Fall 12-2020

# Improving Veterans' Psychological Well-Being with a Positive Psychology Gratitude Exercise

Clara Im Adkins
*Old Dominion University*, cadki007@odu.edu

# IMPROVING VETERANS' PSYCHOLOGICAL WELL-BEING WITH A POSITIVE PSYCHOLOGY GRATITUDE EXERCISE

by

Clara Im Adkins
B.S. 2015, Old Dominion University
M.S.Ed. 2017, Old Dominion University

A Dissertation Submitted to Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILSOPHY

COUNSELOR EDUCATION AND SUPERVISION

OLD DOMINION UNIVERSITY

December 2020

Approved by:

Kristy Carlisle (Chair)

Robert Carlisle (Methodologist)

Christopher Sink (Member)

## ABSTRACT

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Clara Im Adkins
Old Dominion University
Chair: Dr. Kristy Carlisle

The demand for therapeutic services and effective counseling interventions aimed at rehabilitating veterans has increased exponentially over the past thirty years. Veterans with PTSD symptoms experience several problems including, relationship issues, lower life satisfaction, suicidal ideation, isolation, and comorbid diagnoses. Current research on veterans diagnosed with PTSD suggests integrating wellness and strength-based approaches aimed at developing positive psychology characteristics into clinical services for veterans. Gratitude is a core construct in positive psychology and has been practiced in cultures all over the world. Gratitude journal interventions have been proven to increase well-being, positive affect, social relationships, optimism, life satisfaction, and lower negative affect and depressive symptoms. However, the literature on gratitude journal interventions provides inconsistent research designs conducted on limited populations. This study addressed the gap in literature on positive psychology gratitude journaling and its applications in assisting the numerous veterans in need of effective therapeutic services. Using a quasi-experimental two-period crossover design the study posed the following question: Does a positive psychology gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time? Findings suggested that a gratitude journal intervention improved veterans' gratitude over time, and time of the gratitude exercise had positive effects on psychological well-being.

This dissertation is dedicated to Carol Perez and Charles Hsu for instilling a strong sense of gratitude, spirituality, and purpose in my life through their boundless love. This dissertation is also devoted to Will Perez for his passion and work with veterans. Finally, this dissertation is dedicated as an expression of gratitude to all of the courageous individuals who have served our country.

## ACKNOWLEDGEMENTS

The journey towards completing this dissertation was a challenging endeavor and I experienced many obstacles along the way, but I also was able to find support and motivation to continue researching topics that felt close to my heart. Thanks to my entire committee for all of your help along the way. Thanks to my friends, family, and life partner who have supported me to the conclusion of this dissertation. I could write a novel on all of the gratitude I want to share with the people who have been a part of my life, but I will do my best with the limited amount I'm able to give in this section and hope that all of my gratitude is received one day.

Thank you, Dr. Kristy Carlisle, for being a source of support throughout my doctoral program. I've appreciated your support in my academic and career interests, especially when they are different from traditional research topics in our field. I've also appreciated the opportunities you've given me as a co-teacher and speaker, and your continuous support and check-ins throughout this process. Dr. Rob Carlisle, thank you for sharing your knowledge on research methods and statistics. I appreciated your advice on organizing the literature and positive feedback that motivated me to complete this dissertation. Your organizational skills, advice about the doctoral process, and research resources helped me to the finish line.

Dr. Chris Sink, I've known you since I was in the master's counseling program and enjoyed working with you and learning from you all these years. You have one of the highest standards of work ethic that I've observed and although one can only hope to keep up with that standard I've admired it. I appreciate your welcoming demeanor, warmth, and support all of these years. I've grown tremendously because of the opportunities you have offered me. Thanks for seeing my potential when I was in my master's program and thank you for being so inclusive in all of the academic work that you do. You've been a great teacher, mentor, and coach.

Kristina, thank you for your help with developing ideas associated with my research and for all of the support you've given me about my passions. Will Perez, you are the most amazing person I have ever met. I would not be where I am at today if we never met. You are the best partner and my truest friend. Your love, loyalty, wisdom, support, strength, compassion, and intelligence have helped guide me to heights I could only dream of. Thanks for believing in me from the first day we met and for helping me to believe in myself. I can only hope to give back the love and support you've given me all of these years throughout our lifetime together.

Carol Perez, I will carry your spirit with me for the rest of my life. Your love, warmth, empathy, joy, honesty, and wisdom are advanced and are rare characteristics in this world. You shared so much love with me in the time that we were able to spend together on this earth. I feel your spirit with me each day and I hope to continue sharing your warmth, compassion, and honesty with the rest of the world. Charles Hsu, you were such an artistic, business savvy, athletic, and charismatic person. Your ability to talk to any person and do any task with an abundance of confidence was special. I hope to learn from you by developing some of those traits within myself. You are forever in every heart you touched and whenever I see the sun shine out from behind the clouds I know you are with me.

To all the veterans that have served our country and have sacrificed their lives and their well-being, thank you for your bravery. I hope this dissertation helps to share that gratitude with you all and helps others to show their gratitude for all veterans. Our system has not been perfect in giving veterans the services that you all need and deserve. I hope that my work can shift our system into transforming it into something worthy enough to support the veterans that deserve the nation's appreciation and support in healing from the wounds that were created in service of our country.

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# CHAPTER 1

# INTRODUCTION

In this chapter, an overview of literature on veterans and positive psychology is discussed highlighting the presenting problem along with the history of positive psychology and counseling services offered to veterans. A brief description of the positive psychology theoretical framework is provided. Next, the purpose of the study, research questions, and research design is presented. Then, limitations of the study are addressed. Finally, key terms are highlighted and defined. This chapter provides historical and evidence-based research that supports the current study's overarching goal: Addressing the demand for the integration of more modern and non-traditional wellness-based approaches (e.g. positive psychology interventions) into therapeutic services for veterans. The current study also responded to the gap in positive psychology gratitude journal literature by conducting a quasi-experimental design to cultivate new knowledge within the literature and provide evidence-based suggestions for future clinical applications. Positive psychology was utilized in this study, a modern wellness-based theory as the presenting theoretical framework. The current study aimed to investigate the effects of a positive psychology gratitude journal intervention on veterans' psychological well-being, gratitude, and PTSD symptoms to meet their clinical needs and improve their well-being.

## Overview

The demand for therapeutic services aimed at rehabilitating veterans increased exponentially over the past thirty years. Nearly 1.64 million individuals in the military have been deployed in Iraq and Afghanistan since October 2001 (Frain et al., 2010). The number of military veterans that have been injured and disabled due to combat is currently larger than it has been in three decades. Veterans experience several obstacles in social, emotional, vocational, mental, and

economic areas as a result of trauma experienced while serving in the military. The need for effective counseling interventions is currently at a considerable high for this population (Frain et al., 2010). Until recently, several wellness approaches, such as, positive psychology were excluded from the counseling field (Carrola & Corbin-Burdick, 2015; Seligman & Csikszentmihalyi, 2000). In the past, wellness approaches were an essential component of counseling and psychology but shifts in the field after WWII led to the decline of its value and application on certain client populations (Seligman & Csikszentmihalyi, 2000). This was a result of the prodigious increase in war veterans after WWII. The large number of veterans returning from WWII provoked psychologists to dismiss the use of wellness-focused practices, asserting that a disease model approach was the best practice to clinically assist veterans (Seligman & Csikszentmihalyi, 2000). Originally, wellness therapy was an integral aspect of counseling and psychology that aimed to help people flourish and improve livelihood. However, the emphasis on the disease model, with a singular focus on treating pathological symptoms led counselors and psychologists to undervalue the use of wellness therapy in clinical settings (Seligman & Csikszentmihalyi, 2000).

Current research on veterans diagnosed with PTSD suggests integrating wellness and strength-based approaches aimed at developing positive psychology characteristics into clinical services for veterans (Beebe & Wyatt, 2009; Belaise et al., 2005; Bell & Robbins, 2007; Blake, 1994; Campbell et al., 2016; Carrola & Corbin-Burdick, 2015; Church et al., 2009; Cushing et al., 2018; Libby et al., 2012; Seligman & Csikszentmihalyi, 2000; Tedeschi & Calhoun, 1997; Tedeschi & McNally, 2011; Walker et al., 2017). Proponents of the wellness model encourage new research on positive psychology interventions that shift away from a sole focus on the

traditional medical model and toward a more balanced approach between the use of the disease model and wellness models (Belaise et al., 2005; Carrola & Corbin-Burdick, 2015).

Positive psychology practices have made significant strides over the past two decades and could be an essential structure for interventions that not only heal veterans but also help improve positive characteristics (e.g. strengths, such as gratitude, honesty, bravery), their psychological functioning, sense of gratitude, and optimize their well-being (Belaise et al., 2005; Carrola & Corbin-Burdick, 2015; Seligman & Csikszentmihalyi, 2000). According to the Broaden-and-Build Theory, a theory within positive psychology, positive emotions can lead to enhanced well-being and fulfillment (Frederickson, 2013). Gratitude is an example of a positive emotion that can be cultivated using positive psychology gratitude exercises, ultimately creating an increase in psychological well-being (Emmons & McCullough, 2003; Froh et al., 2008; Frederickson, 2013; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). The demand for implementation of wellness approaches, such as positive psychology, in current clinical settings for veterans demonstrate the necessity for counseling and psychology researchers to investigate the effectiveness of positive psychology interventions with the veteran population to provide them with optimal treatment options. These holistic interventions aim to cultivate positive psychology characteristics and positive narratives (Belaise et al., 2005; Carrola & Corbin-Burdick, 2015). Development of these positive traits provide opportunities for veterans to identify with more than PTSD symptoms and traumatic military experiences and helps them to cultivate an optimal state of health (Carrola & Corbin-Burdick, 2015; Church et al, 2009; Levy et al., 2018; Libby et al., 2012; Smith, 2016; Walker et al., 2017).

Gratitude is a core construct in positive psychology. Practicing gratitude has been a tradition embraced by cultures all over the world (Chen et al., 2009; Toussaint & Friedman,

2009; Wood et al., 2009). Gratitude journal interventions have been proven to increase well-being, positive affect, social relationships, optimism, life satisfaction, and lower negative affect and depressive symptoms (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). However, the literature gratitude journal interventions provide inconsistent research designs and are conducted on limited populations (Froh et al., 2008; Froh et al., 2009; Garland et al., 2007; Işık & Ergüner-Tekinalp, 2017; Redwine et al, 2017; Sergeant & Mongrain, 2011; Suldo et al., 2015). Although evidence suggests that gratitude journal exercises can provide psychological benefits, this intervention has been neglected in the counseling field (Froh et al., 2008; Froh et al., 2009; Garland et al., 2007; Işık & Ergüner-Tekinalp, 2017; Redwine et al, 2017; Sergeant & Mongrain, 2011; Seligman et al., 2005; Suldo et al., 2015). Psychiatric and mental health literature supports the integration of wellness approaches, such as positive psychology with veterans experiencing PTSD symptoms (Carrola & Corbin-Burdick, 2015; Church et al, 2009; Levy et al., 2018; Libby et al., 2012; Smith, 2012; Vahia et al., 2011; Walker et al., 2017). Inconsistent research designs and limited inclusion of diverse populations in literature on positive psychology gratitude journals demonstrate the need for additional research on its potential beneficial effects in diverse populations, including veterans.

## Overview of Theoretical Framework

Positive psychology is a theoretical approach that aims to cultivate positive characteristics, such as gratitude, psychological well-being, life purpose, strengths, positive emotions, self-efficacy, resiliency, and optimism (Pietrzak & Cook, 2013; Seligman & Csikszentmihalyi, 2000; Vahia et al., 2011). Wellness counseling serves as the foundational framework for positive psychology and has a broader scope of literature than the more recently

developed theory of positive psychology (Carrola & Corbin-Burdick 2015; Seligman & Csikszentmihalyi, 2000;). Wellness models use a holistic lens that integrate physical, psychological, and spiritual components of health (Carrola & Corbin-Burdick, 2015). Positive psychology incorporates this holistic approach and uses interventions that develop specific positive psychology constructs, such as gratitude and psychological well-being (Carrola & Corbin-Burdick, 2015; Porcari et al., 2017; Seligman & Csikszentmihalyi, 2000). The aims of positive psychology are to optimize well-being, and physical, mental, emotional, and spiritual health. Positive psychology practitioners encourage individuals to not only overcome barriers, such as trauma but to experience continual growth in positive attributes and life experiences (Asplund et al., 2007; Magyar-Moe,2009; Rath, 2007; Rashid, 2008; Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005). Wellness approaches like positive psychology also aim to cultivate preventative and protective characteristics that could help veterans overcome barriers in seeking and receiving counseling services (Carrola & Corbin-Burdick, 2015; Myers et al., 2000; Myers & Sweeney, 2008). The final section in this chapter gives a brief summary of the purpose of the current study.

## Purpose of the Study

While addressing a gap in the positive psychology gratitude journaling literature and its applications in assisting the numerous veterans in need of effective therapeutic services, the purpose of this study was to investigate the effects of a positive psychology gratitude journal intervention on veterans' psychological well-being, gratitude, and PTSD symptoms across time, indicated by a pre-test, post-test$_1$, post-test$_2$ format. The principal research question investigated in this study was: Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time? The results of this study provide new

knowledge of clinical applications to help veterans experiencing PTSD symptoms. Additionally, the results could lead to the advancement of counseling, counselor education, and other mental health related fields by addressing evidence-based research on the effectiveness of positive psychology gratitude interventions.

## Research Questions

The following research question and hypotheses were examined in the current study:

**Research Question:**

Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time?

**Hypothesis One:**

$H_0$: There is not a main effect between groups on veterans' psychological well-being, gratitude, and PTSD symptoms?

$H_a$: There is a main effect between groups on veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Two:**

$H_0$: There is a not a main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms.

$H_a$: There is a main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Three:**

$H_0$: There is no interaction between group and time on veterans' psychological well-being, gratitude, and PTSD symptoms.

$H_a$: There is an interaction between group and time on veterans' psychological well-being,

gratitude, and PTSD symptoms.

## Research Design

The research design that was used in this study is a two-period crossover experimental design. The independent variable was treatment group (gratitude journal intervention and control). The dependent variables included gratitude, psychological well-being, and PTSD symptoms and were measured using the following instruments: The Gratitude Questionnaire- Six Item Form (GQ-6), The psychological wellbeing scale - short (PWBS-S), and The PTSD Checklist for DSM-5 (PCL-5). Demographics (e.g., age, gender, ethnicity, race, and relationship status) were also collected from participants. Survey data was cleaned and assessed for missing data and outliers. A two-way repeated measures analysis of variance (two-way repeated measures ANOVA) was used to analyze the hypotheses.

## Limitations

Several limitations are addressed in the current study. The first limitation, extraneous variables (e.g. mood, age, gender, focus, and personal experiences) is a threat to the internal validity of the study. A second limitation and confounding variable is the participants' motivation to complete daily gratitude journals for two weeks and complete surveys for four weeks. A third limitation is attrition, which can threaten the internal validity of the study. The fourth limitation, environment, is a threat to the ecological validity of the study. In other words, the participants will be completing their journal entries at home, which does not represent the therapeutic environment (e.g., Veterans Affairs) in which several veterans may receive services in. Finally, social desirability and self-report can threaten the generalizability and external validity in this study.

## Definitions of Key Terms

**Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5)**

"The *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) is the handbook used by health care professionals in the United States and much of the world as the authoritative guide to the diagnosis of mental disorders. *DSM* contains descriptions, symptoms, and other criteria for diagnosing mental disorders" (American Psychological Association, 2019).

**Gratitude**

Gratitude is derived from the Latin word gratia, which means pleasing and gratus, which is defined as pleasing (Emmons & Stern, 2013). Gratitude is a virtue, strength, or emotional that can enhance well-being and universally practiced and expressed in several cultures (Froh et al., 2008). Gratitude is defined as being aware of pleasant moments and demonstrating thankfulness for those good moments (Peterson & Seligman, 2004).

**Positive Psychology**

Positive psychology is a strength-based and wellness counseling approach that helps individuals develop positive characteristics, positive emotions, purpose, strengths, and alleviate mental illness symptoms (Rashid, 2008; Magyar-Moe, 2009).

**Post-traumatic Stress Disorder (PTSD)**

DSM-5 criteria for Post-Traumatic Stress Disorder (PTSD), include "past exposure to a traumatic event involving actual or threatened death, serious injury, or sexual violence; intrusion symptoms such as distressing memories or dreams; persistent avoidance of stimuli associated with the traumatic event; negative alterations in cognitions and mood; and marked alterations in arousal and reactivity" (American Psychiatric Association, 2013; Fisher, & Schell, 2013). Specific symptoms are listed under each general criterion in the DSM-5. Individuals that meet the DSM-5 criteria must experience symptoms for one month and symptoms must cause

noticeable damage to normal functioning (American Psychiatric Association, 2013; Bisson, Cosgrove et al., 2015).

**Psychological Well-being (PWB)**

Psychological well-being is defined by the Aristotelian concept known as eudemonic perspective. The eudemonic perspective is defined by actions that are constructive, develop personal growth, cultivate positive characteristics, and benefit others (Wood et al., 2009). Other characteristics associated with psychological well-being include, engagement, self-acceptance, being respected, prosocial behaviors, optimal physical health and functioning, positive relations with others, cultivating positive characteristics, creativity, and optimism (Diener et al., 2009; Huppert, 2009).

**Stigma**

"Historically, stigma comes from the Greek word stigmata, which refers to "a mark of shame or discredit; a stain, or an identifying mark or characteristic" (Merriam-Webster Dictionary, 1990, p. 506; Overton & Medina, 2008). "Stigma, when it is used in reference to mental illness, is a multifaceted construct that involves feelings, attitudes, and behaviors" (Overton & Medina, 2008). Some examples of this include prejudice, discrimination, and stereotypes (Overton & Medina, 2008).

**Veteran**

"A 'veteran' is defined as a 'person who served in the active military, naval, or air service, and who was discharged or released there from under conditions other than dishonorable.' " (Szmendera, 2016; Title 38 of the Code of Federal Regulation, 2019).

# CHAPTER TWO

# REVIEW OF THE LITERATURE

This chapter aims to explore literature on the veteran population, including barriers in seeking and receiving treatment, demographics on the veteran population, post-traumatic stress disorder (PTSD) and post-traumatic stress (PTS), PTSD symptoms, and traditional and non-traditional treatments for veterans with PTSD symptoms. The literature review also examines the framework of positive psychology, the theoretical framework guiding the current study, with an overview of the broaden-and-build theory. This chapter discusses two major positive psychology constructs: gratitude and psychological well-being. Finally, a summary of the literature review, identifying the gaps in literature on positive psychology gratitude journaling and its applications for veterans with PTSD symptoms is provided to clarify why this study is essential in supporting veterans and creating new knowledge in counseling, counselor education, behavioral sciences, psychology, psychiatry, and other related health fields.

## Veteran Population

Mental health issues, such as suicide and PTSD are prominent concerns in the veteran population (Hester, 2017). Currently, suicide rates are extremely high for veterans (Hester, 2017; U.S. Department of Veterans Affairs, 2019). Suicide for veterans was 1.5 times higher than the suicide rate for non-veterans in 2017 (U.S. Department of Veterans Affairs, 2019). In 2017, there were 6,139 total suicide deaths carried about veterans. Additionally, in 207, suicidal deaths in female veterans was approximately 16.8 in 100,000 and suicidal deaths in male veterans was 39.1 per 100,000 (U.S. Department of Veterans Affairs, 2019). Unfortunately, veterans that do not receive services from veterans' affairs (VA) do not have the same access to crisis response resources as veterans who are receiving VA services. According to Hester (2017) over 1.5

million veterans receiving services from the VA were diagnosed with a mental illness in 2016 and current demographic reports suggest that approximately 21 suicidal deaths occur by veterans daily (Hester, 2017). Approximately 30.9% of Vietnam veterans and 5-20% of Iraq (OIF) and Afghanistan (OEF) veterans report PTSD symptoms in their lifetime" (Wahbeh & Oken, 2013). Around 45% of Afghanistan and Iraq war veterans have applied for disability related compensation (McNally & Frueh, 2013). In 2012, PTSD was the third most common disability in veterans who have been compensated for their disabilities, representing approximately 572, 612 veterans (McNally & Frueh, 2013). Veterans with PTSD symptoms experience several problems including, relationship issues, lower life satisfaction, suicidal ideation, isolation, and comorbid diagnoses (Carrola & Corbin-Burdick, 2015; Wahbeh & Oken, 2013). These demographics demonstrate the current need for more evidence-based therapeutic interventions that can assist veterans.

Hester (2017) suggests that there is a high demand for more effective mental health services for veterans within the VA. In response to this demand, the United States government and its agencies are currently making strides toward better health care for veterans. Since 2005, an average of 6,000 mental health professionals have been hired by the VA (Hester, 2017). The Suicide Prevention for American Veterans Act was signed by President Obama in 2015. This law requires an assessment of suicide prevention and other mental health programs administered by the VA and Department of Defense (DOD) (Hester, 2017; Suicide Prevention for American Veterans Act, 2015). Other components of the law require the VA and DOD to provide trainings for mental health professionals to help them recognize and treat suicidality and PTSD symptoms, as well as implement best practices in the mental health services provided for veterans (Suicide Prevention for American Veterans Act, 2015). Evidence-based research on effective and modern

therapy for veterans needs to be implemented to meet the high demand for more effective services (Carrola & Corbin-Burdock, 2015; Hester, 2017; Porcari et al., 2017; Vahia et al., 2011). The current study supports the recent actions of the U.S. government and VA in hiring more mental health care professionals and including trainings for suicide prevention and mental health treatment, specifically PTSD symptoms. This study aims to test the effects of a positive psychology, wellness-based intervention known as gratitude journaling on veterans' PTSD symptoms, psychological well-being, and gratitude. The study addresses the demand for best practices, a requirement in the Suicide Prevention for American Veterans Act by aiming to investigate an alternative therapeutic approach, gratitude journaling, to help improve wellness in veterans (Suicide Prevention for American Veterans Act, 2015).

## Barriers in Seeking and Receiving Counseling Services

Veterans are confronted with several barriers that hinder them from seeking and receiving treatment. Some examples of these barriers include unemployment, interpersonal relationship issues, sleep disturbances, drug and alcohol use, symptoms of depression and anxiety, feelings of isolation and extreme discomfort in social settings, stigmatization of mental health diagnoses, suicide, minimal community involvement, and lack of availability of diverse treatment options (Carrola & Corbin-Burdick, 2015; Myers et al., 2000; Myers & Sweeney, 2008; Porcari et al., 2017; Sayer et al., 2009; Xue et al., 2015). According to Sayer et al. (2009) veterans with PTSD can experience difficulties with involvement in the community. Suicide is a prominent risk factor in veterans with PTSD. Veterans with PTSD experience barriers in accessing treatment due to the stigmatization that mental health diagnoses have in the community (Porcari et al., 2017). According to Rosen et al. (2011) stigmatization and negative views about mental health treatment were associated with lower help seeking tendencies. Porcari et al. (2017) conducted a

study to investigate barriers and predictors of help-seeking behaviors in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans. Veterans in the study were asked to report anticipated help seeking behaviors for the next year. The results from the study indicated that 21.5% of veterans anticipated seeking help from family and friends, 18.2% supported seeking help from mental health professionals at the VA, and 16.3% indicated a likelihood of seeking support from physicians at the VA. The participants were also asked to report previous help-seeking behaviors within the past year and results indicated 42.5% sought assistance from mental health professionals at the VA and 45.5% sought help from a physician associated with the VA. The physicians were rated as the most helpful and mental health professionals as the second most helpful. Finally, 64.3% of the veterans reported seeking help from friends and family and 36.6% rated these supports as helpful. Porcari et al. (2017) concluded that positive attitudes toward mental health treatment were predictors of help seeking behaviors. Veterans were more likely to seek help from informal support systems than VA physicians or mental health professionals. A possible suggestion for seeking help from friends and family is the stigmatization associated with professional mental health diagnoses and treatment. Positive attitudes toward receiving mental health services can help veterans to overcome barriers like stigmatization (Porcari et al., 2017). Community involvement, and improvements in mental, social and emotional well-being can serve as protective factors for veterans at risk for suicide and PTSD symptoms (Fisher, & Schell, 2013).

Positive psychology and wellness interventions, such as gratitude letter exercises could lead to improvements in the previously mentioned barriers, specifically with increasing gratitude and psychological well-being, and decreasing PTSD symptoms (Carrola & Corbin-Burdick 2015; Seligman & Csikszentmihalyi, 2000). Recent trends in mental health services for veterans

use the medical model to inform treatment. However, the medical model takes a disease focused stance aimed at diagnosing and treating pathology and neglects including integrated interventions that can help veterans attain maximal well-being. Wellness approaches are designed to help heal individuals through mind, body and spiritual connections. Proponents of the wellness model apply preventative interventions to promote optimal health and increase positive well-being. (Carrola & Corbin-Burdick 2015; Myers et al., 2000; Myers & Sweeney, 2008). Carrola and Corbin-Burdick (2015) suggest integrating wellness models, holistic interventions, and strength-based interventions (e.g. positive psychology) diverse needs of veterans and help them cultivate positive characteristics. Positive psychology and the broaden-and-build theory are wellness models that serve as the foundations for the intervention used in the current study. The current study assesses the effects of a positive psychology gratitude exercise on veterans' psychological well-being, gratitude, and PTSD symptoms. This study is supported by the previously stated barriers and suggestions in mental health literature as it aims to eliminate barriers for veterans' in need of clinical services and provide veterans with wellness-based treatment options that shift away from stigmatized mental health disorders and toward building positive characteristics and optimizing health. The following sections includes more detailed information about veterans with PTSD, current advocacy on PTSD, DSM-5 PTSD diagnostic criteria, and current traditional and non-traditional treatments for veterans with PTSD symptoms.

## Veterans with PTSD

The veteran population experienced a substantial incline over the past 30 years due to the increasing amount of military personnel being deployed in Iraq and Afghanistan. Professionals within the field of counseling have emphasized placing a specific focus on post-traumatic stress

disorder (PTSD) and mental health when working with veterans (Carrola & Corbin-Burdick, 2015; Diener et al., 2009; Frederickson 2013). Carrola and Corbin-Burdick (2015) suggest that an emphasis on wellness counseling and holistic approaches can help counselors aid veterans without over pathologizing them. More than 1.6 million military professionals have been deployed to assist in wars in Iraq and Afghanistan. Veterans are confronted with several barriers and risk factors that affect their emotional health and psychological well-being. Mental health problems, such as PTSD, is one example of the several challenges that many veterans experience. Counselors that work with veterans with PTSD need to implement effective interventions to improve their psychological well-being and other essential aspects associated with positive functioning, such as gratitude (Carrola & Corbin-Burdick, 2015; Diener et al., 2009; Frederickson 2013).

Xue et al. (2015) conducted a meta-analysis on risk factors for veterans with PTSD symptoms and found that veterans with combat experience were more likely to develop PTSD symptoms than veterans with that were not exposed to combat. Additionally, veterans that have experience with discharging weapons or were exposed to death or injury were at a higher risk of developing PTSD symptoms. Female veterans exposed to combat are more likely to develop PTSD symptoms than male veterans with combat exposure. Other risk factors associated with deployment include, problems with interpersonal relationships at home, lack of privacy, socioeconomic status, boredom, trauma severity, exposure to excessive temperatures, and leadership issues. Disability is another risk factor for the development of PTSD symptoms in veterans. Symptoms of other psychological diagnoses, such as depression and anxiety are risk factors in the development of PTSD symptoms. More specifically, depression is the highest predictor of PTSD. Non-white veterans are more likely to experience PTSD symptoms than

white veterans. Military rank, length of deployments, number of deployments, and occupation are other risk factors associated with the development of "combat-related PTSD". Army veterans are more likely to report PTSD symptoms than veterans in the Air Force, Navy, Marines, or Coast Guard. Social support can serve as a protective factor as it lowers the risk for development of PTSD symptoms. Another protective factor is "a positive recovery environment" for veterans to heal after experiencing trauma (Xue et al., 2015).

The literature on veterans with PTSD identifies several risk factors associated with development of PTSD symptoms as well as problems that veterans with PTSD experience. The current study supports the use of positive psychology interventions to help veterans with PTSD symptoms and other problems associated with PTSD. Positive psychology uses holistic interventions to help clients identify strengths and build positive outlooks (Seligman & Csikszentmihalyi, 2000). This approach is particularly useful in assisting veterans with building new narratives apart from their identity with negative military experiences (Carrola & Corbin-Burdick, 2015). Positive psychology uses theoretical models, such as the Broaden-and-Build Theory to encourage necessary positive characteristics and perspectives that can assist veterans with PTSD symptoms (Carrola & Corbin-Burdick, 2015; Fredrickson, 2013; Seligman & Csikszentmihalyi, 2000). It's evident that effective treatment for veterans experiencing PTSD symptoms is needed. Current best practices should be made available for all clinicians so that they can meet the needs of every veteran acquiring assistance. In addition, mental health professionals need to understand PTSD symptomology and DSM-5 criteria in order to implement best practices for veterans with PTSD symptoms.

## Post-Traumatic Stress Disorder (PTSD) and Post Traumatic Stress (PTS)

Individuals with Post-Traumatic Stress Disorder (PTSD) meet the following diagnostic criteria: "past exposure to a traumatic event involving actual or threatened death, serious injury, or sexual violence; intrusion symptoms such as distressing memories or dreams; persistent avoidance of stimuli associated with the traumatic event; negative alterations in cognitions and mood; and marked alterations in arousal and reactivity" (American Psychiatric Association, 2013; Fisher, & Schell, 2013). PTS is the acronym that several military community members and mental health professionals have advocated to replace PTSD in the Diagnostic Statistical Manual of Statistical Disorders (DSM-5). Advocates for PTS propose that the D in PTSD, has a stigmatizing connotation and risks impeding the healing processes in veterans. Currently, PTSD remains the official terminology in the DSM-5 but advocates continue to progress in efforts for use of the new term PTS. Since official board members of the American Psychiatric Association decided to maintain PTSD as the official DSM-5 diagnosis the term PTSD will be used throughout this article (Fisher, & Schell, 2013). However, the researcher acknowledges current aims advocated by military community members and mental health professionals as it is important to future research concerns within counseling and supports the elimination of stigmatizing diagnoses that act as barriers for veterans to seek and receive treatment. In addition, the presented literature and proposed research aims to advocate for the implementation of positive psychology interventions (e.g. gratitude journaling), which focuses on wellness counseling as an alternative for current clinical practice that pathologizes veterans. The positive psychology approach supports the use of non-pathologizing therapy and use of positive language in place of stigmatizing language. For this reason, it's necessary to advocate for the potential benefits of replacing PTSD with PTS (Fisher, & Schell, 2013).

## PTSD Symptoms

Intrusion, avoidance, negative alterations in cognition in mood, alterations in arousal and reactivity represent types of PTSD symptoms designated by the Diagnostic and Statistical Manual of Mental Disorders – 5th edition (DSM-5) (American Psychiatric Association, 2013). Individuals must experience the symptom criteria listed in the DSM-5 for approximately one month, as well as experience a noticeable impairment in normal functioning (American Psychiatric Association, 2013; Bisson et al., 2015). Each of these broad symptoms are defined by more specific symptoms described in the DSM-5. The DSM-5 also provides criteria for complex PTSD. Individuals have to meet specific criteria to be diagnosed with PTSD. Therefore, individuals that are not diagnosed with PTSD can still present with PTSD symptoms, which will be the primary focus of the current study. For example, one criteria for PTSD listed in the DSM-5 is that individuals experience "exposure to actual or threatened death, serious injury, or sexual violation, in one or more of the following ways: directly experiencing the traumatic event(s), witnessing, in person, the event(s) as it occurred to others, learning that the traumatic event(s) occurred to a close family member or close friend; In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental, experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse). Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related" (American Psychiatric Association, 2013; Bisson et al., 2015). The DSM-5 also contains proposed ICD-11 criterion for PTSD and is as follows, "exposure to an extremely threatening or horrific event or series of events" (American Psychiatric Association, 2013; Bisson et al., 2015). The next sections will provide information on specific criteria for each broad symptom of PTSD.

**Intrusion**

Criteria B. for PTSD in the DSM-5 is represented by intrusive symptoms and are defined as "Presence of one (or more of the following intrusion symptoms associated with the traumatic event(s) beginning after the traumatic event(s) occurred:

1.Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s). Note: In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.

2. Recurrent distressing dreams in which the content and/or affect of the dream are related to the traumatic event(s). Note: In children, there may be frightening dreams without recognizable content.

3. Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.) Note: In children, trauma specific reenactment may occur in play.

4. Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

5. Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s)." (American Psychiatric Association, 2013; Bisson et al., 2015)

**Avoidance**

Avoidance is known as criteria C. in the DSM-5 and is defined as "persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the flowing:

1. Avoidance or efforts to avoid distressing thoughts or feelings about or closely associated with the trauma

2. Avoidance or efforts to avoid external reminders (people places, conversations, activities, objects, situations).” (American Psychiatric Association, 2013; Bisson et al., 2015)

**Negative Alterations in Cognition and Mood**

Negative alterations in cognitions and mood define criteria D. in the DSM-5 and consists of the following symptoms, “Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two or more of the following:

1.Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia, and not to other factors such as head injury, alcohol, or drugs).

2. Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g. “I am bad,” “No one can be trusted,” “The world is completely dangerous,” “My whole nervous system is permanently ruined’).

3. Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

4. Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

5. Markedly diminished interest or participation in significant activities.

6. Feelings of detachment or estrangement from others.

7. Persistent inability to experience positive emotions (e.g. inability to experience happiness, satisfaction, or loving feelings.” (American Psychiatric Association, 2013; Bisson et al., 2015).

**Alterations in Arousal and Reactivity**

Criteria E. for diagnosis of PTSD includes, "marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

1. Irritable behavior and angry outbursts (with little or no provocation), typically expressed as verbal or physical aggression toward people or objects.
2. Reckless or self-destructive behavior.
3. Hypervigilance.
4. Exaggerated startle response.
5. Problems with concentration
6. Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep)." (American Psychiatric Association, 2013; Bisson et al., 2015)**.**

**Additional Criteria**

The following additional criteria are required for the DSM-5 diagnosis of PTSD:

Criteria "F. Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month." (American Psychiatric Association, 2013).

Criteria "D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning." (American Psychiatric Association, 2013).

Criteria "H. The disturbance is not attributable to the physiological effects of a substance (e.g, medication, alcohol) or another medical condition." (American Psychiatric Association, 2013; Bisson et al., 2015)**.**

"Specify whether:

With dissociative symptoms: The individual's symptoms meet the criteria for posttraumatic stress disorder, and in addition, in response to the stressor, the individual experiences persistent or recurrent symptoms of either of the following:

1.Depersonalization: Persistent or recurrent experiences of feeling detached from, and as if one were an outside observer of, one's mental processes or body (e.g., feeling as though one were in a dream; feeling a sense of unreality of self or body or of time moving slowly).

2. Derealization: Persistent or recurrent experiences of unreality of surroundings (e.g., the world around the individual is experienced as unreal, dreamlike, distant, or distorted). Note: To use this subtype, the dissociative symptoms must not be attributable to the physiological effects of a substance (e.g., blackouts, behavior during alcohol intoxication) or another medical condition (e.g., complex partial seizures).

Specify whether:

With delayed expression: If the full diagnostic criteria are not met until at least 6 months after the event (although the onset and expression of some symptoms may be immediate)." (American Psychiatric Association, 2013).

**Additional Proposed Criteria for Complex PTSD**

Additional criteria for complex PTSD, proposed by the ICD-11 includes the following: "1. Severe and pervasive problems in affect regulation,

2. Persistent beliefs about oneself as diminished, defeated, or worthless, accompanied by deep and pervasive feelings of shame, guilt, or failure related to the stressor.

3. Persistent difficulties in sustaining relationships and in feeling close to others." (American Psychiatric Association, 2013; Bisson et al., 2015).

Anxiety symptoms, embarrassment, violated trust, depression symptoms, and guilt are other symptoms of PTSD that individuals may experience (Lilly & Pierce, 2013 American Psychiatric Association, 2013**).** It is important to note that not all individuals experiencing PTSD symptoms will be diagnosed with PTSD. This means that individuals react to trauma differently and several people do not present with enough symptom criteria for a diagnosis of PTSD (American Psychiatric Association, 2013; Bisson et al., 2015). Since, several veterans experience PTSD symptoms, the current study aims to measure PTSD symptoms in veterans rather than recruiting veterans diagnosed with PTSD. This will help to lower the probability of recruiting high risk veterans diagnosed with PTSD as it is an ethical imperative to protect the participants in this study with minimal risks. It's important for future literature on veterans with PTSD and professional clinicians to examine and understand current best practices for this population. The current best practices for traditional and non-traditional treatment of veterans with PTSD symptoms will be presented in the next section. These best practices will be linked to the current study's theoretical orientation, positive psychology and positive psychology gratitude intervention.

## Traditional Treatment for Veterans with PTSD Symptoms

Traditional treatments have demonstrated the most effective types of therapy for veterans with PTSD symptoms **(**Reisman, 2016; Sharpless & Barber, 2011; Wahbeh & Oken, 2013). However, traditional interventions do not effectively treat all individuals with PTSD symptoms (Sharpless & Barber, 2011; Wahbeh & Oken, 2013). Many individuals will refuse or discontinue traditional therapeutic treatment (Wahbeh & Oken, 2013). Traditional therapeutic practices for veterans diagnosed with PTSD include, eye movement desensitization (EMDR), cognitive processing therapy (CPT), prolonged exposure (PE), and psychopharmacology (Reisman, 2016;

Sharpless & Barber, 2011). PE, CPT, and EMDR are two forms of cognitive behavioral therapy (CPT) and are the most effective treatment modalities for treating PTSD symptoms (Sharpless & Barber, 2011). However, EMDR does not have significant empirical evidence to suggest its effects (Sharpless & Barber, 2011). Other traditional treatments include exposure therapy using virtual reality (VR), cognitive behavioral therapy (CBT) groups, dialectical behavioral therapy, and hypnosis (Reisman, 2016; Sharpless & Barber, 2011).

**Cognitive Processing Therapy (CPT)**

CPT contains several components similar to cognitive behavior therapy (CBT). In CPT individuals write trauma narratives to identify negative thoughts and feelings associated with the experienced trauma and develop coping strategies (Reisman, 2016; Sharpless & Barber, 2011). Individuals are instructed to re-read their narratives daily to themselves and to their therapists during sessions. CPT therapists help individuals to combat their negative thoughts and feelings by challenging them and assisting them in overcoming difficult aspects of their narratives. Another primary focus of CPT is to help individuals transcend thought patterns associated with self-blame. CPT is designed to be completed by individuals with PTSD symptoms within 12 sessions (Sharpless & Barber, 2011).

**Eye Movement Desensitization (EMDR)**

EMDR is a manualized treatment that consists of eight sessions and requires clients to follow hand motion patterns with their eyes while recounting a traumatic experience. The focus of EMDR is to help desensitize individuals and aid them in reprocessing their trauma (Reisman, 2016; Sharpless & Barber, 2011). EMDR uses components of mindfulness, CBT, person-centered theory, and body-based therapy. Some of these components, mindfulness and body-based therapy are included in non-traditional complementary and alternative medicine, which is

discussed next. The principle component of EMDR suggests that traumatic experiences are unprocessed experiences that are not treated as memories but as "new sensory inputs" (Sharpless & Barber, 2011). Clinicians using EMDR emphasize desensitization, integration of positive thoughts, and reprocessing. Individuals are instructed to focus on their traumatic experiences while following patterned finger movements provided by their health care professional (Sharpless & Barber, 2011). Although, evidence suggests that EMDR is effective in treating PTSD symptoms, there is not a sufficient amount of empirical studies to support the theoretical foundations and implications of this form of treatment (Sharpless & Barber, 2011; Spates et al., 2008).

**Prolonged Exposure (PE)**

PE is a manualized therapeutic treatment that consists of 90-minute, weekly sessions that las approximately 8 to 15 weeks (Sharpless & Barber, 2011). Therapists that use PE require individuals to revisit their traumatic experiences through memory and in-vivo exposure to similar traumatic events (Sharpless & Barber, 2011). PE consists of psychoeducation on breathing techniques aimed at reducing stress. This traditional form of treatment is an evidence-based intervention that has demonstrated significant effects in treating PTSD symptoms (Eftekhari et al., 2013; Sharpless & Barber, 2011; Tuerk et al., 2011). PE is one of two forms of treatment approved and used by the VA to treat veterans with PTSD symptoms (Sharpless & Barber, 2011).

**Psychopharmacology**

Traditional treatment models for PTSD recommend the use of a combination of psychopharmacology and therapy (Reisman, 2016). Sharpless & Barber, 2011). The primary pharmaceuticals prescribed to individuals with PTSD are Serotonin Reuptake Inhibitors (SSRIs).

Paroxetine and Sertraline are the only medications for PTSD that "are approved by the Food and Drug Administration (FDA)" (Sharpless & Barber, 2011). Other medications that are typically prescribed by clinicians and demonstrate empirical evidence their effects include, fluoxetine (SSRI) and venlafaxine, a serotonin norepinephrine reuptake inhibitor (SNRI) (Reisman, 2016; Sharpless & Barber, 2011). Secondary medications include, monoamine oxidase inhibitors (nefazodone, mirtazapine and phenelzine) and tricyclic antidepressants (imipramine and amitriptyline) (Reisman, 2016; Sharpless & Barber, 2011). Medical cannabis is a more recent pharmaceutical that is empirically supported for the treatment of PTSD symptoms (Reisman, 2016). Clinicians should note that some individuals may be reluctant to take medications because they are worried that the medication will only mask their symptoms rather than effectively treat them (Sharpless & Barber, 2011). Despite the empirical support and recommendations on the use of pharmaceuticals to treat PTSD symptoms, response rates for SSRIs are around 60 percent and complete remission rates are approximately 20 to 30 percent (Sharpless & Barber, 2011). Additionally, the secondary pharmaceuticals have more potential side effects and less empirical support than the primary medications (Berger et al., 2009; Sharpless & Barber, 2011).

## Non-Traditional Treatment for Veterans with PTSD Symptoms

Since traditional treatment models are not able to meet the needs of several veterans, alternative forms of therapy are needed to help this population (Carrola & Corbin-Burdick, 2015; Libby et al., 2012; Seligman & Csikszentmihalyi, 2000; Wahbeh & Oken, 2013). Complementary and alternative medicine (CAM) are types of techniques and interventions that are considered non-traditional treatments that are similar to positive psychology interventions because they can be combined with traditional treatment or serve as a replacement for traditional

interventions (Carrola & Corbin-Burdick, 2015; Libby et al., 2012; Seligman & Csikszentmihalyi, 2000). Several CAM treatments are available for veterans experiencing PTSD symptoms (Church et al., 2009; Libby et al., 2012; Walker et al., 2017). Approximately 23% to 50% of veterans use CAM and 76% of veterans who have not been exposed to CAM are interested in engaging in it. Additionally, 40% of veterans who already use CAM are interested in learning about other types of CAM treatments (Libby et al., 2012). Some common CAM treatments that have been successful in helping veterans ameliorate PTSD symptoms include, Emotional freedom techniques (EFT), creative art therapy (e.g. music, poetry, painting, drawing) yoga, meditation, and guided imagery (Church et al., 2009; Libby et al., 2012). Although rates of veterans interested in CAM are relatively high and several studies have demonstrated success in healing symptoms of PTSD, manualized treatment on specific types of CAM applicable to this population does not exist (Libby et al., 2012).

**Emotional Freedom Techniques (EFT)**

EFT is a non-traditional therapeutic treatment that has help lower depression, anxiety, sleep problems and PTSD symptoms in veterans (Church et al., 2009). EFT requires individuals to create and verbalize repetitive statements that demonstrate self-acceptance toward the events and symptoms that are causing distress (Church et al., 2009). An example of an EFT statement with someone who is coping with PTSD symptoms is, “Even though I have experienced a traumatic event, I fully accept myself.” These statements are repeated while the individual simultaneously taps different areas on their body. Clients using EFT are asked to rate their distress using the subjective unit of distress scale (SUD). Ratings for the SUD are based on a 10-point Likert scale, ranging from a 0 to 10 scale (0 = no distress, 10 = maximal distress) (Church et al., 2009).

**Creative Art Therapy**

Creative art therapies can be applied in individual and group settings (Libby et al., 2009; Smith, 2016). Creative art therapy includes several diverse art forms, such as dance, music, mask making, painting, drawing, and poetry (Levy et al., 2018; Libby et al., 2012; Smith, 2016; Walker et al., 2017). Creative art therapeutic interventions can allow individuals to identify and organize traumatic memories through nonverbal methods (Gantt & Tinnin, 2009; Campbell et al., 2016). Individuals can use art materials to externally express traumatic memories while also maintain a safe emotional distance from the traumatic experience (Campbell et al., 2016). The visual trauma narrative is the most frequently used creative art therapy intervention used on individuals with PTSD (Campbell et al., 2016). Creative art therapy benefits individuals with PTSD symptoms since the process of creating art can significantly improve mood (Bell & Robbins, 2007; Campbell et al., 2016). Engagement with creative activities can improve purpose in life, self-worth, and self-efficacy. Participation in creative outlets through art and other forms of creative expression can also decrease negative thoughts, worry, anxiety, and symptoms of PTSD (Bedding & Sadlo, 2008; Caddy et al., 2011; Reynolds, 2000; Timmons & MacDonald, 2008).

**Yoga and Mindfulness**

Yoga and other meditation practices can help individuals develop mindfulness and decrease stress and symptoms of PTSD. Engagement yoga can activate the parasympathetic system, connected to digestion and rest. Yoga can also help individuals decrease cortisol levels, the hormone associated with stress (Cushing et al., 2018). Yoga has been found to be a successful therapeutic intervention in treating several health problems, including PTSD, anxiety, headaches, cardiovascular disease, Parkinson's disease, and breast cancer. Health professionals

can use yoga as a singular intervention or combine it with other treatments (Cushing et al., 2018). Trauma-sensitive yoga is a type of yoga designed specifically for individuals who have experienced trauma and/or have PTSD symptoms (Cushing et al., 2018).

**Guided Imagery and Music**

Guided Imagery is used to help individuals enter a deep state of meditation and relaxation (Jain et al., 2012) is form of CAM is used to reduce PTSD symptoms and improves self-esteem and a sense of safety (Jain et al., 2012). Music has been used as a therapeutic intervention to heal veterans with PTSD (Blake, 1994; Beebe & Wyatt, 2009). Guided Imagery and Music (GIM) is a CAM intervention that integrates music and guided imagery. In GIM, individuals listen to preselected music while envisioning images and associated feelings and thoughts (Beebe & Wyatt, 2009). Clinicians using GIM guide individuals by helping them to create new meanings associated with the images, thoughts, feelings, and music. There are 18 different music programs associated with GIM, each aimed at providing treatment for specific problems (Beebe & Wyatt, 2009).

**Post-traumatic Growth (PTG)**

Posttraumatic growth (PTG) is a term connected to positive psychology and is relatively new in its application with mental health services for combat veterans in the United States (Carolla & Corbin-Burdick, 2015; Seligman & Csikszentmihalyi, 2000; Tedeschi & McNally, 2011). Similar to positive psychology, PTG helps to build psychological fortitude and new positive perspectives (Tedeschi & McNally, 2011). PTG is applied to veterans with PTSD to help them grow new narratives and view their trauma as opportunities to develop strengths, goals, and wisdom (Carrola & Corbin-Burdick, 2015). There are five main components of PTG, new possibilities, enhanced personal strength, improved interpersonal relationships, changes in

spirituality, and new possibilities (Tedeschi & McNally, 2011). These five PTG domains can be measured using the posttraumatic growth inventory (PTGI), which assesses the five domains after an individual experiences trauma (Tedeschi & Calhoun, 1997; Tedeschi & McNally, 2011). PTG is associated with other positive psychology terms, including life satisfaction, purpose in life, and wisdom (Tedeschi & McNally, 2011). Carrola and Corbin-Burdick (2015) suggest using a wellness approach (e.g. positive psychology) as the main form of treatment when working with veterans. Wellness approaches have been used to develop PTG in veterans and demonstrates evidence of improvements in PTSD symptoms. PTG indicates that individuals with PTSD can experience positive developments in identity, social relationships, spirituality, and well-being. These changes can assist veterans with PTSD in cultivating optimal well-being after traumatic experiences have occurred.

Several other diverse forms of CAM and non-traditional treatments are available for veterans with PTSD symptoms. This include acupuncture, biofeedback, electroencephalography (EEG), HRV, and respiration, interoceptive exposure, and acceptance and commitment therapy (ACT) (Cukor et al., 2009; Reisman, 2016). Positive psychology interventions can serve as a CAM treatment option readily available for veterans with PTSD. The current study aimed to meet the needs of veterans experiencing PTSD symptoms. The study is supported by the high percentage of veterans interested in using non-traditional CAM treatments and by literature on CAM that suggest it as an effective therapeutic approach to treat PTSD symptoms (Church et al, 2009; Levy et al., 2018; Libby et al., 2012; Smith, 2016; Walker et al., 2017). In this study, a positive psychology gratitude journal intervention was applied to veterans to assess its effects on their psychological well-being, gratitude, and PTSD symptoms. Veterans were required to write five things they are grateful in their journal on a daily basis for one week. The following section

bridges the gap between positive psychology literature and literature on veterans with PTSD. In the following sections, the current study's theoretical framework, positive psychology is presented followed by information on the broaden-and-build theory, a positive psychology theoretical model that demonstrates the link between practicing gratitude and optimizing psychological well-being. Current literature on gratitude journal interventions and psychological well-being (the constructs assessed in this study) is presented next. Finally, a section linking veterans with PTSD symptoms and positive psychology gratitude journal interventions is discussed to summarize the purpose of this study.

## Positive Psychology

Positive psychology is an evidenced based practice that aims to help clients cultivate positive emotion, strengths, purpose, and alleviate symptoms of mental illness (Rashid, 2008; Magyar-Moe, 2009). Positive psychology is a type of wellness and strength-based counseling approach. The goal of positive psychology interventions is to help clients achieve a balance between positive and negative components (e.g. strengths and weaknesses) of human functioning (Rashid, 2008; Magyar-Moe, 2009). This means that positive psychologists validate clients' negative experiences and emotions while also helping them to develop positive emotions and characteristics to optimize their well-being. Positive psychologists suggest that the good life is composed of positive subjective experiences, positive individual traits, and positive institutions. Positive subjective experiences are comprised of happiness, gratification, fulfillment, and pleasure. Positive individual traits are character strengths, values, interests, and talents. Finally, positive institutions represent schools, businesses, communities, families, and societies (Peterson, 2006).

Positive psychologists suggest that positive characteristics and excellence are equally as essential as disease and mental health problems (Peterson, 2006). For several decades, mental health professionals have emphasized the disease model in treatment for individuals mental, emotional, physical and spiritual health. Positive psychology proposes a more balanced approach in psychology and counseling, where individuals' positive emotions, traits, and experiences are acknowledged as frequently as negative symptoms (Peterson, 2006). Similar to ancient philosophers, such as Lao-Tsu and Confucius, positive psychologists pose questions to understand the meaning of happiness, the qualities of a good life, and how society functions (Peterson, 2006). Other significant components of positive psychology include, high engagement in fulfilling activities, speaking with authenticity "from our hearts", acts of heroism, and experiencing pleasure (Peterson, 2006). Other primary components of positive psychology are known as the pleasant life, meaningful life, engaged life, and the full life (Magyar-Moe, 2009; Seligman, 2002).

The pleasant life refers to experiences of positive emotions regarding "the past, present, and future" (Magyar-Moe, 2009; Seligman, 2002). These positive emotions include, serenity, contentment, and satisfaction about the past. Other positive emotions include, trust, faith, hope, and optimism about the future. Finally, gratification, and pleasures are positive emotions related to the present moment. Gratifications refer to interests and activities that bring joy. These activities can consist of art, exercise, reading, writing, and other hobbies or passions. Pleasures consist of experiences through the five senses or through learned practices, such as mindfulness (Magyar-Moe, 2009). Living a meaningful life is described as the application of personal strengths to serve the greater good (Magyar-Moe, 2009; Seligman, 2002). Individuals can live meaningful lives by participating in positive organizations (e.g. non-profit organizations),

engaging in close interpersonal relationships, and pursuing careers that they are passionate about (Magyar-Moe, 2009; Rashid, 2008).

Flow is positive psychology construct that leads to an engaged life. Flow is the experience of being completely immersed in what a person is doing (Csikszentmihalyi, 1997; Magyar-Moe, 2009). Individuals that experience flow lose track of time, focus on the present moment, lose self-consciousness, are not afraid of failure, and effortlessly complete the activity they are involved in (Cskiszentmihalyi, 1997; Cskiszentmihalyi, 1999; Magyar-Moe, 2009). Flow occurs when an individual has a high skill level and challenge level in regard to the activity he or she is pursuing (Cskiszentmihalyi, 1997; Magyar-Moe, 2009). Identifying character strengths can help individuals determine the types of activities that produce flow for them (Magyar-Moe, 2009: Seligman, 2002). The full life consists of experiences of the pleasant, meaningful, and engaged life. When these life experiences are missing individuals are exposed to the empty life, which signals the presence of mental health problems (Magyar-Moe, 2009; Rashid, 2008).

Posttraumatic growth (PTG) is a term associated with positive psychology and is a modern mental health treatment for United States veterans with PTSD symptoms (Carolla & Corbin-Burdick, 2015; Seligman & Csikszentmihalyi, 2000; Tedeschi & McNally, 2011). Optimism and resiliency are positive psychology constructs and are some examples of psychosocial protective factors that can aid veterans in developing PTG and live optimally after traumatic experiences (Vahia et al., 2011). Veterans can transform negative traumatic experiences into positive growth opportunities and build positive psychology characteristics, such as optimism, resiliency, gratitude, and psychological wellbeing, into their identity (Vahia et al., 2011). These researchers endorse the need for more assessments on interventions aimed at

building positive psychology characteristics in mental health research. Evidence suggests that these positive characteristics can be developed within the elderly population to build resilience and well-being. This evidence supports the current researcher's stance on implementing positive psychology interventions aimed at cultivating positive characteristics (gratitude and psychological well-being) and perspectives within veterans so that they place more emphasis on developing positive characteristics and meaning, and less emphasis on solely identifying with negative perspectives of their traumatic experiences and PTSD symptoms (Porcari et al., 2017). PTG demonstrates how negative perspectives on trauma can be developed into meaningful and potentially positive perspectives. The PTG framework supports the current study as it aims to help veterans cultivate positive characteristics, an increase in gratitude and psychological well-being and decrease in PTSD symptoms. These positive characteristics can aid veterans in developing PTG (Vahia et al., 2011). Additionally, one of the constructs measured in the current study, psychological well-being includes similar components that are associated in PTG, such as purpose in life, positive relations with others, and personal growth (Gloria et al., 2009; Ryff et al., 2003).

**Positive Psychology interventions**

The Values in Action (VIA) Inventory of Character Strengths is a psychometrically sound, free online survey that assesses individual's 24-character strengths and organizes them from his or her highest strength to the lowest strength (Magyar-Moe,2009; Seligman et al., 2005). The top five strengths listed in the VIA Inventory of Character Strengths represent signature strengths (Magyar-Moe,2009; Seligman et al., 2005). The Clifton StrengthsFinder 2.0 is an empirically supported online survey that measures 34 personal talents (Asplund et al., 2007; Magyar-Moe, 2009; Rath, 2007). The survey identifies an individual's top five talents and

provides him or her with ten ideas to put those talents into actions available (Asplund et al., 2007; Magyar-Moe, 2009; Rath, 2007). The Clifton StrengthsFinder 2.0 is available for purchase online (Asplund et al., 2007; Rath, 2007).

Gratitude exercises, such as the three good things activity, gratitude journals, and gratitude letters are other positive psychology interventions that help individuals develop character strengths and can increase well-being and decrease depressive symptoms (Magyar-Moe, 2009; Seligman et al., 2005). The three good things exercise instructs individuals to record three good things that occurred throughout the day and explanations for the occurrence of the three good things. The three good things exercise is implemented daily for several weeks (Magyar-Moe, 2009). Gratitude letter exercises instruct individuals to write a letter to someone they have not had the opportunity to express their gratitude toward (Magyar-Moe, 2009; Seligman et al., 2005). Gratitude journaling is one of the most predominantly used exercise to practice gratitude (Breathnach, 1995; Emmons, 2004; Emmons & McCullough, 2003; Young & Hutchinson, 2012). An extensive amount of literature has been conducted on gratitude journals, demonstrating their positive effects and correlations with psychological well-being, life satisfaction, positive affect, optimism, and interpersonal relationships (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). Gratitude journal exercises range in their duration and instructions. For example, some journal exercises include writing five things someone is grateful for everyday for one week or up to ten weeks. Other exercises require individuals to write things they are grateful for once a week for 13 weeks (Ahmed, 2016; Emmons & McCullough, 2003; Froh et al., 2008; Froh et al., 2009; Martínez-Martí et al., 2010; O'Connell et al., 2018; Seligman et al., 2005; Suldo et al., 2015). Other positive psychology interventions include, mindfulness, positive writing, hope therapy,

strength activities, goal training, and forgiveness (Magyar-Moe, 2009; Seligman et al., 2005; Sin & Lyubomirsky, 2009)

**Conclusion of Positive Psychology**

Positive psychology is a wellness and strength-based theoretical approach that helps individuals develop positive characteristics and strengths and emphasizes the need to cultivate strengths and talents, along with treatment of negative psychological symptoms (Rashid, 2008; Magyar-Moe, 2009). The pleasant life, meaningful life, engaged life, and full life serve as the foundations of positive psychology. Strength-based inventories and exercises can help individuals cultivate positive characteristics, talents, and strengths (Asplund et al., 2007; Magyar-Moe,2009; Seligman et al., 2005; Rath, 2007; Rashid, 2008). Development of these positive characteristics helps Individuals to attain the pleasant life, meaningful life, engaged life, and ultimately the full life (Asplund et al., 2007; Magyar-Moe,2009; Seligman et al., 2005; Rashid, 2008; Rath, 2007).

In the next section, a positive psychology theory called, the broaden-and build theory is discussed to explain the process of practicing positive emotions (e.g. gratitude). More specifically, the broaden-and-build theory describes how experiencing positive emotions, such as gratitude can create an ‘upward spiral’ of positive emotions new ideas, creativity, motivation toward altruistic behaviors, and ultimately an increase in well-being (Frederickson, 2013). The broaden-and-build theory also links the current study’s positive psychology constructs, gratitude and psychological well-being. Creativity is not only a construct expressed in creative and expressive therapy but also in positive psychology (Frederickson, 2013; Seligman et al., 2005). The current study uses the broaden-and-build theory to support its aims to implement a gratitude exercise that will create opportunities to experience the positive emotion, gratitude,

psychological well-being. More specifically, practicing gratitude journaling will lead to improvements in veterans' psychological well-being, gratitude and PTSD symptoms (Frederickson, 2013).

## Broaden-and-Build Theory

Barbara Frederickson (2013) created the Broaden-and-Build Theory, a theoretical model within positive psychology. The Broaden-and-Build Theory proposes that positive emotions can create new thoughts and actions, which can lead to new relationships, social supports, environmental knowledge, and coping skills (Emmons & Stern, 2013; Frederickson, 2013; Frederickson & Losada, 2005). These thought-action repertoires create opportunities for enhancement in well-being, growth and fulfillment (Emmons & Stern, 2013; Frederickson, 2013). Frederickson (2013) describes ten positive emotions that are associated with the model. One of the ten positive emotions suggested by Frederickson (2013) is gratitude. Each of the ten positive emotions is described with the patterns and triggers that can initiate the emotion, the thought-action repertoire that the emotion creates, and resources that can help build the emotion. Gratitude is triggered within people when they acknowledge other people, places, events, experiences, or things as the source of their good fortune (Froh et al., 2008; Peterson & Seligman, 2004). The thought-action repertoire that is initiated by practicing or experiencing gratitude includes creativity, new ideas, and generosity. The resource that is developed by experiencing gratitude are new skills and a desire to express generosity and kindness to others. These resources lead to the final result of enhanced fulfillment, health and well-being (Fredrickson, 2013). The Broaden-and-Build theory is explained by the model below:

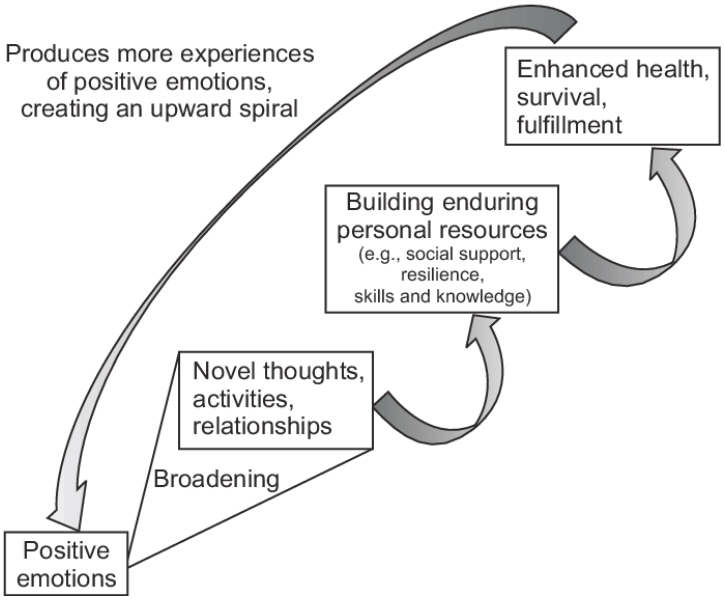



Figure 1. *The Broaden-and-Build Theory*
(Frederickson, 2013)

The Broaden-and Build Theory supports the notion that practicing gratitude can increase well-being. The theoretical model suggests that psychological well-being could be enhanced by practicing gratitude, since it is a core component in the umbrella term well-being (Fredrickson, 2013). These positive psychology constructs are essential in progressing current counseling and veteran rehabilitation literature (Fredrickson, 2013; Carrola & Corbin-Burdick, 2015). The current study aims to address these positive psychology constructs within the broaden-and-build theory by applying a gratitude journal exercise to veterans and assessing for gratitude and psychological well-being.

## Overview of Gratitude

Gratitude is originated from Latin. The meaning of gratia is favor and gratus is defined as pleasing (Emmons & Stern, 2013). Gratitude is an emotional state, a virtue, or a strength that can increase well-being and is a universal practice and expression in most cultures (Froh et al.,

2008). Moreover, this notion is defined as an awareness of good moments and expressing thankfulness for those moments (Peterson & Seligman, 2004). When individuals experience gratitude, they have a sense of thankfulness for a gift or a moment of peace and happiness (Froh et al., 2008; Peterson & Seligman, 2004). Gratitude can be expressed in several ways, such as journaling, writing a letter, giving gifts, and verbalizing thankfulness (Rash et al., 2011). Gratitude is neglected by clinicians in the therapeutic process and needs to be integrated into therapy due to its significant effects on increasing well-being (Emmons & Stern, 2013; Huffman et al., 2014; Seligman et al., 2005). Currently, there are several studies on written gratitude journal interventions. However, the methods and procedures implemented in the literature are inconsistent and more literature on this intervention and its effects on gratitude and psychological well-being is needed (Ahmed, 2016; Drążkowski et al., 2017; Emmons & McCullough, 2003; Flinchbaugh et al., 2012; Kaczmarek et al., 2015; Martínez-Martí et al., 2010; Seligman et al., 2005). Emmons and Stern (2013) suggest implementing experimental studies on the clinical applications of gratitude to provide more support for its use in therapy and shift the focus away from current treatment aims that prioritize decreasing negative symptoms. Gratitude can enhance optimism, happiness, and well-being and decrease depressive symptoms (Emmons & Stern, 2013; Huffman et al., 2014; Seligman et al., 2005). Gratitude is positively correlated with psychological well-being (Wood et al., 2009). One of the aims of the current study was to use a gratitude journal exercise with veterans to measure its effects on their psychological well-being and gratitude. This aim is supported by the previous literature that acknowledges the benefits of practicing gratitude.

## Gratitude Journals

There is an expansive amount of literature on gratitude journals and its relationship and effects on lowering depression, decreasing negative affect, enhancing positive affect, life satisfaction, optimism, and social relationships (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). Gratitude journaling is one of the most well-known and universally used gratitude exercises (Breathnach, 1995; Emmons, 2004; Emmons & McCullough, 2003, Young & Hutchinson, 2012). Several gratitude journal studies apply the positive psychology intervention known as "the three good things" by asking participants to write down three good things that happened to them each day (Parks & Titova, 2016; Seligman et al., 2005). Parks and Titova (2016) recommend requiring participants to write down specific things they are grateful for, instead of general statements since general gratitude activities have the potential to become mundane. Some studies instruct individuals to write down five things they are grateful for (Ahmed, 2016; Drążkowski et al., 2017; Emmons & McCullough, 2003; Flinchbaugh et al., 2012; Kaczmarek et al., 2015; Martínez-Martí et al., 2010). Other studies request participants to write down things they are grateful for daily but do not require them to write a specific number of things they are grateful for (Işık & Ergüner-Tekinalp, 2017; O'Connell et al., 2018). The length of time that gratitude journaling interventions have been implemented in previous studies varies from one week to 12 weeks. Some studies require participants to write in their gratitude journal every day and others once a week. (Ahmed, 2016; Drążkowski, 2017; Emmons & McCullough, 2003; Flinchbaugh, 2012; Froh et al., 2008; Froh et al., 2009; Işık & Ergüner-Tekinalp, 2017; Kaczmarek et al., 2015; Killen, & Macaskill, 2015; Lambert et al., 2009; Lomas et al., 2014; Martínez-Martí et al, 2010; Mongrain & Anselmo-Matthews, 2012; O'Connell et al., 2018; Rash et al., 2011; Redwine et al, 2016; Seligman et al., 2005; Suldo et al., 2015; Waters & Stokes, 2015)

Although, the majority of gratitude journal literature suggests positive effects and correlations with lowering depression, decreasing negative affect, enhancing positive affect, life satisfaction, optimism, and social relationships, the methods and procedures conducted in the various gratitude journal literature is inconsistent and does not provide a true control condition (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell, O'Shea, & Gallagher, 2018; Parks & Titova, 2016; Wood et al., 2010). For example, O'Connell et al (2018) conducted a study requesting participants to write in a gratitude journal daily for two weeks. The researchers conducted a post-test after two weeks and one month of completing the gratitude journal exercise. Killen and Macaskill (2015) required participants to write "three good things" daily in a gratitude journal for 14 days and conducted daily follow up measures, and post-tests at 15 days and 45 days after the intervention. In a study conducted by Sergeant and Mongrain (2011) participants listed five things they were grateful for daily for one week. Post-tests were conducted at one month, three months, and six months. Several gratitude journal studies do not provide an authentic control condition. These studies use other conditions to represent the control group. For example, some instruct participants in control groups to write about daily hassles, early memories, actions you completed the day rather than giving them no treatment (Froh et al., 2009; Martínez-Martí et al., 2010; Rash et al, 2011; Seligman et al., 2005).

Several gratitude journal studies have been on college student populations (Işık & Ergüner-Tekinalp, 2017). Some studies have been conducted on adults, older adults (Geraghty, Wood, & Hyland, 2010; Killen & Macaskill, 2015). Other studies focus on child and adolescent populations (Froh et al., 2008; Froh et al., 2009; Suldo et al., 2015). There literature on gratitude journal interventions with clinical populations is scarce (Garland et al., 2007; Redwine et al, 2017; Sergeant & Mongrain, 2011). Some clinical populations that have been included in

gratitude journal literature are patients with Stage B, asymptomatic heart failure, patients diagnosed with cancer, and individuals with depression symptoms (Garland, et al., 2007; Redwine et al, 2017; Sergeant & Mongrain, 2011) Currently, studies on the effects of gratitude journaling with the veteran population and PTSD symptoms have yet to be conducted. This study aimed to use previous gratitude journal literature to format the procedures of length and time of the gratitude exercise and fill in the gap in literature on gratitude journaling with specific clinical populations by assessing veterans with PTSD symptoms. For the purpose of this study participants were instructed to write five things they are grateful for two weeks. A pre-test was conducted to assess participants gratitude, psychological well-being, and PTSD symptoms. Two post-tests were conducted at one week and two weeks after the intervention.

**Psychological Well-being (PWB)**

Well-being is divided into two Aristotelian concepts, hedonistic and eudemonic. Hedonistic refers to momentary pleasure where individuals have few negative experiences, constant positive experiences, and an overall high satisfaction with life. The hedonistic view is associated with the subjective well-being construct. The eudemonic perspective is associated with actions that benefit others, produce personal growth, are constructive, and cultivate positive characteristics (Wood et al., 2009). The eudemonic view incorporates psychological well-being components, such as personal growth, purpose in life, self-acceptance, environmental mastery, autonomy, and positive relations with others, suggested by Ryff (1989).

Although extensive literature has been conducted on well-being, a concise definition of psychological well-being is lacking. The majority of literature on well-being use scales that measure components of subjective well-being, such as the life perspectives inventory (LPI) or the positive and negative affect scale (PANAS) but vaguely discuss the specific meaning of the

psychological well-being construct (Ryff 1989a). This author proposes that life satisfaction neglects core components of psychological well-being, such as autonomy, purpose in life, positive relations with others and personal growth. Well-being theorists and researchers have a consensus on the characteristics of psychological well-being. They also suggested defining psychological well-being by the agreed upon characteristics, such as personal growth and purpose in life, discussed in several positive psychology and well-being studies.

According to Diener et al. (2009) and Huppert (2009) psychological well-being is associated with prosocial behaviors, meaning and purpose, creativity, self-acceptance, engagement, optimism, being respected, cultivating positive characteristics, actions that are beneficial to others, positive relations with others, and optimal physical health and functioning. A positive attitude is associated with higher levels of psychological well-being. Interventions that initiate positive action, such as writing gratitude journals can increase psychological well-being (Diener et al., 2009). According to Wood et al. (2009) gratitude is a significant predictor of psychological well-being. Gratitude and psychological well-being were significantly correlated in numerous positive psychology and wellness studies (Emmons & McCullough, 2003; Geraghty et al., 2010; Lyubomirsky et al., 2011; Huffman et al., 2014). The current study measured psychological well-being, gratitude, and PTSD symptoms in veterans and aims to use a positive psychology gratitude journal exercise. The previous literature on psychological well-being supports the association between the two constructs, gratitude and psychological well-being and the inclusion of these constructs in this study (Emmons & McCullough, 2003; Geraghty et al., 2010; Lyubomirsky et al., 2011; Huffman et al., 2014).

## Positive Psychology with Veterans

CAM are types of non-traditional treatments that can be used on their own or in along with other traditional therapeutic methods for veterans with PTSD symptoms (Libby et al., 2012). Wellness and positive psychology interventions similar to the gratitude journal exercise used in this study are examples that fit within CAM non-traditional treatments and can be included in current treatment options for veterans with PTSD symptoms and other individuals interested or in need of this type of treatment (Carrolla & Corbin-Burdick, 2015). Positive psychology is a relatively new clinical approach in counseling and psychology fields, and several components of positive psychology have not been integrated in services aimed at assisting veterans (Carrola & Corbin-Burdick, 2015; Huffman et al., 2014; Seligman et al., 2005; Vahia et al., 2011). Although the literature on positive psychology and veterans is scarce, a term associated with positive psychology known as post-traumatic growth is prevalent within literature on veterans with PTSD symptoms (Porcari et al., 2017; Vahia et al., 2011). Gratitude is a positive psychology construct, which means affirming and recognizing goodness in life (Emmons & Stern, 2013). Several CAM treatments for veterans with PTSD symptoms focus on mindfulness (Cushing et al., 2018; Beebe & Wyatt, 2009; Jain et al., 2012). Similar to many CAM treatments, gratitude "can be thought of as a mindfulness practice" (Emmons & Stern, 2013). The current study assesses the effects of a gratitude journal exercise on the veteran population. Gratitude exercises aim to enhance mindfulness similar to yoga, guided imagery, and other mindfulness CAM treatments (Cushing et al., 2018; Beebe & Wyatt, 2009; Jain et al., 2012). Therefore, gratitude journals and other gratitude related exercises can be a possible non-traditional CAM treatment option for veterans with PTSD symptoms. These exercises can serve alongside other traditional treatments options for veterans, and at the very least be readily available and acknowledged by mental health care professionals.

## Conclusion

There are some important considerations that provide evidence for the gaps in literature associated with positive psychology, CAM and non-traditional treatment creative counseling, and veterans with PTSD symptoms. The first consideration is addressing the gap in literature on positive psychology gratitude journal exercises. A lack in consistency of the research design in studies assessing the effectiveness of gratitude journal interventions supports that more research on this intervention needs to be conducted (Huffman et al., 2014; Seligman et al., 2005). Current positive psychology literature lacks in providing counselors with assessments of gratitude journal interventions on several populations in need of counseling services, such as veterans with PTSD (Carrola & Corbin-Burdick, 2015). The positive psychology gratitude literature supports the need for inclusion of more diverse populations to build robust evidence on the effectiveness of gratitude journal interventions (Carrola & Corbin-Burdick, 2015; Huffman et al., 2014; Seligman et al., 2005).

The second consideration acknowledged in the current study, is the demand for more effective, wellness-based treatment for veterans with PTSD symptoms (Carrola & Corbin-Burdick, 2015; Church et al., 2009; Libby et al., 2012; Wahbeh & Oken, 2013). Carrola and Corbin-Burdick (2015) recommend including more assessments on wellness approaches to provide evidence-based interventions for veterans with PTSD. Positive psychology is a wellness-based therapy that can be used to treat veterans with PTSD. Positive psychology interventions can benefit veterans with PTSD by focusing on developing positive characteristics instead of only centralizing on traumatic experiences and PTSD symptoms.

This study acknowledges the gap in literature on veterans and positive psychology as it addresses the need for more wellness approaches in clinical services for veterans and identifies

the inconsistencies in positive psychology, gratitude journal literature and literature on non-traditional CAM therapy and veterans with PTSD symptoms (Huffman et al., 2014; Lyubomirsky et al., 2011; Seligman et al., 2005; Toepfer et al., 2012). The current study aimed to investigate the effects of a positive psychology gratitude journal intervention on veterans' gratitude, psychological well-being, and PTSD symptoms. The quasi-experimental design that was used in this study aimed to assess for empirical evidence to capture the effect and impact of the gratitude journal intervention.

# CHAPTER 3

# METHODOLOGY

In this chapter, the research aims and questions are presented. Next, participants and sampling methods will be discussed, followed by the research design of the study. A table that illustrates the research design will be provided under the research design section. Then, details about the instrumentation used in the study will be provided. After, the procedures used to conduct the study will be explained. Finally, data analysis will be discussed in depth.

## Research Aim and Questions

This study aimed to address the gap in positive psychology and treatment for veterans with PTSD literature by investigating the effect of a gratitude journal intervention on veterans' psychological well-being, level of gratitude, and PTSD symptoms. There have been inconsistencies in the literature regarding the implementation process of gratitude journal exercises in clinical mental health research. The amount of gratitude journal entries written and the time frame in which the journals are written varies within each study. Previous study designs have required participants to write gratitude journals daily for one to three weeks, some instruct individuals to write gratitude journal entries once a week for ten weeks or 12 weeks, other gratitude studies require participants to write gratitude journal entries twice a week for two weeks (Ahmed, 2016; Emmons & McCullough, 2003; Flinchbaugh et al., 2012; Işık & Ergüner-O'Connell et al., 2018; Tekinalp, 2017). This study aimed to build upon the previous literature by using a similar procedure used in several of the gratitude journal studies. Although the literature is inconsistent, several studies require individuals to write gratitude journal entries daily for approximately two weeks (Ahmed, 2016; Emmons & McCullough, 2003; Martínez-Martí et al., 2010; O'Connell et al., 2018). The current study aimed to conduct a quasi-

experimental design to address the gap in literature on insufficient empirical studies regarding gratitude journaling (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016; Wood & Tarrier, 2010).

**Proposed Research Questions and Pertinent Hypothesis**

The study addressed the following research question:

Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time?

**Hypothesis One:**

$H_0$: There is no main effect of group on veterans' psychological well-being, gratitude, and PTSD symptoms?

$H_a$: There is a main effect of group veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Two:**

$H_0$: There is no main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms

$H_a$: There is a main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Three:**

$H_0$: There is no interaction between group and time on veterans' psychological well-being, gratitude, and PTSD symptoms.

$H_a$: There is an interaction between group and time on veterans' psychological well-being, gratitude, and PTSD symptoms.

## Participants and Sampling

Participants in the study were veterans, 18 years of age or older, in a southeastern location of the United States. Demographic information, such as ethnicity, gender, and age were obtained at the beginning of the study. 31 participants were recruited for this study. A G Power analysis was conducted to determine the necessary sample size for the study. Assuming a medium effect size ($f = 0.25$) at least 31 participants are needed (Cohen, 1988). The veterans were recruited through social media outlets (e.g., Facebook) and veterans associations (e.g. American Legion Tidewater Post 327, Old Dominion University Military Connection Center etc.) within the area. Simple random assignment was used to assign the participants to the control or intervention group.

## Research Design

A quasi-experimental two-period crossover design was used for the purposes of this study. The intervention and control group and time (time 1, time 2, time 3, time 4 and time 5) represented the independent variables. Time is represented by 5 levels: time 1: pre-test scores from the first day of the study; time 2: one week into the study; time 3: 2 weeks from the beginning of the study; time 4: 3 weeks from the start of the study; time 5: 4 weeks from the beginning of the study Psychological well-being, gratitude, and PTSD symptoms constitute the dependent variables. Veteran participants received a positive counseling intervention in the form of a gratitude exercise, and differences in the dependent variables show to what extent the treatment influenced participants' gratitude, psychological well-being, and PTSD symptoms over time. Half of the participants were randomly selected into the control group and the other half in the intervention group at the beginning of the study. The subjects switched groups at the second week of the study. The independent variables are represented by time and treatment group (control vs. intervention). The questionnaires measuring gratitude, psychological well-being, and

PTSD symptoms were distributed at time 1, time 2, time 3, time 4, and time 5 in pretest, $posttest_1$, $posttest_2$, $posttest_3$, $posttest_4$ format.

Advantages and disadvantages in two-period crossover studies were considered. Disadvantages of using crossover designs include attrition associated with missing data due to the small sample size and possibility of carryover effects (Hui et al., 2015; Simpson, 1999). Due to the small sample size used in two-period crossover designs, attrition has larger effects on the study's statistical power. A small sample size also means that removing missing data would bias results and limit the generalizability of the findings (Osborne, 2013; Simpson, 1999). Carryover effects occur when the effects of the treatment in the first period carry over to the next period. Washout periods can be used to address carryover effects but are not always feasible or needed. For example, washout periods are typically used in crossover design studies that assess the effects of pharmaceutical drugs because the half-life of the drug needs to be considered to understand how long it takes for the drug to become inactive (Hui et al., 2015; Osborne, 2013; Simpson, 1999). In this study a washout period was not used since the intervention was not a pharmaceutical drug. Participant burden was also considered due to the lengthy four-week time period of the study and COVID-19.

Advantages of the crossover study included the following: all participants were given the gratitude journal intervention, each participant acted as their own control, and a smaller sample size was used (Hui et al., 2015; Simpson, 1999). An AB/BA design was used in this study, this means that participants are randomly assigned to the intervention group or the control group for the first period and subjects switched groups for the second period. The first period in this study is represented by the first two weeks (time 1 to time 3) and the second period is indicated by the second two weeks (time 4 to time 5). This crossover design allows every participant to act as

their own control and permits a smaller sample size than other designs and also balances participant variation (Hui et al., 2015; Reich & Milstone, 2013; Simpson, 1999). The final advantage of the two-period crossover design is that all participants are given the opportunity to experience the intervention (Hui et al., 2015; Simpson, 1999). This is especially important when accounting for veterans and other clinical populations that could benefit from therapeutic interventions.

## Instruments

### The Gratitude Questionnaire

*The Gratitude Questionnaire- Six Item Form (GQ-6)* was the measurement used to assess gratitude. This gratitude questionnaire is a six-item survey that uses a seven-point Likert scale ranging from strongly disagree to strongly agree. Scores on the GQ-6 range from six to 42, higher scores indicate higher levels of gratitude. Items three and six are reversed scored. A score lower than 35 indicates individuals in the 25$^{th}$ percentile, scores lower than 38 represents the 50$^{th}$ percentile and the lower half of individuals, a score of 41 exemplifies the 75$^{th}$ percentile, and score of 42 indicates the top 13$^{th}$ percentile (Sansone & Sansone, 2010). The GQ-6 is an empirically supported, psychometrically sound measure. Internal consistency information is evidenced by confirmatory and exploratory analysis. This indicates that the GQ-6 is a single dimensional questionnaire and gratitude is associated with vitality, life satisfaction, happiness, optimism, and hope (Chen et al., 2009; McCullough & Tsang, 2002; Toussaint & Friedman, 2009; Wood et al., 2009). A simple correlations matrix demonstrated convergent and divergent validity in the GQ-6. The measure converged with forgiveness, positive emotion, spiritual transcendence, agreeableness, and life satisfaction and diverged with neuroticism depression, and negative affect, indicating good validity (Magno & Orillisa, 2012; McCullough & Tsang, 2002).

**The Psychological Wellbeing Scale - Short (PWBS - S)**

The psychological wellbeing scale - short (PWBS-S) is an 18-item measure created by Ryff and Keyes (1985). This 18-item scale is a shortened version of the original 42-item PWBS scale. The scale measures personal growth, positive relationships with others, autonomy, environmental mastery, self-acceptance and purpose in life Items are rated using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate higher levels of psychological well-being. Subscales on the instrument are associated with the individual constructs (e.g. personal growth) within psychological well-being. Each of the subscales can be calculated to indicate scores for each psychological well-being construct. Several questions on the PWBS-S reversed scored. Reliability is summarized by Pearson's r correlations, indicating strong internal consistency (Gloria et al., 2009; Ryff et al., 2003;). This demonstrates that the PWBS-S accurately measures psychological well-being and test-retest reliability. Convergent and discriminant validity information is supplied by correlations with scales that measure similar concepts, such as satisfaction with life (SWL) (Ryff et al., 2003). The PWBS-S has been used in several other studies and has demonstrated good psychometric properties (Curhan et al., 2014; Gloria et al., 2009; Ryff, 1995; Keyes et al., 2002; Ryff et al., 2003).

**PTSD Checklist for DSM-5 (PCL-5)**

The PTSD Checklist for DSM-5 (PCL-5) is 20-item, five-point Likert type survey (ranging from 0 = not at all to 4 = extremely) that assesses for PTSD symptoms. PLC-5 scores range from 0 to 80. Scores that are 38 and higher indicate probable PTSD (Armour et al., 2017; Price et al., 2016). The PCL-5 measures the level of severity of each symptom in the DSM-5, except for criterion A. Another version called the PCL-5 with Criterion A, includes all DSM-5

criteria. According to the DSM-5 individuals need to meet at least one symptom in criterion A, one from criterion B (intrusions), one from criterion C (avoidance), two from criterion D (negative alterations in cognitions and mood), and two from criterion E (alterations in arousal and activity) (Armour et al., 2017). The PCL-5 has high divergent validity, convergent validity, test-retest reliability, and internal consistency (Ashbaugh et al., 2016; Karatzias et al., 2016; Bovin et al., 2016; Krüger-Gottschalk et al., 2017; Weathers et al., 2014).

## Procedures

Written IRB consent was obtained prior to conducting the study. Social media, colleagues, and veteran affiliations were used to collect participants. A summary with general information about the study was created, including a request for interested participants to contact the researcher by email in order to ensure the participants confidentiality. After 31 participants were recruited for the study, random assignment was used to assign individuals to the treatment or control group. Emails were sent out to each of the participants including an informed consent form, demographics form, and instructions on how to implement the gratitude journal exercise. Confidentiality was maintained by securing the participants data in a lock box at the primary researcher's residence.

At the beginning of the study participants complete an informed consent, a brief demographics questionnaire, GQ-6, PWBS-S, and PCL-5 during the pre-test portion of the study. Participants in the treatment condition were given a small paragraph of instructions to write five things they are grateful for daily for two weeks. Participants in the control group were notified that they will be weight-listed and have the opportunity to experience the gratitude exercise after the initial treatment group has completed the intervention. All participants were given a pre-test and two post-tests. Post-tests were given at one week and two weeks after the beginning of the

study. Check-ins were provided by emailing participants reminders to complete their gratitude journal exercises and post-test questionnaires at one week and two weeks into the study.

## Data Analysis

The survey data was collected and entered into SPSS for data analysis. The data was cleaned and analyzed to account for missing information. Descriptive statistics were conducted to identify means and standard deviations, and to determine if outliers, skewness or kurtosis are present. Two-way repeated measures analysis of variance (two-way repeated measures ANOVA) was used since all participants engaged in all of the treatment conditions and the study included two independent variables, time and treatment group (Field, 2013). The two-way repeated measures ANOVA was conducted to determine if there is an interaction between the independent variables, time and intervention, on the dependent variables, psychological well-being, gratitude, and PTSD symptoms. Main effects of time and treatment group were analyzed using the two-way repeated measures ANOVA. A Shapiro-Wilk's test of normality was used to assess for multivariate normality. Mauchly's test was conducted to assess the assumption of sphericity (Field, 2013). When conducting post hoc analysis, the Bonferroni test was used (Field, 2013). The results on the Gratitude Questionnaire- Six Item Form (GQ-6), The Psychological Wellbeing Scale - Short (PWBS-S), and The PTSD Checklist for DSM-5 (PCL-5) represented the dependent variables, gratitude, psychological well-being, and PTSD symptoms.

## Limitations

There were several limitations that should be considered. First, extraneous variables such as time, mood changes, lethargy, age, gender, time of day the intervention was completed, personal experiences, events etcetera can limit the internal validity and reliability of the study by causing maturation. A second limitation is that some participants may not have high motivation

or interest in writing gratitude journals and which could have contributed to incomplete survey data. On the other hand, participants that have an interest practicing gratitude and gratitude journaling may have higher motivation to complete the journal entries each day for two weeks as instructed. These potential confounding variables are another threat to internal validity. The confounding variables were addressed by the primary researcher during the facilitation process and through random selection.

Attrition is a third threat to the internal validity of the study. Some participants dropped out of the study prematurely. Ecological validity is another limitation of this study. The majority of veterans receive therapeutic services at the VA, others will receive services from other veteran affiliated organizations. This study was conducted at the participants' home or personal environment which is not representative of real-world environments that are applicable to the population. However, the results of this study can indicate that veterans that are within and/or outside of the VA and other veteran associations can benefit from gratitude journal exercises. These potential positive psychology interventions can be applied by clinicians outside of the VA and serve as another therapeutic service for veterans with PTSD. Additionally, these exercises can be initially introduced by any mental health clinician or educator and practiced by veterans outside of mental health and veteran affiliated organizations.

Self-report and social desirability are other limitations that can create bias. A final limitation is that the results may not be generalizable to all veterans with PTSD in the United States since veterans from one southeastern location were recruited. The lack of generalizability is a threat to the external validity of the study. Although there are limitations that need to be addressed, the results of the study can enhance the counseling field in clinical and research areas.

More specifically, this research can lead to improvements in clinical services for veterans and serve as an essential addition to existing research on this population.

## Delimitations

The researcher aimed to recruit 40 participants to account for attrition. A G Power analysis results indicated that 31 participants are needed assuming a medium effect size (f = 0.25) (Cohen, 1988). Only 31 participants were recruited due to difficulties in participant recruitment. Counterbalancing is a delimitation of the two-period cross over design used in this study. Each subject participated in both groups, control and intervention to ensure counterbalancing and eliminate systemic bias (Field, 2013). This means that group A began in the intervention group for the first two weeks in the study and switched to the control group for the second half of the study and group B started in the control group and ended in the intervention group (Field, 2013). The two-period crossover design is a delimitation in this study because it helped to avoid variability between participants. Every participant acted as their own control which eliminated between subject variability (Field, 2013).

# CHAPTER 4

# RESULTS

In this chapter, the results of the study are presented. Data cleaning and two-way repeated measures ANOVA assumptions are addressed. F-ratio scores, effect sizes, degrees of freedom, and alpha levels are reported. Tables with mean scores, standard errors, and mean differences are presented to highlight the significant results in this study. Answers to the research questions are addressed to support the decision to reject or accept the null hypothesis for each question. Finally, a conclusion is presented to summarize the results of this study.

## Data Cleaning and Assumptions

### Data cleaning

The missing data was analyzed for patterns in SPSS. The results indicated that the patterns of missing values were random, meaning that the data is less likely to be biased. Data analysis indicated that data was missing from several subjects, 19.38% of values were missing from the data set. Listwise deletion was conducted on three subjects. Data from three participants were removed since these subjects only provided pre-intervention data at the beginning of the study. Two participants had missing data from one survey question, and one participant had missing data from three survey questions. Ten subjects filled out surveys for some of the time points and did not complete surveys for other time points. Mean substitution was used to replace the missing data from one item on five survey questions and total scores were recalculated. Mean substitutions were calculated by using the data from all of the participants scores associated with the single missing survey question at the specific time point and group. Once the mean score was found it was added to the total score for each of the three participants. This method allowed the rest of the participant's survey data to remain and be combined with the mean substitution

values. Mean substitution is a valid method used in data cleaning when data sets contain randomly selected samples and are normally distributed (Kang, 2013). After mean substitutions were added to the five items, patterns were analyzed. Missing value patterns were random and 13.33% of the data values were missing. Multiple imputations were conducted for the data from the remaining ten participants. Three participants had three surveys missing, three other participants had two surveys missing, and the remaining four participants had one survey missing.

Multiple imputations is a data cleaning method that produces estimated values for the remaining missing data points. Multiple imputations were used to bypass listwise deletion, which would delete all of the remaining missing data (Kang, 2013; Osborne, 2013; van Ginkel et al., 2020). Using multiple imputations instead of other data cleaning methods helps to avoid losing too much power and to eliminate as much bias as possible (Osborne, 2013; van Ginkel et al., 2020). This data cleaning method also generates adequate values when sample sizes are small or there are large amounts of missing data (Kang, 2013). Critics of multiple imputations state that multiple imputations can only be applied to missing at random (MAR) data or when "too few cases" remain following listwise deletion (van Ginkel et al., 2020). Other misperceptions and criticisms of multiple imputations include, results from listwise deletion and multiple and imputations have to be equal, and multiple imputations is invalid because it produces several statistical outcomes (van Ginkel et al., 2020). Despite these criticisms multiple imputations is a strong statistical procedure that accounts for missing information and was used for its advantages in avoiding deletion of data from several participants, maintaining power, and prevent bias (Kang, 2013; Osborne, 2013; van Ginkel et al., 2020).

**Outliers**

Data analysis was conducted to determine studentized residuals for each time variable across the three dependent variables. There were two outliers in the psychological well-being variable, which had a studentized residual value of -3.79 and -3.52. The PTSD variable had outliers at Time 1, Time 2, Time 3, Time 4 which had studentized residual values of 3.05, 3.78, 3.18, and 3.22. Two outliers were present for the gratitude variable at Time 2 and Time 5, which had studentized residual values of -3.01 and -3.14. Data was run for each of the dependent variables excluding the majority of outliers. Outliers with studentized residual values of 3.05, 3.78, 3.18, 3.22, -3.79, -3.52, and -3.14 were removed from the data set in order to maintain normality without losing all participant data associated with outliers. A total of N = 25 participants was used for final analysis after cleaning the data and removing outliers.

**Shapiro Wilk's Test**

A Shapiro Wilk's test was conducted to assess the data for normality. The data was normally distributed ($p > .05$) except for Time 3 ($p = .03$) for the psychological well-being variable. Data was normally distributed ($p > .05$) except for Time 1 ($p = .02$) and Time 2 ($p = .05$) for the gratitude variable. The data was normally distributed on the PTSD variable ($p > .05$) except for Time 4 ($p = .03$) and Time 5 ($p = .02$) as assessed by Shapiro-Wilk's test of normality on the studentized results. Due to the majority of the variables meeting normality ($p > .05$), it is assumed that the violation of the other time variables is not significantly different enough to conduct transformations (Field, 2013).

**Mauchly's Test of Sphericity**

Mauchly's test of sphericity was conducted. Mauchly's test results indicated that the assumption of sphericity had been met for one of the three dependent variables, PTSD symptoms, $x^2(2) = 12.70$, $p = .178$. Greenhouse-Geisser values were used to interpret data since

Mauchly's test was violated for gratitude, $x^2(2) = 24.46$, $p = .004$, and for psychological well-being, $x^2(2) = 18.19$, $p = .034$. Greenhouse-Geisser results concluded sphericity was met for gratitude ($\varepsilon = .64$) and for psychological well-being ($\varepsilon = .68$).

**Two-way repeated measures ANOVA analysis**

Descriptive Statistics were conducted to display means and standard errors for each group across time for all of the dependent variables (see Table 1). Literature on effect sizes for partial $\eta^2$ suggested similar interpretations for small and medium effect size values but had varying definitions on which values constituted large effect sizes (Hauer et al., 2012; Sink et al., 2005; Willemsen et al., 2011). Hauer et al. (2012) suggested a small effect size has partial $\eta^2$ values ranging from .01 to .06, a medium effect size has partial $\eta^2$ values ranging from .06 to .25 and a large effect size equals partial $\eta^2 > .25$. According to Sink and Stroh (2005) partial $\eta^2 \geq .01$ represents a small effect size, partial $\eta^2 \geq .06$ denotes a medium effect size, and a large effect size equals partial $\eta^2 \geq .14$. Similarly, Willemsen et al., (2011) suggested a small effect size is partial $\eta^2 = .01$, a medium effect size is partial $\eta^2 = .06$, and a large effect size is partial $\eta^2 = .14$. Since the majority of these interpretations defined large effect sizes as partial $\eta^2 = .14$, this value was used to interpret the results of the current study. There was a statistically significant two-way interaction between treatment and time on the gratitude variable, $F(2.56, 58.97) = 2.95$, $p = .048$, partial $\eta^2 = .14$. The interaction effect between group and gratitude had a large effect size indicating a strong interaction (Sink et al., 2005). No statistically significant interactions existed between treatment and time on PTSD symptoms, $F(4, 92) = .68$, $p = .605$, partial $\eta^2 = .03$. The results indicated that there was no significant interaction between treatment and time on psychological well-being, $(2.715, 62.45) = .34$, $p = .775$, partial $\eta^2 = .02$ (see Table 2). Tables that display descriptive statistics and interaction effects are presented below:

Table 1

*Descriptive Statistics*

| Measure | Control or Intervention Group | Time | Mean | Std. Error | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|---|
| GQ | Control | 1 | 34.846 | 1.409 | 31.931 | 37.762 |
| | | 2 | 34.615 | 1.027 | 32.491 | 36.740 |
| | | 3 | 36.692 | .937 | 34.754 | 38.630 |
| | | 4 | 38.154 | .953 | 36.183 | 40.125 |
| | | 5 | 37.769 | .956 | 35.792 | 39.747 |
| | Treatment | 1 | 36.750 | 1.467 | 33.715 | 39.785 |
| | | 2 | 38.750 | 1.069 | 36.539 | 40.961 |
| | | 3 | 39.167 | .975 | 37.149 | 41.184 |
| | | 4 | 38.167 | .992 | 36.115 | 40.218 |
| | | 5 | 37.917 | .995 | 35.858 | 39.975 |
| PW | Control | 1 | 105.923 | 2.376 | 101.008 | 110.838 |
| | | 2 | 105.538 | 2.457 | 100.455 | 110.622 |
| | | 3 | 107.385 | 2.185 | 102.865 | 111.904 |
| | | 4 | 110.154 | 2.366 | 105.260 | 115.048 |
| | | 5 | 109.538 | 2.691 | 103.971 | 115.106 |
| | Treatment | 1 | 105.083 | 2.473 | 99.968 | 110.199 |
| | | 2 | 105.250 | 2.558 | 99.959 | 110.541 |
| | | 3 | 107.750 | 2.274 | 103.046 | 112.454 |
| | | 4 | 110.833 | 2.462 | 105.740 | 115.927 |
| | | 5 | 111.667 | 2.801 | 105.872 | 117.462 |
| PTSD | Control | 1 | 9.538 | 2.823 | 3.699 | 15.377 |
| | | 2 | 10.308 | 2.502 | 5.133 | 15.482 |
| | | 3 | 9.462 | 2.406 | 4.483 | 14.440 |
| | | 4 | 7.923 | 2.610 | 2.523 | 13.323 |
| | | 5 | 7.538 | 2.370 | 2.635 | 12.442 |
| | Treatment | 1 | 13.917 | 2.938 | 7.839 | 19.994 |
| | | 2 | 12.250 | 2.604 | 6.864 | 17.636 |
| | | 3 | 12.750 | 2.505 | 7.569 | 17.931 |
| | | 4 | 13.333 | 2.717 | 7.713 | 18.954 |
| | | 5 | 13.333 | 2.467 | 8.230 | 18.437 |

Table 2

*Tests of Interaction Effect*

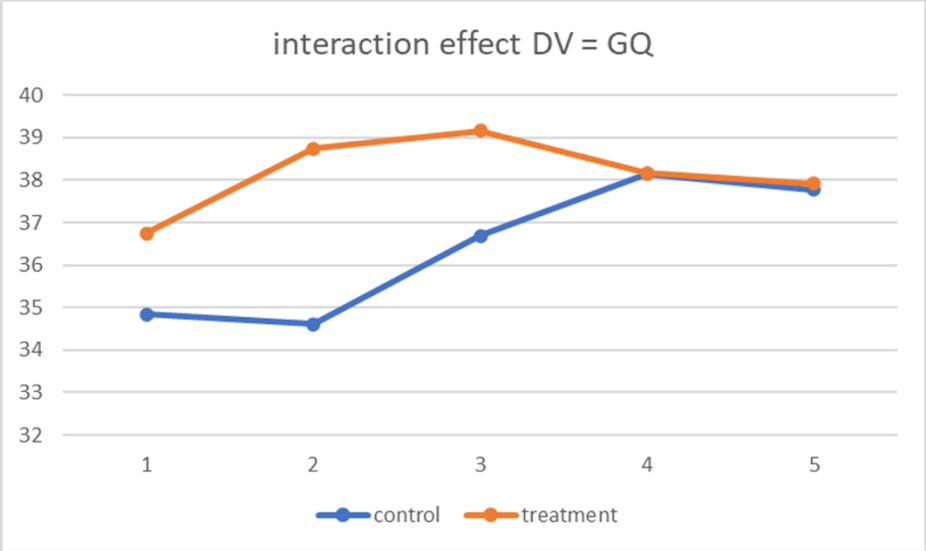
| Source | Measure | | df | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Time * Group | GQ | Sphericity Assumed | 4 | 2.951 | .024 | .114 |
| | | Greenhouse-Geisser | 2.564 | 2.951 | .048 | .114 |
| | | Huynh-Feldt | 3.038 | 2.951 | .038 | .114 |
| | | Lower-bound | 1.000 | 2.951 | .099 | .114 |
| | PW | Sphericity Assumed | 4 | .342 | .849 | .015 |
| | | Greenhouse-Geisser | 2.715 | .342 | .775 | .015 |
| | | Huynh-Feldt | 3.248 | .342 | .810 | .015 |
| | | Lower-bound | 1.000 | .342 | .564 | .015 |
| | PTSD | Sphericity Assumed | 4 | .684 | .605 | .029 |
| | | Greenhouse-Geisser | 3.141 | .684 | .571 | .029 |
| | | Huynh-Feldt | 3.853 | .684 | .600 | .029 |
| | | Lower-bound | 1.000 | .684 | .417 | .029 |

a. Computed using alpha = .05.

A graph depicting the interaction effect is presented below (see Table 3). The effects of time on gratitude are different for the control and intervention groups from time 1 to time 3 and are similar from time 4 to time 5. This demonstrates that the effect of time on gratitude varies depending on group. The interaction effect graph displays relationships between group and time. There was a positive relationship between time and control group from time 2 to time 4 and a negative relationship from time 1 to time 2. There was a positive relationship between time and intervention group from time 1 to time 3 and a negative relationship from time 3 to time 5. The control group had the lowest level of gratitude at time 2. The Intervention group had the highest level of gratitude at time 3. The difference between control and intervention groups were highest at time 2. The intervention group had higher levels of gratitude than the control group from time 1 to time 3.

Table 3

*Interaction Effect Graph*




Main effects for group were conducted. Gratitude was not statistically significantly different in the control compared to the intervention group $F(1, 23) = 1.89$, $p = .182$. Psychological well-being was not statistically significantly different in the control group compared to the intervention group $F(1, 23) = .018$, $p = .894$. PTSD symptoms were not statistically significantly different in the control (8.95 = 36.42, SE = 2.26) compared to the intervention group, $F(1, 23) = 1.63$, $p = .21$.

Main effects for time were conducted. There was a statistically significant difference between time and gratitude $F(2.56, 58.97) = 4.06$, $p = .015$, partial $\eta^2 = .15$. The main effect of time on gratitude has a large effect size. There was a statistically significant main effect between time and psychological well-being $F(2.72, 62.45) = 7.06$, $p = .001$, partial $\eta^2 = .24$, which indicated a large effect size (see Table 4). The large effect sizes denoted strong relationships for time and gratitude and time and psychological well-being. The results indicated there were no significant differences between time and PTSD symptoms $F(4, 92) = .29$, $p = .839$. Post hoc analysis was conducted using Bonferroni adjustments. Psychological well-being was statistically

different between time 1 and time 4, $p = .001$ and time 1 and time 5, $p = .003$. There was a significant difference between Time 2 and Time 4, $p = .004$ and time 2 and time 5, $p = .008$ on psychological well-being (see Table 5). Illustrations of the main effect between time and psychological well-being and time and gratitude, and effects between time and psychological well-being on each time period are included below:

Table 4

*Tests of Main Effects*

| Source | Measure | | df | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Time | GQ | Sphericity Assumed | 4 | 4.061 | .004 | .150 |
| | | Greenhouse-Geisser | 2.564 | 4.061 | .015 | .150 |
| | | Huynh-Feldt | 3.038 | 4.061 | .010 | .150 |
| | | Lower-bound | 1.000 | 4.061 | .056 | .150 |
| | PW | Sphericity Assumed | 4 | 7.060 | .000 | .235 |
| | | Greenhouse-Geisser | 2.715 | 7.060 | .001 | .235 |
| | | Huynh-Feldt | 3.248 | 7.060 | .000 | .235 |
| | | Lower-bound | 1.000 | 7.060 | .014 | .235 |

a. computed using alpha = .05.

Table 5

*Pairwise Comparisons*

| Measure | (I) Time | (J) Time | Mean Difference (I-J) | Std. Error | Sig.[b] | 95% Confidence Interval for Difference[b] Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|---|
| PW | 1 | 2 | .109 | 1.124 | 1.000 | -3.379 | 3.597 |
| | | 3 | -2.064 | 1.857 | 1.000 | -7.829 | 3.700 |
| | | 4 | -4.990* | 1.335 | .011 | -9.133 | -.848 |
| | | 5 | -5.099* | 1.543 | .031 | -9.887 | -.311 |
| | 2 | 1 | -.109 | 1.124 | 1.000 | -3.597 | 3.379 |
| | | 3 | -2.173 | 1.573 | 1.000 | -7.056 | 2.710 |
| | | 4 | -5.099* | 1.237 | .004 | -8.938 | -1.261 |
| | | 5 | -5.208* | 1.348 | .008 | -9.392 | -1.025 |
| | 3 | 1 | 2.064 | 1.857 | 1.000 | -3.700 | 7.829 |
| | | 2 | 2.173 | 1.573 | 1.000 | -2.710 | 7.056 |
| | | 4 | -2.926 | 1.148 | .180 | -6.491 | .639 |
| | | 5 | -3.035 | 1.281 | .266 | -7.013 | .942 |
| | 4 | 1 | 4.990* | 1.335 | .011 | .848 | 9.133 |
| | | 2 | 5.099* | 1.237 | .004 | 1.261 | 8.938 |
| | | 3 | 2.926 | 1.148 | .180 | -.639 | 6.491 |
| | | 5 | -.109 | .936 | 1.000 | -3.014 | 2.796 |
| | 5 | 1 | 5.099* | 1.543 | .031 | .311 | 9.887 |
| | | 2 | 5.208* | 1.348 | .008 | 1.025 | 9.392 |
| | | 3 | 3.035 | 1.281 | .266 | -.942 | 7.013 |
| | | 4 | .109 | .936 | 1.000 | -2.796 | 3.014 |

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

## Conclusion

The results from the two-way repeated measures ANOVA analysis are summarized in this chapter. The results indicated that there was an interaction effect between time and group on gratitude. There were no significant interaction effects between time and group on psychological

well-being and PTSD symptoms. Main effects were statistically significant between time and gratitude and between time and psychological well-being. Pairwise comparisons illustrated significant effects between time 1 and time 4, time 1 and time 5, time 2 and time 4, and time 2 and time 3 on psychological well-being. The results from the statistical analysis suggest that gratitude journaling can affect psychological well-being and gratitude over time. These results and their implications are discussed in more detail in the next chapter.

# CHAPTER 5

# DISCUSSION

This chapter provides a discussion, which interprets the results derived from the two-way repeated measures ANOVA analysis and addresses clinical implications for future studies. The researcher discusses the research questions and study results. Limitations are discussed to highlight areas for improvement within this study and for future studies. Suggestions for future research are included in this chapter to create support for subsequent studies on the current topic. A final conclusion about the overall implications of the current study is presented at the end of this chapter.

## Research Question

The following research question was investigated: Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time? There were no statistically significant differences between treatment group and psychological well-being, gratitude, or PTSD symptoms. The first null hypothesis states that there are no significant main effects of group on veterans' psychological well-being, gratitude, and PTSD symptoms. Therefore, we failed to reject the first null hypothesis. There was no main effect of group on veterans' psychological well-being, gratitude, and PTSD symptoms.

Results suggested that there were statistically significant main effects between time and gratitude and time and psychological well-being. These main effects had large effect sizes denoting strong main effects. Post hoc results concluded that there were statistically significant main effects from time 1 to time 4, time 1 to time 5, time 2 to time 4, and time 2 to time 5 on psychological well-being. The second null hypothesis states that there are no main effects of time on veterans' psychological well-being, gratitude, and PTSD symptoms We reject the second null

hypothesis and accept the alternative hypothesis for the gratitude and psychological well-being variables. There were main effects of time on gratitude and psychological well-being. We failed to reject the null hypothesis for the main effect of time of a gratitude intervention on PTSD symptoms. There were no main effects of a gratitude journal intervention between time and PTSD symptoms.

The results indicated that there was a statistically significant interaction between group and time on veterans' gratitude. A large effect size indicated that there was a strong interaction effect, which denoted further support for the statistical significance of the interaction. There were no significant interactions between time and group on psychological well-being or between time and group on veterans' PTSD symptoms. The final null hypothesis associated with the research question suggests that there is no interaction effect between group and time of a gratitude journal intervention on veterans' psychological well-being, gratitude, and PTSD symptoms. We rejected the third null hypothesis in relation to the gratitude variable. There was an interaction effect between group and time of a gratitude journal intervention on veterans' gratitude. We failed to reject the third null hypothesis for the dependent variables, PTSD symptoms and psychological well-being. There was not an interaction effect between group and time of a gratitude journal intervention on veterans' psychological well-being and PTSD symptoms. In conclusion, the results indicated that a gratitude journal exercise can affect veterans' gratitude over time and the time of a gratitude journal intervention effects veterans' psychological well-being.

## Clinical Applications

The results of this study suggest that practicing gratitude journaling can positively impact psychological well-being and gratitude. Large effects indicated strong relationships between time and gratitude, time and psychological well-being, and time and group on gratitude. The

magnitude of these effect sizes supports existing literature on gratitude journals and positive psychology theory and demonstrate that integrating gratitude interventions and other positive psychology practices in therapeutic services for veterans is imperative. Gratitude journal interventions have been proven to increase psychological well-being and decrease negative affect and depressive symptoms (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). Gratitude journaling and other positive psychology interventions have been neglected from clinical and academic fields despite the empirical evidence supporting its positive effects on well-being (Froh et al., 2008; Froh et al., 2009; Garland et al., 2007; Işık & Ergüner-Tekinalp, 2017; Redwine et al, 2017; Seligman et al., 2005; Sergeant & Mongrain, 2011; Suldo et al., 2015). The broaden-and-build model suggests that experiencing positive emotions leads to several thought action repertoires (e.g. desire to express more gratitude) and ultimately enhanced well-being, fulfillment, and health (Frederickson, 2013). Participants experienced the emotion, gratitude by writing a gratitude journal. In accordance to the broaden-and-build theory, practicing this gratitude exercise led to improvements in gratitude and psychological well-being. Literature on veterans experiencing PTSD symptoms suggests implementing wellness-based models (e.g. positive psychology) into rehabilitating veterans (Belaise et al., 2005; Carrola & Corbin-Burdick, 2015). The results of this study demonstrate that positive psychology gratitude journal exercises can improve psychological well-being and supports current literature on integrating wellness and positive psychology interventions into therapeutic practice for veterans. The results of this study demonstrate the need for advocacy on incorporating gratitude interventions in clinical settings. Clinicians and counselor educators need to be aware of the psychological benefits that gratitude journaling and other positive psychology interventions can have on veterans and other diverse

populations. Gratitude practices can be integrated into educational counseling systems as well as standard clinical practice. Clinicians and counselor educators can learn how to instruct clients and counselors in training on gratitude exercises. This will keep current clinical practices up to date and support best practices in the field by integrating therapeutic exercises that are empirically supported. In the next section, limitations of the study are presented.

## Limitations

There were several limitations within this study. The current study was conducted during the COVID-19 pandemic. The pandemic could have affected the participants normal levels of gratitude, psychological well-being, and PTSD symptoms. The Coronavirus may have been a confounding variable and limitation in recruiting participants. Recruiting a large sample size of veterans was a limitation in this study. This population is protected by the veteran organizations that they are associated with, which restricted the recruitment process and generalizability of this study. The two-period crossover design consisted of a four-week time period of the gratitude journal exercises, and five time points of survey collection, the length of the study could have contributed to attrition and represents another limitation. Some participants dropped out of the study before completing the entire four-week duration. This was resolved by conducting multiple imputations, however it is ideal to have a complete data set before cleaning data to most accurately represent the population and generalize results. The small sample size analyzed in this study was less than the initial sample size at the beginning of the study, which can affect the power of the results. The results of the study are not generalizable due to the small sample size. This study took place online, while the online format could have beneficial implications (e.g. easy access for participants to complete surveys) it is also a limitation in this study and a threat to the ecological validity of this study. It was difficult to ensure all participants are following the

intervention instructions appropriately and completing all of the five surveys. Several participants started the study at different dates, this made it difficult to monitor each participant at each point in time. Although there were several limitations, this study provides important empirical evidence that a gratitude journal intervention improves veterans' gratitude and psychological well-being over time. Future research implications are discussed in the next section.

## Future Research

Future research on the effects of gratitude exercises need to be conducted on veterans to support the need for more diverse treatment options for this population as well as provide evidence to help generalize results. A larger sample size will help to generalize the results of this study and add more evidence about the benefits of practicing gratitude. Other populations need to be studied to add to the robustness in literature on the effects of gratitude exercises. Future researchers should address the limitation of recruiting veterans by determining best practices in collecting participants from this population. There are many barriers that are designed to protect the anonymity of the veteran population, making this population difficult to recruit. Future research should consider methods to prevent attrition. This study took place over a four-week time period and participant data was collected at five different time points. Participant drop out was difficult to manage and is a limitation that needs to be addressed prior to conducting future studies. Consideration of an alternative research design that better accounts for attrition could reduce the problems with this limitation. However, it is important to note the advantage of the two-period crossover design which allows all individuals to participate in the intervention group. If other studies implement a different research design, then other methods that offer all participants the opportunity to receive the treatment need to be considered. Future studies could

include an in-person format to ensure that each participant completes every survey and adheres to the gratitude intervention instructions to eliminate bias and attrition. Another option for future studies is to conduct research on the effects of gratitude journaling in clinical settings. The clinical environment could help to strengthen the ecological validity of the study and prevent attrition. All participants should begin and end the study at the same time to eliminate bias and monitor survey completion at every time period. Future research should be conducted on the effects of gratitude exercises on diverse populations as well as the effects of other positive psychology practices.

## Conclusion

The results of this study demonstrate that practicing a gratitude journal exercise improves gratitude in veterans over time. The study results also suggest that the time of a gratitude intervention has positive effects on veterans' psychological well-being. The study supports the need for more empirical literature on the effects of diverse clinical treatment options, including gratitude exercises to assist the veteran population. Although the study did not suggest significant results of a gratitude journal exercise on veterans' PTSD symptoms over time, it is still important to include these results and studies on alternative treatments for PTSD symptoms in mental health literature. Studies investigating the significant benefits of other alternative methods combined with gratitude practices for the treatment of PTSD symptoms present future implications for counseling and mental health literature. This study supports existing literature on the positive benefits of gratitude journaling on psychological well-being and gratitude. Clinicians and clinical educators need to include gratitude exercises into their therapeutic and academic practices. More research needs to be conducted on the effects of gratitude journaling to add robustness to the existing literature on gratitude interventions.

# CHAPTER 6

# MANUSCRIPT

Improving Veterans' Psychological Well-being with a Positive Psychology Gratitude Exercise

Clara Adkins, Kristy Carlisle, Rob Carlisle, and Chris Sink

Old Dominion University

Improving Veterans' Psychological Well-being with a Positive Psychology Gratitude Exercise

The demand for therapeutic services aimed at rehabilitating veterans increased exponentially over the past thirty years. Nearly 1.64 million individuals in the military have been deployed in Iraq and Afghanistan since October 2001 (Frain et al., 2010). The number of military veterans that have been injured and disabled due to combat is currently larger than it has been in three decades. Veterans experience several obstacles in social, emotional, vocational, mental, and economic areas as a result of trauma experienced while serving in the military. The need for effective counseling interventions is currently at a considerable high for this population (Frain et al., 2010). Current research on veterans diagnosed with PTSD suggests integrating wellness and strength-based approaches aimed at developing positive psychology characteristics into clinical services for veterans (Beebe & Wyatt, 2009; Belaise et al., 2005; Bell & Robbins, 2007; Blake, 1994; Campbell et al., 2016; Carrola & Corbin-Burdick, 2015; Church et al., 2009; Cushing et al., 2018; Libby et al., 2012; Seligman & Csikszentmihalyi, 2000; Tedeschi & Calhoun, 1997; Tedeschi & McNally, 2011; Walker et al., 2017).

## Theoretical Framework

Positive psychology is a theoretical approach that aims to cultivate positive characteristics, such as gratitude, psychological well-being, life purpose, strengths, positive emotions, self-efficacy, resiliency, and optimism (Pietrzak & Cook, 2013; Seligman & Csikszentmihalyi, 2000; Vahia et al., 2011). Wellness counseling serves as the foundational framework for positive psychology and has a broader scope of literature than the more recently developed theory of positive psychology (Carrola & Corbin-Burdick 2015; Seligman & Csikszentmihalyi, 2000;). Wellness models use a holistic lens that integrate physical, psychological, and spiritual components of health (Carrola & Corbin-Burdick, 2015). Positive

psychology incorporates this holistic approach and uses interventions that develop specific positive psychology constructs, such as gratitude and psychological well-being (Carrola & Corbin-Burdick, 2015; Porcari et al., 2017; Seligman & Csikszentmihalyi, 2000). The aims of positive psychology are to optimize well-being, and physical, mental, emotional, and spiritual health. Positive psychology practitioners encourage individuals to not only overcome barriers, such as trauma but to experience continual growth in positive attributes and life experiences (Asplund et al., 2007; Magyar-Moe,2009; Rashid, 2008; Rath, 2007; Seligman & Csikszentmihalyi, 2000; Seligman et al., 2005).

**Broaden-and-Build Theory**

Barbara Frederickson (2013) created the Broaden-and-Build Theory, a theoretical model within positive psychology. The Broaden-and-Build Theory proposes that positive emotions can create new thoughts and actions, which can lead to new relationships, social supports, environmental knowledge, and coping skills (Emmons & Stern, 2013; Frederickson, 2013; Frederickson & Losada, 2005). These thought-action repertoires create opportunities for enhancement in well-being, growth and fulfillment (Emmons & Stern, 2013; Frederickson, 2013). Frederickson (2013) describes ten positive emotions that are associated with the model. One of the ten positive emotions suggested by Frederickson (2013) is gratitude. Each of the ten positive emotions is described with the patterns and triggers that can initiate the emotion, the thought-action repertoire that the emotion creates, and resources that can help build the emotion. Gratitude is triggered within people when they acknowledge other people, places, events, experiences, or things as the source of their good fortune (Froh et al., 2008; Peterson & Seligman, 2004). The thought-action repertoire that is initiated by practicing or experiencing gratitude includes creativity, new ideas, and generosity. The resource that is developed by

experiencing gratitude are new skills, and a desire to express generosity and kindness to others. The Broaden-and Build Theory supports the notion that practicing gratitude can increase well-being. The theoretical model suggests that psychological well-being could be enhanced by practicing gratitude, since it is a core component in the umbrella term well-being (Fredrickson, 2013). These positive psychology constructs are essential in progressing current counseling and veteran rehabilitation literature (Carrola & Corbin-Burdick, 2015; Fredrickson, 2013).

## Veterans

Mental health issues, such as suicide and PTSD are prominent concerns in the veteran population (Hester, 2017). Currently, suicide rates are extremely high for veterans (Hester, 2017; U.S. Department of Veterans Affairs, 2019). Suicide for veterans was 1.5 times higher than the suicide rate for non-veterans in 2017 (U.S. Department of Veterans Affairs, 2019). In 2017, there were 6,139 total suicide deaths carried out by veterans. Additionally, in 2017, suicidal deaths in female veterans was approximately 16.8 in 100,000 and suicidal deaths in male veterans was 39.1 per 100,000 (U.S. Department of Veterans Affairs, 2019). Unfortunately, veterans that do not receive services from veterans' affairs (VA) do not have the same access to crisis response resources as veterans who are receiving VA services. According to Hester (2017) over 1.5 million veterans receiving services from the VA were diagnosed with a mental illness in 2016 and current demographic reports suggest that approximately 21 suicidal deaths occur by veterans daily (Hester, 2017). Approximately 30.9% of Vietnam veterans and 5-20% of Iraq (OIF) and Afghanistan (OEF) veterans report PTSD symptoms in their lifetime" (Wahbeh & Oken, 2013). Around 45% of Afghanistan and Iraq war veterans have applied for disability related compensation (McNally & Frueh, 2013). In 2012, PTSD was the third most common disability in veterans who have been compensated for their disabilities, representing approximately 572,

612 veterans (McNally & Frueh, 2013). Veterans are confronted with several barriers that hinder them from seeking and receiving treatment. Some examples of these barriers include unemployment, interpersonal relationship issues, sleep disturbances, drug and alcohol use, symptoms of depression and anxiety, feelings of isolation and extreme discomfort in social settings, stigmatization of mental health diagnoses, suicidal ideation, lower life satisfaction, comorbid diagnoses minimal community involvement, and lack of availability of diverse treatment options (Carrola & Corbin-Burdick, 2015; Myers et al., 2000; Myers & Sweeney, 2008; Porcari et al., 2017; Sayer et al., 2009; Wahbeh & Oken, 2013; Xue et al., 2015). These demographics demonstrate the current need for more evidence-based therapeutic interventions that can assist veterans.

Hester (2017) suggests that there is a high demand for more effective mental health services for veterans within the VA. Evidence-based research on practical and contemporary therapy for veterans needs to be implemented to meet this high demand for more effective services (Carrola & Corbin-Burdock, 2015; Hester, 2017; Porcari et al., 2017; Vahia et al., 2011). Positive psychology and wellness interventions, such as gratitude letter exercises could lead to improvements in gratitude, psychological well-being, and overcoming barriers (e.g. PTSD symptoms) (Carrola & Corbin-Burdick 2015; Seligman & Csikszentmihalyi, 2000). Recent trends in mental health services for veterans use the medical model to inform treatment. However, the medical model takes a disease focused stance aimed at diagnosing and treating pathology and neglects including integrated interventions that can help veterans attain maximal well-being. Wellness approaches are designed to help heal individuals through mind, body and spiritual connections. Proponents of the wellness model apply preventative interventions to promote optimal health and increase positive well-being. (Carrola & Corbin-Burdick 2015;

Myers et al., 2000; Myers & Sweeney, 2008). Carrola & Corbin-Burdick (2015) suggest integrating wellness models, holistic interventions, and strength-based interventions (e.g. positive psychology gratitude journals) into therapeutic services to fulfill the diverse needs of veterans and help them cultivate positive characteristics.

## Gratitude

Gratitude is originated from Latin. The meaning of gratia is favor and gratus is defined as pleasing (Emmons & Stern, 2013). Gratitude is an emotional state, a virtue, or a strength that can increase well-being and is a universal practice and expression in most cultures (Froh et al., 2008). Moreover, this notion is defined as an awareness of good moments and expressing thankfulness for those moments (Peterson & Seligman, 2004). When individuals experience gratitude, they have a sense of thankfulness for a gift or a moment of peace and happiness (Froh et al., 2008; Peterson & Seligman, 2004). Gratitude can be expressed in several ways, such as journaling, writing a letter, giving gifts, and verbalizing thankfulness (Rash et al., 2011). Gratitude is neglected by clinicians in the therapeutic process and needs to be integrated into therapy due to its significant effects on increasing well-being (Emmons & Stern, 2013; Huffman et al., 2014; Seligman et al., 2005). Emmons and Stern (2013) suggest implementing experimental studies on the clinical applications of gratitude to provide more support for its use in therapy and shift the focus away from current treatment aims that prioritize decreasing negative symptoms. Gratitude can enhance optimism, happiness, and well-being and decrease depressive symptoms, and psychological well-being (Emmons & Stern, 2013; Huffman et al., 2014; Seligman et al., 2005; Wood et al., 2009).

### Gratitude Journals

There is an expansive amount of literature on gratitude journals and its relationship and effects on lowering depression, decreasing negative affect, enhancing positive affect, life satisfaction, optimism, and social relationships (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). Gratitude journaling is one of the most well-known and universally used gratitude exercises (Breathnach, 1995; Emmons, 2004; Emmons & McCullough, 2003, Young & Hutchinson, 2012). Several gratitude journal studies apply the positive psychology intervention known as "the three good things" by asking participants to write down three good things that happened to them each day (Parks & Titova, 2016; Seligman et al., 2005). Parks and Titova (2016) recommend requiring participants to write down specific things they are grateful for, instead of general statements since general gratitude activities have the potential to become mundane. Some studies instruct individuals to write down five things they are grateful for (Ahmed, 2016; Drążkowski et al., 2017; Emmons & McCullough, 2003; Flinchbaugh et al., 2012; Kaczmarek et al., 2015; Martínez-Martí et al., 2010). Other studies request participants to write down things they are grateful for daily but do not require them to write a specific number of things they are grateful for (Işık & Ergüner-Tekinalp, 2017; O'Connell et al., 2018).

Although, the majority of gratitude journal literature suggests practicing gratitude improves well-being, the methods and procedures conducted in the various gratitude journal literature is inconsistent, excludes a true control condition, and involves limited populations (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016; Wood et al., 2010). For example, O'Connell et al (2018) conducted a study requesting participants to write in a gratitude journal daily for two weeks. The researchers conducted a post-test after two weeks and one month of completing the gratitude

journal exercise. Killen and Macaskill (2015) required participants to write "three good things" daily in a gratitude journal for 14 days and conducted daily follow up measures, and post-tests at 15 days and 45 days after the intervention. In a study conducted by Sergeant and Mongrain (2011) participants listed five things they were grateful for daily for one week. Post-tests were conducted at one month, three months, and six months. Several gratitude journal studies do not provide an authentic control condition. These studies use other conditions to represent the control group. For example, some instruct participants in control groups to write about daily hassles, early memories, and actions completed during the day rather than giving them no treatment (Froh et al., 2009; Martínez-Martí et al., 2010; Rash et al, 2011; Seligman et al., 2005).

The literature on gratitude journal interventions with clinical populations is scarce (Garland et al., 2007; Redwine et al, 2017; Sergeant & Mongrain, 2011). Some clinical populations that have been included in gratitude journal literature are patients with Stage B, asymptomatic heart failure, patients diagnosed with cancer, and individuals with depression symptoms (Garland, et al., 2007; Redwine et al, 2017; Sergeant & Mongrain, 2011) Currently, studies on the effects of gratitude journaling with the veteran population and PTSD symptoms have yet to be conducted. While addressing a gap in the positive psychology gratitude journaling literature and its applications in assisting the numerous veterans in need of effective therapeutic services, the purpose of this study was to investigate the effects of a positive psychology gratitude journal intervention on veterans' psychological well-being, gratitude, and PTSD symptoms across time. The results of this study could provide new knowledge on effective clinical applications for veterans experiencing PTSD symptoms. Additionally, the results could lead to the advancement of counseling, counselor education, and other mental health related

fields by addressing evidence-based research on the effectiveness of positive psychology gratitude interventions.

## Research Question

The study addressed the following research question:

Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time?

**Hypothesis One:**

$H_0$: There is not a main effect between groups on veterans' psychological well-being, gratitude, and PTSD symptoms?

$H_a$: There is a main effect between groups on veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Two:**

$H_0$: There is a not a main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms.

$H_a$: There is a main effect of time on veterans' psychological well-being, gratitude, and PTSD symptoms.

**Hypothesis Three:**

$H_0$: There is no interaction between group and time on veterans' psychological well-being, gratitude, and PTSD symptoms.

$H_a$: There is an interaction between group and time on veterans' psychological well-being, gratitude, and PTSD symptoms.

## Method

Participants in the study were veterans, 18 years of age or older, in a southeastern location of the United States. Demographic information, such as ethnicity, gender, and age were obtained at the beginning of the study. 31 participants were recruited for this study. A G Power analysis was conducted to determine the necessary sample size for the study. Assuming a medium effect size (f = 0.25) at least 31 participants are needed (Cohen, 1988). The veterans were recruited through social media outlets (e.g., Facebook) and veterans associations (e.g. American Legion Tidewater Post 327, Old Dominion University Military Connection Center etc.) within the area. Veteran participants received a positive counseling intervention in the form of a gratitude journal exercise. Half of the participants were randomly assigned into the control group and the other half in the intervention group at the beginning of the study. The subjects switched groups at the second week of the study.

A quasi-experimental two-period crossover design was used for the purposes of this study. The independent variable was treatment group (gratitude journal intervention and control). Time constituted one factor and was represented by 5 levels: time 1: pre-test scores from the first day of the study; time 2: one week into the study; time 3: 2 weeks from the beginning of the study; time 4: 3 weeks from the start of the study; time 5: 4 weeks from the beginning of the study. The dependent variables included gratitude, psychological well-being, and PTSD symptoms and were measured using the following instruments: The Gratitude Questionnaire- Six Item Form (GQ-6), The psychological wellbeing scale - short (PWBS-S), and The PTSD Checklist for DSM-5 (PCL-5).

## Results

### Data Cleaning

The missing data was analyzed for patterns in SPSS. The results indicated that the patterns of missing values were random, meaning that the data is less likely to be biased. Data analysis indicated that data was missing from several subjects, 19.38% of values were missing from the data set. Listwise deletion was conducted on three subjects. Data from three participants were removed since these subjects only provided pre-intervention data at the beginning of the study. Two participants had missing data from one survey question, and one participant had missing data from three survey questions. Ten subjects filled out surveys for some of the time points and did not complete surveys for other time points. Mean substitution was used to replace the missing data from one item on five survey questions and total scores were recalculated. Mean substitutions were calculated by using the data from all of the participants scores associated with the single missing survey question at the specific time point and group. Once the mean score was found it was added to the total score for each of the three participants. This method allowed the rest of the participant's survey data to remain and be combined with the mean substitution values. Mean substitution is a valid method used in data cleaning when data sets contain randomly selected samples and are normally distributed (Kang, 2013). After mean substitutions were added to the five items, patterns were analyzed. Missing value patterns were random and 13.33% of the data values were missing. Multiple imputations were conducted for the data from the remaining ten participants. Three participants had three surveys missing, three other participants had two surveys missing, and the remaining four participants had one survey missing.

**Outliers**

Data analysis was conducted to determine studentized residuals for each time variable across the three dependent variables. There were two outliers in the psychological well-being

variable, which had a studentized residual value of -3.79 and -3.52. The PTSD variable had outliers at Time 1, Time 2, Time 3, Time 4 which had studentized residual values of 3.05, 3.78, 3.18, and 3.22. Two outliers were present for the gratitude variable at Time 2 and Time 5, which had studentized residual values of -3.01 and -3.14. Data was run for each of the dependent variables excluding the majority of outliers. Outliers with studentized residual values of 3.05, 3.78, 3.18, 3.22, -3.79, -3.52, and -3.14 were removed from the data set in order to maintain normality without losing all participant data associated with outliers. A total of N = 25 participants was used for final analysis after cleaning the data and removing outliers.

**Shapiro Wilk's Test**

A Shapiro Wilk's test was conducted to assess the data for normality. The data was normally distributed ($p > .05$) except for Time 3 ($p = .03$) for the psychological well-being variable. Data was normally distributed ($p > .05$) except for Time 1 ($p = .02$) and Time 2 ($p = .05$) for the gratitude variable. The data was normally distributed on the PTSD variable ($p > .05$) except for Time 4 ($p = .03$) and Time 5 ($p = .02$) as assessed by Shapiro-Wilk's test of normality on the studentized results. Due to the majority of the variables meeting normality ($p > .05$), it is assumed that the violation of the other time variables is not significantly different enough to conduct transformations (Field, 2013).

**Mauchly's Test of Sphericity**

Mauchly's test of sphericity was conducted. Mauchly's test results indicated that the assumption of sphericity had been met for one of the three dependent variables, PTSD symptoms, $x^2(2) = 12.70$, $p = .178$. Greenhouse-Geisser values were used to interpret data since Mauchly's test was violated for gratitude, $x^2(2) = 24.46$, $p = .004$, and for psychological well-

being, $x^2(2) = 18.19$, $p = .034$. Greenhouse-Geisser results concluded sphericity was met for gratitude ($\varepsilon = .64$) and for psychological well-being ($\varepsilon = .68$).

**Two-way repeated measures ANOVA analysis**

Descriptive Statistics were conducted to display means and standard errors for each group across time for all of the dependent variables. There was a statistically significant two-way interaction between treatment and time on the gratitude variable, $F(2.56, 58.97) = 2.95$, $p = .048$, partial $\eta^2 = .14$. The interaction effect between group and gratitude had a large effect size indicating a strong interaction (Sink et al., 2005). No statistically significant interactions existed between treatment and time on PTSD symptoms, $F(4, 92) = .68$, $p = .605$, partial $\eta^2 = .03$. The results indicated that there was no significant interaction between treatment and time on psychological well-being, $F(2.715, 62.45) = .34$, $p = .775$, partial $\eta^2 = .02$.

Main effects for group were conducted. Gratitude was not statistically significantly different in the control compared to the intervention group $F(1, 23) = 1.89$, $p = .182$. Psychological well-being was not statistically significantly different in the control group compared to the intervention group $F(1, 23) = .018$, $p = .894$. PTSD symptoms were not statistically significantly different in the control (8.95 = 36.42, SE = 2.26) compared to the intervention group, $F(1, 23) = 1.63$, $p = .21$.

Main effects for time were conducted. There was a statistically significant difference between time and gratitude $F(2.56, 58.97) = 4.06$, $p = .015$, partial $\eta^2 = .15$. The main effect of time on gratitude has a large effect size. There was a statistically significant main effect between time and psychological well-being $F(2.72, 62.45) = 7.06$, $p = .001$, partial $\eta^2 = .24$, which indicated a large effect size. The large effect sizes denoted strong relationships for time and gratitude and time and psychological well-being. The results indicated there were no significant

differences between time and PTSD symptoms $F(4, 92) = .29$, $p = .839$. Post hoc analysis was conducted using Bonferroni adjustments. Psychological well-being was statistically different between time 1 and time 4, $p = .001$ and time 1 and time 5, $p = .003$. There was a significant difference between Time 2 and Time 4, $p = .004$ and time 2 and time 5, $p = .008$ on psychological well-being.

## Discussion

### Research Question

The following research question was investigated: Does a gratitude journal intervention improve veterans' psychological well-being, gratitude, and PTSD symptoms over time? There were no statistically significant differences between treatment group and psychological well-being, gratitude, or PTSD symptoms. The first null hypothesis states that there are no significant main effects of group on veterans' psychological well-being, gratitude, and PTSD symptoms. Therefore, we failed to reject the first null hypothesis. There was no main effect of group on veterans' psychological well-being, gratitude, and PTSD symptoms.

Results suggested that there were statistically significant main effects between time and gratitude and time and psychological well-being. These main effects had large effect sizes denoting strong main effects. Post hoc results concluded that there were statistically significant main effects from time 1 to time 4, time 1 to time 5, time 2 to time 4, and time 2 to time 5 on psychological well-being. The second null hypothesis states that there are no main effects of time on veterans' psychological well-being, gratitude, and PTSD symptoms We reject the second null hypothesis and accept the alternative hypothesis for the gratitude and psychological well-being variables. There were main effects of time on gratitude and psychological well-being. We failed to reject the null hypothesis for the main effect of time of a gratitude intervention on PTSD

symptoms. There were no main effects of a gratitude journal intervention between time and PTSD symptoms.

The results indicated that there was a statistically significant interaction between group and time on veterans' gratitude. A large effect size indicated that there was a strong interaction effect, which suggested further support for the statistical significance of the interaction. There were no significant interactions between time and group on psychological well-being or between time and group on veterans' PTSD symptoms. The final null hypothesis associated with the research question suggests that there is no interaction effect between group and time of a gratitude journal intervention on veterans' psychological well-being, gratitude, and PTSD symptoms. We rejected the third null hypothesis in relation to the gratitude variable. There was an interaction effect between group and time of a gratitude journal intervention on veterans' gratitude. We failed to reject the third null hypothesis for the dependent variables, PTSD symptoms and psychological well-being. There was not an interaction effect between group and time of a gratitude journal intervention on veterans' psychological well-being and PTSD symptoms. In conclusion, the results indicated that a gratitude journal exercise can affect veterans' gratitude over time and the time of a gratitude journal intervention effects veterans' psychological well-being.

## Clinical Applications

The results of this study suggest that practicing gratitude journaling can positively impact psychological well-being and gratitude. Large effects indicated strong relationships between time and gratitude, time and psychological well-being, and time and group on gratitude. The magnitude of these effect sizes supports existing literature on gratitude journals and positive psychology theory, and demonstrate that integrating gratitude interventions and other positive

psychology practices in therapeutic services for veterans is imperative. Gratitude journal interventions have been proven to increase psychological well-being and decrease negative affect and depressive symptoms (Emmons & McCullough, 2003; Froh et al., 2008; Killen & Macaskill, 2015; O'Connell et al., 2018; Parks & Titova, 2016). Gratitude journaling and other positive psychology interventions have been neglected from clinical and academic fields despite the empirical evidence supporting its positive effects on well-being (Froh et al., 2008; Froh et al., 2009; Garland et al., 2007; Işık & Ergüner-Tekinalp, 2017; Redwine et al, 2017; Seligman et al., 2005; Sergeant & Mongrain, 2011; Suldo et al., 2015). The broaden-and-build model suggests that experiencing positive emotions leads to several thought action repertoires (e.g. desire to express more gratitude) and ultimately enhanced well-being, fulfillment, and health (Frederickson, 2013). Participants experienced the emotion, gratitude by writing a gratitude journal. In accordance to the broaden-and-build theory, practicing this gratitude exercise led to improvements in gratitude and psychological well-being. Literature on veterans experiencing PTSD symptoms suggests implementing wellness-based models (e.g. positive psychology) into rehabilitating veterans (Belaise et al., 2005; Carrola & Corbin-Burdick, 2015). The results of this study demonstrate that positive psychology gratitude journal exercises can improve psychological well-being and supports current literature on integrating wellness and positive psychology interventions into therapeutic practice for veterans. The results of this study demonstrate the need for advocacy on incorporating gratitude interventions in clinical settings. Clinicians and counselor educators need to be aware of the psychological benefits that gratitude journaling and other positive psychology interventions can have on veterans and other diverse populations. Gratitude practices can be integrated into educational counseling systems as well as standard clinical practice. Clinicians and counselor educators can learn how to instruct clients

and counselors in training on gratitude exercises. This will keep current clinical practices up to date and support best practices in the field by integrating therapeutic exercises that are empirically supported. In the next section, limitations of the study are presented.

## Limitations

There were several limitations within this study. The current study was conducted during the COVID-19 pandemic. The pandemic could have affected the participants normal levels of gratitude, psychological well-being, and PTSD symptoms. The Coronavirus may have been a confounding variable and limitation in recruiting participants. Recruiting a large sample size of veterans was a limitation in this study. This population is protected by the veteran organizations that they are associated with, which restricted the recruitment process and generalizability of this study. The two-period crossover design consisted of a four-week time period of the gratitude journal exercises, and five time points of survey collection, the length of the study could have contributed to attrition and represents another limitation. Some participants dropped out of the study before completing the entire four-week duration. This was resolved by conducting multiple imputations, however it is ideal to have a complete data set before cleaning data to most accurately represent the population and generalize results. The small sample size analyzed in this study was less than the initial sample size at the beginning of the study, which can affect the power of the results. The results of the study are not generalizable due to the small sample size. This study took place online, while the online format could have beneficial implications (e.g. easy access for participants to complete surveys) it is also a limitation in this study and a threat to the ecological validity of this study. It was difficult to ensure all participants are following the intervention instructions appropriately and completing all of the five surveys. Several participants started the study at different dates, this made it difficult to monitor each participant

at each point in time. Although there were several limitations, this study provides important empirical evidence that a gratitude journal intervention improves veterans' gratitude and psychological well-being over time. Future research implications are discussed in the next section.

## Future Research

Future research on the effects of gratitude exercises need to be conducted on veterans to support the need for more diverse treatment options for this population as well as provide evidence to help generalize results. A larger sample size will help to generalize the results of this study and add more evidence about the benefits of practicing gratitude. Other populations need to be studied to add to the robustness in literature on the effects of gratitude exercises. Future researchers should address the limitation of recruiting veterans by determining best practices in collecting participants from this population. There are many barriers that are designed to protect the anonymity of the veteran population, making this population difficult to recruit. Future research should consider methods to prevent attrition. This study took place over a four-week time period and participant data was collected at five different time points. Participant drop out was difficult to manage and is a limitation that needs to be addressed prior to conducting future studies. Consideration of an alternative research design that better accounts for attrition could reduce the problems with this limitation. However, it is important to note the advantage of the two-period crossover design which allows all individuals to participate in the intervention group. If other studies implement a different research design, then other methods that offer all participants the opportunity to receive the treatment need to be considered. Future studies could include an in-person format to ensure that each participant completes every survey and adheres to the gratitude intervention instructions to eliminate bias and attrition. Another option for future

studies is to conduct research on the effects of gratitude journaling in clinical settings. The clinical environment could help to strengthen the ecological validity of the study and prevent attrition. All participants should begin and end the study at the same time to eliminate bias and monitor survey completion at every time period. Future research should be conducted on the effects of gratitude exercises on diverse populations as well as the effects of other positive psychology practices.

## Conclusion

The results of this study demonstrate that practicing a gratitude journal exercise improves gratitude in veterans over time. The study results also suggest that the time of a gratitude intervention has positive effects on veterans' psychological well-being. The study supports the need for more empirical literature on the effects of diverse clinical treatment options, including gratitude exercises to assist the veteran population. Although the study did not suggest significant results of a gratitude journal exercise on veterans' PTSD symptoms over time, it is still important to include these results and studies on alternative treatments for PTSD symptoms in mental health literature. Studies investigating the significant benefits of other alternative methods combined with gratitude practices for the treatment of PTSD symptoms present future implications for counseling and mental health literature. This study supports existing literature on the positive benefits of gratitude journaling on psychological well-being and gratitude. Clinicians and clinical educators need to include gratitude exercises into their therapeutic and academic practices. More research needs to be conducted on the effects of gratitude journaling to add robustness to the existing literature on gratitude interventions.

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# Appendix A

## Informed Consent

## INFORMED CONSENT DOCUMENT
## OLD DOMINION UNIVERSITY

**PROJECT TITLE:** Improving Veterans' Psychological Well-being with a Positive Psychology Gratitude Intervention

**INTRODUCTION:** This study aims to fill in the gap in counseling and counselor education research by acknowledging the demand for more effective services for the veteran population. A mixed factorial design will test for the impact of a positive psychology gratitude intervention on veterans' gratitude level, psychological well-being, and PTSD symptoms.

**RESEARCHERS: Investigators:** Ms. Clara Adkins, M.S.Ed, PhD Candidate, Dr. Robert Carlisle, PhD, Dr. Christopher Sink, PhD. **Principal Investigator:** Dr. Kristy Carlisle

**DESCRIPTION OF RESEARCH STUDY:** The demand for therapeutic services and effective counseling interventions aimed at rehabilitating veterans has increased exponentially over the past thirty years**.** Currently, there are limited studies on effective non-traditional wellness interventions (e.g. positive psychology) for veterans. This research study will contribute to counseling, psychology, and other mental health literature by filling in the gap between positive psychology interventions and effective wellness counseling services for veterans. Veterans' psychological well-being, gratitude, and PTSD symptoms will be measured using valid and reliable instruments.

**EXCLUSIONARY CRITERIA:** Participants must be 18 years of age and older and must hold a current veteran status.

**RISKS AND BENEFITS**

**RISKS:** The intervention in this research focuses on a positive psychology gratitude letter exercise that does not require participants to discuss emotional trauma, personal narratives, or any issues associated with PTSD. The only requirement that involves PTSD is the short PTSD symptom survey at the beginning, middle, and end of the study. In case of the unlikely event of PTSD symptoms occurring in a participant during the study, the primary researcher has professional clinical training in mental health counseling and will use appropriate skills to deescalate any potential problems and make immediate referrals.

**BENEFITS:** Participants may experience benefits in enhanced psychological well-being. Mental health resources will be provided to participants interested in receiving therapeutic services outside of the study upon request.

**COSTS AND PAYMENTS:** The researchers want your decision about participating in this study to be absolutely voluntary. Participants in this study will be entered in a raffle to win a $25 Amazon gift card. Ten raffle prizes will be drawn at the end of this study.

**NEW INFORMATION:** If the researchers find new information during this study that would reasonably change your decision about participating, then they will inform you.

**CONFIDENTIALITY:** All information obtained about you in this study is strictly confidential unless disclosure is required by law. The results of this study may be used in reports, presentations and publications, but the researcher will ensure that any identifiable information is removed in transcription.

**WITHDRAWAL PRIVILEGE:** It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study at any time. There will be absolutely no penalty of any kind for doing so.

**VOLUNTARY CONSENT:** By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

Dr. Kristy Carlisle, primary investigator, kcarlis@odu.edu
Clara Adkins, cadki007@odu.edu

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should contact Dr. Laura Chezan, Chair of the Darden College of Education Human Subjects Review Committee, Old Dominion University, at lchezan@odu.edu or 757-683-7055.

And importantly, by clicking "yes", you are telling the researcher YES, that you agree to participate in this study.

☐ Yes, I agree to participating in this study

## Appendix B

## Demographics Survey

**Instructions:** Please write your answer or place a check mark next to the statement that best describes you.

1. What is your age?

   _____

2. What is your gender?
   - ☐ Female
   - ☐ Male
   - ☐ Other _____ (write in)

3. What is your ethnicity?
   - ☐ Asian/Pacific Islander
   - ☐ Black/African American
   - ☐ Hispanic/Latino
   - ☐ Native American/Alaskan Native
   - ☐ White/Caucasian
   - ☐ Multi-Racial _____ (write in)
   - ☐ Other _____(write in)

4. Are you currently employed?
   - ☐ Yes
   - ☐ No

5. What is your relationship status?
   - ☐ Engaged
   - ☐ In a relationship
   - ☐ Married
   - ☐ Single
   - ☐ Divorced
   - ☐ Separated
   - ☐ Widowed
   - ☐ Other _____(write in)

6. What branch of the military did you serve?

- Air Force
- Army
- Coast Guard
- Marine Corps
- Navy

7. How many years did you serve in the military? (write in)

_____

8. Have you had combat experience while in service?
   - Yes
   - No

9. How many years have you been a veteran? (write in)

_____

Please answer the following questions if you feel comfortable:

10. Have you ever received any mental health services (e.g. services from a counselor, psychologist, psychiatrist etc.)?
    - Yes
    - No

11. If you indicated "Yes" for the above question, have you ever received a mental health diagnosis? Please include the diagnosis if appropriate (write in)

_____

12. Are you currently taking any medication? If so, what medication are you taking? (write in)

_____

## Appendix C

### The Gratitude Questionnaire – Six Item Form (GQ-6)

Using the scale below as a guide, rate each statement to indicate how much you agree with it.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

1. I have so much in life to be thankful for.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

2. If I had to list everything that I felt grateful for, it would be a very long list.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

3. When I look at the world, I don't see much to be grateful for.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

4. I am grateful to a wide variety of people.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

5. As I get older I find myself more able to appreciate the people, events, and situations that have been a part of my life history.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

6. Long amounts of time can go by before I feel grateful for someone.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neutral
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

## Appendix D

### The Psychological Well-being Scale - Short (PWBS-S)

**Instructions:** Choose one response beside each statement to indicate how much you agree or disagree.

1. "I like most parts of my personality."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

2. "When I look at the story of my life, I am pleased with how things have turned out so far."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

3. "Some people wander aimlessly through life, but I am not one of them."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

4. "The demands of everyday life often get me down."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

5. "In many ways I feel disappointed about my achievements in life."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

6. "Maintaining close relationships has been difficult and frustrating for me."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

7. "I live life one day at a time and don't really think about the future."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

8. "In general, I feel I am in charge of the situation in which I live."

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

9. "I am good at managing the responsibilities of daily life."

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

10. “I sometimes feel as if I've done all there is to do in life.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

11. “For me, life has been a continuous process of learning, changing, and growth.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

12. “I think it is important to have new experiences that challenge how I think about myself and the world.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

13. “People would describe me as a giving person, willing to share my time with others.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

14. “I gave up trying to make big improvements or changes in my life a long time ago”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

15. “I tend to be influenced by people with strong opinions”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

16. “I have not experienced many warm and trusting relationships with others.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

17. “I have confidence in my own opinions, even if they are different from the way most other people think.”

| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |
|---|---|---|---|---|---|---|

18. “I judge myself by what I think is important, not by the values of what others think is important.”

| | | | | | | |
|---|---|---|---|---|---|---|
| Strongly agree | Somewhat agree | A little agree | Neither agree nor disagree | A little disagree | Somewhat disagree | Strongly disagree |

## Appendix E

## The PTSD Checklist for DSM-5 (PCL-5)

**Instructions:** Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:

1. Repeated, disturbing, and unwanted memories of the stressful experience?

Not at all A little bit Moderately Quite a bit Extremely

2. Repeated, disturbing dreams of the stressful experience?

Not at all A little bit Moderately Quite a bit Extremely

3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?

Not at all A little bit Moderately Quite a bit Extremely

4. Feeling very upset when something reminded you of the stressful experience?

Not at all A little bit Moderately Quite a bit Extremely

5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?

Not at all A little bit Moderately Quite a bit Extremely

6. Avoiding memories, thoughts, or feelings related to the stressful experience?

Not at all A little bit Moderately Quite a bit Extremely

7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?

Not at all A little bit Moderately Quite a bit Extremely

8. Trouble remembering important parts of the stressful experience?

Not at all A little bit Moderately Quite a bit Extremely

9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?

Not at all A little bit Moderately Quite a bit Extremely

10. Blaming yourself or someone else for the stressful experience or what happened after it?

Not at all A little bit Moderately Quite a bit Extremely

11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?

Not at all A little bit Moderately Quite a bit Extremely

12. Loss of interest in activities that you used to enjoy?

Not at all A little bit Moderately Quite a bit Extremely

13. Feeling distant or cut off from other people?

Not at all A little bit Moderately Quite a bit Extremely

14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?

Not at all A little bit Moderately Quite a bit Extremely

15. Irritable behavior, angry outbursts, or acting aggressively?

Not at all A little bit Moderately Quite a bit Extremely

16. Taking too many risks or doing things that could cause you harm?

Not at all A little bit Moderately Quite a bit Extremely

17. Being “superalert” or watchful or on guard?

Not at all A little bit Moderately Quite a bit Extremely

18. Feeling jumpy or easily startled?

Not at all A little bit Moderately Quite a bit Extremely

19. Having difficulty concentrating?

Not at all A little bit Moderately Quite a bit Extremely

20. Trouble falling or staying asleep?

Not at all A little bit Moderately Quite a bit Extremely

# VITA

**Clara Adkins**
2100 New Education Building
4301 Hampton Blvd., Norfolk, VA, 23529

## Education

Old Dominion University
Doctor of Philosophy in Counselor Education and Supervision, Present
Current GPA 3.95/4.00 scale

Old Dominion University
Master of Education in Mental Health Counseling, December 2017
Current GPA 3.98/4.00 scale

Old Dominion University
Bachelor of Science in Psychology: Minor in Philosophy, May 2015
GPA: 3.83/4.00 scale

## Supervision Experience

**Doctoral Supervisor** January 2019 – August 2020
Department of Counseling & Human Services
Old Dominion University,
Sentara Ambulatory Care Center (ACC)

## Teaching Experience

**Doctoral Teaching Assistant** January 2018 – May 2020
Department of Counseling & Human Services
Old Dominion University

## Research Skills & Experience

**Doctoral Research Assistant** August 2018 – May 2019
Department of Counseling & Human Services
Old Dominion University

**Master Research Assistant** August 2015 – December 2017
Department of Counseling & Human Services
Old Dominion University

**Undergraduate Research Assistant** August 2013 – May 2014
Department of Counseling & Human Services
Old Dominion University

## Clinical Internship Experience

**Coach** June 2020 – Present
Eastern Virginia Medical School

**Doctoral Clinical Intern** May 2019 – May 2020
Chesapeake Regional Hospital,
Sentara Ambulatory Care Center &
Christopher Newport University

**Master Clinical Intern** May 2017 – December 2017
The Center for Child & Family Services

## Journal Articles

Sink, C. A., Adkins, C., Cooney, M., & Garverick, T. (2019). An exploratory study of online software to support accountability practices. *Professional School Counseling, 22*(1a), 104-114.

## Presentations

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## Guest Lecturer

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