recognize other cultural groups but also be able to
work effectively with them” (p. 8). In this article, he identifies three key ingredients to cultural competence which are: scientific mindedness, dynamic sizing, and culture-specific elements (S. Sue, 1998). Scientific mindedness refers to forming hypotheses and not jumping to conclusions, then testing those hypotheses in regards to a client’s culture and interaction (S. Sue, 1998). Dynamic sizing refers to the skill of a therapist to recognize when to generalize a skill, metaphor, or information and when to be exclusive and base it upon a client’s experience and culture (S. Sue, 1998). Finally, culture-specific elements refers to incorporating and/or consulting with culture-specific experts and helping professionals who may be willing to provide guidance on translating a practice to a given treatment or help to provide treatment (S. Sue, 1998). It is important to recognize that this is not a process completed in one-step; it is a lifelong process of knowing of other cultures. Cultural competence can also be viewed as a three-pronged approach; awareness, knowledge, and skills (D. W. Sue et al., 1998). Awareness of one’s own culture and biases, knowledge of one’s own cultural background and understanding of another’s culture, and skills being acquired to improve working with other groups and cultures (D. W. Sue et al., 1992). Cultural competence is a separate construct from cultural adaptation.

An easy distinction between cultural competence and cultural adaptation is that cultural competence resides within a practitioner and cultural adaptation resides in the treatment manuals (Domenech Rodríguez & Bernal, 2012a). These two constructs are linked together, as a culturally competent therapist without a culturally adapted treatment is essentially a person without their tools for the job, and a culturally adapted treatment provided by a clinician lacking the skills of cultural competence will likely misuse the
material or provide poor treatment (Domenech Rodríguez & Bernal, 2012a). Cultural adaptations take the existing model of an evidence-based treatment (EBT) and evaluate its outcomes and assumptions about what is maintaining a problem and compare it with the values, norms, and beliefs of a given population (Domenech Rodríguez & Bernal, 2012a). From there, if aspects of the treatment are identified which differ from that of the population of interest these should be addressed and viewed from a cultural lens (Domenech Rodríguez & Bernal, 2012a, 2012b). As an example, if is there an underlying cultural bias which exists in the model, this should be adjusted in the adapted treatment by working with cultural experts, stakeholders in the community/culture, and an expert on the treatment that is being adapted (Domenech Rodríguez & Bernal, 2012a, 2012b). The current study protocol modifications were informed by cultural competence and adaptation. While not a truly culturally adapted treatment, it was important to me that any changes made to metaphors or the ordering of processes of change were informed by extant protocols, discussions with experts, and utilizing my own knowledge of common military experiences. In particular, the changes made were informed by the Cultural Sensitivity Framework (CSF; Domenech Rodriguez & Wieling, 2004; Resnicow et al., 2002) to help make it “look like” and “sound like” a treatment that maps onto a Veteran’s experience of the military.

This is an important step as language conveys significant meaning and symbolism for people, and psychotherapy metaphors can allow a client to connect with a previous experience and the concept being learned in therapy. Research indicates that making adaptations to treatment that are based upon a client’s culture leads to better treatment outcomes compared to treatment as usual (Soto et al., 2018). For examples, refer to
Appendix A, which contains modified therapy metaphors tailored to this community. For this study, I consulted with a therapist who has been treating Veterans utilizing ACT for decades, reviewed extant treatment protocols, and reviewed the changes with the committee chair to ensure fidelity to ACT. It was important to capture the experience of the participants of the study, therefore each participant was interviewed at the conclusion of treatment to provide insight and feedback on their experience of treatment and the protocol used in the study.

An example of a major change to the therapy beyond modifying the language, is delivering therapy two times per week rather than one time per week. This modification allows for consistent treatment, building upon gained momentum, and aligns with Veterans’ experiences in the military. In the military, training and education is often condensed into shorter periods of time while maintaining a high volume of information when compared to comparable civilian training. This format of twice weekly therapy has been common in research studying sudden gains in psychotherapy, typically the first half if not the entire protocol of these studies performs therapy sessions twice weekly (Doss et al., 2011; Fluckiger et al., 2013; Hamdeh et al., 2019; Hunnicutt-Ferguson et al., 2012; Keinonen et al., 2018; Tang & DeRubeis, 1999). Studies examining posttraumatic stress disorder (PTSD; in veterans) and obsessive-compulsive disorder (OCD; general population) have found that employing twice-weekly sessions helps to improve symptoms for these disorders at least equal to the outcomes seen in once-weekly sessions (Abramowitz et al., 2003; Foa et al., 2018; Twohig et al., 2018). Given the lack of research treating anxious Veterans with ACT it was important to capture any
modifications based on participant culture to inform future studies and current therapists working with this population.

**Telepsychotherapy**

Telepsychotherapy (or telepsychology) is defined as “the provision of psychological services using telecommunication technologies” (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013, p. 1) and provides therapists an additional way to provide treatment to those individuals who are either distant from their location or those who have barriers to seeking treatment in a traditional setting (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013; Nelson et al., 2011). One benefit of telepsychotherapy is it provides clients access to clinicians who have experience treating less common disorders (e.g. trichotillomania), who specialize in a given treatment (e.g. ACT), or who have experience and cultural competence working with a specific population (e.g. Veterans). This can allow clients to access these clinicians across wide ranges, especially when they live in an area with high waitlist times, or lack appropriate care for a given psychological disorder or unique cultural needs. As with traditional forms of therapy, there are advantages and disadvantages associated with telepsychology.

One of the major advantages of telepsychology is the ability to reach clients who live in different cities or may have barriers to seeking treatment at a brick and mortar building (e.g. lack of transportation, physical disability). There may be a lack of adequate or competent care in a given location, or in rural locations a lack of available resources for treatment. In addition, there are the associated costs of transportation that can be saved by these clients especially if they already have access to devices that allow them to
engage in telepsychology and internet access. These services can be provided to individuals in the safety and convenience of their own home, which can also make this treatment modality more egalitarian as the therapist and client are in a comfortable and familiar place (Kocsis & Yellowlees, 2018). For particularly anxious clients, or those struggling with specific phobias, the ability to participate in treatment from the comfort of their own home may increase the likelihood of their engagement in therapy (Kocsis & Yellowlees, 2018). Telepsychology services have shown comparable results to in-person (IP) therapy that allows the benefits and potential ease of access to be balanced with positive treatment outcomes (Herbert et al., 2017; Lee et al., 2018). Ensuring ethical practice using this technology, the APA generated guidelines for providing psychotherapy to individuals via technology (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013). Along with these advantages, there are disadvantages associated with using technology to provide mental health treatment.

The ability to provide treatment across a large distance and not needing to be in the same room, can also create some difficulties on the part of the clinician. Some exercises which can be easily done in a therapy room now may not have the same effect or need to be modified in a way that makes the exercise less “smooth.” Confidentiality is easier to maintain when a client comes into a physical clinical space, whereas in telepsychology maintaining confidentiality may be more difficult as a client may choose to engage in therapy in a place that has minimal privacy (Nelson et al., 2011). It is the responsibility of the therapist to discuss the client’s role in ensuring the sessions are not interrupted and the space they use is conducive to engaging in therapy (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013). This
treatment modality also changes the ability to contact emergency services in case of a medical or legal emergency, it is the responsibility of the therapist to convey this information and take reasonable steps to ensure they are able to provide assistance if necessary (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013). When working with populations at high-risk for suicide or self-harm, there is a recommendation for consistent assessment, and if necessary, remaining in contact with a client while in the process of contacting local emergency responders (McGinn et al., 2019). While assessing for suicidality is important in any context, the presence of suicidality alone should not be the only reason to not provide treatment in this modality as long as it can be monitored and responded to effectively (McGinn et al., 2019). Lack of competence with the technology used for either the therapist or the client may represent an additional barrier to treatment that should be addressed prior to initiating therapy (Joint Task Force for the Development of Telepsychology Guidelines for Psychologists, 2013; Nelson et al., 2011). To date, telepsychology has shown promise across a variety of disorders that allows clients to seek services from more clinicians beyond local resources.

Examples of disorders that have been treated via telepsychology include chronic pain (Herbert et al., 2017), posttraumatic stress disorder (Gros et al., 2011), schizophrenia (Rotondi et al., 2005), eating disorders (Shingleton et al., 2013) and others. The various disorders that can be treated via technology appears to be growing which can be beneficial in rural areas or urban locations where there is a large waitlist for mental health services. Embracing the use of technology in psychology is important as there is a growing shortage and demand for mental health services (National Alliance on Mental
Illness [NAMI], 2017; Nelson et al., 2011). There have been a variety of treatments used to treat disorders utilizing this modality, one treatment is Acceptance and Commitment Therapy (ACT) which has shown promise in this modality and with this population.

**Acceptance and Commitment Therapy**

ACT seeks to enhance psychological flexibility and improve an individual’s quality of life by targeting six separate but interrelated processes (Hayes et al., 2006; Hayes et al., 1999). ACT is a “third wave” behavioral therapy, falling under the umbrella of cognitive behavioral therapy (CBT) approaches (Hayes, 2004). ACT comes from an underlying philosophical framework known as functional contextualism (Hayes et al., 1988; Hayes et al., 1993) which has two points that are important to consider which are the unit of analysis and the truth criterion (Twohig, 2012). The unit of analysis according to this approach is the *whole event*, meaning that a single event is not considered in isolation rather the context of the event and the given event’s function are important to then be able to intervene on that behavior (Twohig, 2012). The truth criterion of this framework is *effective action* which provides a specific goal of prediction and influence of a behavior with precision, scope and depth rather than simply prediction or surface understanding of behavior (Hayes et al., 1993; Twohig, 2012).

ACT is informed by an underlying theory of human language and cognition that is clinically useful and helps to guide research and applied work related to ACT, this underlying theory is known as Relational Frame Theory (RFT; Hayes et al., 2001). An important feature of human language and cognition is our ability to arbitrarily relate events or objects based upon their context, and to subscribe a given function (or response) to these objects which then impacts our behavior and responding to these
events or objects (Hayes et al., 2006). As an example, a child may see a small black eight-legged insect which elicits a sense of fear, which provides meaning and function (this is a scary insect, avoid them in the future) based upon the child’s direct experience. The child then learns this insect is called a “black widow” and is a “spider” and now can apply the meaning “spiders are scary” and the function “avoid spiders in the future” to other spiders even without direct exposure to those spiders. Research has shown that “what a stimulus is and its suggested response are under the control of different features of the environment” (Twohig, 2012, p. 501). A clinical example of this could be that an individual understands that anxiety is an emotion, and their typical response is to avoid this internal experience. In this case we want to provide new responses in addition to the typical response to improve flexibility and diffuse the response relationship between anxiety and avoidance. One way this can be done is introduce values-based living and allow approaching anxiety in order to live in line with values as a new response rather than only having the avoidance response. Clinically this orients ACT to target the functional (suggested response) context because the relation (what a stimuli is) function cannot be untrained (Twohig, 2012).

Altering the functional context and promoting improved quality of life is the core functional component of ACT known as psychological flexibility (Hayes et al., 2006; Twohig, 2012). Psychological flexibility essentially means a person’s ability to contact the present moment, which includes their inner experience (e.g., thoughts, emotions, physical sensations) and based upon the given context, persisting in or modifying behavior in the service of pursuing goals and/or personal values (Hayes et al., 2006). The
opposite of psychological flexibility is psychological inflexibility which has been argued as the core process underlying psychopathology (Hayes et al., 2006).

Figure 1. Descriptions of the continuum of the six ACT processes of change.

Note. Based on the ACT ADVISOR by David Chantry and used with permission.

ACT aims to increase psychological flexibility by targeting six separate but related processes of change: acceptance, defusion, present-moment awareness, self as context, values and committed action (Hayes, 2004; Hayes et al., 2006). As displayed in Figure 1, the six ACT processes of change represent a continuum with the processes of change typically associated with psychological flexibility on one end and those typically
associated with psychological inflexibility on the other end. This representation of a continuum is consistent with the functional contextualism philosophy; essentially the more functional end of the spectrum is dependent upon the context. For example, if a person is at home on their couch and able to notice anxious thoughts (e.g., “if I make a mistake I’m going to die”) without treating it as true or trying to “make it go away” this is viewed as functional. In other instances, such as driving on a slippery road and noticing the same thought, it would actually be helpful to pay attention to that thought and be mindful to not make a mistake. The context determines what is a functional response to a thought or emotion. An important part of ACT is helping clients to discriminate between the ends of the continuum for each process of change and knowing when and how to effectively engage in that behavior (Twohig, 2012).

The process of acceptance is the opposite of experiential avoidance on the continuum. It represents an individual’s willingness to allow thoughts, feelings, and sensations to be present as they are without attempting to regulate or remove them (Hayes et al., 2006; Hayes et al., 1999; Twohig, 2012). Cognitive defusion is the opposite of cognitive fusion, and is aimed to provide a client with a different way to interact with internal experiences such “viewing thoughts as thoughts” rather than engaging in ways to alter or avoid these experiences (Hayes et al., 2006). Self as context is similar to cognitive defusion, however it is focused on the conceptualized self and loosening the rigidly held self-stories and rules which lead to ineffective functioning (Hayes et al., 2006; Twohig, 2012). Self as context seeks to orient the self as a place of perspective taking that allows pieces of our internal and external environments to be viewed as pieces of an individual’s experience rather than defining that person (Twohig, 2012). Present
moment awareness encourages awareness of what is occurring in the present moment to include thoughts, feelings, and physical sensations from a nonjudgmental stance (Hayes, 2004; Hayes et al., 2006; Hayes et al., 1999). Values are the things in life which provide meaning, direction, and/or purpose which are held by that individual and can be learned, shaped, or ascribed by an outside source such as a religious organization or military branch of service (Hayes, 2004; Hayes et al., 1999). Values differ from goals in that values are something always being worked towards such as a compass heading, whereas goals are “steps” upon that path which can be completed. Committed action is closely associated with values often serving as goals that allow a person to live in line with their personally held values. The purpose of committed action is to encourage the creation of a larger behavioral repertoire which is flexible and linked to values, reorienting typical patterns of behavior (e.g., avoidance) in response to a stimulus (e.g., anxious symptoms) into more values consistent (e.g., approach) behaviors (Hayes, 2004; Hayes et al., 2006; Hayes et al., 1999; Twohig, 2012).

Throughout each of these processes, flexibility remains important, based upon a given process an individual will shift across the continuum in order to live a more functional and meaningful life. The philosophy of functional contextualism, the underlying theory of RFT, and the extant literature point to ACT being a beneficial treatment choice for military veterans due to its ability to be easily modified to fit a given population (e.g., surface adaptations) and with sufficient research evidence to show its utility in treating anxiety disorders.

**Anxiety Disorders**
Anxiety disorders are a set of disorders which share similar features of excessive fear or anxiety, avoidance, and other related behavioral disturbances (American Psychiatric Association [APA], 2013). Underlying these disorders is the feeling of fear which is “an emotional response to a real or perceived imminent threat” whereas anxiety “is anticipation of future threat” (APA, 2013). Fear is typically associated with high levels of autonomic responses and engagement in escape or avoidance behaviors (APA, 2013). Anxiety however, is typically associated with the anticipation of future threats which may lead to engagement of avoidance behaviors in a way to prevent the feared situation from occurring (APA, 2013).

Within this classification of disorders, there are a variety of primary characteristics to include: worry with GAD, recurrent panic attacks in PD, and a fear of negative evaluation or judgment in SAD which differentiate these separate disorders (APA, 2013). Anxiety disorders are incredibly common with lifetime prevalence rates of 28.8%, and these disorders may begin to appear early in life around age 11 (Kessler et al., 2005). While these rates are high, there are the associated costs with these disorders. One area affected by anxiety is sleep. Impairment of sleep has been identified in multiple studies of anxiety disorders and it can affect distress tolerance, daily functioning due to fatigue, and potentially a cycle of poor sleep hygiene which may continue to exacerbate the problem of functionally coping with anxiety (Hughes et al., 2018; Ramasawh et al., 2009; Simon et al., 2016; Thorsteinsson et al., 2019). Beyond physiological costs, there are behavioral costs associated with anxiety disorders, most often due to avoidance of situations which elicit anxious symptoms.

**Anxiety, Avoidance Behaviors, and Treatment**
The “content” of avoidance behaviors will likely differ across the various anxiety disorders (e.g., in SAD avoidance of social situations vs. avoidance of elevated heart rate in PD) and is important to consider within therapy when developing homework and exposure exercises. However, the typical function of these avoidance behaviors is the same, to avoid the possibility of experiencing internal distress or to reduce the subjective severity of the internal distress. These avoidance behaviors increase the likelihood of poorer performance/functioning and quality of life for those individuals who meet criteria for any anxiety disorder (Barrera et al., 2013; Barrera & Norton, 2009).

While the form of the avoidance behaviors and costs associated with anxiety disorders may differ, the underlying function (avoidance) is common and consistent across these disorders. Often avoidance becomes the most used response to felt internal distress and anxious symptoms. Avoidance can be functional (e.g., not going to the edge of a high cliff without safety gear) and in other situations dysfunctional and contrary to the values of an individual (e.g., avoiding a social event with friends due to a fear of being judged negatively). Avoidance can often occur when in direct contradiction to an individual’s idea of a meaningful life; however they persist in this response due to an unwillingness to feel the distress associated with anxious symptoms. This becomes an important treatment target for therapists, to help clients discriminate between contexts where avoidance is functional and where it is maladaptive. This common feature across these disorders in combination with the loss of quality of life and functioning lends these disorders to being treated well with a single form of therapy. ACT is a form of therapy that directly targets avoidance behaviors with one of the major goals of increasing overall quality of life (Hayes et al., 2006; Hayes et al., 1999). ACT has been shown to improve
functioning and quality of life among a variety of anxiety disorders (Twohig & Levin, 2017). Given the high prevalence of anxiety disorders among Veterans, a population with a unique culture that not all practitioners are familiar, it is important to consider cultural competence in treatment and potential cultural adaptation of existing treatments to better serve this population.

**Summary**

Veterans represent a unique cultural population, and while there are specific resources oriented to helping this population (e.g., Veterans Affairs Hospitals), only one-third of this population seeks services from the VA which means more providers outside of this organization may be working with a population that differs from the dominant culture (Meyer, 2013, 2015; VA, 2019). While cultural competence is an ongoing process for all therapists, culturally adapted treatments can help to increase the effectiveness of these clinicians in delivering a treatment to improve the lives of their clients (Domenech Rodrígues & Bernal, 2012a; S. Sue, 1998). With changes in technology, the ability of clinicians to reach a larger group of clients is expanding and being mindful of the advantages and difficulties presented by using technology is important whenever providing therapy. ACT is an excellent therapy choice to use to intervene on problematic behaviors typically associated with anxiety disorders. The research literature for ACT indicates that it is an efficacious treatment for anxiety disorders within the general population (Twohig & Levin, 2017) and within the Veteran population (Lang et al., 2017). The philosophical and theoretical approaches underlying ACT make it an excellent treatment model to use for adaptation to this group. A fair amount of research on Veterans diagnosed with trauma, depression and substance use has occurred.
However, there is little research devoted to treating anxiety disorders (Gros et al., 2011; Kashdan et al., 2006; Milanak et al., 2013; Seat et al., 2007; Seal et al., 2009). ACT appears to be well situated as a treatment model for treating anxiety disorders in this population given the common underlying process of avoidance in this class of disorders.

**Current Study**

Given the support for the effectiveness of ACT in treating anxiety disorders (Twohig & Levin, 2017) and its effectiveness in treating other disorders in the Veteran population (Lang et al., 2017) this study serves to begin filling the gap in the research of ACT for Veterans meeting criteria for an anxiety disorder. Being a Veteran myself, I found it important to ensure the metaphors which were used in the treatment protocol more accurately represented common experiences of Veterans during their military service. This was partly due to support for modifying treatment to better map onto the culture of the population you are treating and partly because Veterans endure difficult experiences in the military. Those experiences, and being able to successfully navigate them, I believed, would provide additional self-efficacy and motivation for the participants of this study to learn new ways of responding to their anxious symptoms.

The primary purpose of this study is to determine whether ACT can reliably reduce avoidance behaviors while improving the quality of life of Veterans across time while utilizing a culturally adapted ACT treatment protocol.

**Research Questions**

The primary research questions will be assessed by (1) daily check-in data for average avoidance (2) changes to quality-of-life assessments across time. The primary research questions for this study are as follows:
1. Does culturally adapted ACT reduce avoidant behaviors across time within the Veteran population?

2. Does culturally adapted ACT provide meaningful increases in therapy outcomes (quality of life, anxiety) within the Veteran population?

Secondary research questions for this study will be tested during the 11th session with participants in this study during the qualitative interview. The secondary research questions are as follows:

1. Does matching cultural backgrounds (Veteran therapist & Veteran client) enhance or detract from the therapeutic process?

2. Do the adaptations to the therapy exercises and metaphors help to increase engagement with therapy and convey the processes of change in a relatable way to the Veteran client?
CHAPTER III
METHODS

Positionality Statement

I am a White, cisgender male, doctoral student, and military Veteran. I served in a law enforcement capacity on active duty in the United States Navy as an enlisted Sailor. Following my separation from active duty, the transition back into “civilian life” was a difficult experience. I experienced significant anxiety trying to establish social connections with civilians and found myself feeling like an “outsider” due to the differences in life experience. During the initial months of attending a university for my undergraduate education I noticed significant anxiety in large classrooms and feeling disconnected from my peers. During my military service and prior to enlisting I was outgoing and did not experience anxiety in social interactions or while in large classrooms or busy areas. The stark contrast between the two experiences (prior to separation and following separation) led to an interest in finding ways to ameliorate anxiety in Veterans and understanding how anxiety impacts their ability to function after separating from the military.

A year after separating from the military I sought out psychotherapy to learn to cope with anxiety, trauma, and depressive symptoms. During this initial therapy experience I found that meeting with a Veteran therapist was beneficial due to the shared bond and understanding between us as Veterans. This first encounter with psychotherapy was beneficial however it was terminated due to health issues experienced by the therapist. During my undergraduate training I worked with Veterans in a range of capacities to include outreach and peer mentorship. During this time, I met with Veteran
after Veteran who expressed concerns about psychotherapy when working with civilian therapists, they felt as if “therapy was impeded” due to needing to constantly inform the therapist about basic military terms and experiences which were often not relevant to the discussion. Multiple Veterans expressed difficulties speaking with civilian therapists due to concerns related to trust and wondering if the “civilian could handle what I am going to talk about.” Throughout my graduate training I attempted to initiate therapy in the hopes of completing a full course of treatment for anxiety, trauma, and depression. In each of these attempts I found competent and well-meaning civilian therapists who genuinely wanted to help. However, the gap between civilian and Veteran often seemed to degrade my ability to remain in treatment or detracted from the ongoing therapeutic discussion. For example, needing to pause to elaborate on my job, the environment, or common military jargon interrupted the discussion and pulled me out of the process.

My own personal experience in therapy with civilian therapists, and the conversations with other Veterans about their experience oriented me towards making adaptations to treatment and to examine the effects of a having a veteran therapist treating a veteran client. The first step was taking my knowledge of ACT and linking the processes of change with common military jargon and experiences. I approached it in this way with the hope that the language change would be able to provide multiple positive effects on the therapeutic relationship and experience in treatment. By providing examples of common military experiences, I hope to be able to provide a bridge that conveys our common background and provide a level of familiarity and comfort with the processes of change in therapy. Additionally, by modifying the language and examples used in metaphors I hoped to be able to help a client pull experience with successfully
engaging in approach behaviors with their current difficulties with anxiety. As an example, “embrace the suck” is a very common expression in the military and most individuals who have served have likely heard it and been told it. It encourages the mindset of recognizing the current moment/task/experience is uncomfortable however they still need to finish the job despite the discomfort. This mindset and expression lines up well with acceptance, and many Veterans have the experience of being in difficult and uncomfortable situations and still completing the task. The phrase “embrace the suck” combines previous experiences and success with language on how to interact with anxiety for example. These minor things would likely have benefited me in my own experiences with psychotherapy as it provides a language and previous learned behavior with skills, I was trying to learn to approach my own difficulties. It would have allowed me a small indication that my experience was understood to a degree and likely made me more open and trusting towards a civilian therapist.

There are other aspects of therapy which I identified as a potential area of change, primarily being the frequency of therapy sessions. The standard 1-hour per week session may work for some clients however in the military it is common to have training condensed into briefer high intensity durations. Therefore, modifying the frequency of therapy to twice a week for an hour each time aligns well with common training experiences in the military, and therapy can be discussed as a training process as we are working together to build skills in approaching difficult aspects of life.

My personal experiences with separating from the military, engaging in psychotherapy as a client and therapist, and previous experiences working with veterans informs the way I approached this study. It informs the adaptations I made, and the
research questions I posed and hoped to answer with the data from this study. All these experiences informed and generated the lens through which I interpreted the data of this study.

Participants

Participants for this study were recruited via email and flyer that were sent out by the Utah State University Veterans Resource Office. Interested participants contacted the study therapist via email to schedule the initial screening before proceeding to a diagnostic interview. Participants needed to be seeking treatment for an anxiety disorder and meet the following inclusion criteria: (1) be over the age of 18, (2) have served in the U.S. military, (3) not currently receiving another form of psychotherapy, (4) reside within the state of Utah, (5) have access to a stable and reliable internet connection, (6) a way to utilize Zoom (e.g. tablet, smartphone, laptop, or personal computer), (7) no changes in psychotropic medication(s) within the past 30 days, (8) no neurodevelopmental diagnoses that would prevent them from engaging in therapy, (9) not meet diagnostic criteria for a psychotic disorder as assessed by the DIAMOND structured interview, and (10) not at a significant risk for suicide as assessed by the DIAMOND structured interview. A total of four participants completed the initial screening and diagnostic interview, all met inclusion criteria and were enrolled in the study. Following the diagnostic interview, each participant began the baseline phase of the study, and each started on separate days in real-time. Participants were provided a total of $60 in four separate $15 increments for completing each of the assessment batteries.

Measures

Demographic Information
I asked participants for basic demographic information including age, race/ethnic identity, sexual orientation, gender identity, sex assigned at birth, and religious affiliation. Additionally, I asked participants for basic military information of branch of service, date of discharge, type of discharge, rank at discharge, military occupation specialty (MOS), deployments, and branch/component of service. This information is used to describe and characterize the participants in the study, although it is not all provided to protect participant anonymity. Participants were additionally asked to provide their home address, or the address for the location where they were while therapy was being conducted. This information was only obtained in case emergency services needed to be dispatched to their location while therapy was ongoing.

**Diagnostic Interview**

*Diagnostic Interview for Anxiety, Mood, and OCD and Related Neuropsychiatric Disorders* (DIAMOND) is a diagnostic semi-structured interview used to assess for anxiety, mood, OCD, psychotic, trauma, and related disorders for adults aged eighteen and older (Tolin et al., 2013). In conjunction with the full interview, clients can be given a screener questionnaire with questions representative of the majority of the diagnoses covered in the DIAMOND which can decrease the time and burden of the diagnostic interview. The DIAMOND is based upon the DSM-5 (APA, 2013) disorder diagnoses (Tolin et al., 2013). The questions within the DIAMOND are organized in the following fashion: initial questions for basic assessment of client symptoms, questions based upon a given disorder, clarifying questions to gain more information, distress and impairment questions to ascertain functioning, other questions to assess and rule-out impairment/distress being associated with another disorder, clinical judgement rating
questions for the clinician to determine severity, and differential diagnoses questions for
the clinician (Tolin et al., 2016; Tolin et al., 2013). Beyond diagnostic questions, the
DIAMOND contains a suicide screen to assess current and past suicidal ideation and
attempts. The DIAMOND screener was given to participants during the intake
assessment, and based upon the results, guided the administration of the DIAMOND.

The DIAMOND’s interrater reliability for the presence versus absence of
diagnoses ranges from good (κ = .62) to excellent (κ = 1.00) with excellent interrater
reliability for any obsessive compulsive and related disorders (OCD/OCRD) or any
bipolar disorder (Tolin et al., 2016). Interrater reliability for any anxiety disorder or any
depressive disorder is very good (Tolin et al., 2016). Test-retest reliability of DIAMOND
diagnoses (presence vs. absence) range from good (κ = .59) to excellent (κ = 1.00) with
similar results for reliability of OCD/OCRD, bipolar disorders, anxiety, and depressive
disorders as shown in interrater reliability (Tolin et al., 2016). The DIAMOND shows
good convergent validity across diagnoses when accompanied by appropriate distress
measures for all diagnoses excluding premenstrual dysphoric disorder (Tolin et al., 2016).

**Psychological Flexibility**

*Acceptance and Action Questionnaire-III* (AAQ-3; Ong et al., 2020) is a modified
seven-item, Likert-type questionnaire designed to assess psychological inflexibility and
experiential avoidance which is based upon the AAQ-II (Bond et al., 2011; Ong et al.,
2020). The Likert scale ranges from one to seven, with one representing “never true” and
seven representing “always true.” Based upon this scale, the minimum score for this
measure is seven and the maximum score is 49. Lower scores on this measure indicate
greater levels of psychological flexibility. Bond and colleagues (2011) were able to
devise a range for a potential cutoff scores of 24-28 and higher indicating clinically significant levels of psychological inflexibility which may be sufficient for use with the AAQ-3 as it was developed to retain the structure of the AAQ-II while improving wording of the items for increased clarity (Ong et al., 2020). For the study, the cutoff score of 28 was utilized to differentiate between clinically significant psychological inflexibility/flexibility. Preliminary psychometrics for the AAQ-3 indicate that it has excellent internal consistency (α = .94). The AAQ-3 was given at the initial assessment, mid-treatment, post-treatment, and the one-month follow-up.

Quality of Life

Pittsburgh Sleep Quality Index (PSQI) is a nineteen-item self-report measure which assess sleep quality and sleep disturbances over a one-month time frame (Buysse et al., 1988). This measure generates a global score and seven subscales: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction (Buysse et al., 1988). A global score of >5 on this measure indicates “poor sleep” and higher scores indicate higher levels of sleep difficulties and/or disturbances (Buysse et al., 1988). In the initial development study of the PSQI it was found to have adequate reliability with a Cronbach’s alpha of 0.83 (Buysse et al., 1988) and a follow-up study of the PSQI found similar results for the global score with the sleep disturbance subscale demonstrating satisfactory reliability with Cronbach’s alphas ranging from 0.70-0.78 (Carpenter & Andrykowski, 1998). Sleep disturbances and issues are associated with multiple anxiety and mood disorders. Improved sleep quality over time will serve as one measure of quality of life, as the deficits and difficulties (e.g., daytime fatigue) associated with poor sleep likely decrease
functioning and quality of life. The PSQI was given at the initial assessment, mid-treatment, post-treatment, and one-month follow-up.

**Anxiety, Avoidance, Values**

*Daily Check-in Questions* consist of three questions that assess average anxiety level, average avoidance for the day, and how many times a participant avoided meaningful actions when presented with an opportunity to engage in a meaningful action. The first two questions: “what was your average anxiety for the day” and “what was your average avoidance for the day” are questions based upon a previous ACT case series for clients seeking treatment for anxiety disorders (Codd et al., 2011). The average avoidance question was utilized as the primary outcome variable in this study. The final question “how many times did you avoid meaningful actions today, when presented with the opportunity to engage in a meaningful action” is based upon a previous multiple baseline study of ACT for scrupulosity based OCD which is a face valid question (Dehlin et al., 2013). These three questions were sent to participants each day following the intake assessment until the end of treatment, then for one week starting at the one-month follow-up date. These questions were sent via a Qualtrics link in a text message, and the link was associated with their study identification number.

**Suicidality**

*Suicidal Ideation Attributes Scales* (SIDAS) is a five-item Likert-type scale designed to assess suicidal ideation in a web-based format (van Spijker et al., 2014). Each item in the SIDAS represent different aspects of suicidal ideation: frequency (item 1), controllability (item 2), closeness to attempt (item 3), distress (item 4), and interference with daily activities (item 5) which provide valuable insights and can inform clinical
conversations for further assessment of suicidal ideation (van Spijker et al., 2014). Each item has a Likert-type scale ranging from zero “never” to ten “always,” with a minimum possible score on the total scale of zero and a maximum score of 50. Each of the items are summed, with the controllability item being reverse scored, to calculate the total score. For a participant who responds zero (never) to item 1, all other items are given a score of zero (van Spijker et al., 2014). Scores ≥ 21 on this measure indicate a high risk of suicide behavior (van Spijker et al., 2014). The SIDAS has strong internal reliability with a Cronbach’s alpha of 0.91 (van Spijker et al., 2014). The Veteran population is a group who has a heightened risk for suicidal ideation/behaviors when compared to the general population regardless of gender (VA, 2019). The SIDAS was used to assess functioning across time, and was given at the initial assessment, mid-treatment, post-treatment, and 1-month follow-up.

**Depressive, Anxious, Stress Symptoms**

*Depression Anxiety Stress Scales-21 (DASS-21)* is a 21-item Likert-type scale which assesses depressive, anxious, and stress symptoms to include physical arousal and physical symptoms of generalized anxiety (Antony et al., 1998). The DASS-21 can be broken down into three subscales: stress, depression, and anxiety with each subscale consisting of seven items (Antony et al., 1998). Each item uses a 4-point Likert-type scale ranging from zero “never” to three “almost always.” The items for each subscale are summed to provide a total score for that subscale with higher scores indicating higher levels of distress/impairment from a given scale (Antony et al., 1998). The DASS-21 was used to assess distress related to anxiety, stress, and depressive symptoms. It was
administered at initial assessment, mid-treatment, post-treatment, and one-month follow-up.

**Qualitative Interview**

Below are the 11 questions each participant was asked during the qualitative interview following the completion of treatment. The wording of questions 8 and 9 were modified to better fit with the experience of Participant 4 who was still serving in the Air National Guard. The modified questions were listed as 8a and 9a for each respective question.

1. Did having a therapist who is also a Veteran matter to you? If yes, what is important about it?
2. In what ways did us both being Veterans help therapy? Are there any ways that you think it hindered therapy?
3. Was it helpful to have metaphors in therapy that were oriented towards military culture or experiences? In what ways did this help you learn or employ the skills used in therapy?
4. In many ways the idea of engaging in therapy two times a week was built out of the experience of military training, where we are put through high intensity short duration training. Was it helpful to engage in therapy two times per week?
5. If it was helpful, what was helpful about it? What were the difficulties or challenges you faced because we engaged in therapy two times per week?
6. Have you been in therapy before? (If yes) What was different about it this time, in terms of what was more helpful/useful and what was not as helpful as your previous therapy?
7. What metaphors specifically did you find useful, and what was useful about it?

8. Following your separation from the military, did you experience a “loss of identity?” In what ways did that impact you?
   a. Following your completion of drill/training in the military, do/did you experience a “loss of identity?” In what ways did that impact you?

9. After leaving the military, did you notice your anxious symptoms get worse? If so, what do you think led to this?
   a. After you finish drill/training, do/did you notice your anxious symptoms get worse? If so, what do you think led to this?

10. We discussed values towards the end of therapy, based upon your experience do you think it would have been beneficial to discuss values earlier in therapy?

11. Was there a point in therapy where you noticed an improvement for you in terms of how anxiety impacted your day-to-day life? When do you think this happened?

**Protocol Development**

The process for adapting the treatment protocol for this study began with reviewing extant ACT treatment manuals and workbooks. The first manual that was reviewed was *Acceptance and Commitment Therapy for Depression in Veterans* (Walser et al., 2012) which included information for therapists to consider while working with Veterans and I made note of the ordering of the processes of change. *The Mindfulness & Acceptance Workbook for Anxiety* (Forsyth & Eifert, 2016) provided additional considerations for the ordering of the processes of change and potential exercises to utilize/modify for the current study’s treatment protocol. The final protocol that was reviewed was the ACT for OCD protocol utilized by Twohig and colleagues (2010).
specifically for additional examples and another reference for the ordering of processes of change. After selecting potential metaphors and homework exercises for the current study, I spoke with a therapist currently employed by the VA who has significant training and experience utilizing ACT with Veterans. During this conversation, she informed me of which exercises in her experience did not work in a video treatment session along with some suggestions for ways to modify exercises based upon Veteran language and experiences (Shearer, 2019). She and I discussed some basic and commonly utilized phrases, such as “embrace the suck,” and its potential effectiveness in conveying processes of change such as acceptance. At the conclusion of this conversation, I outlined the treatment sessions to include which exercises would be utilized in session along with potential homework exercises. I then met with the committee chair to review the metaphors and discuss the ordering of the processes of change to ensure the modifications that were made did not lead to poor fidelity to the ACT framework. At the conclusion of these conversations, and reviewing of treatment protocols, the current protocol was put into place. Any modifications to the protocol which occurred during treatment were based upon qualitative memos I completed at the end of each session and were informed by comments made by participants during a treatment session to further hone the effectiveness of the metaphors.

**Treatment Protocol**

Table 1 provides a layout for each of the 10-sessions with topics covered, exercises, and assigned homework. Sample dialogues for modified exercises and basic descriptions are provided in Appendix A.

Table 1. Treatment Protocol outline for ACT for Mixed Anxiety Disorders
<table>
<thead>
<tr>
<th>Session</th>
<th>Treatment Components</th>
<th>Exercises/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Introduction to ACT</strong></td>
<td>Agreement to engage in 11, 1-hour sessions 2 times a week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Providing informed consent for ACT, how it differs from other forms of therapy, answering questions</td>
</tr>
<tr>
<td>1</td>
<td><strong>Creative Hopelessness</strong></td>
<td>Identifying client's efforts to change or control difficult internal experiences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychoeducation on anxiety/emotion functions</td>
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<tr>
<td></td>
<td></td>
<td><strong>Sweeping the parking lot</strong>**</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Digging self-assessment</td>
</tr>
<tr>
<td>2</td>
<td><strong>Control as the problem</strong></td>
<td>Outside vs. Inside the skin problem solving 95% vs. 5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Polygraph metaphor; Differentiating between control/avoidance moves and values based moves; Revisit sweeping the parking lot**</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Cost and evaluation of control attempts</td>
</tr>
<tr>
<td>3</td>
<td><strong>Acceptance/Willingness</strong></td>
<td>If you're not willing to have it you've got it; Embrace the suck**; “But” versus “And”</td>
</tr>
<tr>
<td></td>
<td><strong>Behavioral Commitments</strong></td>
<td>Introducing what a commitment is</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Daily Willingness Diary</td>
</tr>
<tr>
<td>4</td>
<td><strong>Introducing Mindfulness</strong></td>
<td>Difference in function (e.g., getting present versus relaxation)</td>
</tr>
<tr>
<td></td>
<td><strong>Present moment awareness</strong></td>
<td>Leaves on a stream exercise; mindful breathing; centering exercise; OODA Loop**</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Behavioral Commitments; Willingness Diary</td>
</tr>
<tr>
<td>5</td>
<td><strong>Cognitive Defusion</strong></td>
<td>“Milk, Milk, Milk”; Drill Sergeant**; Changing language conventions;</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Behavioral commitments; Journaling exercise</td>
</tr>
<tr>
<td>6</td>
<td><strong>Self-as-context</strong></td>
<td>Thinking vs. Observing self; Roles we play in life; Continuous You exercise; Ribbon Rack**</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td>Behavioral commitments; Sticky Roles and how to engage</td>
</tr>
<tr>
<td>Session</td>
<td>Topic</td>
<td>Material Covered</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>7</td>
<td>Values</td>
<td>Introducing values; Difference between values and goals; Values in the military**; 80th birthday party; Meaningful life; Sweet spot; Two-sided coin</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>Behavioral commitments; Assessing areas of life/values engagement</td>
</tr>
<tr>
<td>8</td>
<td>Committed action</td>
<td>Introducing Committed Action; Relation to values; Towards vs. Away moves; Living well vs. &quot;Feeling&quot; well; SMART Goals similar to SALUTE reports**</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>Behavioral Commitments; Set a SMART goal for the future with steps in between</td>
</tr>
<tr>
<td>9</td>
<td>Bringing it all together</td>
<td>Final exercise**, Relating valued living with skills in therapy; Willingness Question</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td>Behavioral Commitments</td>
</tr>
<tr>
<td>10</td>
<td>Termination</td>
<td>Discussing signs to increase practice/use resources; Identifying signs to return to therapy; Discuss affordable self-help literature</td>
</tr>
<tr>
<td></td>
<td>Feasibility &amp; Acceptability Interview</td>
<td>Discuss feasibility of 2 1-hr sessions per week</td>
</tr>
<tr>
<td>11</td>
<td>Veteran therapist &amp; Veteran client match</td>
<td>Veteran therapist &amp; Veteran client match; Acceptability of treatment delivered in this format; Effectiveness of therapy</td>
</tr>
</tbody>
</table>

Note: ** denotes exercises that are adapted to match with common experiences in the military. Session 11 was the qualitative interview. Results of this interview are discussed in the results section.

**Study Design**

A nonconcurrent multiple baseline was used for this study. In this study, the primary dependent variable is the average avoidance per day which was completed in the daily check-in questions. Secondary variables include the average anxiety for each day, and number of meaningful behaviors avoided for each day. Data from the daily check-in
questions was collected via secure Qualtrics surveys, with a unique survey link for each participant. Data from the daily check-in questions were collected during baseline, treatment, at posttreatment, and for a week at the one-month follow-up. Scores from the AAQ-3, PSQI, SIDAS, DASS-21 were collected at initial intake, mid-treatment, post-treatment, and one-month follow-up.

A nonconcurrent multiple baseline design works as follows. To begin, a single participant was selected to start the baseline procedure where they completed the daily check-in questions for a given baseline duration. Once a stable trend was identified, meaning average anxiety and average avoidance were either moving in a consistent direction (e.g., increasing) or remaining stable, the first participant began treatment. I would input the data from the daily check-in questions each evening into a graph to monitor trends in the data. Subsequent participants were staggered for baseline duration based upon stable patterns of the preceding participant which follows guidance from Barlow and colleagues (2008). This format allowed for enrolling participants concurrently or nonconcurrently depending upon participant flow. For example, if Participant 1 and 2 were enrolled at the same time, they would each start baseline at the same point, then following a stable pattern by participant 1 of at least three days Participant 1 would initiate treatment. Once participant 1 reached a stable response pattern in treatment phase, then Participant 2 would start treatment—assuming a stable baseline. If additional participants enroll at different times, the pattern continues with baseline duration with each baseline being longer than the response point for the preceding participant. I proposed to recruit between four and six participants depending
on participant flow as this number of participants provides a stable picture of the effects of treatment.

With this format of differentiating baselines, participants serve as their own experimental controls and controls for the other participants in this study. This staggering of baseline duration helps to show that the effects of treatment were not solely due to participating in a given baseline duration or from certain environmental conditions that may be a confounding variable. The goal is to initiate treatment and baseline with participants at different points in real time, which should prevent the effects seen in the study to be ascribable to a single environmental event (e.g., new movie on overcoming anxiety). Because the same treatment will be used with each participant, this allows for replication of the treatment protocol. Finally, this design allows for information to be collected on the effectiveness of this treatment with a small sample size while allowing all participants to receive active treatment that removes the need for a control condition. Single subject designs are strong and commonly stand on their own, and they are useful designs in clinical settings when testing new methods.

Analysis

Calculations for averages and standard deviations were conducting utilizing Microsoft Excel. For measures scores for assessments, such as the DASS-21, which indicate different levels of severity (e.g., mild, moderate, severe) scores in the moderate or higher range were deemed clinically significant. Tables and graphs were also generated utilizing Microsoft Excel.

The data from the primary dependent and secondary variables from the daily check-in questions, are depicted in Figure 2 and Figure 3 (Appendix B). These graphs
were interpreted visually to assess for trends both to establish baseline lengths for participants prior to starting the treatment phase and in the final analysis which is consistent with clear single subject designs (Barlow et al., 2008; Kratochwill & Levin, 2014). This method of analysis has been used in previous ACT studies with a multiple baseline and found to be an effective means of conveying behavior change within a treatment study (Armstrong et al., 2013; Dehlin et al., 2013). Visual inspection was deemed to be the most beneficial form of analysis for this dataset, as clear visual trends are clearly depicted within the graphs for average avoidance and average anxiety in Figure 2 and avoided meaningful actions in Figure 3. Non-overlapping analysis, which is used in single subject designs (Kratochwill & Levin, 2014), was deemed not helpful because multiple participants have a fair amount of variability in their baselines. Multilevel modeling is an additional method that can be utilized when analyzing data from multiple baseline studies. However, when the findings are strong enough that they are visual, there is no additional gain of analyzing for phase differences.

Each participant was provided an opportunity to meet for approximately one hour following the completion of the final psychotherapy session for a brief qualitative interview. All participants chose to complete this interview immediately following the conclusion of the final psychotherapy session, therefore no post-treatment data was collected outside of the one-month follow-up data. A total of 11 qualitative interview questions were utilized during this interview. Approximately four of these questions were generated from qualitative memos which I completed following each session with a participant. Following completion of the interviews, the responses from each participant for each question were compiled to generate potential themes in responses for each
question. Those themes and occasional direct quotes are compiled in the secondary results section.

**Qualitative Analysis**

The eleven questions that were asked during the qualitative interview are listed previously. My therapeutic relationship with the participants aided in participants’ feeling comfortable giving me feedback both positive and constructive criticism as each participant were able to disagree and/or modify statements made by me throughout treatment. Based on the qualitative interview responses after completion of treatment, I conducted thematic coding of the responses using the steps laid out in Saldaña (2015). The responses were selected to address the two secondary research questions of this study. I used an inductive coding framework, following the holistic coding process (Saldaña, 2015). This method is effective for datasets from brief interviews which are easier to “chunk” and a useful tool for beginning qualitative researchers (Saldaña, 2015). After completion of the coding, I reviewed the data chunks to develop coherent themes which is referred to as “themeing the data” (Saldaña, 2015). No additional cycles of coding were utilized as the themes developed during the first cycle of coding were succinct and clear enough to not warrant additional coding or refinement (Saldaña, 2015).
CHAPTER IV

Results

Demographic Information

The gender of the participants was split evenly among the four participants, two cis-female and two cis-male veterans. All participants in this study were current college students which provides additional context for potential impairment with SAD. There was minimal representation across the branches as three of the four participants served in the United States Marine Corps with one serving in the Air National Guard. Similarly, active duty was represented with three of the four participants having previously served on active duty. Three of the four participants had at least one deployment, with two having served multiple combat deployments. All four participants met diagnostic criteria for SAD, with two also meeting diagnostic criteria for comorbid major depressive disorder. Two of the participants were taking psychotropic medication (anti-depressants) at the time of intake. One participant had previous experience with psychotherapy prior to enrolling in the study. Three of the four participant were either currently at or discharged at the rank of E-5 or higher (senior enlisted) and one attaining the rank of E-4 (junior enlisted) at separation from the military. The average age of the participants in the study was 27 years ($SD = 4.72$; range = 23-34). Below are brief descriptions of each of the participants. Of note, descriptors of participants is purposefully vague to help protect the identities of participants involved in the study.

Participant 1 was a female Latina who had served in the United States Marine Corps (USMC). While in the USMC she became a non-commissioned officer (NCO) and deployed multiple times. At the time of intake she was employed and attending school
full-time for an undergraduate degree. At the time of intake, she had no prior experience with therapy and was taking medications to manage mood. At the diagnostic interview, she met diagnostic criteria for SAD and comorbid major depressive disorder. She had shared during the intake interview that while she was in the military, she was a “very social person” and following her discharge she went through a period of homelessness before returning to live with her parents. She noticed that around this time she was starting to consistently avoid social situations, at first due to health issues with her family and gradually she noticed an increase in anxious symptoms when attempting to engage in social interactions. At the intake, she was able to identify a wide variety of social interactions that elicited significant distress and worry about being perceived in a negative manner by others. She identified multiple examples of how this distress was impairing her functioning to include not going to her child’s sporting events, lack of engagement with coworkers, and difficulty focusing while in class due to high levels of felt anxiety. At the time of intake, she met full diagnostic criteria for a depressive episode, and had experienced multiple depressive episodes for multiple years prior to enrolling in this study.

Participant 2 was a Latino male who had served on active duty in the USMC. During his military service he did not deploy and discharged as an NCO. At the time of the study, he was working part-time and attending school full-time and nearing completion of his undergraduate degree. He had previous experience with therapy from his time in the Marine Corps when he sought treatment for panic attacks and heightened anxious symptoms. At the time of intake, he had been experiencing significant anxious symptoms and physical health symptoms as a result of injuries while in the military.
Following the intake interview he met diagnostic criteria for SAD with features of GAD. Similarly to Participant 1, he was social while serving in the military and did not start experiencing significant distress around social interactions until after separating from the military. He identified a wide variety of social interactions that he was afraid of (e.g., meeting strangers and maintaining conversations). He shared that he tried to avoid social interactions, and if forced to be social, would try to find ways to distract himself or “minimize” his level of anxious symptoms. He indicated that the symptoms he experienced caused significant distress and impaired his ability to function at work, in school, and in interpersonal relationships.

Participant 3 was a White male who had served in the USMC. He was an NCO and had multiple deployments before being discharged from the military. At the time of intake, he was taking medication to manage migraines and had no prior therapy experience. Participant 3 was enrolled in school for his undergraduate degree at time of intake. At the time of the intake, he was experiencing significant distress from anxious symptoms, particularly around social interactions. Following the intake, he met diagnostic criteria for SAD with panic attacks and comorbid major depressive disorder. He, like the previous participants, was social while in the military and following his separation from the military he started to notice a gradual increase in anxious symptoms particularly around social interactions that built to the point where he actively avoided most social interactions if possible. He identified a wide variety of social situations that elicited fear about being judged or viewed negatively (e.g., public speaking, meeting strangers, maintaining conversations). He was able to identify a wide set of avoidance behaviors such as actively avoiding conversations with people he did not know well,
avoiding places/events, or coming up with excuses not to follow through on social plans he agreed to previously. His distress was significant and was impairing his ability to work, engage with school, and build interpersonal relationships outside of his partner.

Participant 4 was a White female who was currently serving in the Air National Guard as an NCO and during her service had one deployment. At the time of intake, she was not taking any medication nor had any previous experience with therapy prior to enrolling in the study. Following the intake interview, she met diagnostic criteria for SAD with features of GAD. She indicated that while she was engaged in military duties (e.g., drill weekend or deployment) she did not experience distress related to social anxiety symptoms it was only when she was “in the civilian world.” She was able to identify multiple social interactions which elicit worry or fears around being viewed or judged negatively by those around her (e.g., meeting new people, dating, talking to authority figures). She was able to identify different strategies she attempts to engage in to either actively avoid interactions or distract herself from anxious symptoms. These symptoms elicited significant distress and impaired her ability to form romantic relationships, find work outside of the military, and engage in interests due to the public setting (e.g., take a pottery class).

Daily check-in questions

Each participant was asked to complete the daily check-ins each day during the baseline and treatment phase with a four-week pause before completing an additional week of daily check-ins. Each question provided an opportunity to provide a quantitative number for average avoidance (scale 0-100), average anxiety (scale 0-100) and a free response for number of valued actions they did not engage in for that day. Average
avoidance is the primary dependent variable for this study which is theoretically consistent with the intervention used in the study. Figure 2 shows the relationship between average anxiety and average avoidance across the study. Visual inspection of the data in Figure 2 shows stable decreased trends in the treatment and follow-up phase compared to the baseline phase for Participants 1-3. Participant 4’s graph depicts variable data in each of the phases of the study with no clear trend for avoided meaningful actions. Appendix B depicts a figure of participant responses for number of avoided meaningful actions each day across the study. Table 2 provides average and standard deviations for the daily check-in questions at baseline, post-treatment and the one-month follow-up along with scores for each of the assessment measures across time. Table 3 provides averages for the group for daily check-in questions and assessments at each of the collection points.
Figure 2. Average anxiety and avoidance across study.

*Note.* This figure depicts the daily check-in questions for average avoidance and average anxiety for each participant. Avoidance is indicated by the thick black line, and anxiety is indicated by the light dashed line. The vertical dashed bars indicate start of treatment for each participant.

*Participant 1.* Participant 1’s average avoidance at baseline was avoidance of 25.57 ($SD = 25.23$) and it decreased notably during treatment to 5.68 ($SD = 8.99$).
Avoidance was at 0 at one month follow up. Based upon visual inspection, the average avoidance for Participant 1 decreased and to a stable low trend during the treatment phase and those effects appear to have remained stable at the one-month follow-up. Secondary variables followed a similar pattern with anxiety during baseline being 24.86 ($SD = 10.92$) and average avoided meaningful actions (AMA) being 1.86 ($SD = 2.12$). Her average anxiety across treatment was 19.88 ($SD = 15.34$) with her AMA was 0.25 ($SD = 0.71$). Her average anxiety at one month follow-up was 17.80 ($SD = 12.32$) and her AMA was 0.

Participant 2. Participants 2’s average avoidance at baseline was 75.70 ($SD = 10.41$) and decreased noticeably during treatment to 51.36 ($SD = 16.74$) and further to 7.43 ($SD = 5.16$) at one-month follow-up. Based upon visual inspection, the avoidance for Participant 2 decreased to a low stable trend during the treatment phase and those effects appear to have remained stable at one-month follow-up. Secondary variables followed a similar pattern with his average anxiety during baseline being 78.30 ($SD = 8.87$), and AMA being 1.2 ($SD = 0.63$). His average anxiety across treatment lowered to 51.36 ($SD = 16.74$) and his AMA was 0.15 ($SD = 0.37$). His average anxiety at one month follow-up was 37.14 ($SD = 12.69$) and his AMA was 0.

Participant 3. Participant 3’s average avoidance at baseline was 65.45 ($SD = 11.43$) and decrease steadily across treatment to 55 ($SD = 7.25$) and decreased significantly at one-month follow-up to 21.88 ($SD = 6.51$). Based upon visual inspection, the avoidance for Participant 3 shows a stable decreasing trend across treatment and those effects appear to have further decreased at the one-month follow-up. Secondary variables showed a stable pattern during baseline and treatment with his average anxiety during
baseline being 65.95 ($SD = 7.96$) and AMA being 1.68 ($SD = 0.99$). His average anxiety across treatment remained stable at 65.98 ($SD = 5.51$) and his AMA decreased slightly to 0.75 ($SD = 0.67$). His average anxiety at follow-up remained somewhat stable at 64.38 ($SD = 6.78$) and his AMA was 0.

Participant 4. Participant 4’s average avoidance at baseline was low being 11.49 ($SD = 12.01$) and it decreased slightly across treatment to 6.81 ($SD = 5.14$). Her average avoidance at baseline reduced at post-treatment ($M = 6.81; SD = 5.41$) and returned to baseline levels at follow-up 11.4 ($SD = 12.34$). Based upon visual inspection, the average avoidance for Participant 4 decreased across treatment and those effects do not appear to have remained stable at the one-month follow-up. Secondary variable showed a similar trend across all phases of the study with her average anxiety at baseline being 28.10 ($SD = 22.48$) and her AMA being 0.71 ($SD = 1.23$). Her average anxiety across treatment was 17.56 ($SD = 11.83$) with her AMA being 1.19 ($SD = 1.18$). Her average anxiety at one-month follow-up was 24.40 ($SD = 15.42$) and her AMA being 2.6 ($SD = 1.82$).

Table 2. Participant Averages at Four Timepoints

<table>
<thead>
<tr>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td><strong>Baseline</strong></td>
</tr>
<tr>
<td>24.86 (10.92)</td>
<td>78.30 (8.87)</td>
</tr>
<tr>
<td>25.57 (25.23)</td>
<td>75.70 (10.41)</td>
</tr>
<tr>
<td>AMA</td>
<td>AMA</td>
</tr>
<tr>
<td>1.86 (2.12)</td>
<td>1.2 (0.63)</td>
</tr>
<tr>
<td>AAQ-3</td>
<td>AAQ-3</td>
</tr>
<tr>
<td>34*</td>
<td>41*</td>
</tr>
<tr>
<td>Global PSQI</td>
<td>Global PSQI</td>
</tr>
<tr>
<td>18*</td>
<td>14*</td>
</tr>
<tr>
<td>SIDAS</td>
<td>SIDAS</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>DASS-21 (D)</td>
<td>DASS-21 (D)</td>
</tr>
<tr>
<td>15*</td>
<td>17*</td>
</tr>
<tr>
<td>DASS-21 (A)</td>
<td>DASS-21 (A)</td>
</tr>
<tr>
<td>10*</td>
<td>16*</td>
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<tr>
<td>DASS-21 (S)</td>
<td>16*</td>
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<td>-------------</td>
<td>-----</td>
</tr>
<tr>
<td>P3</td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>Avg. Anx.</td>
</tr>
<tr>
<td>Mid</td>
<td>Avg. Avoid.</td>
</tr>
<tr>
<td>Post</td>
<td>AMA</td>
</tr>
<tr>
<td>F/U</td>
<td>AAQ-3</td>
</tr>
<tr>
<td>Global PSQI</td>
<td>9*</td>
</tr>
<tr>
<td>SIDAS</td>
<td>7</td>
</tr>
<tr>
<td>DASS-21 (D)</td>
<td>11</td>
</tr>
<tr>
<td>DASS-21 (A)</td>
<td>10*</td>
</tr>
<tr>
<td>DASS-21 (S)</td>
<td>13*</td>
</tr>
</tbody>
</table>

Note. Avg. Avoid = average avoidance; Avg. Anx. = average anxiety; AMA = avoided meaningful actions; DASS-21 (D) = DASS-21 depression subscale; DASS-21 (A) = DASS-21 anxiety subscale; DASS-21 (S) = DASS-21 stress subscale. * denotes a clinically significant score for the respective assessment. Averaged scores (SD) for daily check-in scores at baseline, post-treatment, and one month follow-up. Assessment scores for each participant at baseline, mid-treatment, post-treatment, and one month follow-up.

Table 3. Group Means and Standard Deviations at Four Timepoints

<table>
<thead>
<tr>
<th>Group</th>
<th>Baseline</th>
<th>Mid</th>
<th>Post</th>
<th>F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Anx</td>
<td>49.30 (26.87)</td>
<td></td>
<td>41.29 (26.13)</td>
<td>35.93 (20.60)</td>
</tr>
<tr>
<td>Avg. Avoid</td>
<td>44.55 (30.88)</td>
<td></td>
<td>29.71 (27.14)</td>
<td>10.18 (9.12)</td>
</tr>
<tr>
<td>AMA</td>
<td>1.36 (0.52)</td>
<td>26.75 (8.42)*</td>
<td>15.75 (3.86)</td>
<td>12.5 (4.93)</td>
</tr>
<tr>
<td>AAQ-3</td>
<td>29 (11.17)*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Avg. anx = average anxiety; avg. avoid = average avoidance; DASS-21 (D), (A), (S) = DASS-21 depression subscale, DASS-21 anxiety subscale, and DASS-21 stress subscale respectively. * indicate clinically significant scores for the respective assessment and/or subscale.

Assessment Measures

AAQ-3. Individual scores are in Table 1, while group scores are located in Table 2. Each participant showed a decrease across time from baseline to one-month follow-up on their AAQ-3 scores. Participant one and two each had clinically significant scores at the baseline and mid-treatment timepoints and their scores each dropped below clinical significance at post and one month follow-up. Participant four was below the clinical cutoff throughout the study. The group average score for the AAQ-3 decreased at each time point from baseline to follow-up.

PSQI. The global PSQI scores for each participant remained clinically significant as any score above 5 is considered clinically significant with higher scores indicating poorer sleep quality (Buysse et al., 1988). Participants 1 and 2 each showed decreased scores across assessment points. Participants 3 and 4 showed a slight increase in PSQI scores from baseline to follow-up. The group average score decreased across each of the assessment time points and was approaching the cutoff for clinically significant scores.
SIDAS. Participants 1 and 3 were the only participants who indicated any level of suicidal ideation on the SIDAS. Participant 3 showed a decrease from baseline to mid-treatment before reporting no suicidal ideation at post-treatment and follow-up. Participant 1 reported suicidal ideation at baseline and an absence of it until it returned at follow-up. Group averages follow this trend of decreasing scores across time. None of the scores on the SIDAS were considered clinically significant, as only scores above 21 indicate significant risk for suicidality (van Spijker et al., 2014).

DASS-21 Depression Subscale. The group average on the DASS-21 depression subscale was clinically significant at baseline and showed a large decrease at mid-treatment and a low stable score for posttreatment and follow-up. Participant 4 was the only participant to not have a clinically significant score on this subscale at baseline. Participant 2 and 3 each maintained a clinically significant score at mid-treatment and dropped below this threshold at posttreatment and one month follow-up assessment points. Participant 1 dropped to sub-clinical at mid-treatment and remained there for the remainder of the collection points.

DASS-21 Anxiety Subscale. The group average on this subscale was clinically significant at baseline and mid-treatment before dropping below the clinically significant threshold at posttreatment and one month follow-up. Participant 4 was the only participant who did not have a clinically significant score on this subscale at baseline. This may partially explain the follow-up data for this participant as there was not much room for improvement for her across treatment. Participants 1 and 2 remained at clinically significant scores at mid-treatment before dropping below this threshold at posttreatment and maintaining that at one month follow-up. Participant 3 dropped to
below clinically significant at mid-treatment and remained below threshold for the remaining points.

*DASS-21 Stress Subscale.* The group average for this subscale was clinically significant at baseline before dropping below this threshold at mid-treatment and remaining at this level for the duration of the study. All participants had clinically significant scores at baseline, and three out of four dropped below this threshold at mid-treatment and remaining at that level for the duration of the study. Participant 2 remained at a clinically significant level at mid-treatment before his scores dropped below the clinical cutoff at posttreatment and remaining at that level for the one-month follow-up.

**Participant Perceptions of Treatment Qualitative Data**

When assessing the importance of matching cultural backgrounds on the therapeutic process two themes were identified, “understanding” and “connection.” Participants consistently referred to feeling a Veteran therapist can “understand” them in a variety of ways to include their mindset, behaviors, the language they utilize, and the way they view the world. Throughout treatment and the qualitative interview participants reflected on how meaningful it is for them to feel understood and the belief this can only come from another Veteran. The following quote from Participant 1 exemplifies this theme. “There’s more of an understanding of how my brain works, how I see things, whereas someone who hasn’t experienced those things may not understand it. There’s an understanding there that is important…I didn’t have to censor myself.” Participant 2 closely echoed these sentiments by stating, “There are certain experiences I’d say that are universal to Veterans, and unless you are deeply connected to that community…non-Veterans wouldn’t understand.” Participant 3 further expanded upon this by stating, “It
was easier to relate to past experiences. Especially with how my behaviors were in the military and how they are now, and to understand how the environment impacted me.”

The responses which led the theme of connection deal more with the bond shared amongst service members which is above and beyond the rapport established in the traditional therapeutic relationship. The lack of feeling connected to others for most participants likely has exacerbated their anxious symptoms so the connection they felt with me likely led to a healing experience. When reflecting on the importance of a shared background, Participant 3 stated, “…in the military we are all the same regardless of rank…I was making friends because I ‘knew’ them. I knew where they came from and you don’t have that in the civilian world.” This statement in particular highlighted his underlying fears around building social relationships outside of the Veteran community. This sentiment was echoed by other participants across treatment and during the interview. The sense of connection was strongly associated with feeling understood due to shared experiences. Each participant noted the commonly shared background of prior military service helped them feel both understood and a sense of connection with me. These aspects of their experience likely led to rapid rapport and for multiple participants they stated they were only willing to engage in this study because I am a Veteran.

Addressing the second research question to determine if the changes to therapy exercises/metaphors helped convey the processes of change in a relatable way, three themes were identified. The themes are “grounded,” “connecting past with present,” and “attainable.” Overall, the participants reported having the main metaphors linked to common military experiences and phrases was beneficial. There was mixed views on meeting twice per week which was an adaptation made based upon the high intensity
short duration training of the military. Those who found it beneficial believed the frequent meetings allowed them to connect the various processes of change together faster. Those who were ambivalent towards meeting twice per week cited at times there was insufficient opportunities to practice the skills learned in the previous session before needing to add additional skills to their repertoire.

For the theme of “grounded” the responses mainly focused on taking abstract concepts and attaching them to behaviors from both their military service and in their current life. Participant 1 stated, “I feel like our brains are more geared towards the details, the metaphors helped to match the behavior to the concept.” Participant 2 provided an exemplary quote of the grounded theme when he stated, “Measure it in inches, not in feet, the small victories will add up faster than those big milestones. The small victories you have every day add up.” The theme of “connecting past with present” primarily focused on how previous successes in the military and skills developed during that time can be linked to coping with current anxious symptoms in a civilian environment. Participant 2 highlighted this when reflecting on the utility of military based metaphors by stating, “It helped me relearn that it is possible to do these things…it helps us [Veterans] sharpen our skills again, to be able to do the things we did when we were in.” When speaking about which specific metaphors he found most useful, Participant 3 noted, “When you say embrace the suck, it’s engrained in us and helped me use acceptance.” He continued a similar thread when discussing values in therapy stating, “I feel like values is something that really easily resonates with military members, it’s what we talked about in bootcamp…values and morality. You combine values with acceptance and it really resonates.” For the theme of attainable, participants spoke to how
the use of military experiences and phrases made the skills in treatment feel
approachable. Participant 2 really emphasized this when he shared, “With military
personnel when we get out we kinda struggle to have that same kind of…’I’m capable of
doing this [mentality]’…and using these skills and phrases helps me come back to
realizing that I am capable and I can do things harder than this.” Participant 1’s comment
of, “I think it helped to introduce unfamiliar topics in a what that I already understood”
speaks to the sense of comfort in trying new things because she felt it was not out of her
reach or “foreign” to her.
CHAPTER V
DISCUSSION

Summary

Anxiety disorders are prevalent in the military and veteran population. Anxiety disorders, like all psychological disorders, have significant effects on overall functioning and quality of life. A hallmark feature of anxiety disorders is avoidance of symptoms, thoughts, and/or situations which elicit anxiety symptoms. ACT is oriented towards improving quality of life by increasing psychological flexibility. A key component of psychological flexibility is a willingness to experience what is present without judgment or attempts to control or change the felt experience. This approach to living matches well to reduce some of the primary symptoms and impairments related with anxiety disorders. The focus on improving quality of life, acceptance, connectedness to one’s values and the present moment appears to align well with features of military and veteran culture.

In this study, we provided a culturally adapted version of ACT for anxiety disorders to veterans and service members who met criteria for at least one anxiety disorder. To date there are few studies utilizing ACT within this population and even fewer that are specifically targeting anxiety disorders in this population. Therefore, utilizing a single subject design was deemed appropriate to examine idiographic effects across time. For secondary aims, this study sought to examine the effects of having a veteran therapist work with the veteran participants and to see how this common background could be both beneficial and detrimental to the therapeutic relationship and process.
All participants showed improvement during the treatment phase, and three of the four participants showed continual improvement or at minimum maintenance of gains made in treatment. Avoidance was shown to be reliably decreased for these participants when compared to their baseline scores, which is consistent with the aims of ACT. All participants showed significant improvements in psychological flexibility as measured by the AAQ-3. Three of the four participants showed clinically significant improvements on the anxiety subscale of the DASS-21, with the fourth having never reached a clinically significant score throughout the study. Sleep improvements as measured by the PSQI were show for two of the four participants which is interesting to note as sleep was never directly addressed in treatment. Future studies may benefit from utilizing different measures for sleep symptoms especially when targeting anxiety without directly addressing sleep. Risk for suicide is significant in the veteran population, two of the four participants showed some level of risk at baseline and by the end of treatment all participants scored zero on the SIDAS (although there was an increase for one participant at follow-up). This is an important result for this specific population and likely indicates an improvement in quality of life. When examining the data from the qualitative interview, participants generally found the Veteran-Veteran match to be both important and beneficial for their willingness to engage in treatment. Additionally, the modification of metaphors was found to be helpful as it allowed the participants to leverage past experiences with the skills being taught in therapy. The results of the present study appear to indicate that ACT for anxiety when provided in a culturally competent manner is an effective therapy for members of this culture.

**Clinical Implications**
This study provides a promising start to understanding the effectiveness and efficacy of ACT in treating veterans who meet criteria for anxiety disorders. ACT has been shown in previous studies to be effective in treating anxiety disorders, however not in this population. One main area of clinical importance is the separation of avoidance and overall anxiety. Most of the participants in this study showed decreased average avoidance while still maintaining higher average anxiety throughout the day. This is important clinically as many self-report measures focus specifically on the experience of anxiety rather than behavior. Clinicians likely orient towards functional improvement while in-session with patients, however the measures utilized may show a dissonance between what patients report in-session versus what is being captured in self-report assessments. This further highlights the importance of tracking various aspects of a disorder, not just emotions but also behavior.

Each of the participants in this study reported during treatment and qualitative interview that it was important for them that the author was a veteran. Participants reported this helped them feel “understood.” Participant one noted she felt able to phrase her statements in a way that may make “civilians” uncomfortable however it was easier for her to engage in treatment without feeling she needed to censor and/or modify her language. Matching cultural identities may be important early in treatment to help establish rapport. In addition, utilizing metaphors that are grounded in common military experiences helped to increase comprehension of the skills being taught in therapy. The participants each shared during sessions and in the interview following treatment that introducing skills by linking them to common military experiences helped them understand the principal while also linking it to experiences where they were successful.
in responding to their environment in that way. No participant was able to identify a way in which both therapist and participant sharing a common cultural background detracted from therapy. Future studies should consider having multiple veteran therapists and multiple “civilian” therapists to determine how much of an impact this matching had on treatment outcomes.

A strength within this population is the high level of stress and discomfort Veterans have been exposed to during their military service. ACT is focused on improving quality of life and increasing approach behaviors while in the presence of discomfort. It is well situated with its emphasis on these points to be appealing to the Veteran population when framed in this light. Clinicians can elicit benign examples of uncomfortable and/or stressful experiences from Veterans with ease (e.g., early days of basic training, field exercises) and discuss their ability to function well and even enjoy the process despite the stressful experience. With this in mind, it can lead a clinician to effectively “sell” a patient on engaging in ACT and to begin understanding the framework of the therapy. Within this study the metaphor used for acceptance was situated around the commonly heard military phrase of “embrace the suck.” Veterans can quickly understand the process and with some tweaks to ensure a clinician is not encouraging a Veteran to “power through” anxious symptoms.

For non-Veteran therapists there are a variety of steps that could be taken to become more culturally competent with this population. Many members of the military across the different conflict eras have published biographies documenting their military service and experience in war. This can serve as a primer to better understand and comprehend the Veteran community, even when working with non-combat Veterans as
these books often include experiences that are common across the generations (e.g., basic training, differences between officer and enlisted). Luckily access to podcasts with service members are easy to access again providing more insight into service. These are less formal methods of learning about this population, more formal training can be found through SAMHSA and publications from the Department of Veteran’s Affairs. When working with Veterans, there may be a hesitancy on the part of the Veteran to share their experiences which was noted by some of the participants in this study. This represents an important step in rapport building and may require the clinician to be patient early in treatment to build rapport with the Veteran. Being curious and willing to learn is important with any patient that a clinician works with, this curiosity will help clinicians modify metaphors to make them more idiographic to the person sitting across from you in the therapy room.

**Research Implications & Future Directions**

The differences in avoidance and anxiety for most participants in this study are consistent with increased psychological flexibility. The deviation between anxious symptom severity and avoidance demonstrated in this study aligns with the concept of psychological flexibility and suggests an alteration in the functional context (suggested response) discussed in RFT (Twohig, 2012). The timing of this deviation may be idiographic, however gaining a more refined understanding of which processes influence the deviation could lead to improved treatment outcomes and potentially briefer treatment protocols that maximize gains in treatment.

Most of the participants noted that their willingness increased once values were introduced. Future studies examining the timing of when different processes of change
are introduced may shed light on what effects the order has on outcomes. As an example, I noted functional improvements by each of the participants once values were introduced. Additionally, multiple participants stated they would have preferred values be introduced earlier in the protocol. This points to a potential improvement of the protocol which could be addressed in the future. Values play an important role within the military, as each branch has its own unique core values which are drilled into service members early and often throughout their service. This may be an important process to track within treatment with this population. Given that it is a familiar concept with Veterans this may be useful to target early in therapy as is done in ACT-D (Walser et al., 2012). Assessing the timing of this process (and others) and idiographic behavior change may help shed light that increases the efficacy and effectiveness of ACT for this population.

While recognizing the limitations of a small sample, it is interesting to note nearly all participants in this study found their anxious symptoms increase after separating from the military. This could be an area for research on preventative treatment for Veterans who are about to separate or have recently separated. The transition from the military back to civilian life is particularly stressful and based upon the reports of the participants in this study one that elicited difficulties with anxiety and maladaptive behaviors. Examining the efficacy of ACT processes such as acceptance, values, self-as-context may help to ease this transition and promote improvements in quality of life. Active duty promotes a strong connection with the small network of service members in a particular unit. The transition to civilian life disrupts social support, interaction, and many other important aspects of daily living. The identity of being a Soldier, Sailor, Marine, or Airman is disrupted by the transition which can be helped through values and self-as-
context. This could encourage functional behavior patterns for service members and Veterans. This is an important area for research and clinical interventions which may help ameliorate distress and/or prevent maladaptive patterns of behavior from being established (e.g., social isolation from civilians). The combination of research on clinical interventions and preventative measures could shed additional light on the efficacy of the ACT processes of change within this population.

Another area that would be important for research is testing this protocol in a larger sample. Testing this protocol with veterans across multiple eras (e.g., Vietnam War, Desert Storm/Shield) along with veterans who are currently college students and those who are not is important. There may be sample characteristics of the participants in this study which increased the likelihood of them improving and this may not be the case across a larger sample. An emphasis on recruiting a more diverse sample such as component status, military branch, rank (e.g., officer versus enlisted) may yield important data. However, viewed as a pilot study, the present study shows promise for ACT being beneficial for anxiety disorders in the veteran population.

Limitations

One of the primary limitations of this study is the reliance upon self-report data across time both with the self-report measures and with the self-report of average avoidance, average anxiety, and number of avoided meaningful actions. Drift in responding can occur across time and this occurred with Participant 2 in this study. It was clear during treatment that he was avoiding less and yet his avoidance scores were not shifting. Following a brief discussion in therapy it became clear that drift in the definition of avoidance had occurred and as can be seen in Figure 1 his avoidance scores dropped
dramatically. The definition for avoidance began to include things he was avoiding for functional reasons (e.g., cancelling plans due to a large snowstorm that made driving unsafe). Despite this drift in definition the changes seen for Participant 2, the changes in avoidance behaviors were supported by the changes seen in the clinical measures which did not rely on individual definition of terms. In future studies, it would be beneficial to modify the instructions for the daily check-in questions to provide a definition for avoidance to help remedy this form of drift. In addition, checking-in regularly with participants when their functional changes are not congruent with their reported scores on variables such as avoidance. Given these limitations the results of this study still provide promise for utilizing ACT in treating anxiety disorders in the military and veteran population. Future research studies, both single subject design and larger randomized controlled trials (RCTs), would be beneficial in determining the effectiveness of this intervention in this population.

An additional limitation of this study is the generalizability of this data to the larger veteran population. Given that only four people completed this study, there may be unique individual, local, and/or regional factors which prevent the results of this study generalizing to the larger military and veteran population. Three of the four participants served on active duty in the Marine Corps and one participant was still serving in the Air National Guard. There may be factors related to the culture of those respective branches which influenced engagement and outcomes for these participants. One of the final limitations related to generalizability is all the participants in this study met criteria for SAD, therefore it is unclear the effectiveness of this protocol for other anxiety disorders such as PD or GAD.
Conclusion

This study provides promising data on the effectiveness of ACT with Veterans who meet diagnostic criteria for anxiety disorders. The use of daily check-in questions focusing on symptom severity and avoidance helped to illustrate how ACT processes can alter the suggested response to situations that once were responded to with fear and avoidance. This was shown through the deviation in average anxiety and average avoidance which occurred across treatment and for most participants was maintained at follow-up. The participants in this study showed improvements across a number of important domains from symptom severity (DASS-21 subscales; SIDAS), functional improvements (self-report, PSQI scores), and psychological flexibility (AAQ-3). Participants found the use of metaphors which were based upon common military experiences and/or military culture to be helpful in understanding and applying the skills learned in therapy. The match of Veteran therapist with Veteran patient likely improved the participants’ willingness to engage in therapy and helped with early rapport. Participants shared they found ACT to be helpful in living a life they each found meaningful, thereby improving their daily functioning and willingness to engage in more behaviors they previously avoided. While this study has a small sample size and a homogenous set of diagnoses, it provides important insight into the changes that occur within the course of treatment in a variety of ways. Additionally, it represents one of a small set of studies directly examining the use of ACT with Veterans and one of a few that that focused on anxiety disorders. Future studies examining larger sample sizes, a wider range of anxiety disorders, and altering the timing of processes (e.g., introduction
of values) are all important and can help shed light on ACT and this population specifically.
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Appendix A

Sweeping the parking lot: Once you have worked through a list of difficult thoughts and emotions with a client, and the various strategies they have tried to control their emotions this exercise can come in. It is similar to the man in a hole exercise, just modified to match common military experiences.

Therapist: You’ve gotten pretty creative with how you have tried to control anxiety and the difficult thoughts that show up for you. It looks like you have spent a lot of time and energy on this task as well.

Client: It’s frustrating how much time I’ve put into it and yet here I am hoping you can help me with this.

Therapist: When you were in the military did you ever see someone get tasked with a weird and possibly hopeless task? Like sweeping the parking lot, or mopping the sidewalk in the rain?

Client: (laughs) Yeah, I had to sweep by the front gate in Iraq…where we are literally surrounded by dirt and sand.

Therapist: What was that like for you?

Client: Well first off it was incredibly annoying, like why am I sweeping dirt only to know there is more dirt underneath and all around us. It seemed so stupid and pointless.

Therapist: And yet you still did it, how much effort did you put in?

Client: I did it for a while, like an hour, my sergeant kept telling me I wasn’t done yet.

Therapist: What if trying to control your anxiety is like sweeping that dirt? You can put in all the effort you want, trying new ways to do it, and yet it doesn’t really make a difference.
Client: That seems pretty accurate to what I have been doing with my anxiety… so what else am I supposed to do?

Therapist: What if you put the broom down, stopped putting all this effort into this hopeless task? Would you be willing to do that?

Client: I’d like to, but I don’t know what else I’m supposed to do. It seems like these thoughts and emotions will just keep coming back.

Therapist: Exactly! Even though you have spent all this time trying to sweep them away they come back as soon as you’re done. What if instead you put your attention on living the life you want to live, and do the things you want to do?

Client: That sounds like a better way to spend my time.

In the following session it will be useful to examine the control strategies the client has generated and determine which “work” in the short-term, which “work” in the long-term (none), and which activities are enriching when the function of the behavior is to engage in those activities rather than an avoidance/control behavior.

Embrace the suck: This is a willingness exercise, where you connect the client’s experience with difficult military experiences (e.g., training, boot camp, garrison life, PT) with acknowledging those feelings of discomfort, fatigue, etc. The goal is to connect their own experience with this and shaping it in line with acceptance.

Therapist: Can you give me an example of a crappy training experience or really difficult as in physically or mentally demanding, experience you had in the military.
Client: (pauses) Yeah I can remember doing this really long crappy field training exercise where the weather sucked the whole time. It rained and was super cold for most of it, and we were stuck out there for a few weeks.

Therapist: That definitely sounds like a crappy experience, so through that exercise did you want to quit or find a warm place to hunker down in the rain especially when you couldn’t?

Client: (laughs) I mean, I don’t know anyone on that exercise who didn’t feel that way. But we can’t do that ya know? Our team leaders or senior enlisted would have been all over us if we did that, plus my buddies were all doing it.

Therapist: So you definitely had the feeling of being uncomfortable and yet you still did the tasks you needed to right?

Client: Yeah, I mean it all sucked but I knew that there was a reason we were there.

Therapist: I’m guessing you’ve heard the phrase “embrace the suck?”

Client: I don’t know anyone in the military who hasn’t heard it.

Therapist: So in that exercise would you say you were living that? Embracing the suck?

Client: (laughs) Yeah that sounds accurate.

Therapist: So what if we took that idea and started to apply it to when anxiety shows up? Just acknowledge that it is there, and keep doing what you want to do?

Client: (pauses) I don’t know, I mean in the military it was different because my buddies were there, now it’s just me and my anxiety.

Therapist: Fair point, and yet you have a life you want to live and things you want to do. And as we talked about before, anxiety seems to be showing up and getting in the way of you living that life you want.
Client: That’s why I’m here.

Therapist: So would you be willing, in the spirit of trying something new, to embrace the suck of anxiety? To start to notice it, let it come along for the ride, and still do the things you choose to do rather than that anxious experience dictating what you do?

Client: I did say I was game to try something new, so this could be worthwhile.

OODA Loop (Flexible attention) exercise: The premise of this exercise relies upon a framework of decision making developed in the military taught at OODA Loop. OODA Loop stands for “Orient, Observe, Decide, Act, Loop (repeat).” When thinking about the premise of present moment awareness we also encourage our clients to engage in flexible perspective taking, choosing in a given moment what to focus on (e.g., worries or the task at hand). This flexible perspective taking in a way can help to make difficult situations easier to cope with as it can be broken down into smaller chunks. Such as going on a long ruck march in the military, focusing on the pain in your feet may lead to poor performance or avoidance whereas thinking about finishing the next ten meters and continuing that focus will help to break down a many kilometer ruck march into smaller easier to complete chunks.

Therapist: When you were in the military did you ever learn about OODA Loop?

Client: I don’t think I did, but I’m up to hear about it now.

Therapist: So OODA Loop was developed by an officer in the Army, and was a process for essentially placing your focus where you would like and making a decision on how to act. When you were in the military did you ever have to go on a long ruck march, long PT runs, or something similar?
Client: Yeah we had to do formation runs fairly frequently, definitely not something I miss about being in.

Therapist: Yeah not the most enjoyable experience. When you were on those runs did you ever focus on the pain in your feet or being tired?

Client: Sometimes yeah, it usually didn’t help though because I just wanted to quit or escape that discomfort.

Therapist: Which is logical! Is that similar to how you interact with the experience of anxiety?

Client: How do you mean?

Therapist: Do you focus on how uncomfortable you feel, or how distressing the thoughts are and do what you can to escape them?

Client: Yeah, I mean think about what we have talked about before, I avoid hard stuff all I can.

Therapist: Okay, hold onto that for a minute. Thinking back to formation runs, were there times where you focused on something else? Such as “I just need to go 10 more yards, and repeat,” or focusing on the cadence the formation is shouting?

Client: Yeah I loved the cadence, when I put my attention on it, the runs were easier and in some ways fun.

Therapist: Interesting, so in those experiences you were able to decide where you placed your attention? Either on your discomfort or the cadence?

Client: Yep, I could choose where I put my focus.

Therapist: Have you ever done that with your experience of anxiety? Not trying to ignore it or make it go away, but instead focusing on what you chose to focus on?
Client: I imagine that has happened sometimes. I can think of a few vague examples where I chose to focus on what I was doing rather than how I was feeling.

Therapist: Fascinating, so in those situations was that more functional for you to live the life you wanted to live compared to those times where you try to avoid?

Following this interaction it may be worthwhile to then practice a typical mindfulness exercise such as mindful breathing or leaves on a stream to practice this flexible attention as it relates to the client’s internal experience.

Drill Sergeant Exercise: In this exercise the stance is to treat the mind as a drill sergeant. Recognizing that at times it hands you unhelpful things, “You’re a failure,” which if we treat it as personal and buy into it lead us down a path of unhelpful actions. At other times, just like a true drill sergeant it hands us useful things, such as “if you put in the work your results will be better” which when we buy into those thoughts can lead us down a path of helpful actions. An example dialogue is as follows:

Therapist: When you were going through basic training, did you have a drill sergeant/RDC/DI who followed you or your group around just constantly providing input?

Client: Yeah, that’s pretty much their job.

Therapist: Were there times when your drill sergeant would scream and yell, like when you made a minor error, and just say a bunch of things that were really unhelpful?

Client: Yeah I had this one drill sergeant who I swear his whole job was to break us down.
Therapist: If you really bought into what he was saying at those times what do you think would happen?

Client: I’d probably want to quit, or I would get really upset and not engage.

Therapist: Were there times as you got used to this that you could hear what he/she was saying and treat it as not personal? As just a stream of words they were saying as part of the game to break you down?

Client: Towards the end of boot camp that got a lot easier to do, honestly looking back a lot of it is pretty funny.

Therapist: And I’m guessing at times this drill sergeant and others would say things that were really helpful? Like things that helped you perform a task better or become a better Soldier/Sailor/Marine/Airmen?

Client: Oh yeah, I mean their whole job is to teach us how to act in the military, and they would often help us do jobs better so we could outdo other divisions.

Therapist: And throughout this process you were able to take the helpful stuff and use it, and hear the unhelpful things and eventually not treat them as true?

Client: That seems pretty accurate, yeah I’d say that was the case.

Therapist: So what if you started to treat your mind like a drill sergeant? And start viewing the things it hands you in that way, helpful for what you want to do or unhelpful?

Client: I’ve never really considered that before.

Therapist: I’m guessing you can see how when you start to feel anxious your mind hands you all sorts of things, and at times those things are really not in line with who you want to be, like flaking on your friends because it feels overwhelming to go to that social event.
Client: (laughs) Yeah I do that more than I’d like to.

Therapist: So if you viewed your mind in that way, what do you think that would help you to do?

Client: Well I could probably start doing more of the things I want to do, and like boot camp I have a feeling this is going to be hard to do at first.

Therapist: Which makes total sense, you are trying something new, but the real question here is are you willing to do this?

Client: I’d be willing to give it a shot and see how it goes.

Roles we play in life: This self-as-context exercise focuses on bringing awareness to the different roles someone has in their life (e.g. son, brother, spouse, student, etc.). Having a client list out the roles they play in their life now, the roles they had 5 years ago, and the roles that might be different in 10 years. One aspect of this is to highlight that the roles we have in life change across time and yet the observer self remains constant. Assessing which roles are easiest to engage in, which roles are hard to engage with, and which roles are hard to let go of is also important. These roles may shed light onto what is getting in the way of valued living, or what areas of life are being neglected. Below is a sample interaction after a client has listed current, past, and future roles, for Zoom share screen and display a word document with those roles. A common experience for Veterans is to feel disconnected, misunderstood, or different from civilian peers due to their experiences and the culture of the military. This is an important area to help them flexibly move between roles when it is functional and could help them identify what is getting in the way.
Therapist: Looking at these roles, we can definitely see how some have stayed consistent such as being a son and a brother, others are no longer here such as being an Airmen, and new ones have come such as being a student and a Veteran.

Client: True, I hadn’t really thought of these roles before you brought it up.

Therapist: And yet there is one thing that has remained constant, “you” have been constant even when these pieces shift. There is a “you” here that is the space for all of these roles to occur, they are part of your experience.

Client: I’m not sure what you mean.

Therapist: I could ask you right now to think back to a memory of being an Airmen and a piece of you is observing that memory. I can ask you to think of a memory of being a son, and the same thing. There is a piece of you that observes your experience, which means that while these pieces of life happen around you, you are unchanged as the observer.

Client: That seems pretty heady, but you’re probably right.

Therapist: So if we think of these roles as hats, you can remove one to put on another, what roles are really easy for you to engage in.

Client: Right now, probably being a veteran and a brother.

Therapist: Interesting. Are there hats that are hard for you to put on?

Client: Yeah, being a friend and a spouse are really difficult.

Therapist: What gets in the way?

Client: I feel like in those places I’m not understood, or I’m not what people want me to be.
Therapist: So what hats do you have on in those situations where putting on the friend or spouse hat is difficult?

Client: I feel like I always have my Veteran hat on, and that the people I hang out with now are different. Like there is a divide or barrier there.

Therapist: Would it be meaningful to you, to take off that Veteran hat, so you can fully engage in being a spouse or a friend?

Client: Yeah probably.

Therapist: What would that look like, putting on those hats? How would you act differently?

Client: I would probably just engage more, like spend more time talking to my partner and my friends. Instead of viewing them as so different, I could just be who I am and be there for them.

Values in the military: Each branch of the U.S. military has a set of core values. For example the U.S. Navy and Marine Corps have the core values of “Honor, Courage, and Commitment.” Assessing a Veteran’s understanding of what values mean, how they engage in valued living can be a helpful place to start since they may have some familiarity with the concept of values. However, shaping or providing an ACT consistent understanding of values maybe necessary following this discussion.

SMART Goals similar to SALUTE reports: In the military acronyms are incredibly common and are often effective ways to communicate complex processes. One example is the SALUTE report which stands for “Size, Activity, Location, Uniform, Time, Equipment.” This type of report is an incredibly quick way to convey concise necessary
information. This concept is similar to the well known SMART goals. All that is necessary is to teach what the letters stand for AND practice utilizing this framework both in therapy and out of session.

Final exercise: In this session the goal is to link together all of the skills that have been learned in therapy, recognize areas of strength, areas of weakness, and how to utilize the processes within ACT to help bolster and support other processes. In military training it is typical for the final week or so of the training to culminate in one final exercise. This final exercise is designed to incorporate all skills learned in training and incorporate them into practice. Linking this idea to the process of therapy to prior military experience may help Veterans to begin engaging in an assessment of strengths/weaknesses, and making connections of how these skills are interconnected.
Appendix B

Figure 3. Avoided Meaningful Activities

*Note.* This figure depicts the final daily check-in item which was a free text response. The graph shows the number of avoided meaningful actions for each participant across the study. The dashed vertical lines indicate the start and end of therapy for each participant.
CURRICULUM VITAE

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Education

Ph.D. Utah State University
Combined Clinical/Counseling Psychology (APA accredited)
Dissertation: ACT and Veterans: A multiple baseline study using ACT to treat anxiety disorders in U.S. military Veterans
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Clinical Experience

7/22-Present VA Southern Nevada Healthcare System Pre-Doctoral Internship
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Psychology Intern

Currently conducting individual psychotherapy with Veterans in a primary care and general outpatient mental health setting. These environments allow for interdisciplinary work and consultation with a wide variety of BH professionals. Therapeutic approaches included acceptance and commitment therapy (ACT), cognitive behavioral therapy for insomnia (CBT-i), prolonged exposure (PE), cognitive processing therapy (CPT), interpersonal skills development, and behavioral activation. Disorders treated include addiction, anxiety disorders, trauma/stressor-related disorders, and mood disorders.
Supervisors: Elizabeth Briggs, Psy.D., Kara Klingspon, Ph.D., Nicole
Anders, Psy.D., Lisa Duke, Ph.D., & Benjamin Loew, Ph.D.

6/21-6/22  Utah State University Student Health and Wellness Center Clinical Assistant
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Student Therapist

Conducted individual psychotherapy with Utah State University students
in an outpatient medical clinic setting. This environment allows for
consultation and interaction with other medical professionals to provide a
full behavioral health treatment. Therapeutic approaches included
acceptance and commitment therapy (ACT), cognitive behavioral therapy
(CBT), interpersonal skills development, and behavioral activation.
Disorders treated include addiction, anxiety disorders, trauma/stressor-
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5/20-6/21  Utah State University Psychology Community Clinic Anxiety Specialty
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Conducted individual psychotherapy with Utah State University athletes
and community members (adolescents and adults). This includes bi-
weekly multi-disciplinary team meetings to ensure we are fully
supporting student athletes across academics, athletics, mental and
physical health. Therapeutic approaches included acceptance and
commitment therapy (ACT), ACT plus exposure and response
prevention. Disorders treated cover trauma-related, anxiety disorders, and
mood disorders.

Supervisor: Michael P. Twohig, Ph.D.

5/19 – 5/20  Utah State University Psychology Community Clinic Anxiety Specialty
Clinic
– Logan, UT
Student Therapist

Conducted individual psychotherapy with adults and adolescents.
Therapeutic approaches included acceptance and commitment therapy
(ACT), ACT plus exposure and response prevention. Disorders treated
cover trauma-related, anxiety disorders, and depressive disorders.

Supervisor: Michael P. Twohig, Ph.D.

8/18 – 8/19  Utah State University Psychology Community Clinic – Logan, UT
Student Therapist
Conducted individual psychotherapy with adults and adolescents. Therapeutic approaches included acceptance and commitment therapy, dialectical behavior therapy, and motivational interviewing.

Supervisors: Susan Crowley, Ph.D. & Sara Boghosian, Ph.D.

8/18 – Present Center for Clinical Research – Logan, UT
Graduate Student Researcher & Assessor
Conducted intake interviews, assessments for adolescents struggling with problematic hair pulling, and screening for severe mental health disorders. Assessments include the MINI-Kid and Psychiatric Institute Trichotillomania Scale.

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Professional Experience

05/16-06/17 University of Nevada, Reno Veteran Services
Student Worker
Responsible for developing a student veteran peer mentor program to assist incoming veterans with their transition into higher education. This included providing information about services available on campus for students and education benefits offered by the Department of Veterans Affairs.

08/15-05/16 Veterans Affairs VITAL Program
Student Worker—Veteran Outreach
Responsible for learning and conveying information about veterans’ health benefits from the VA. Provided information about unique benefits offered to veterans at both a state and national level. Received training to become a State of Nevada Veterans Advocate.

7/08 – 01/13 United States Navy
Master-at-Arms Petty Officer Second Class
Primary duties included training and supervision of up to 35 enlisted personnel conducting law enforcement activities on U.S. Navy installations. Oversaw personnel training for standard qualifications, completed semi-structured interviews to complete police reports, assisted victims of crimes in accessing resources available on and off
the installation, and assisted in personal growth and development of junior personnel. Received multiple commendations and an honorable discharge.

Research Experience

8/17 – Present  ACT Research Group
Graduate Researcher
Department of Psychology, Utah State University – Logan, UT

Engaged in the conceptualization, design, and implementation of several research projects. Writing a systematic review of existing literature assessing ACT for military members and veterans. The final project is the data collection of my dissertation, which is a multiple baseline study for treating veterans with anxiety disorders utilizing ACT via telepsychotherapy. In addition, helping other members of the lab with projects they are working on or in the process of initiating.

Supervisor: Michael P. Twohig, Ph.D.

1/16 – 5/17  Contextual Behavioral Science Laboratory
Undergraduate Research Assistant
Department of Psychology, University of Nevada Reno

Assisted with a variety of tasks such as coding research articles for future use in a meta-analysis of current ACT research. Began work on generating a new measure focused on psychological flexibility and perceived barriers for service members transitioning out of the military.

Supervisor: Steven C. Hayes, Ph.D.

8/16 – 1/17  Emotion and Adversity Lab
Undergraduate Research Assistant
Department of Psychology, University of Nevada Reno

Assisted with recruitment of undergraduate students for a longitudinal identity research project. Administered a card sorting task focused on identifying different aspects of personal identity and the characteristics that person would use to describe those aspects. Provided clear guidance on future participation in the study. Assisted with initial data entry for the research project.

Supervisor: Anthony Papa, Ph.D.
Publications

Peer-Reviewed Journal Articles


Book Chapters


Posters


Editorial Activities

Guest Reviews

2018 *Behavior Modification*

2018 *Cognitive and Behavioral Practice*

Teaching Experience

Graduate Teaching Assistant – Utah State University

6/18–Present Abnormal Psychology

173 undergraduate students

Supervisor: Michael P. Twohig, Ph.D.
Graduate Teaching Assistant – Utah State University  
8/17-4/18  Analysis of Behavior: Basic Principles  
120 undergraduate students  
Supervisor: Jay Hinnenkamp

Awards & Honors

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<tr>
<th>Year</th>
<th>Description</th>
<th>Institution</th>
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<tbody>
<tr>
<td>2014 – 2017</td>
<td>Dean’s List</td>
<td>University of Nevada Reno – Reno, NV</td>
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Professional Development Trainings & Certifications

| Date    | Description                                                                 | Speaker(s)                                      | Institution                     |
|---------|-----------------------------------------------------------------------------|-------------------------------------------------|
| 6/2019  | Association of Contextual and Behavioral Science World Conference 17         | Kirk Strosahl, Ph.D.                            | Utah State University, Logan, UT |
| 4/2019  | Focused Acceptance & Commitment Therapy: The Basics and Beyond              | Matthieu Villatte, Ph.D., & Jennifer Villatte, Ph.D. | Utah State University, Logan, UT |
| 9/2018  | Advanced ACT: Doing Experiential Work Without Exercises                     | Michael P. Twohig, Ph.D., & Eric Lee, M.S.      | Utah State University, Logan, UT |
| 4/2018  | Allies (LGBTQA) on Campus Training                                            | Michael P. Twohig, Ph.D., & Eric Lee, M.S.      | Utah State University, Logan, UT |
| 9/2017  | Introduction to Acceptance and Commitment Therapy & ACT Experiential Workshop| Michael P. Twohig, Ph.D., & Eric Lee, M.S.      | Utah State University, Logan, UT |
| 8/2015  | Nevada Veterans Advocate Certification                                       | Michael P. Twohig, Ph.D., & Eric Lee, M.S.      | Utah State University, Logan, UT |

Community and Campus Involvement

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<tr>
<th>Year</th>
<th>Role</th>
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<tr>
<td>2019-Spring 2020</td>
<td>Peer-elected graduate student representative, USU Combined PhD Program</td>
<td>Andresen, F., &amp; Fruge, J. (2018, February). Applying to graduate school. Organized and provided workshops to student veterans across three USU campuses to help them prepare for graduate school applications. Utah State University – Logan, UT</td>
</tr>
<tr>
<td>Spring 2018</td>
<td></td>
<td>Adamson, B. (2018, February). Applying to graduate school. Organized and provided workshops to student veterans across three USU campuses to help them prepare for graduate school applications. Utah State University – Logan, UT</td>
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<tr>
<td>Fall 2018</td>
<td></td>
<td>Adamson, B. (2018, November). Applying to graduate school. Organized and provided workshops to student veterans across three USU campuses to help them prepare for graduate school applications. Utah State University – Logan, UT</td>
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Utah State University – Logan, UT

3/16       Wolf Pack Veterans Blood Drive
University of Nevada, Reno – Reno, NV

9/15       Wolfpack Veterans Stead Park Clean-Up and Beautification
Reno, NV

9/13       Wolfpack Veterans Reno River Clean-Up
Reno, NV

References

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