



# Identifying Attitudes and Beliefs of United States Veterans About Art Therapy as a Viable Treatment Option for Post-Traumatic Stress Disorder

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Identifying Attitudes and Beliefs of United States Veterans About Art Therapy as a Viable  
Treatment Option for Post-Traumatic Stress Disorder

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A Thesis in the Field of Psychology  
for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

May 2019



## Abstract

This study used quantitative survey methodology to determine how United States veterans' attitudes and beliefs about alternative art therapy compared to their attitudes and beliefs about evidence-based treatments already accepted by the Department of Veterans Affairs (VA) for treating war-related post-traumatic stress disorder (PTSD). Veterans from a demographically representative U.S. sample were surveyed about art therapy as an effective treatment for PTSD, relative to currently available treatment options offered by the VA. Respondents also were asked whether they would perceive stigma associated with the use of art therapy. Finally, differences in their likelihood of seeking art therapy were examined based on demographics including gender, age, race, and branch of military. U.S. veterans were recruited using a convenience sample (N=32) and self-reported their PTSD diagnosis, attitudes about art therapy, and potential stigma associated with seeking art therapy treatment. The majority of participants (65.6%) indicated that they would try art therapy but were split on whether or not they thought they would experience stigma as a result. Interestingly, no respondents indicated being familiar with art therapy as a treatment for PTSD. Demographically, a higher percentage of females endorsed a likelihood of trying art therapy than males. In addition, White people had a more favorable attitude toward trying art therapy when compared to minorities. Overall, this study was the first to demonstrate perceived benefits of U.S. veterans for the use of art therapy as an efficacious treatment for PTSD. Thus, the current

work may inform the development of education materials to increase awareness of art therapy as an intervention for PTSD in U.S. Veterans.

## Dedication

I would like to dedicate this thesis to my parents, Petr and Dagmar; my furry children, Bella and Luna, and to everyone who has ever had to overcome the odds to accomplish a seemingly impossible goal against the odds.

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## Acknowledgments

I would like to thank Dr. Dante Spetter for her support and encouragement, all the individuals and animals who support our veterans, my ex-husband for being the reason I had to fight for survival, Camp Lejeune, Boston VA, the VA Caregiver Support program, and Harvard University for making my dream possible. I am really lucky.

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## Chapter I

### Introduction

Post-traumatic stress disorder (PTSD) treatment, using various modes of expressive art therapy, has emerged as a viable, cost-effective method to augment traditional mental health care delivery. Despite the increased interest in art therapies, few studies have assessed attitudes and beliefs about using this modality in a contemporary sample of United States (U.S.) veterans.

The current study addressed this gap in the empirical literature by using quantitative survey methodology to determine if combat veterans' attitudes and beliefs about alternative art therapy were more favorable than attitudes toward traditionally accepted treatments by the Department of Veterans Affairs (VA) for treating war-related injuries. The first research aim of this study was to investigate differences in the attitudes of a representative sample of U.S. veterans about art therapy as an effective means to treat PTSD, relative to current treatment options offered by the VA. The hypothesis was that U.S. veterans would have a more favorable attitude toward art therapy versus currently accepted treatment options.

The next main question addressed in this study was whether U.S. veterans believed there was a stigma associated with art therapy. Prior studies have identified stigma as one of the most significant barriers to veterans seeking mental health treatment (Pietrzak, Johnson, & Goldstein, 2009; Kim et al., 2010; Greene-Shortridge, Britt, & Castro, 2007). It was hypothesized that the majority of U.S. veterans would feel that there was a stigma associated with art therapy.

The final question was whether there would be differences in the desire to seek art therapy services based on gender, age, race, and branch of military. It was predicted that participants would be more willing to utilize art therapy as a treatment option if the participant was female, non-minority racial status (White), and older. No specific results were hypothesized based on military branch, but it was explored for educational purposes.

Understanding veterans' attitudes and beliefs toward art therapy could provide insight in ways to enhance acceptability for this treatment modality as a viable option at the VA and other treatment clinics for veterans. Innovative approaches and significant improvements to expand effective treatment, such as art therapy, may serve to reach more veterans with military service-related PTSD (Hoge, 2011). Notably, researchers have suggested that education about treatment may be an effective way to reduce stigma related to receiving mental health care in veterans (Grieger, 2008; Hoge, 2011). Educating service members about these interventions may help decrease stigma and other barriers to engaging in mental health care and may increase treatment-seeking behaviors (Pietrzak, 2009).

Art therapy has the potential to be a novel therapeutic pathway for addressing the war-related trauma especially for those veterans who are less comfortable “talking” and more comfortable “doing” consistent with their service member identity. The present work not only examined veterans’ attitudes and beliefs about art therapy but also perceptions of stigma that may exist for pursuing art therapy as an intervention for PTSD. This may be especially important given that prior research has demonstrated the importance of individuals’ attitudes and perceptions of psychotherapy for informing

which treatment may be most effective among different populations (Gonzalez, Alegria, Prihoda, Copeland, & Zeber, 2011). Thus, the current research represents a next step for increasing the understanding of mental health professionals for individuals' perceptions about treatment options for combat-related PTSD.

### PTSD in the Military

PTSD involves physical and psychological responses to extreme anxiety that develops as a consequence of exposure to traumatic events. PTSD is a significant problem for combat veterans who have been exposed to traumatic events as a result of their deployments to war zones. PTSD prevalence rates are elevated among combat Veterans who have returned from the recent conflicts in the Middle East, as well as those who have served in previous wars (Tanielian & Jaycox, 2008). Notably, PTSD is a widely recognized condition that includes a number of symptoms that interfere with day-to-day functioning, job performance, and family relationships. Symptoms may include flashbacks, hypervigilance, and insomnia (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; DSM-5) (American Psychiatric Association, 2013).

As a result, there is a growing need for effective treatments for the military population of the Global War on Terrorism (GWOT), including Operation Enduring Freedom (OEF) in Afghanistan as well as Operation Iraqi Freedom (OIF) and Operation New Dawn (OND) in Iraq (American Psychiatric Association, 2013; Seal et al., 2009; Veterans Benefits Administration, 2011). Recently, the prevalence rates of diagnosed PTSD have been estimated as up to 20 % for veterans who served in Operation Enduring Freedom and Operation Iraqi Freedom veterans, up to 10 % of all Gulf War veterans, and up to 30 % of Vietnam War veterans (Richardson, 2010). Another comprehensive

analysis showed that, among male and female soldiers aged 18 years or older returning from Iraq and Afghanistan, rates of PTSD ranged from 9% shortly after returning from deployment to 31% a year after deployment (Thomas et al., 2010) suggesting that symptoms may develop or worsen over time rather than quickly resolving once a service member returns home. Ralevski and colleagues (2014) observed that PTSD was the third most prevalent mental disorder diagnosed in veterans using the VA hospital system, which demonstrates the significant scope of this disorder.

Although many veterans are at an elevated risk for developing PTSD, veterans who have been exposed to combat have been of particular concern to mental health professionals (Deykin, et al., 2001). Higher exposure to combat situations has been associated with increased PTSD symptoms, which has been related to poorer family relationships and redeployment adjustment (Taft, Schumm, Panuzio, & Proctor, 2008). In parallel, greater extent of combat exposure in Vietnam veterans was related to elevated PTSD symptoms and higher diagnostic rates of chronic PTSD, according to the DSM-III standards at the time of the study (Foy, Sipprelle, Rueger, & Carroll, 1984). While this is an older study, it demonstrates the longevity of PTSD as a problem that stretches across time and particular wars/conflicts. Forbes and colleagues (2013) observed similar findings in a more recent study, observing that higher combat exposure was associated with a more severe PTSD clinical presentation.

The DSM-5 categorizes the symptoms that characterize PTSD into clusters, and the diagnosis can be categorized as either acute or chronic (American Psychiatric Association, 2013). The symptoms of acute PTSD, which is called Acute Stress Disorder, last for one to three months after the traumatic event. In chronic PTSD, symptoms last for

more than three months after exposure to trauma. This demonstrates the complexity of PTSD, as symptoms can intensify over time (Orcutt, Erickson, & Wolfe, 2004) and become a more chronic condition. Further, there exists a significant treatment gap among individuals with PTSD, with only 50% seeking treatment and, out of the half that sought treatment, only half received "minimally adequate" treatment (Tanielian et al., 2008). Among those who did not seek out treatment, several studies have found that dropout rates in individual studies have been as high as 78%, with the overall pooled dropout rate at 36% (Goetter, 2015). Thus, future research is needed to improve treatment engagement and retention for persons with PTSD.

It is important to approach treatment options through a real-world perspective to gain a comprehensive understanding of individual preferences and barriers to seeking help. The VA remains one of the largest healthcare providers for returning veterans, and, in the past several years, the VA has expanded access to more veterans of the current conflicts. The VA has developed guides about recommended treatment options for military-related PTSD, which emphasize trauma-focused psychotherapies and psychopharmacological treatment. The VA most highly recommends the following psychotherapies: Cognitive Behavioral Therapies (CBT), such as Prolonged Exposure (PE) and Cognitive Processing Therapy (CPT), and Eye-Movement Desensitization and Reprocessing (EMDR). With respect to pharmacological interventions, the VA recommends antidepressants categorized as selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs), with the most frequently used options being sertraline (Zoloft), paroxetine (Paxil), fluoxetine (Prozac), and venlafaxine (Effexor). Each of the therapeutic approaches has limitations that may

affect how veterans form their attitudes and beliefs about them, which, in turn, may influence how likely they are to engage in treatment. In particular, many people find Exposure therapy to upsetting or too difficult and are likely to drop out of treatment to avoid the distress it requires confronting. Others find the side effects of the SSRI/SNRIs to be too disruptive to daily life or dislike the idea of long term medication use.

Emerging research suggests the dropout and non-completion rates of these so-called “gold-standard” psychotherapy treatments are likely higher than previous studies have shown (Najavits, 2015). Najavits found that the most extensively studied PTSD psychotherapies, PE and CPT, have been found to have substantial dropout rates (2015). In PE, patients are asked to recount a particular traumatic event in vivid detail until the patient’s emotional responses and reactions gradually decrease, and they are able to slowly confront fear-evoking trauma memories. In CPT, patients learn how to challenge the troubling thoughts they have developed since their trauma, which may enable patients to develop more adaptive coping strategies. In one of the largest studies of its kind, Watts and colleagues (2014) examined 1924 VA patients who had attended at least one session of CPT or PE and observed that the average number of sessions attended was five with a range of two to nine sessions (2014). Given that both CPT and PE were designed and tested to be effective at a higher number session (12 sessions for CPT and 8-15 for PE) (Karlin et al., 2010), current treatment engagement may not be high enough, on average. While not all patients may theoretically need a full course of sessions for evidence-based treatments like CPT and PE to be effective, “completers” have been defined as individuals who obtained a dose of seven or more sessions (Mott, Hundt, Sansgiry, Mignogna, & Cully, 2014). Importantly, a recent study showed that only 2% of sampled



veterans with newly diagnosed PTSD had received the minimal dose of eight sessions of PE or CPT over the initial six months of care (Watts, 2014). Another large study in a VA clinic specializing in the treatment of PTSD and anxiety found that only 91 out of 796 patients (11.4%) began either CPT or PE and only 59 out of 794 patients (7.9%) completed either CPT or PE (Mott, Hundt, Sansgiry, Mignogna, & Cully, 2014). Thus, the treatment initiation and completion rates for the two most common evidence-based treatments for PTSD seem limited, which suggests the need to investigate alternative options.

The aforementioned studies were Randomized Controlled Trials (RCTs), which may have more favorable retention rates than naturalistic clinical settings where individuals are personally seeking out treatment. In more naturalistic settings, dropout rates for evidence-based CBT treatments like CPT and PE were greater than RCTs, with rates as high as 72% (Zayfert et al., 2005). Various studies have found that only 23-40% of veterans seek treatment on their own and as few as 50% seek treatment after a referral to behavioral health specialists (Hoge, Auchterlonie, & Milliken, 2006; Hoge et al., 2004; Kim, Thomas, Wilk, Castro, & Hoge, 2010; Milliken, Auchterlonie, & Hoge, 2007). One explanation for the low engagement and high dropout rates in therapy may relate to veterans' beliefs that therapy is not effective and will not work in treating their PTSD symptoms. According to The Warriors' Hope Project, only 16% of veterans believed the treatment they were currently receiving at the VA had been effective at treating their PTSD symptoms, which was primarily being managed using medication (Foa, 2009). This is consistent with the National Survey of Veterans (Department of Veterans Affairs, 2010) that found that around only half of veterans (49.8%) reported being satisfied with

the current health care they were receiving using the VA health care resources. The available health care resources typically consist of conventional treatments such as psychotherapies or pharmacological interventions, and some veterans have found their symptoms to be treatment resistant (Tan, 2009). This is likely a contributing factor in studies that have shown that younger adults and males have often reported more negative attitudes toward mental health treatment (Gonzales, 2011), which comprises the majority of U.S. veterans. Other factors that have been found to be associated with dropout from exposure therapies for PTSD include gender, trait anxiety, alcohol and benzodiazepine use (Van Minnen, 2012).

Pharmacological interventions, most often antidepressants, have also demonstrated limited success rates. These medications have the most robust empirical evidence for reducing PTSD symptoms in RCTs and are the preferred medications for PTSD treatment (Brady et al., 2000; Marshall, Beebe, Oldham, & Zaninelli, 2001). Although SSRIs are associated with an overall response rate of approximately 60% in patients with PTSD, only 20% to 30% of patients achieve complete remission (Berger et al., 2009). Thus, while pharmacological treatments may yield greater symptom improvement than psychotherapy interventions alone, there are numerous individuals who do not benefit from existing approaches.

Suboptimal success rates for conventional PTSD psychotherapy and pharmacological treatments open the door for other more attractive treatment options. Alternative therapies, like art therapy, have shown promise as treatment options for veterans, especially in conjunction with traditional treatment or as an alternative if traditional interventions fail. Complementary alternative medicine use in the United

States has increased over the past two decades in both civilian and military populations (Barnes, Bloom, Nahin, 2008; Baldwin, Long et al., 2002). A majority of veterans have stated that they would be open to using alternative treatments (McEachrane-Gross, Liebschutz, & Berlowitz, 2006). Prior research has found that 40 % of veterans used additional complementary and alternative medicine therapies if they were made available by the VA (Campbell et al., 2006). As such, the VA's bias toward using CPT, PE, EMDR, and medications as the gold-standard PTSD treatments might stifle the development of alternative treatments, like art therapy, that may be more appealing to U.S. service members and veterans (Pizarro, 2004).

It is likely that mental health professionals could improve patient outcomes through better understanding of patients' perceptions and attitudes toward psychotherapy (Gonzales et al., 2011; Rosenthal & Wilson, 2008). Further, better understanding of patients' attitudes and beliefs about treatments may allow clinicians to tailor treatment planning to suit individual patient needs. Numerous studies have supported the contention that attitudes toward mental health treatments are related to actual use (Leaf et al., 1985; Lin & Parikh, 1999; Mojtabai, Olfson, & Mechanic, 2002; Smith, McGovern, & Peck, 2004; Edlund et al., 2008; Kulesza, 2015). Attitudes and beliefs may affect how likely individuals are to seek care, as well as how confident individuals are regarding the efficacy of treatment. According to a recent large-scale survey of 7,645 veterans diagnosed with PTSD, those who believed they needed treatment—and had positive attitudes about treatment—were more likely to initiate care (Spoont, 2004). Reasons for accepting treatment have varied, but one major factor was whether a primary care physician or mental health specialist made the initial recommendation (Spoont, 2004).

Spoont (2004) surveyed veterans' perceived treatment needs, access to treatment, beliefs, and level of social encouragement, and found that when participants believed the treatment would work, they were more likely to have sought it out. Conversely, negative beliefs about mental health treatment were associated with lower likelihood of seeking care.

One important factor to consider regarding individualized treatment and health care for PTSD is the influence of military culture. While military and civilian populations have similar perceived barriers to seeking mental healthcare, veterans' beliefs are amplified by military culture. Within the military, there may be greater concern about how peers and leadership will perceive service members who seek psychological treatment (Greene-Shortridge, Britt, & Castro, 2007; Hoge et al., 2004). The factors that pose barriers to veterans seeking mental health care may include attitudes and beliefs about mental health, seeking treatment, unit cohesion, and unit dynamics (Tanielian et al., 2008). Many military service members hold the belief that admitting a mental health problem and seeking treatment is a sign of weakness (President's Commission on Care for America's Returning Wounded Warriors, 2007). Seeking treatment is seen as contrasting with military culture, which emphasizes attitudes of being both physically and mentally tough (McFarling, D'Angelo, Drain, Gibbs, & Olmsted, 2011). These values are highlighted even before basic training begins in the form of recruitment slogans like "Army Strong," "The Few, the Proud, the Marines," and "Aim High, Fly-Fight-Win." This strongly instilled mentality may create barriers to seeking care even before a potential problem develops (Zinzow et al., 2011). Roughly 75 % of OIF veterans expressed concerns with being labeled with a mental health disorder, with the majority of

them fearing negative career consequences (Stecker, Fortney, Hamilton, & Ajzen, 2010). Furthermore, unlike in the civilian workplace, each service member's supervisor (i.e. commanding officer) has access to veterans' mental health records, and those who are seen as "unfit" for service may be discharged or removed from duty (Vogt, 2011). This fear may hinder veterans from seeking treatment, especially veterans who are active duty.

Other potential barriers to veterans seeking mental health care may include various demographic variables. Lower usage rates suggest that attitudes toward mental health care may differ based on gender, race, and age (Pietrzak, 2009; Goldzweig et al., 2006; Vogt, 2011; Fikretoglu, 2008; Roberts, 2010; Garcia, 2014). A comprehensive review of 182 studies (2 RCTs and 180 observational designs) found several gender-specific differences pertaining to healthcare seeking behavior in military populations (Goldzweig et al., 2006). Female veterans sought mental health care more frequently than males but used the VA services less than men. Furthermore, gender-specific medical needs were common motivators for seeking care among female military and veteran personnel (e.g., gynecological services), and women were more likely to use VA services if such gender-specific care was available.

Notably, one potential confounding factor in the data regarding women veterans' diminished use of VA medical care could be the fact that female veterans are more likely to be part of a minority race or ethnicity compared to their male counterparts (31.8% versus 18.5%, respectively) (National Center for Veterans Analysis and Statistics, 2011). Minority race or ethnicity status is correlated with early discontinuation of mental health treatment (Spoont, Nelson, van Ryn, & Alegria, 2017). Among those initially seen in mental health settings who initiated psychotherapy services, Latinos, African Americans,

and Asian/Pacific Islanders were less likely than White veterans to engage in individual therapy (Spoont et al, 2016). This inequity in services has been attributed to factors operating both within and between health care networks. Another large study examined data from structured diagnostic interviews with 34,653 adult respondents for the 2004–2005 wave of the National Epidemiologic Survey on Alcohol and Related Conditions (Roberts, 2011). The study found that individuals from minority racial groups were less likely to seek treatment for PTSD than those who identified as White (range: 0.39–0.61), and fewer than half of minorities with PTSD sought treatment (range: 32.7–42.0%) (Roberts, 2011). In this study, treatment-seeking was defined as people with PTSD who had seen a counselor, doctor, or therapist, or had visited a hospital to get help for PTSD symptoms. While a major limitation of this study was its reliance on retrospective reporting of treatment seeking behavior for the treatment of PTSD, the sample size was large, included individuals of diverse racial backgrounds, and echoed similar findings from other previous studies. These observations were corroborated by a more recent study, which found that minorities underutilized health services in the VA (Spoont, Nelson, van Ryn, & Alegria, 2017). Among veterans of racial minorities, the most recent estimate in 2014 suggested that only 28.9% sought health care through the VA (Office of Data Governance and Analytics, 2017).

In addition to gender and racial identification, age has also been suggested as a factor in mental health seeking attitudes in military populations (McCarthy, 2007). In a study conducted by Garcia and colleagues (2014), OEF/OIF veterans were significantly more likely to endorse negative treatment attitudes as possible barriers to care when compared to Vietnam and Gulf War veterans, who tended to be older. The average age

was  $51 \pm 14.4$  years across the entire cohort and  $32 \pm 8.2$  for OEF/OIF,  $43 \pm 6.8$  for Persian Gulf, and  $62 \pm 4.2$  for Vietnam veterans. The younger veterans sampled in the survey believed the following: going to treatment meant they were weak, they should be able to handle problems on their own, treatment would make them "go crazy," and they felt an aversion to talking in groups (Garcia, 2014).

### Efficacy of Art Therapy

According to the American Art Therapy Association, art therapy is defined as the therapeutic use of art making, within a professional relationship, by people who experience illness, trauma or challenges in living, and by people who seek personal development ("About Art Therapy," 2017). The word "art" may have a tendency to suggest visual modes such as drawing, painting, or even sculpting. However, art therapy is a creative and experiential form of psychotherapy that is comprised of several different therapeutic modalities including visual art therapy, drama therapy, music therapy, writing therapy, and dance therapy (Malchiodi, 2012; Malchiodi, 2005).

Art therapy is not traditionally used in the majority of VA hospitals and clinics as a clinical treatment option for physical or mental disabilities. Instead, art therapy is often categorized under Recreation Therapy Service but is neither standardized nor available at all locations. Therefore, many service members may not even be aware of art therapy as an option, despite its long-standing historical use as an intervention approach for military veterans. One of the first reports of art therapy as a therapeutic intervention for war veterans was noted in 1944 (Johnson, 1944). Art therapy has been a component of psychotherapy services offered by the VA since 1945, when the Winter VA Hospital in Topeka, Kansas first offered art therapy as part of psychiatric services for returning

World War II veterans. By 1980, the GS638 job series for Creative Arts Therapists and Recreation Therapists was established to facilitate the hiring of art therapists nationwide. Further, the International Society for Traumatic Stress Studies has provided a comprehensive summary of the beneficial role of art therapy in the treatment of PTSD (Foa et. al., 2009). These treatment modalities have been reviewed and summarized by an assigned member of the task force, with input provided by the other members, and these summaries have included literature reviews about implications for research and clinical practice.

Research on the efficacy of art therapy is growing and has yielded promising results. One extensive analytical review consisted of 35 studies conducted from 1999 to 2007, which supported the use of art therapy as an efficacious approach for treating a variety of psychological struggles (Slayton, 2010). Unlike previous reviews and meta-analyses, Slayton's (2010) review isolated studies with art therapy as the specific intervention manipulation, which limited the number of studies reviewed. Slayton and colleagues (2010) categorized the outcome studies into four groups: 1) thorough and detailed qualitative studies, 2) single-subject pre/posttest designs, 3) designs using control and treatment groups without random assignment, and 4) controlled clinical trials with randomized assignment to groups. The review concluded that there might be modest, quantifiable evidence to support growing claims that art therapy may be effective for treating a variety of symptoms, age groups, and disorders—including PTSD. Despite several studies having limitations that have historically plagued art therapy research the collective body of literature summarized by the review provides preliminary evidence for the efficacy of art therapy (Smith 2016; Reynolds et al. (2000), Slayton et al. (2010).



There is evidence that the use of art therapy in the military health care setting is also gaining momentum. Melissa Walker and others with the National Intrepid Center of Excellence, part of Walter Reed National Military Medical Center in Bethesda, Maryland, piloted mask-making as a therapeutic intervention. The recent success of this mask-making approach has led to the expansion of the therapy across multiple military bases in the United States. As of spring 2017, Walker and colleagues had partnered with the National Endowment for the Arts to expand the Creative Forces Program to a total of eleven clinical sites that provide art therapy for service members, veterans, and families dealing with traumatic brain injury and psychological health conditions, including PTSD (National Endowment for the Arts, 2017).

Concerning specific outcomes associated with PTSD, art therapy has been found to reduce the symptom of avoidance in veterans. One recent qualitative study created a two-week inpatient art therapy-focused program focused on helping veterans with PTSD overcome avoidance related to trauma triggers (Lobban and Murphy, 2017). Participants included four veterans who had not previously participated in any psychoeducational or CBT treatment groups. Treatment consisted of themed art therapy for six two-hour sessions during the stay, four one-hour individual sessions, and two half-day art gallery visits. After all the sessions, participants self-reported their willingness to continue exploring treatment options, as well as reporting the treatment to be tolerable and not overwhelming (Lobban and Murphy, 2017). The study suggested that art therapy could be useful for assisting veterans in overcoming avoidance in the context of PTSD, as well as helping veterans develop new ways of perceiving, interpreting, and responding to stressful situations.

In addition to decreasing avoidance, other PTSD symptoms have been ameliorated by art therapy intervention. In a study conducted by Stok and colleagues (2007), therapists selected participants with PTSD ( $n=11$ ) for participation in research based on common PTSD symptoms of avoidance, re-experiencing, anxiety, and stress. The intervention group received a brief, three-session course of trauma-focused art therapy alongside talk-based psychotherapy. The control group received talk-based psychotherapy treatment alone. Results showed a significantly greater decrease in the three PTSD symptoms after participation in art therapy combined with psychotherapy, compared to the control condition of psychotherapy alone; there were statistically significant decreases in anxiety (1.95), re-experiencing (1.63), and avoidance (1.25) (Stok et al., 2007). While the study did not allow for a double-blind approach, and did not focus specifically on veterans, the results support the conclusion that art therapy can be beneficial for the treatment of PTSD symptoms in trauma patients.

While it may seem that art therapy is distinct from other evidence-based treatments favored by the VA, many of the same therapy components that comprise CBT treatments (e.g., CPT, PE) are shared within art therapy (Foa et al., 2009). Foa and colleagues (2009) found that many of the major facets of creative art therapy treatments have received a great deal of empirical support, such as engagement in imaginal exposure, cognitive/narrative restructuring, stress management skills, and resilience enhancement methods. Although prior studies involving art therapy have not used RCTs, evidence from clinical case studies has indicated improvement in the primary symptoms of PTSD and global clinical improvement (Johnson et al., 2009). For example, Morgan and Johnson designed a single-case experimental (A-B-A) design involving art therapy

with four Vietnam veterans, which significantly reduced PTSD symptoms, including the frequency of nightmares (Johnson et al., 2009). Another study with Vietnam veterans conducted by Johnson, Lubin, James, and Hale (1997) found that creative art therapy produced higher rates of short-term symptom reduction, even though the program overall showed modest therapeutic effects. Notably, this study suggested that veterans with fewer PTSD symptoms seem to benefit the most from art therapy (Johnson, Lubin, James, & Hale, 1997), suggesting that art therapy may be particularly useful for those with more mild presentations of PTSD or as a more broad-base treatment for veterans returning from war who may have subclinical PTSD symptoms. While most of the existing evidence for the efficacy of art therapy has been derived from clinical reports and case studies, prior research supports that the use of creative arts may be helpful as a stand-alone or adjunct to CBT treatment for PTSD.

In addition to the more traditional forms of art therapy (e.g., painting, drawing), storytelling and expressive writing have been gaining interest and credibility in the psychological community. In particular, expressive writing is a brief intervention in which individuals write about a traumatic or distressing event, and this process often incorporates creative elements. Relatedly, storytelling may also involve creativity, especially if the individual uses a fictional narrative perspective in the process. Research has demonstrated that short-term effects of expressive writing therapy tend to involve an increase in distress and negative moods, which may be due to the exercise involving engagement with trauma-related memories. However, long-term effects include improved immune system functioning, lower blood pressure, improved moods, liver and lung functions, and behavioral improvements (e.g., reduced absenteeism, improved memory,

higher grade point averages and fewer depressive symptoms) (Baikie & Wilhelm, 2005). According to a meta-review conducted by Nobel and Stuckey (2010), several studies have shown that individuals who wrote about their traumatic experiences demonstrated statistically significant improvements on various measures of physical health, reductions in visits to physicians, and improved functioning of the immune system, relative to control participants (McArdle & Byrt, 2001). Pennebaker and Beale (1986) found that study participants who engaged in trauma-related expressive writing for 15 minutes over four consecutive days reported significant benefits in physical health, including both self- and objective-reported measures, four months later. Further, writing expressively in a journal has been linked to creativity, spiritual awareness, and expansion of the self (Cameron, 1992; Rainer, 1997). As noted, one possible short-term side effect of writing therapy may be the negative effect on mood (Pizarro, 2004). However, individuals who have experienced these acute negative effects have still derived greater or equal lasting health benefits and reported decreased long-term rumination (Smyth, 1998). In addition, writing therapy has been correlated with decreased social dysfunction, which may be an important symptom to address to improve quality of life among veterans suffering from PTSD (Pizarro, 2004).

In addition to prior studies exploring art therapy as a stand-alone intervention, recent research has emerged demonstrating the efficacy of art therapy used in conjunction with more traditional therapies. One study has demonstrated that art therapy may reduce PTSD symptoms in the military population when employed with CPT (Campbell, Decker, Kruk, & Deaver, 2016). Campbell and colleagues' (2016) study had two especially strong methodological components that warrant consideration in future

research investigating the efficacy of art therapy as a treatment option for PTSD. First, it was a well-conducted randomized trial with a control group, and second, the study included a survey to assess how the participants felt about the treatment they received (CPT plus art therapy versus the control group of CPT only). Across all participants in this study, scores improved on both the PTSD Checklist–Military Version and Beck Depression Inventory, although no significant differences in improvement emerged between the experimental and control groups (Campbell, Decker, Kruk, & Deaver, 2016). However, art therapy in conjunction with CPT improved trauma processing: veterans reflected that art therapy was an important component of their treatment, stating that art therapy provided healthy distancing, enhanced trauma recall, and increased access to emotions (Campbell et al., 2016). Thus, veterans’ personal experiences with art therapy, as an adjunct treatment to CPT, suggest its merit as an integrative treatment approach for PTSD.

Art therapy has also been found to be effective when combined with modified EMDR to treat PTSD, especially in clients who have difficulty with verbal communication. (Talwar, 2007; Tripp, 2007). Talwar’s (2007) work has suggested that when an individual re-experiences a traumatic event, the frontal lobes may sustain damage, which may cause the person to struggle with thinking and speaking. In order for therapists to treat trauma successfully, a progression beyond spoken language may be necessary to incorporate emotional, cognitive, and affective memories of the trauma, and current EMDR treatments alone lack this non-verbal exploration (Talwar 2007; 2010). Hass-Cohen and Carr (2008) have linked verbalization and the art process to left and right hemispheric integration in the brain. In one qualitative study, they suggested that art

directives may aid in repairing limbic functions and reduce reactions in these regions in response to chronic flashbacks and nightmares (2008). Other research has observed similar findings, with participants experiencing an alleviation of trauma symptoms when they engaged in art therapy plus EMDR (Lahad et al., 2010; Talwar, 2007; Tripp, 2007). Overall, art therapy appears to be an effective intervention for PTSD that may enhance outcomes or veterans' satisfaction when combined with other evidence-based therapies.

The current study aimed to measure how the attitudes of U.S. military veterans influence perceptions of the efficacy and feasibility of art therapy as an alternative or complementary treatment option for PTSD. The present work is motivated by the growing clinical attention of art therapy as a stand-alone and adjunct intervention for the treatment of PTSD among veterans. Prior studies, coupled with growing interest from the patient population to seek alternative or complementary care, could lead to more empirically-supported research on the practicability of art therapy as a viable mental health treatment option for veterans.

## Chapter II

### Method

Prior to recruitment of participants for this online survey, the method was approved by the Harvard University Committee on the Use of Human Subjects.

### Participants

Participants for this study were actively recruited using several sources: internet (i.e., Craigslist, Facebook); student veteran centers at universities/colleges; veteran organizations including local Veterans of Foreign Wars, American Legion centers, and the Wounded Warrior Project; local therapists offering art therapy. Recruitment flyers were visibly posted in publicly accessible areas of the target locations. Permission from organization administration to post participant recruitment flyers for a graduate thesis project were obtained via email communication, and location of flyers were determined by the head of the facility or designee. In order to enhance response rates for this electronic survey, several methods used in prior research (McPeake, Bateson, & Fife, 2014) were employed: sending up to three reminders, personalizing each email, including the response rate to reminder emails as it updates, and stating the average time it would take to complete the survey. However, due to initial low survey response rates, a convenience sample eventually had to be utilized. Initial participation was 50 subjects, but only 32 participants completed both the informed consent and/or the survey.

### Inclusion/exclusion criteria

Individuals who served in any branch of the U.S. military and gained veteran status, including Army, Air Force, Navy, Marine Corps, Coast Guard, National Guard and Reserves were included in this study. The sample included combat and non-combat veterans. Sufficient English reading and comprehension skills were necessary to complete the survey. While there was no formal evaluation for English reading and comprehension skills administered, if the participant understood the instructions for completion of the survey, it was assumed that a basic level of reading comprehension existed. All participants needed a device with access to the internet.

### Procedure

All participants were informed of the following: confidentiality limits, survey volunteer status, and the anonymity and confidentiality of their involvement and data. Participants did not receive monetary compensation for their completion of the survey due to the strict anonymity of the survey.

Individuals self-reported PTSD diagnosis by answering the question in the online survey; they also reported age, gender, level of education, marital status, military service information (military grade, combat or non-combat experience, etc.), and racial or ethnic group(s). Responses to race or ethnicity were subdivided into (1) American Indian or Alaskan Native; (2) Asian; (3) Black or African American; (4) Native Hawaiian or other Pacific Islander; (5) White; and (6) Hispanic.

Participants completed a self-report survey about art therapy knowledge, experience, and attitudes. The study protocol lasted approximately 5 minutes. The information was gathered and stored on Qualtrics, survey creation and management



software. Qualtrics ensures proper security and confidentiality of the data stored through Secure Sockets Layer and Transport Layer Security. The researcher was the only individual with access to the data via private username and password. All the data that was gathered was assigned a file number to protect confidentiality.

The automated, online steps for accessing and completing the survey consisted of the following:

1. Participants gave their informed consent by clicking “I agree” to the statement:  
“Consent Statement: I have read or had read to me the preceding information describing this study. All my questions have been answered to my satisfaction. I am 18 years of age or older and freely consent to participate. I understand that I am free to withdraw from the study at any time without penalty.”
2. Participants were informed of their right to quit at any time. If they quit before the survey began, they were directed to an “End of Survey” screen.
3. Participants were provided with a detailed set of directions about survey completion and responded to the survey questions.
4. The final question was followed with an “End of Survey” screen.
5. The “End of Survey” screen contained debriefing information that adhered to the Institutional Review Board standards.

Because the survey was completely anonymous, the demographic questions were asked during the survey instead of in a separate questionnaire or online form. After completing the survey, participants were thanked for their participation, offered a

debriefing statement, and given more information on access to art therapy treatment options offered through the VA and in their local communities.

## Measures

### PTSD Status

PTSD status was assessed via self-report as part of the survey. The question was asked: “Have you ever been diagnosed by a clinician with PTSD during or after your military service?”

### Art Therapy Attitudes and Stigma Assessment

A 6-item online questionnaire to assess attitudes toward art therapy and perceived access to care was developed for this study (see Table 3). Question answers yielded responses of the following variety: yes/no, Likert scale, open-ended, as well as a refusal to answer.

## Data Analytic Plan

Data was analyzed using R statistical software. Given the nature of the data collection, and concern for potentially over- and under-represented subgroups, it was necessary to apply post-stratified weighting methods to construct a representative sample that approximates the population. Data analytic procedures were implemented to intentionally develop a sample with demographics representative of the east-coast geographical region where the study was conducted. First, based on population characteristics of the region, expected frequencies of each demographic variable were

estimated. Next, a chi-square test for the race variable was conducted to see if the sample was representative of the U.S. population as an approximation for the demographics of the east-coast states represented in the survey. The representativeness of gender was estimated based on the gender breakdown of the military (16% of enlisted forces are female). Individuals who did not identify as either male or female were excluded from analyses given that there were no reports for non-binary gender identification rates in the military. Finally, chi-square and Fisher tests (when a particular group had <5 cases) were conducted for different pairs of demographic variables, in order to assess if there might be more subtle imbalances in the demographics of the sample.

With respect to the hypotheses, in order to test the significance of the difference between U.S. Veterans attitudes towards art therapy compared to other treatment options, a one-sample test (z if proportions and t if means), at the  $p < .05$  level of significance was applied. Further, in order to see if veterans believed there would be a stigma associated with art therapy, a two-sample test (z if proportions and t if means), at the  $p < .05$  level of significance was applied. Finally, to determine which demographic characteristics significantly predicted likelihood of using art therapy, either a multi-variate regression model or, if a linear model was not sufficient, a logistic regression model by constructing a binary outcome was used.

## Chapter III

### Results

Results were gathered upon survey closure 90 days after the start date and initial recruitment cycle. Data were analyzed using R software for statistical computing and graphics.

#### Sample Size and Demographics

Forty-eight people accessed the survey on Qualtrics and began the survey; of these, 32 consented and completed the survey. The mean age of respondents was 42 (range 24 - 78, SD = 13.21) (see Figure 1 for distribution).

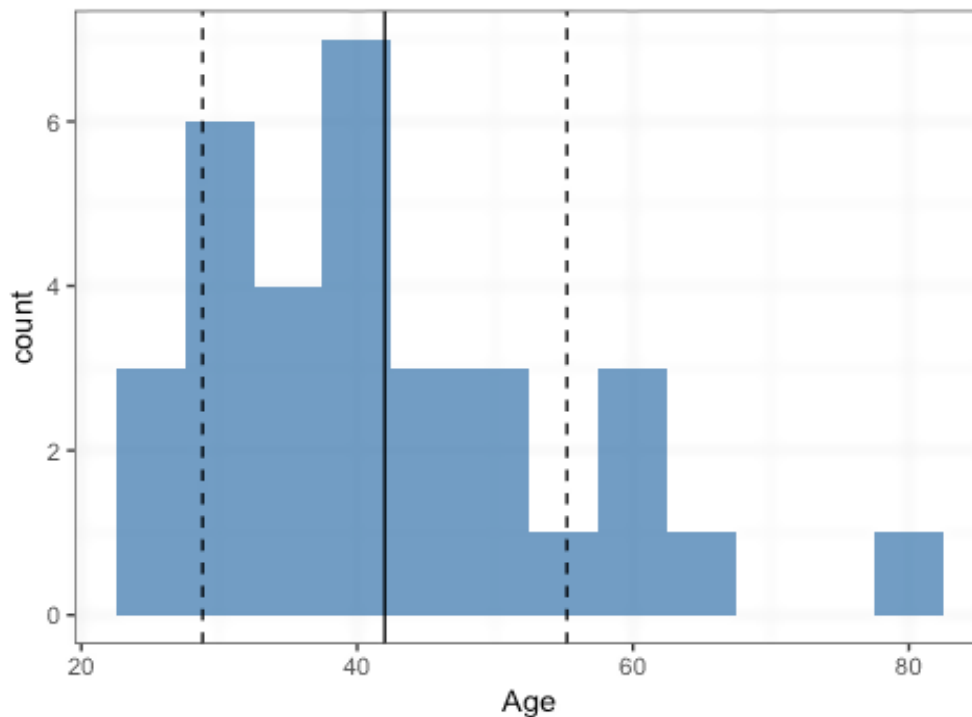


Figure 1. Distribution of Respondents' Age.

With regards to gender identification, 11 answered “Female,” 17 answered “Male,” and 4 preferred not to answer (Figure 2).

Individuals reported diverse racial identifications, with 14 participants identifying as White, 6 Black, 6 Hispanic, 4 Asian, and 2 American Indian/Alaskan Native (Figure 3). Military branch affiliation ranged, with 10 participants in the Army, 9 in the Marines, 7 in the Air Force, 4 in the Navy, and 2 in the Reserves (see Figure 4).

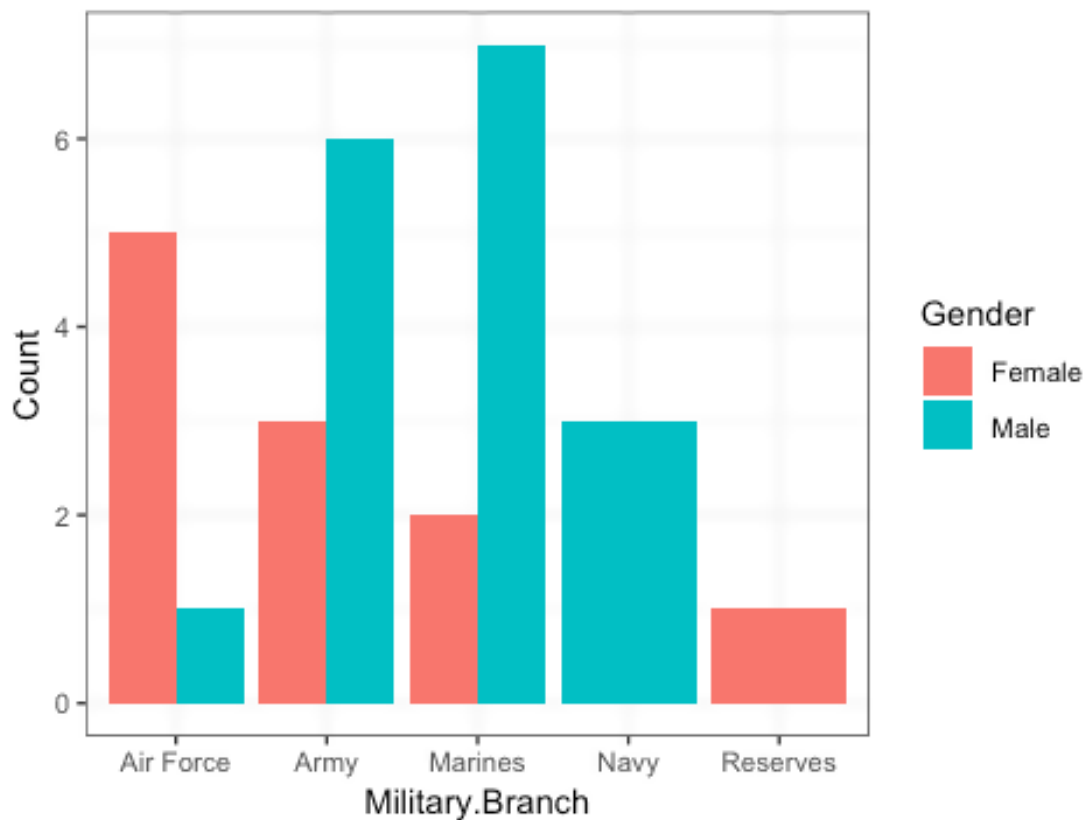


Figure 2. Number of Respondents by Gender and Military Branch.

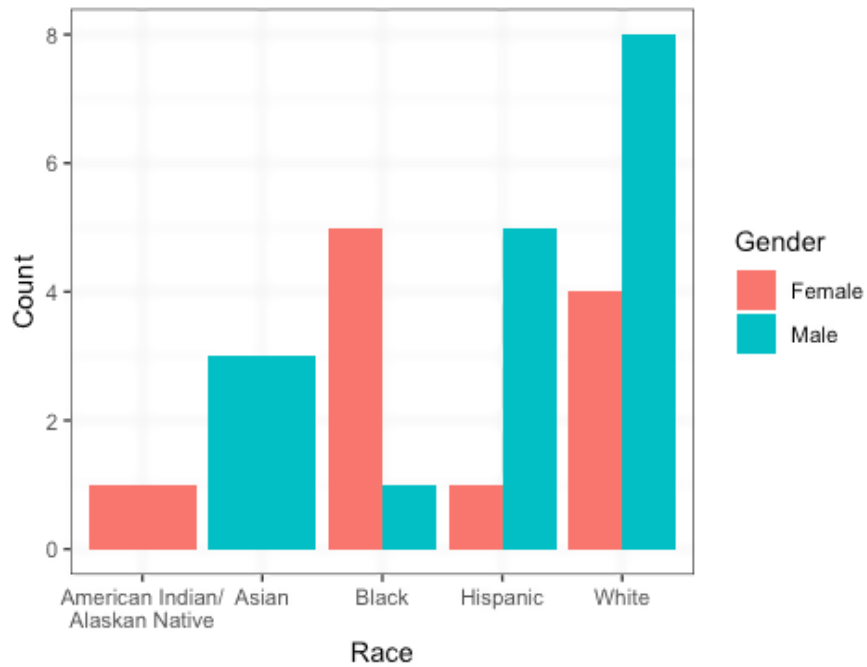


Figure 3. Number of Respondents by Gender and Race.

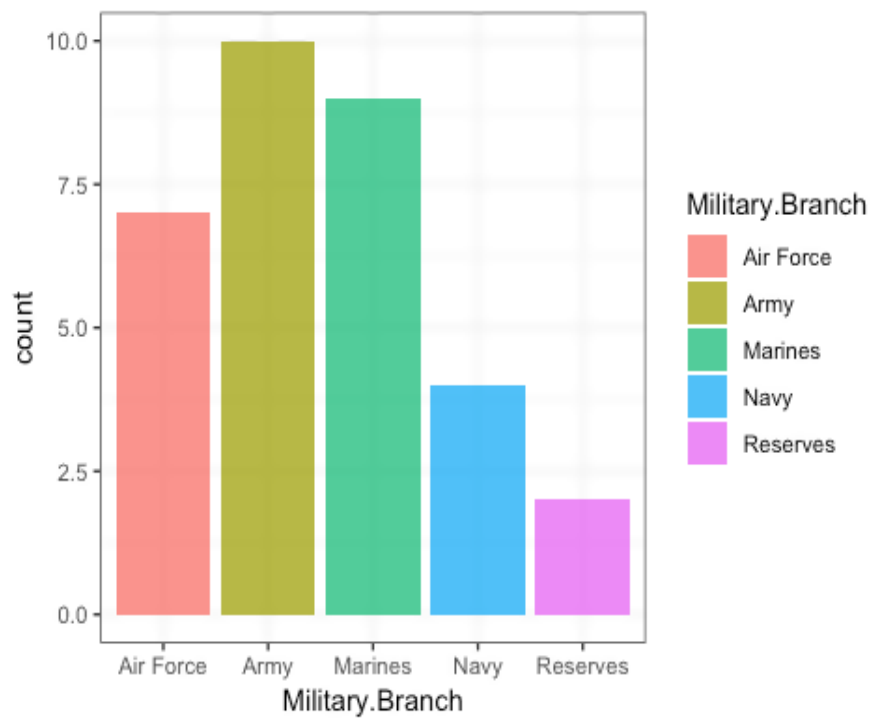


Figure 4. Breakdown of Respondents' Military Branch.

### Sample Representativeness

In order to determine the representativeness of the survey sample ( $N = 32$ ), chi-squared goodness of fit tests were run on the demographic variables (age, gender, race, and military branch) with a significance level of  $p < 0.05$ .

Expected frequencies were estimated using United States civilian and military demographic data. Given that minimum case requirements ( $n \geq 5$ ) in each category are needed for a proper parameter estimate using chi-square tests, Fisher's Exact test was run as an appropriate statistical test when categories had smaller sample sizes.

For race, population statistics were gathered from an analysis of the Census Bureau's American Community Survey from 2017 (Kaiser Family Foundation, 2017). These proportions were multiplied by the survey sample in order to obtain the expected frequencies. The American Indian/Alaskan Native category was removed from this one analysis because according to the census data, the expected number of respondents in that category was less than one; however, the demographic was included in all other analyses. Neither the chi-square nor the Fisher's Exact test for race were significant ( $p = 0.238$  and  $p = 1$ , respectively), suggesting that the distribution of race in the survey sample was reasonably representative of the distribution of race in the United States.

The same process was followed for the distribution of gender, this time using an estimate of the gender breakdown of the military (Council on Foreign Relations, 2018). According to the Council on Foreign Relations, approximately 16% of enlisted forces are female. For this analysis, respondents who preferred not to disclose their gender were

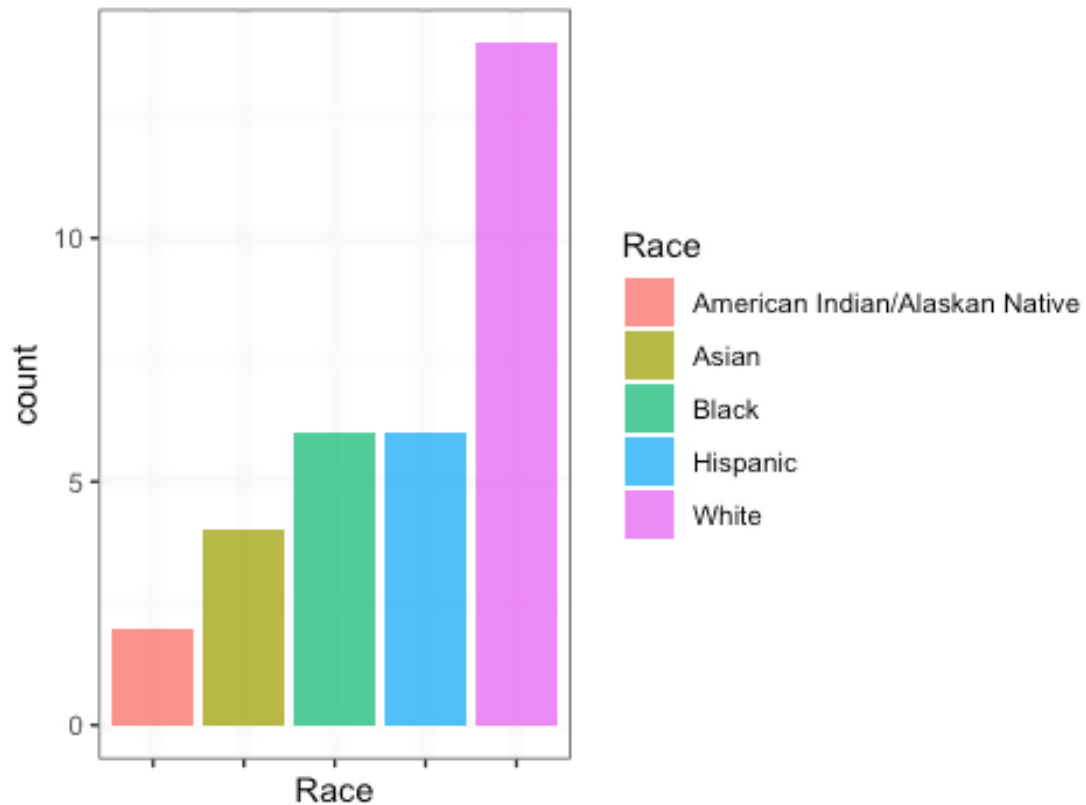


Figure 5. Breakdown of Respondents' Race.

excluded, due to a lack of data on the expected frequencies of non-binary gender identifications in the military. Neither the chi-squared nor the Fisher test for gender were significant ( $p = 1$  and  $p = 1$ , respectively), suggesting that the distribution of gender in the survey sample was also reasonably representative of the distribution in the United States military. Next, Fisher tests were run on different pairs of demographic variables (Gender x Race, Gender x Military Branch, Race x Military Branch) in order to determine whether or not they might be associated. Chi-squared tests were not run because of the low frequencies encountered in these distributions. Of these results, Gender and Race ( $p = 0.039$ ) appear to be associated, as well as Gender and Military Branch ( $p = 0.043$ ). These



distributions are illustrated in Figures 2 and 3. The differences seen in race may suggest an imbalance in the data collected. However, it is likely that the demographics of the military are such that the differences illustrated in Figures 2 and 3 are not unexpected. For example, women make up 19% of active-duty Air Force (the largest percentage of all military branches), which makes them relatively more represented in the Air Force (Pew Research Center, Defense Department Annual “Demographics, Profile of the Military Community”), which was a pattern seen among the survey respondents.

### Art Therapy

Respondents were asked to answer questions about PTSD and art therapy. First they were asked which PTSD therapies they had heard of from the following list: Cognitive Behavioral Therapy (CBT), Prolonged Exposure (PE), Cognitive Processing Therapy (CPT), Stress Inoculation Training (SIT), Eye Movement Desensitization and Reprocessing (EMDR), Medication, and Other (where respondents had the option to manually enter their choice). Art Therapy was not included as an option because the survey later specifically asked about Art Therapy as a treatment. Medication was the most familiar treatment, with 31 endorsements by participants, followed by CBT, with 21 participant acknowledgements. With respect to the “other” treatments mentioned, marijuana was mentioned by 4 participants, yoga and “drugs” were each noted twice by veterans, and virtual reality, “music and talk therapy,” alternative medicine, mushrooms (listed as “shrooms”), and LSD were each acknowledged by one participant.

Next, respondents were asked whether they, themselves have ever utilized art therapy, whether through a military health system or otherwise. Twenty-eight percent (9 of 32) of respondents indicated that they had used art therapy. Among this group, seven

reported utilizing therapy from a non-military health system, one from a military health system, and one from both.

Respondents were then asked: “If you did ever choose to try art therapy, would you prefer to use it instead of your current treatment (if you’re using any), or would you prefer to use it in conjunction with your current treatment?” Below are the frequencies of responses to this question, as well as the same responses, separated by whether or not they had previously used art therapy. A majority of participants (65.6%, n=21) responded positively, indicating that they would try art therapy in conjunction with or instead of their current treatments. Importantly, 4 of the 9 respondents who have previously used art therapy endorsed that they would use it in conjunction with or instead of their current treatments. Three participants who had previously tried art therapy responded that they were “not sure.”

In order to assess the potential stigma of art therapy, respondents were asked “Do you think there would be stigma from others if you engaged in art therapy?” As a group, respondents were split on whether or not they thought they would experience stigma as a result of using art therapy, with 11 participants responding “yes,” 11 stating “no,” and 10 replying “not sure.” When split by gender, a small difference was observed, as three females answered “yes” versus seven males (Figure 6). The breakdown of female versus male responses on the other options were more similar (“no”: 4 females, 6 males;

to assess whether this difference in perceived stigma may be statistically significant by gender: “not sure”: (4 females, 4 males). However, the sample size was too small.

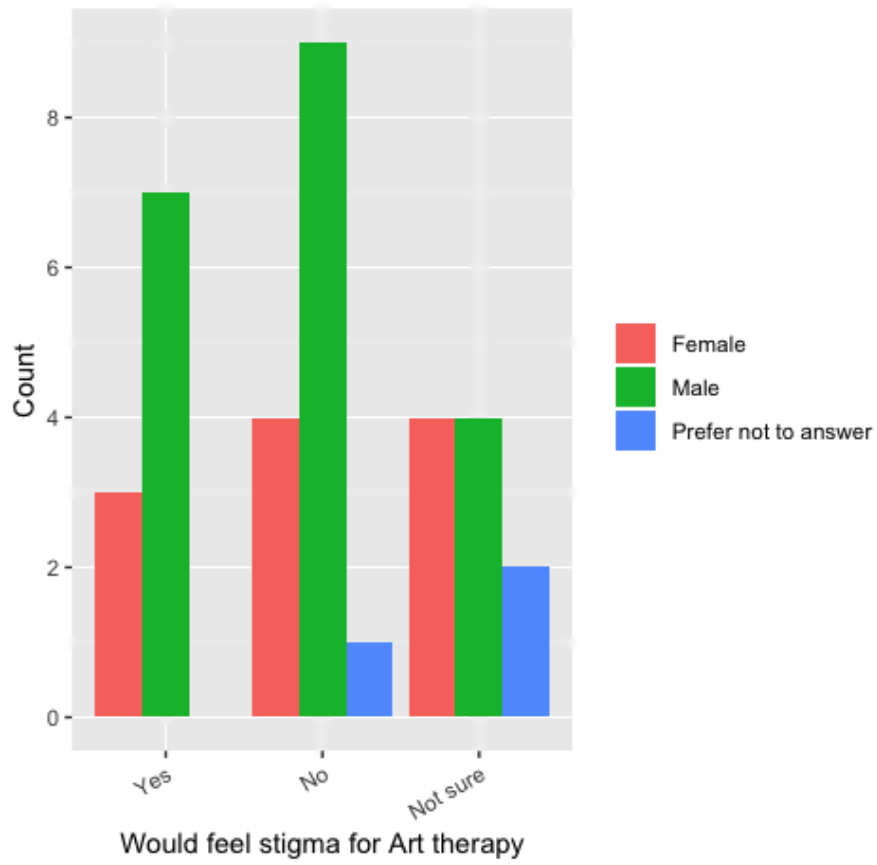


Figure 6. Breakdown of Anticipated Stigma by Gender.

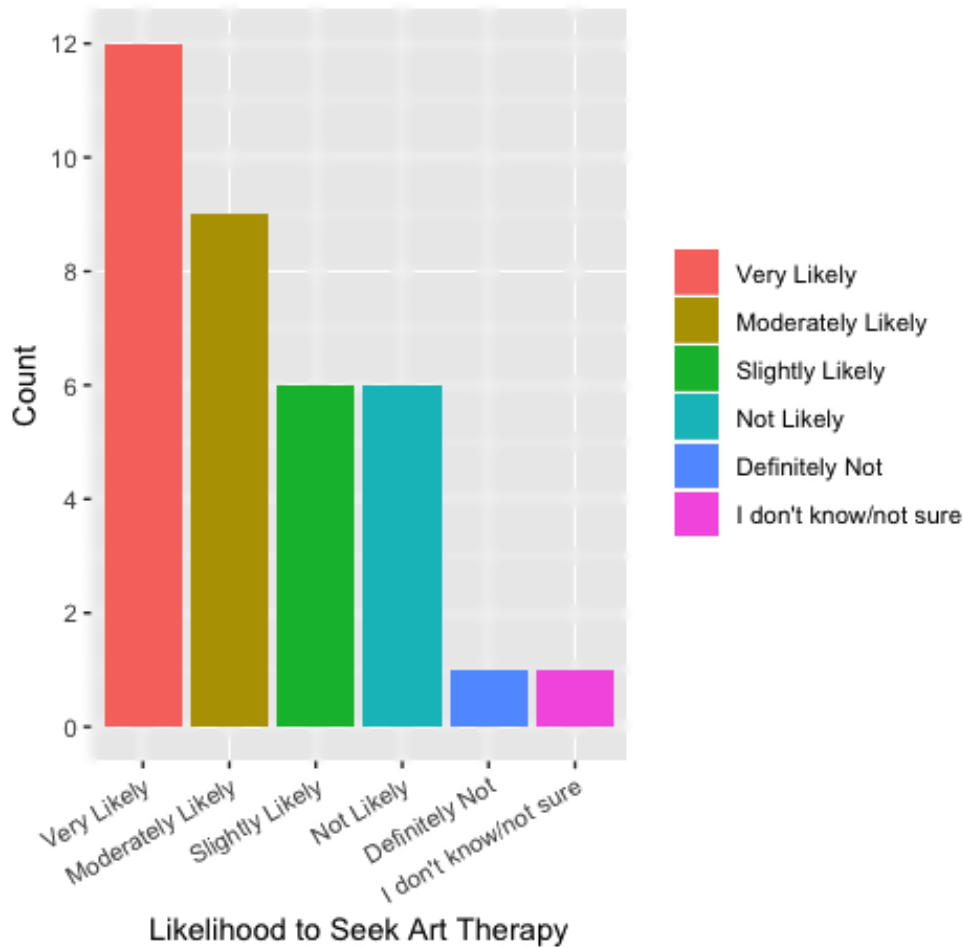


Figure 7. Overall Likelihood of Seeking Art Therapy.

Finally, respondents were asked “Overall, how likely are you to seek art therapy?” Figure 7 details the responses across all participants. Notably, responses leaned heavily in the positive direction, with 19 people answering “Moderately” or “Very Likely,” and only seven answering “Not” or “Definitely Not Likely.”

These responses were also examined by race (Figure 8), gender (Figure 9), age (Figure 10), and military branch (Figure 11). Interestingly, individuals who identified as White seemed to be most likely to seek art therapy when compared with minorities.

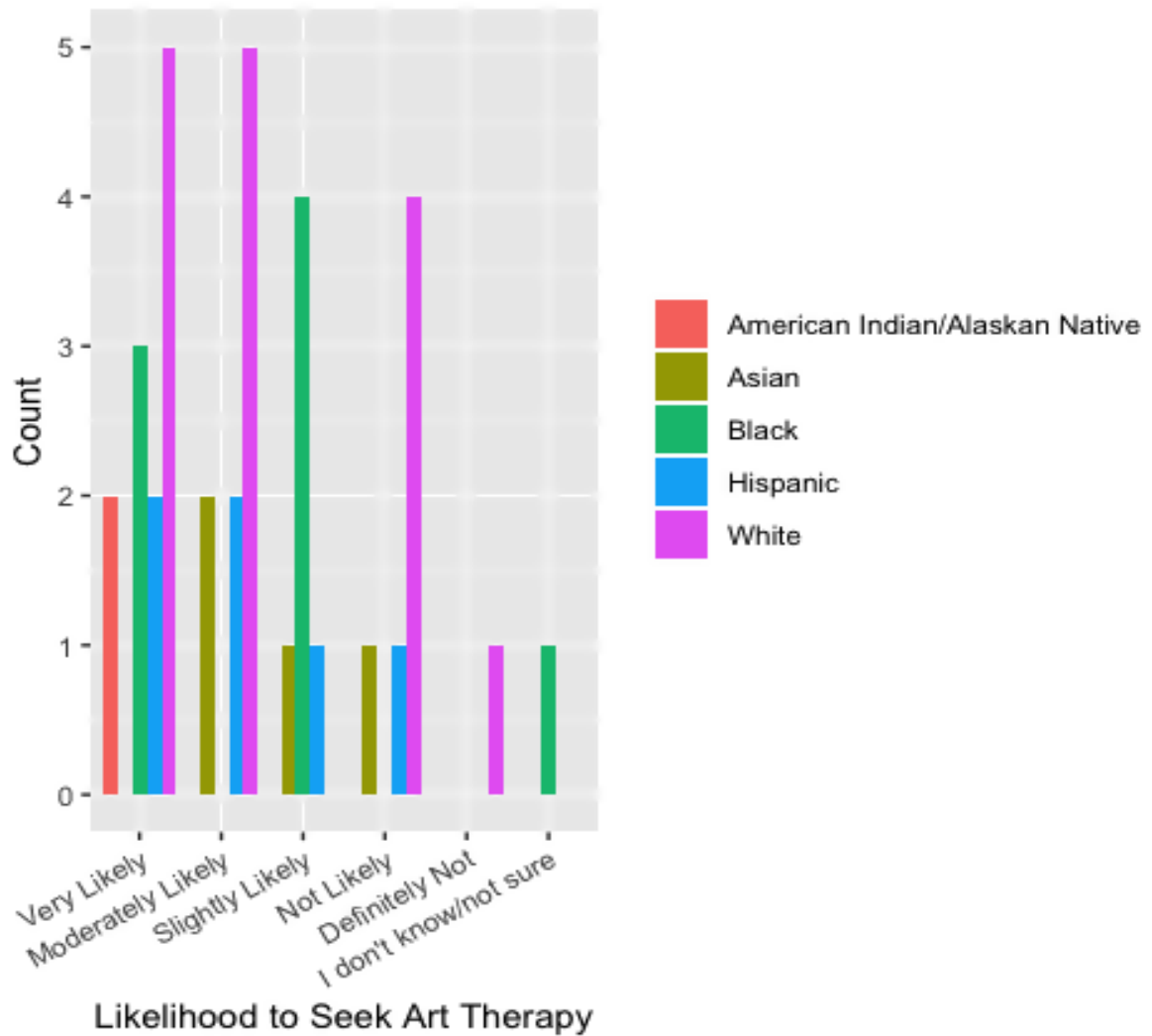


Figure 8. Likelihood to Seek Art Therapy by Race.

All seven participants who stated that they were either “Not” or “Definitely Not Likely” to try art therapy were male, although a comparable number of males (n=8) did answer positively. In addition, all four respondents who did not reveal their gender answered “Slightly,” “Moderately,” or “Very Likely.”

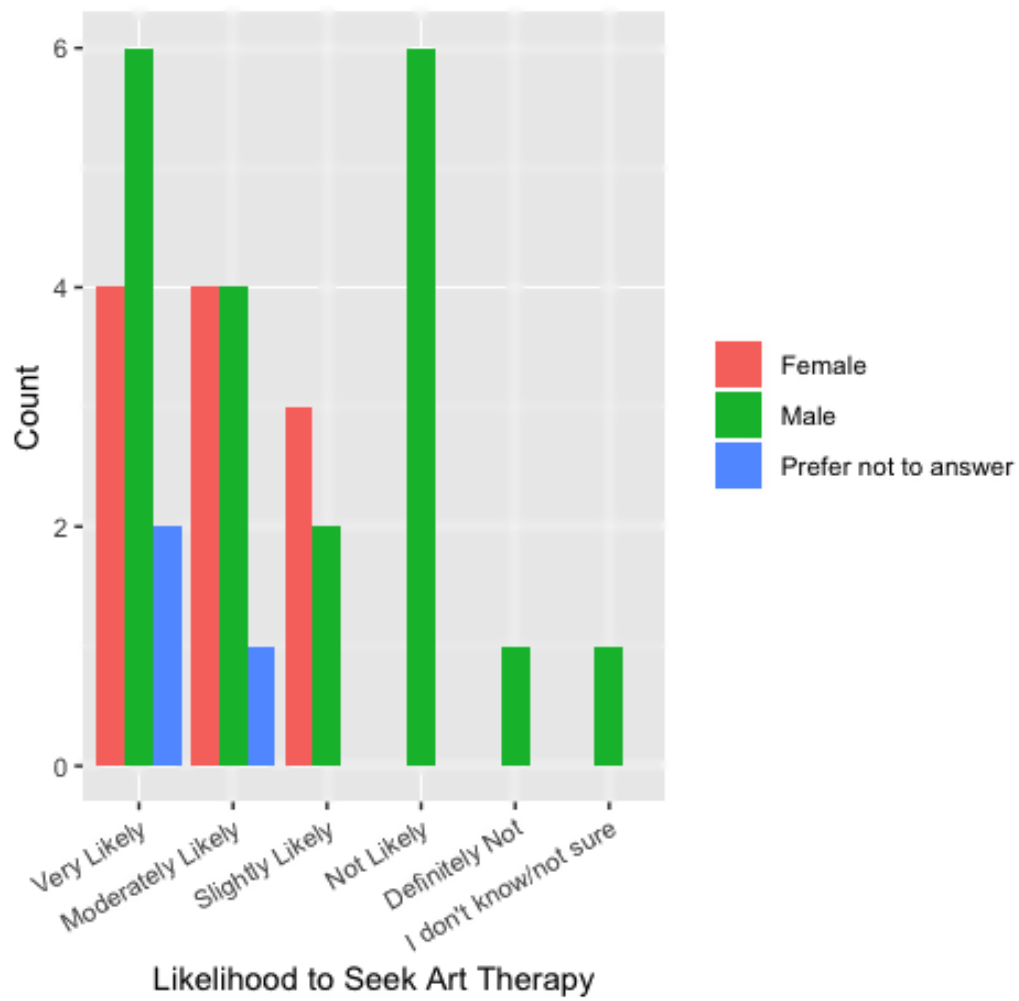


Figure 9. Likelihood to Seek Art Therapy by Gender.

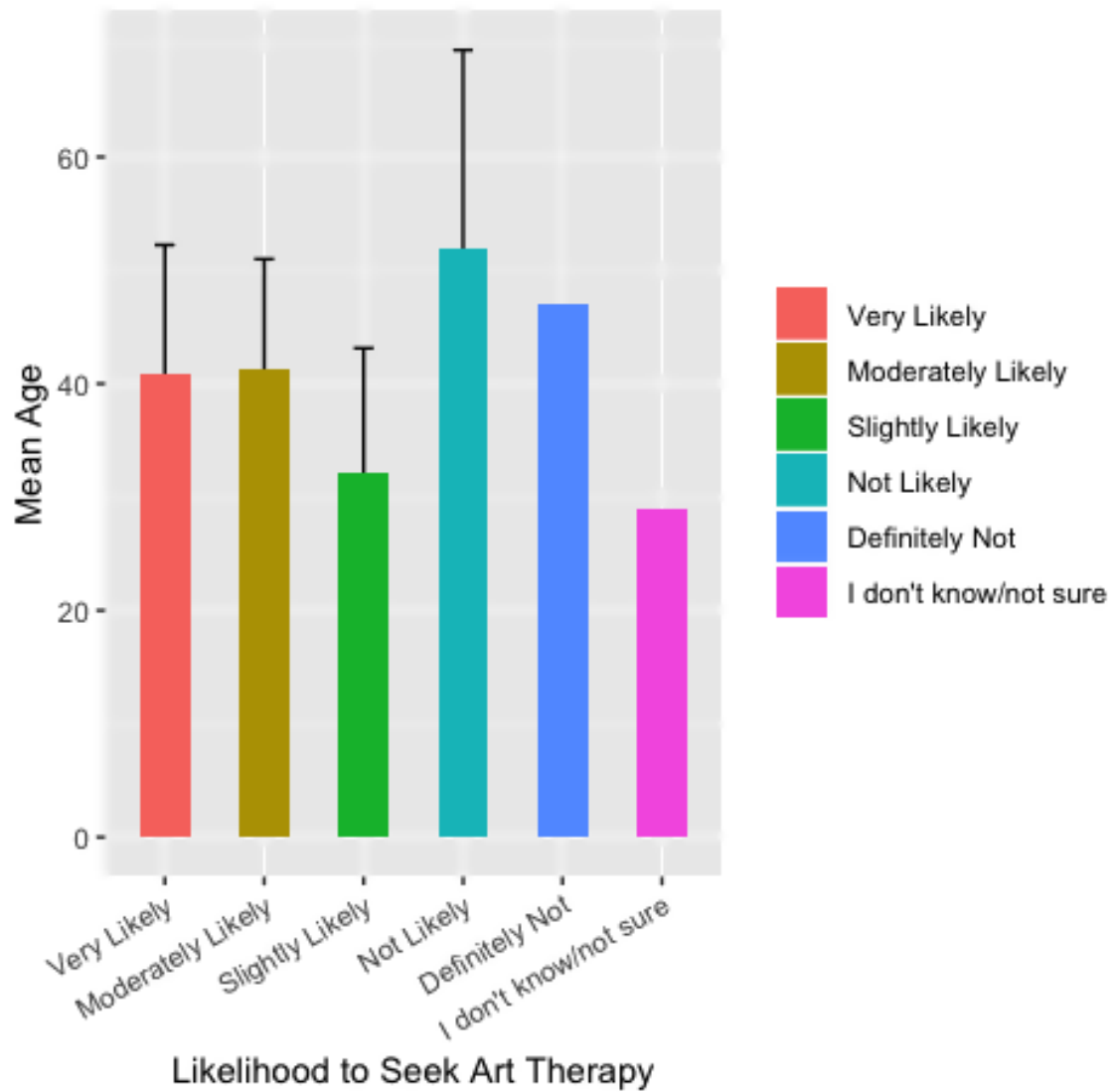


Figure 10. Effects of Age on the Likelihood to Seek Art Therapy.

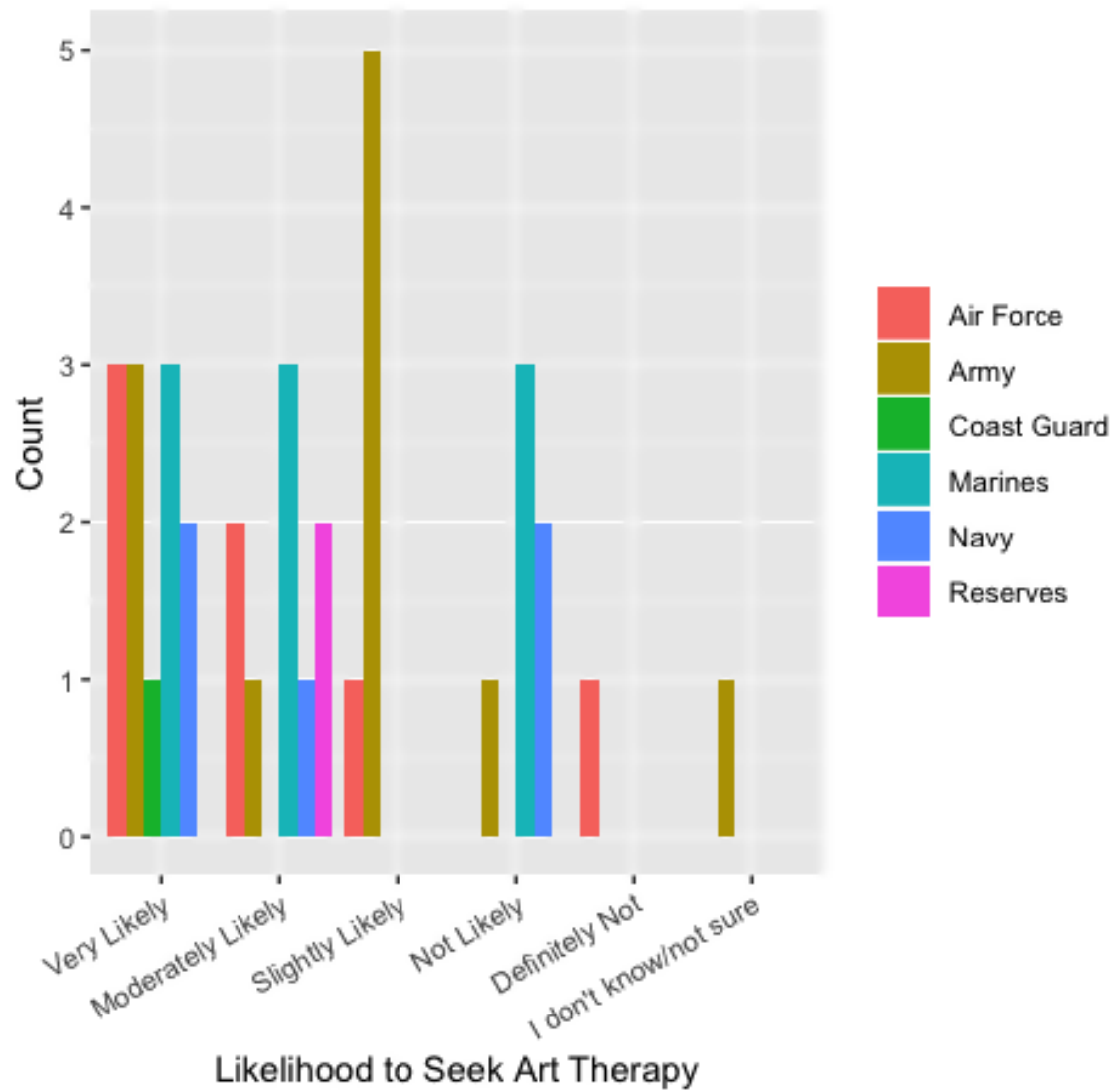


Figure 11. Likelihood of Seeking Art Therapy by Military Branch.



Ordinal logistic regression was run to evaluate the effects of age on the likelihood to seek art therapy. Age did not significantly predict the likelihood a person would seek art therapy ( $p > .05$ ). Overall mean age for each category is displayed in Figure 10, with associated error bars indicating a 95% Confidence Interval. As can be seen, only one person answered, “Definitely Not”, or “I don’t know”, so there are no error bars associated with these categories. Although a trend in the data suggests that increasing age is associated with a decreased likelihood of seeking art therapy (especially between the slightly likely and not likely categories), this difference was not significant ( $p=.10$ ).

Chi-square analyses were utilized to investigate if branch affiliation predicted the likelihood of a person to seek art therapy. These tests failed to show a significant effect of branch on likelihood to seek art therapy,  $\chi^2(25, N=35) = 27.62; p=0.3$ ). Again, because of the small N of this sample, it is difficult to discern patterns, especially among categories with 6 levels, like military branches. Survey level trends demonstrate that persons in the Marines, Navy, Air Force and Army endorsed they were Not Likely, or Definitely Not Likely to seek art therapy. However, these responses only made up seven of the total responses.

## Chapter IV

### Discussion

The purpose of this study was to determine United States veterans' attitudes about art therapy in treating war-related post-traumatic stress disorder (PTSD). The first research question was whether there are statistically significant differences in how favorably U.S. veterans view using art therapy versus conventional or established treatments as an effective means to treat PTSD. It was hypothesized that U.S. veterans would have a more favorable attitude toward art therapy in comparison to current treatment options offered by the VA. As suspected, the majority of subjects surveyed reported that they would prefer to try art therapy instead of, or in conjunction with, current traditional VA treatment options for PTSD. However, fewer than half of those that had previously experienced art therapy previously were likely to choose it over other treatment options. Three participants who had previous experience with art therapy chose the "not sure" option which may indicate that they were unsure about the efficacy of their prior treatment. Additionally, it can be surmised that the veterans who had already participated in art therapy did not find it entirely effective or did not think it would work for the alleviation of PTSD symptoms. It should be noted that none of the participants reported that they had ever heard of art therapy as a viable treatment for PTSD regardless of whether the participant had engaged in art therapy at some point for some reason. This may support a greater need for psycho-education efforts to make veterans more aware of

this option, particularly given that the current study demonstrated significant interest and willingness to engage in art therapy.

The second research question was whether veterans perceived a stigma attached to seeking art therapy for PTSD. The hypothesis, based on previous research involving mental health treatment, was that the majority of veterans would report concerns about stigma as a result of utilizing art therapy. Results were slightly unexpected. As a group, respondents were split on whether or not they thought they would experience stigma as a result of using art therapy. When split by gender, a small difference between males and females is observed but it was too small a sample to tell whether or not this result was observed by chance. Due to the general stigma associated with mental health treatment in the United States overall, and in military members in particular it is somewhat surprising that only half of participants felt art therapy was stigmatizing. This might indicate that art therapy is seen as less stigmatizing than other types of treatment for PTSD.

The final question was whether the desire to seek art therapy varied based on demographics including gender, race, age and military branch affiliation. Based on prior research, the hypothesis was that participants would be more willing to utilize it as a treatment option if the participant was female, non-minority racial status (White), and older. The results offered mixed support for these hypotheses. White subjects did indeed endorse trying art therapy more so than minority subjects, but they also expressed a stronger aversion to the idea. Additionally, females appeared to approve of trying art therapy more than males; males were much more likely than females to have strong negative attitudes toward utilizing art therapy. There was a small trend exhibited which indicated that older veterans might be less likely to seek art therapy services than younger

veterans but this was not statistically significant. Further study with a larger sample size might provide more information as to the effects of age on seeking art therapy. Finally, the relationship between veterans' military branch status and the desire to try art therapy was investigated for educational purposes. The study did not find a link between any particular military branch and the desire to seek art therapy.

Looking at the data as a whole, it appears that veterans with PTSD are more likely to try art therapy than not, with females and Whites more likely than males and minorities. In addition, approximately half of the participants believed that they would experience stigma as a result, which is less than what might be expected.

#### Limitations and Future Considerations

While the findings of this study suggest that veterans have favorable attitudes about art therapy as a treatment for PTSD, it is important to understand the limitations of that exist.

##### Sample Limitations

A potential limitation of the current study is that the sample size was relatively small considering the vast number of veterans in the United States. More than 2.5 million have served in military operations in Iraq and Afghanistan, and PTSD rates have recently been estimated as between 2-17% (Epidemiology Program, Post-Deployment Health Group, Department of Veterans Affairs, 2014; Richardson, Frueh, & Acierno, 2010). In general, small sample sizes compromise the validity and reliability of research studies and make it hard to determine definite conclusions.

Furthermore, due to policy and restricted access issues, a convenience sample was used for this investigation. The VA system does not permit participant recruitment for any studies or research that is not sponsored by the VA. Therefore, most of the sample came from online recruitment, which included social media sites and organization websites (e.g., clinics, student veteran centers, Veterans of Foreign Wars).

#### Limitations of Demographics

Ethnic and racial identification may be associated with individual differences in survey responses. Despite the sample being generally representative of the racial composition of the United States, future research should take into account a need for a larger sample in order to better assess variability based on race, ethnicity, and culture (Onoye et al., 2017).

#### Limitations of Measures

The data collected were self-reported, which could result in participant recall problems and thus affect data accuracy. Most importantly, PTSD diagnosis was self-reported, which may not match the clinical diagnostic presentation categorized by the DSM-5 (American Psychiatric Association, 2013). Self-reported information has the potential for response error in the form of recall error, telescoping error, social-desirability issues error, or even error due to non-response.

In addition, there were variables not included in the analyses, such as socioeconomic status, healthcare use in general, attitudes towards healthcare, diagnostic comorbidity, access to facilities and care, and treatment duration. This may confound

results and bring into question the validity of conclusions for the veteran population as a whole.

The wording of certain questions may have been misleading. Thus, if this survey were to be repeated or revised, it may be prudent to revisit the wording of some of the questions. Question 10 (Which of the following therapies for PTSD have you heard of?) may have been better phrased as a free response question instead of a multiple choice question with a fill-in option at the end. Research suggests that surveys with closed-ended questions may have a lower validity rate than other question types, and may be subject to influence or leading to certain responses (Reja, Manfreda, Hlebec, and Vehovar, 2003). Questions 11 and 12 (Have you ever utilized Art Therapy via a military health system/via a civilian health system?) may have confused respondents because Art Therapy is not a traditional or standard mode of treatment offered to veterans; therefore, it may be a vaguely understood by individuals who are unfamiliar with what exactly constitutes this type of treatment. It is possible that veterans have utilized Art Therapy in the past to treat their PTSD, but were not aware that is the treatment they were receiving.

### Limitations of Design

Using an online survey limits the population sample to individuals with a computer and internet access. This may not be representative of the overall U.S. veteran population because it would not have been possible for veterans without computer or internet access to participate in this study. Online surveys tend to suffer from lower response rates than other methods and can lead to over-surveying. Meta-analytic review have revealed, for example, that web surveys generally yield a 6 to 15% lower response rate compared to other survey modalities (Fan & Yan, 2010).

### Limitations of Comparison Data

In 2013, the PTSD diagnostic criteria were revised in the DSM-5 (American Psychiatric Association, 2013). This may affect the reliability and validity of comparing studies pre-2013 to those conducted post-2013 changes. Since it was first introduced into the DSM-III in 1980, PTSD has been classified as an anxiety disorder. In the latest edition, DSM-5 introduced in 2013, PTSD was reclassified as a trauma and stressor-related disorder. In addition, a fourth symptom cluster was added: negative cognitions and mood. Moreover, in what have traditionally been known as the triad symptom clusters: re-experiencing, avoidance/emotional numbing, and hyper-vigilance, the DSM-5 splits the clusters, adding a fourth cluster named negative cognitions and mood (American Psychiatric Association, 2013). Research has found that there are some differences in diagnosis of PTSD due to the new definition of clusters C (avoidance) and D (negative alterations in cognitions and mood) in the DSM-5 (Crespo & Gomez, 2016). Thus, participants self-report of their PTSD symptoms may reflect more modern conceptualizations of the disorder and may limit comparison to prior studies categorizing PTSD diagnoses by older DSM versions.

### Limitations of Effects

Educating veterans about art therapy may have mediating effects on the likelihood they will want to use it in the future. This may have affected responses to the survey, particularly if a veteran had participated in any kind of art therapy prior to taking it.

### Limitations of Survey Question Quantity

In order to limit respondent burden, questions on the survey assessing veterans' beliefs and attitudes about art therapy were limited to three. While this fulfills the purposes of this study, the level of detail was restricted, possibly affecting its validity and reliability.

### Conclusion

Art Therapy holds promise as a viable treatment option for veterans struggling with PTSD symptoms. While the concept of art as therapy has been present for centuries, empirically-based and well-designed studies on the subject are still in their infancy. Art is so engrained in every society that the need to study it in a methodological way has been overlooked. Perhaps the belief that art as therapy is common sense or common knowledge has led to a dearth of quality, scientific research in the field. The deeper exploration into the exact mechanisms, parts of the brain affected, long-term benefits, types of health issues it helps, and what type of patient benefits the most from its utilization is limited. Previous studies and meta-reviews of these studies have pointed out the various challenges that top notch peer-reviewed work in this field face. This current study reinforces that fact and further emphasizes that robust research is difficult to conduct (especially in special populations like veterans or people with mental illnesses). However, as the field continues to grow and become a more acceptable form of treatment, attitudes about art therapy are changing. People, including veterans, may be more likely to start the conversation about art as a therapeutic option to treat their symptoms from war-related trauma—whether in conjunction with more traditional



approaches or as a standalone treatment. This may, in turn, encourage greater interest in more studies being conducted and appropriately funded. This current survey study lends support to the idea that veterans are willing to try art therapy. Veterans who suffer from PTSD often depend on the VA as their source of healthcare and health-related knowledge. As their interest in art therapy grows, the greater the likelihood that their health practitioners will ultimately lead to an investment in resources devoted to art therapy.

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