

5-2017

Posttraumatic Growth in United States Military Veterans

Angela Cox

St. Catherine University, lcoxangela@gmail.com

Recommended Citation

Cox, Angela. (2017). Posttraumatic Growth in United States Military Veterans. Retrieved from Sophia, the St. Catherine University repository website: https://sophia.stkate.edu/msw_papers/715

This Clinical research paper is brought to you for free and open access by the School of Social Work at SOPHIA. It has been accepted for inclusion in Master of Social Work Clinical Research Papers by an authorized administrator of SOPHIA. For more information, please contact amshaw@stkate.edu.

Posttraumatic Growth in United States Military Veterans

by

Angela Cox, B.S.

MSW Clinical Research Paper

Presented to the faculty of the School of Social Work
St. Catherine University and the University of St. Thomas
St. Paul, Minnesota
In Partial fulfillment of the Requirements for the Degree of

Master of Social Work

Committee Members:

Sarah Ferguson, Ph.D., LISW (Chair)

Patrick Pischke, DSW, LICSW

David Holewinski, LICSW, CBIS

The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University - University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

Abstract

PTSD's prevalence in U.S. military veterans requires a greater understanding of the disorder as well as knowledge of the concept of PTG. PTG has been described as a positive outcome from a traumatic experience (Tedeschi & Calhoun, 1996). Research on PTG found that veterans that were married, had strong social support, identified as being a minority, and participated in various trauma-related therapies reported higher levels of PTG. The purpose of this systematic review was to determine the contributing factors of PTG in U.S. military veterans. Knowledge of the contributing factors, signs, and facilitation of PTG is important in relation to the strengths-based perspective of social work practice.

Acknowledgments

First, I would like to thank my family, most especially my husband, Carlos, for graciously filling in for me while I was away from home and focusing time and energy on this project. I also appreciate the times he reminded me of how much time I spent procrastinating, not working on my project, and getting me back on task. To my children, I appreciate the fact that they were all supportive and willing to help out more than normal on everyday tasks that needed to be taken care of.

Next, I would like to thank my cohort members and lifelong friends for all of their support, laughter, hugs, advice, and feedback during these years. We could not have made it this far without each other.

Lastly, I would like to thank my chair and committee members for all of their time, support, and feedback on this research project. To Dr. Ferguson, for her expertise in research, gentle reminders to get assignments submitted on time, and her willingness to meet individually whenever I needed extra help. To Dr. Pischke, for his infinite knowledge of military clinical social work at the VA, in the Army Reserves, and his support and input into my project. To David Holewinski, for his candid sense of humor and encouragement in completing this project.

Table of Contents

Abstract.....2

Acknowledgments.....3

Introduction.....6

Literature Review.....10

Posttraumatic Growth Defined.....10

Similarities and Differences to Resiliency.....12

Research on PTG.....13

Methods.....16

Findings.....19

Discussion.....24

Conclusion.....26

References.....27

Lists of Tables & Appendices

Appendix A: Survey Questions.....33

Appendix B: Table 1: Articles that studied OEF/OIF veterans.....35

Appendix C: Table 2: Table 2: Articles that studied all eras.....38

Introduction

As expected, some military personnel who may have had exposure to traumatic events in their military career could develop symptoms of Posttraumatic Stress Disorder (PTSD). The U.S. Department of Veterans Affairs National Center for PTSD (“PTSD and the Military,” 2013, para. 1) stated that “PTSD experts think PTSD occurs: in about 11-20% of veterans of the Iraq and Afghanistan wars, in as many as 10% of Gulf War (Desert Storm) Veterans, and in about 30% of Vietnam veterans”. According to Barglow (2012), “between 2004 and 2009, 20 percent of the estimated half a million Iraq-Afghanistan war veteran patients were treated for PTSD” and “in 2012, 400,000 war veterans obtained financial assistance for this medical condition. Of two million Iraq and Afghanistan veterans, 10 percent are estimated to have PTSD” (p.44). As time goes on the Department of Veterans Affairs (VA) will continue to encounter growing numbers of veterans suffering from PTSD symptoms. “As many of today’s veterans are returning with PTSD, it is important that rehabilitation counselors have a strong understanding of how to effectively treat PTSD as well as facilitate Posttraumatic Growth (PTG) in veterans in order to ensure lasting positive effect” (Moran, Burker, & Schmidt, 2013, p. 34).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) lists PTSD as a Trauma-and-Stressor-Related Disorder. According to the American Psychiatric Association’s PTSD Fact Sheet (2013):

The exposure must result from one or more of the following scenarios, in which the individual:

- directly experiences the traumatic event;
- witnesses the traumatic event in person;
- learns that the traumatic event occurred to a close family member or close friend (with the actual or threatened death being either violent or accidental); or

- experiences first-hand repeated or extreme exposure to aversive details of the traumatic event (not through media, pictures, television or movies unless work-related) (para. 2).

Individuals respond differently to trauma and often experience various mental health symptoms that typically develop directly after the traumatic event or may occur years after the trauma. Rothbaum, Foa, & Hembree (2007) described the specific responses individuals may have at any time. “Fear and anxiety” occur from feeling unsafe; usually due to the heightened level of alarm during the trauma which also ties into “triggers and cues”. An example of this would involve seeing an abandoned car on the side of the road and remembering trauma related to an exploding car bomb. Some individuals may relive the past traumatic events through “unwanted thoughts, flashbacks, and nightmares” as Rothbaum (2007) and colleagues described when one’s psyche has a difficult time processing the trauma and relating it to the everyday routine. “Increased arousal” can lead to “impatience and irritability” which occurs in accordance with being in an unsafe condition and having to defend oneself or be on constant guard. Another common reaction is to practice “avoidance” or “numbness” to deal with the painful memories. Individuals may feel “angry, irritable, or experience guilt and shame” due to what role the person had in the trauma (Rothbaum et al., p.2). The authors (Rothbaum et al., 2007) also included “grief and depression” (p.2) which can occur and lead to thoughts of suicide caused by the sudden change of emotions and difficulty in maintaining happiness. All of these symptoms can negatively impact an individual’s general functioning, outlook on life, and can occur at random moments causing extreme discomfort and impairment.

Veterans exposed to trauma may experience many negative effects resulting in financial distress, relationship problems, substance abuse, and overall problems involving community

reintegration (Rothbaum et al., 2007; Sayer, Noorbaloochi, Frazier, Carlson, Gravelly, & Murdoch, 2010). Veterans with PTSD may experience many of the symptoms listed above and those negative symptoms can impact them financially, in their relationships with friends and spouses, and potentially cause problems with substance abuse. In a study by Sayer and colleagues, “more than one-half of this select population (Iraq and Afghanistan veterans) was struggling with anger control problems, and nearly one-third had engaged in behaviors that put themselves or others at risk since homecoming, such as dangerous driving and greater alcohol or drug use” (Sayer et al., 2010, p. 590). “Veterans with PTSD have been found to be more likely to engage in maladaptive coping such as worry, self-punishment, and social avoidance than veterans without PTSD” (Moran et al., 2013, p. 35). Angry outbursts could lead to job loss and cause problems in relationships. Veterans could try to self-medicate with illegal substances and alcohol which could lead to loss of relationships and jobs, and in time, financial problems.

While PTSD is a consistent, well-researched, concept within the last twenty years, researchers have identified Posttraumatic Growth (PTG). PTG is a concept described as a development of a positive outcome from a traumatic experience (Tedeschi & Calhoun, 1996). PTG has the characteristic of rising above baseline functioning after exposure to trauma and the development of PTSD. PTG has been characterized to have “three main facets...they now value their friends and family more and feel an increased compassion and altruism towards others... They have a greater sense of personal resiliency, wisdom and strength...people report finding a fresh appreciation for each new day and renegotiating what really matters to them” (Joseph & Linley, 2005, p. 263). These experiences affect military veterans on things like how they view themselves and their lives. Military veterans have a new sense of possibilities since their trauma may have paralyzed and negatively changed their perspective on the world around them.

Individuals may develop interests in religion as it may have helped them to overcome and process their trauma. Not all veterans that develop PTSD gain PTG. The main determining factor in PTG is a strong social support that helps a veteran turn their negative situation into positive functioning. Strong social support could include being married and having a supportive spouse and family, connecting with soldiers that have been through similar situations or those who understand military culture. While researching, another determining factor of PTG is identifying as a minority. While more research has focused on marriage and social support, veterans who identify as minorities have been shown to have higher levels of PTG than white veterans. Further research and studies are needed in this area to determine the reasons behind this and if it could be related to the strength of minority cultures. It is unclear in the literature thus far if veterans possessed these traits before their trauma as most likely they have not sought out treatment before they have experienced trauma.

It can be beneficial for psychotherapists to understand PTG and develop skills to work with veterans on strengthening their growth. For the purpose of this study, trauma will be defined as any type including but not limited to: combat, accidents, domestic violence, sexual, physical, emotional, natural disaster; sustained during a military veteran's career. This study explored the question of how psychotherapists understand and use the concepts of PTG in their work with veterans with PTSD. This was achieved by addressing past research on the topics of PTSD and PTG to determine what psychotherapists need to know about the subjects in order to effectively provide therapeutic services to veterans. Additionally, surveys were administered to master's or higher level social workers in order to gain information about their familiarity with veteran's specific levels of trauma, PTSD, and their understanding of PTG in their clinical practice.

Literature Review

Posttraumatic Growth Defined

Due to the many problems associated with PTSD and focus on the negative aspects, early researchers of PTG found that some individuals described growth from the trauma. Tedeschi & Calhoun defined PTG as a “positive psychological change experienced as a result of the struggle with highly challenging circumstances” (2004, p.1). Posttraumatic Growth (PTG) is a concept described as a development of a positive outcome from a traumatic experience (Tedeschi & Calhoun, 1996). This could be as simple as a veteran describing the trauma as positive in that they made it out alive or they have a greater sense of gratitude in living every day as their last. Posttraumatic Growth has similarities and has been compared to resilience (Rodgers, 2014; Tedeschi & Calhoun, 1996). Although similar, PTG has the characteristic of transforming baseline functioning into a positive framework through changes in “an established set of schemas that are changed in the wake of trauma” (Tedeschi & Calhoun, 2004, p. 4); that is, with PTSD veterans may view the world as unsafe and dangerous, which may be very different than their view before the trauma. “It is the individual’s struggle with the new reality in the aftermath of trauma that is crucial in determining the extent to which posttraumatic growth occurs” (Tedeschi & Calhoun, 2004, p. 5). Moran and colleagues (2013) posited that “it is important to note that PTG is not a psychological reaction without stress” (p. 34), therefore PTSD is necessary for an individual to develop PTG. Additionally, Moran and colleagues (2013) discovered that military veterans that experience PTG have common characteristics of “(1) interpersonal traits, including humor, kindness, and leadership; (2) cognition, such as creativity and curiosity; (3) fortitude, such as honesty, bravery, and judgement; (4) temperance, such as forgiveness, modesty, and fairness; and (5) transcendence, including gratitude, hope, and zest” (p.35). This could be

demonstrated in a new-found interest in creative activities such as, in music or art in order to have an outlet to channel the trauma. Veterans may begin attending religious ceremonies or practicing new ways of giving back to their community through volunteering or leading social groups.

To determine PTG, Tedeschi and Calhoun developed a self-report measure in 1996, the Post Traumatic Growth Inventory (PTGI) (Kaler, Erbes, Tedeschi, Arbisi, & Polusny, 2011; Rodgers, 2014; Tedeschi & Calhoun, 1996; Tsai, Mota, Southwick, & Pietrzak, 2014). This measure included 21 questions, with Likert scale answers to gain information on the five domains of growth, “Relating to Others, Personal Strength, New Possibilities, Appreciation of Life, and Spiritual Change” (Kaler et al., 2011, p.200). It was later reformatted into a shorter measure (PTGI-SF) of 10 questions (Kaler et al., 2011; Rodgers, 2014, Tedeschi & Calhoun, 1996). “Each of the five domains of posttraumatic growth tends to have a paradoxical element to it that represents a special case of the general paradox of this field: that out of loss there is gain” (Tedeschi & Calhoun, 2004, p. 6). Examples of the five domains include: appreciation for life by finding joy and appreciation of the small things in life; relating to others by establishing deeper connections; personal strength in the realization that overcoming trauma demonstrates greater strength for future challenges; spiritual changes in developing faith based practices or changing thoughts towards religion in general; new possibilities by volunteerism or becoming involved in something that helps others with challenges (Tedeschi & Calhoun, 2004). It is difficult to accurately measure PTG in veterans due to the self-report measure with the PTGI and the PTGI-SF and the possible invalidation and guilt veterans may feel when reporting positive aftermaths of trauma.

Similarities and Differences to Resiliency

PTG has been compared to resiliency and although similar they have differences. Characteristics of PTG include exposure and recovery from trauma in a “transformative {way} because of its multiple-component model (that is, new possibilities, relating to others, personal strength, appreciation of life, spiritual change)” (Rodgers, 2014, p. 9). Resilience relates to the ability to protect from debilitating trauma due to “natural propensity” of protective factors (Greene, 2013) and for one to possess a greater ability to return to normal after exposure to a traumatic experience (Rodgers, 2014). Resilience is the concept that someone exposed to trauma bounces back to baseline after their trauma and traits are characterized as a “development of clusters of self-protective behaviors and strengths” (Greene, 2012, p. 44). Resilient factors may stem from an individual’s exposure to unhealthy upbringings and their development of coping mechanisms. Therefore, when they are exposed to trauma in the military those coping mechanisms work to decrease the reaction to the trauma. Most individuals with resilient traits do not experience the same debilitating effects of PTSD; therefore, individuals that do experience PTSD symptoms are the ones that develop PTG in some cases (Levine, Laufer, Stein, Hamama-Raz, & Solomon, 2009).

Similar measures used to determine PTG have been used to determine resilience in veterans. Resiliency has been measured by the administration of the Deployment Risk and Resilience Inventory (DRRI) which analyzes “three broader categories: predeployment/prewar factors (e.g., predeployment traumatic stressors), deployment/war-zone factors (e.g., combat and aftermath of battle experiences, perceived threat, unit support), and postdeployment/postwar factors (e.g., postdeployment social support)” (Maguen, Vogt, King, King, & Litz, 2006, p.377).

Research on PTG

Various studies have measured PTG in the Veteran population from the Gulf War 1 to the present-day Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND). Researchers implemented the measurement tools: PTGI, PTG-SF, and the DRRRI in specific studies along with other measures for depression, anxiety, and related mental health disorders that can become exasperated by exposure to traumatic exposure. The major themes found relating to higher PTG in veterans related to married veterans, having strong social support, the identification of being a minority veteran, and certain therapeutic interventions for PTSD (Maguen et al., 2006; Kaler et al., 2011; Mitchell, Gallaway, Millikan, & Bell, 2013; Tedeschi & Calhoun, 1995; Tsai et al., 2015). It can be hypothesized that support can come in different forms such as, marriage, comradery with military members and unit, and being a member in a culture that provides strong support.

Married Veterans. Veterans that identified as being married reported higher levels of PTG (Kaler et al., 2011; Mitchell et al., 2013). This was demonstrated in research from Kaler and colleagues in 2011 which included 327 National Guard soldiers deployed from 2006-2007. As indicated in a study by Mitchell and colleagues (2013), 55 percent of study participants were married and had higher levels of PTG. Along with that they found that married veterans had higher levels of PTG due to “marriage being conceptualized as a source of social and emotional support for individuals (House, Landis, & Umberson, 1988)” (as cited by Mitchell et al., 2013, p.392). It seems understandable that veterans that have supportive marriages would recover more quickly and develop PTG since it is strongly related to social support.

Strong Social Support. Strong social support was instrumental in the facilitation of PTG in veterans (Kaler et al., 2011; Maguen et al., 2006; Moran et al., 2013; Pietrzak, Goldstein,

Malley, Rivers, Johnson, Morgan, & Southwick, 2010; Tedeschi & Calhoun, 1995). According to a study by Maguen and colleagues, unit support does indeed relate and predict greater PTG, noting that “in order to grow in these ways (measures from PTGI) postdeployment, a strong social support network needs to be in place so that appropriate gains can be made” (Maguen et al., 2006, p. 384). Maguen and colleagues (2006) posited that “resources such as unit support during military service and social support during the postdeployment period may serve as valuable environmental provisions for soldiers during and after stressful deployments” (p. 376). In Pietrzak and colleagues (2010) study of 272 veterans two years postdeployment found that “greater perceptions of received unit support were associated with PTG” (p. 233).

Minority Veterans. Several studies found higher levels of PTG in veterans that identified as a minority (Kaler et al., 2011; Maguen et al., 2006; Mitchell et al., 2013). Maguen and colleagues (2006), stated “those who may have faced discrimination and have not had adequate resources available to them may feel that upon returning, new possibilities ...are at their disposal” (p. 384). According to Kaler and colleagues (2011), “those identifying as racial-ethnic minorities also tend to report greater posttraumatic growth than White people” (p. 205). “Being White was associated with less growth” (Mitchell et al., 2013, p. 392). The reasons for this increase of PTG in minorities is unclear in the literature, but could be influenced by community support, having a better infrastructure of taking care of their own people, and possibly being more supportive due to their marginalized backgrounds.

PTSD Treatment Options. Some of the most common therapy options for the treatment of PTSD include Cognitive Processing Therapy (CPT), Prolonged Exposure (PE), and Eye Movement Desensitization and Reprocessing (EMDR). CPT is a 12-session therapy consisting of changing thoughts about the traumatic experience that involves discussing and writing about the

trauma. In CPT, thoughts and stuck points are handled in new ways by practicing newly learned skills to change negative thought patterns (Dept. of Veterans Affairs, 2017). EMDR therapy uses a back-and-forth motion or sound to process traumatic memories so that they can begin to make more sense. Negative thoughts about the traumatic memories are the focus of the beginning sessions of treatment and slowly more positive thoughts are introduced in order to change negative thoughts about the trauma (Dept. of Veterans Affairs, 2017). PE therapy specifically targets avoidance (a primary symptom of PTSD) by confronting fears and monitoring anxiety during treatment. This type of therapy involves discussing the trauma(s) and experiencing “in vivo” situations by visiting places and things that have been avoided. The goal is to feel less anxious and feel less need to avoid fearful situations (Dept. of Veterans Affairs, 2017). Both CPT and PE require homework and there are apps available to download onto mobile devices for extra assistance with therapy.

Conclusion

Research found on PTG points to avenues of improvement in functioning after a traumatic experience. The researchers uncovered similar conclusions related to race, gender, amount of social support, amount of combat exposure, and marital status of veterans and how those factors can affect levels of PTG (Kaler et al., 2011; Maguen et al., 2006; Mitchell et al., 2013). All of the veterans in the research studies were assessed using a form of the PTGI (whether original or short form) and some used the DRRI. Kaler and his colleagues recommended that the PTGI-SF be used on veterans that are more ethnically and racially diverse (Kaler et al, 2011). According to Maguen’s study (2006) future implications and research topics should address veterans from all wars to determine differences in combat experiences, obtain larger sample sizes, incorporate longitudinal studies, and include studies focusing on veterans

that identify as minorities. Further research that has not been explored should focus on female veterans and their specific traumas related to military sexual trauma (MST). Another avenue to be explored relates to minorities and how their experience with PTG is different than white males.

The research found on the topic of PTG in veterans is important for social work practice and veterans that have experienced traumatic events. This could be due to the possibility of finding a positive reframing of negative experiences that could lead to more positive functioning in the future for military veterans. The strengths-based perspective in social work is similar to the concept of PTG in that we are looking for a positive or better outcome from negative experiences. Although difficult to assess, PTG is a way of reframing a negative experience into one that has created a better outcome and fostered growth in a person and their reactions to the world around them. It is important for social workers to understand and develop skills to detect and foster growth and strengths in veterans with PTG. The future study focused on surveys with quantitative components to determine psychotherapist's familiarity with PTSD and PTG, and to ascertain how PTG can be facilitated in veterans.

Methods

The purpose of this research study explored the question of how psychotherapists understand and use the concepts of PTG in their work with military veterans with PTSD. The basis of this study consisted of gathering information from current psychotherapists that work with veterans exposed to trauma and with a diagnosis of PTSD to ascertain their knowledge on the subjects of PTSD, PTG, and strengths-based theories in their current practices.

Conceptual Framework

The proposed “lens” or conceptual framework chosen to guide the reader in understanding the researcher’s design is strengths-based perspective. Strengths-based perspective focuses on the positive more so than the negative aspects of life. Using a person’s natural power is consistent with the National Association of Social Work’s (NASW) core value of social justice and human worth (Miley, Melia, and Dubois, 2011). In trauma work, in particular it is important to move towards future goals of having a more productive, fulfilling life without the debilitating everyday reminders of trauma. “Workers reassure clients that their intense feelings of vulnerability, fears of loss of control, and emotional overload are natural responses in their situation” (Miley et al., 2011, p. 195). With this in mind social workers use the strengths-based perspective to help a veteran navigate their current situation and focus on their inner power and determination to achieve their personal strength and potential growth (Miley et al., 2011).

Research Design

In asking the question of psychotherapist’s knowledge and familiarity of PTSD and PTG in military veterans it was important to gain insight into current psychotherapist’s views on PTSD, PTG, and strengths-based theories in their practices. Therefore, an online, open-ended qualitative survey was administered to query psychotherapist’s discipline, level of training, familiarity of the diagnosis of PTSD, if they are informed on PTG, if they have treated military veterans for PTSD, a section where extra comments may be added, and if they have observed or administered measures (PTG-I, PTGI-SF) to determine levels of PTG.

Sample

The sample population included Master's or higher level licensed Social Workers who had experience in working with military veterans who had experienced trauma and carried a diagnosis of PTSD. The sample population was chosen based on the strengths-based perspective used by many social workers as well as the researcher's membership and ability to gain permission from administration on the Facebook page listed below. This sample was gathered by posting a link to a Facebook social work (SWAPS-Twin Cities) page consisting of 2,118 people. Approval was obtained by sending a message explaining my research study to administrative members on the Facebook page.

Protection of Human Subjects

The St. Catherine University IRB analyzed the research design, plan, and sample to determine it to be an exempt review. Anonymity was maintained through the use of Qualtrics surveys so that the identifying information was unknown to the researcher. Implied consent was assumed evident by the completion of the survey.

Data Collection

A survey was administered to the sample population of licensed social workers through a link posted to the Facebook social work page. The questions were developed by the researcher through key words and information found in the literature review to query social workers discipline, level of training, familiarity with PTSD and PTG, and their observation of or use of measurements for PTG in military veterans. There was a mixture of quantitative and open-ended questions that were designed to provide a more in-depth understanding of licensed social workers clinical practice with military veterans exposed to trauma in their military careers. The

survey questions were reviewed by Dr. Sarah Ferguson for content validity. The sample subjects received the survey through an online source; Qualtrics by a link posted on the Facebook SWAPS page.

Findings

The original research proposal was to analyze the responses of therapists to assess their thoughts on Posttraumatic Growth for veterans by posting a survey on Facebook. Unfortunately, that approach was not successful and given the time constraints of this project it was decided in collaboration with the chair of the committee to transition to a systematic review to answer this question. In this method, the researcher analyzed articles related to PTSD as well as PTG in United States military veterans with traumatic exposure during their military career. The question asked was “what contributing factors most likely leads to PTG in veterans?”

Inclusion/Exclusion Criteria

The researcher used articles that analyzed United States military veterans with PTSD that contained PTG. This researcher’s search focused on quantitative quasi-experimental designed studies within the last ten to fifteen years, meaning anything before 2002 was excluded. Another exclusionary criterion included qualitative studies due to the nature of the studies.

Search Strategy

The researcher employed the use of the University of St. Thomas and St. Catherine University’s library system online to search the following databases: Psych Info, PILOTS, SocINDEX, EBSCO, and Social Work Abstracts. The researcher reviewed abstracts to determine if they included the inclusion or exclusion criteria of this research project.

The researcher used the search terms listed below:

- Post-traumatic stress disorder (PTSD)

- Post traumatic growth (PTG)
- Posttraumatic growth (PTG)
- Stress related growth

Data Abstraction and Analysis

After an initial analysis of the articles abstracts, any articles that did not meet the inclusion criteria were rejected. A data abstraction table was used to organize and list details of all of the included articles. The information used to review each article included the topic, design, measures, sample population, and findings. A total of fourteen articles were found in the search. After reviewing the fourteen articles that met the inclusion criteria, themes were explored and identified in the overall findings. These themes were separated and categorized according to era of service.

Strengths and Limitations

One limitation is that this systematic review only included fourteen articles. Among the fourteen articles the most recent eras of service and some of the past eras were included which provides a general overview of veterans with PTSD and PTG which is a strength.

The primary focus of this systematic review was to determine the factors that contributed to PTG in U.S. military veterans. Past research found that a strong social support, being married and being of an ethnic minority are factors that could lead to higher levels of PTG. One commonality in all of the articles selected was the use of the PTGI (21 questions) or PTGI-SF (10 questions), a self-report measure used to determine the level of PTG. “Each of the five domains of posttraumatic growth tends to have a paradoxical element to it that represents a special case of the general paradox of this field: that out of loss there is gain” (Tedeschi &

Calhoun, 2004, p. 6). Examples of the five domains include: appreciation for life by finding joy and appreciation of the small things in life; relating to others by establishing deeper connections; personal strength in the realization that overcoming trauma demonstrates greater strength for future challenges; spiritual changes in developing faith based practices or changing thoughts towards religion in general; new possibilities by volunteerism or becoming involved in something that helps others with challenges (Tedeschi & Calhoun, 2004).

Results

After analyzing the articles through the data abstraction process commonalities emerged. The fourteen studies were then divided between sample population of OEF/IOF and veterans of other eras. Four of the fourteen articles mentioned all eras of service to include OEF/OIF and these articles were included in both categories due to the overlap in information. Six of the fourteen articles sampled veterans from eras other than or including OEF/OIF veterans. One article specifically studied Gulf War veterans and another studied Vietnam prisoners of war (POW).

OEF/OIF veteran studies. Of the fourteen total articles eleven of them contained a sample of OEF/OIF veterans. Hijazi and colleagues (2015) studied multi-war veterans to include 37.2% OEF/OIF veterans (Hijazi, Keith, & O'Brien, 2015). 182 OEF/OIF veterans were studied in Tsai's research in 2014, 2015, and again in 2016 when longitudinally comparing veterans from the National Health and Resilience in Veterans Study (Tsai, Gabalawy, Sledge, Southwick, & Pietrzak, 2014; Tsai, Sippel, Mota, Southwick, & Pietrzak, 2015; Tsai et al., 2016). Hagnaars and Minnen studied 80 veterans in 2010 to determine how effective exposure therapy was for these veterans (Hagnaars & Minnen, 2010). McClean et al (2011) studied 253 medical personnel recently redeployed from Iraq to determine how common and relational it was to be in

the medical field and be in a combat setting (McClellan, Handa, Dickstein, Benson, Baker, Isler, Peterson, & Litz, 2011). Religious/spiritual coping and its prediction of PTSD and perceived PTG was studied in 630 veterans in 2017 (Park, Smith, Lee, Mazure, McKee, & Hoff, (2017). Social support as a condition of PTG was studied in 100 veterans in 2015 (Deviva, Sheerin, Southwick, Roy, Pietrzak, & Harpaz-Rotem, 2015). Pietrzak and colleagues studied 272 Reservist/National Guard veterans to ascertain the prevalence and correlates of PTG (Pietrzak et al., 2010). Mitchell et al., studied 1,663 veterans in 2011 to determine if PTG could be predicted from combat exposure, unit cohesion, and certain demographic identifiers (2011). 107 combat veterans were studied to explore pathways between posttraumatic stress and PTG (Marotta-Walters, Choi, & Shaine, 2015).

Veterans of other eras. Of the fourteen total articles six of them contained a sample of veterans from other eras, including, Vietnam, Gulf War, World War II, and Korean War. 83 Gulf War veterans were studied by Maguen et al., to determine if early exposure to trauma predicted PTG in war time, if unit support helps veterans develop PTG, and if post-deployment support foster PTG (2006). 30 Vietnam POW's were studied to ascertain if psychosocial characteristics related to PTG (Feder et al., 2008). Hijazi and colleagues studied a multi-war sample to explore if differences in combat experiences affected the prevalence of PTG (Hijazi et al., 2015). Tsai et al., studied veterans from all conflicts in 2014, 2015, and 2016 longitudinally to determine how to promote PTG in veterans.

Social Support

Social support could be perceived as one of the most important factors in the facilitation of PTG in U.S. military veterans. The concept of strong social support was mentioned in the majority of articles analyzed in this systematic review. Unit cohesion and support were found to

positively impact PTG scores in a sample of 1663 soldiers (Mitchell et al., 2013). PTG scores of veterans that perceive that there are higher levels of unit support are greater (Pietrzak et al., 2010). Social support impacted the amount of treatment a veteran sought out and how many mental health treatment sessions they attended in a study concerning 100 OEF/OIF veterans. (Deviva et al., 2015). In a study involving 3157 veterans of all eras social connectedness and social support “is known to facilitate active coping, which might include the search for meaning and purpose” (Tsai et al., 2014). Marriage was factored as a construct of social support and reported to impact greater scores of PTG (Mitchell et al., 2013). Social support related to religiosity and being an ethnic minority highlighted the differences between minorities and social connectedness compared to Caucasians in that minorities are more likely to have a stronger connection to their religion and therefore, have greater levels of PTG (Hijazi et al., 2015). Religion was also mentioned in other studies concerning Vietnam POW’s (Feder et al., 2008), and OEF/OIF veterans (Park et al., 2017) but in ways that impacted their processing of traumas not specifically related to social support although it can be hypothesized that social connectedness could play a part in this sample.

Trauma-focused therapy

Processing trauma through evidence-based therapies has been proven to help veterans work through their trauma in order to lead more productive lives without the debilitating effects of PTSD (Dept. of Veterans Affairs, 2017). Re-experiencing traumas through PE therapy during discussion and in vivo practices can actually be beneficial for veterans, and, in fact were “most strongly related to PTG” (Tsai et al., 2014, p175). “It is possible that exposure therapy taps into specific dimensions (of PTG) by literally creating new possibilities, increasing a sense of mastery (i.e., personal strength), and improving one’s social life by decreasing PTSD symptoms

(i.e., relating to others) (Hagenaars & Minnen, 2010, p507). CPT can be beneficial in processing trauma due to the involvement of writing about the trauma(s) (Tsai et al., 2014).

Discussion

The goal of this study was to determine what contributing factors lead to PTG in veterans. In accordance with the purpose of this study it can be assumed that social support would be the most important factor. Evidence-based treatment utilization that involves PE and CPT would be another important factor that would contribute to the facilitation of PTG. Overall this research study addressed the researcher's question of providing contributing factors of PTG that include and correspond to information in the literature review regarding social support, married veterans, and veterans that identify as being an ethnic minority (Kaler et al., 2011; Maguen et al., 2006; Mitchell et al., 2013; Moran et al., 2013; Pietrzak et al., 2010; Tedeschi & Calhoun, 1995).

Although the studies explored many different aspects of PTG in various eras of military veterans the majority focused on OEF/OIF perhaps due to the researcher's exclusion criteria as focusing on articles from 2002- present. The articles all included the employment of the PTGI or PTGI-SF to determine the level of PTG according to the five domains of PTG.

Implications for Practice

In accordance with the researcher's conceptual framework as the strengths-based perspective and the focus on an individual's power of overcoming traumatic events social workers should monitor for and be cognizant of the possibility of PTG in veterans. PTSD can be a debilitating disorder and can cause major disruption in an individual's life. PTG can be a positive outcome if fostered and focused on to facilitate real change in a veteran's functioning.

Social workers should monitor a veteran for symptoms of PTSD and either provide or refer the veteran to a provider that can employ trauma-focused therapy in order to facilitate processing through traumatic experiences once the veteran is ready for treatment. The social worker should screen for the objective and subjective clues in the five domains of PTG and work to strengthen those in order to provide assistance in overall functioning in the veteran's life.

Implications for Policy

The Department of Veteran Affairs provides monetary and certain medical treatment/procedures to veterans that are service-connected for PTSD. Veterans that receive service connected ratings for PTSD are subjected to reviews at pre-determined time frames to decide if they still meet the criteria to receive service-connected benefits. It is this researcher's belief that this review cycle could cause undue anxiety and exasperation of symptoms. It seems as though medical conditions would not undergo the same review schedule as mental health disorders due to the stigmatization of mental illnesses. For this reason, it is this researcher's belief that policies should be reviewed to determine the validity of this practice and if reviews are necessary.

Implications for Research

Future research should focus on the researcher's original plan of interviewing or surveying providers that administer the PTGI or PTGI-SF and that specifically work with veterans that have experienced trauma in their military careers. Additionally, providers that utilize trauma-focused therapies should be sampled in particular in order to determine which therapies may be more likely to impact PTG, such as, CPT, PE, and EMDR.

Another avenue to explore in future research could include the exploration of differences in PTG levels of minority veterans as there are none, to the researcher's knowledge, that address this topic specifically. It can be gathered that this could be due to the fact that there are not as many minority veterans in the military as there are non-minority veterans. This may be a difficult population to address due to the limited availability of this sample.

Conclusion

The purpose of this research project was to gain information about the factors that contribute to PTG in U.S. military veterans that have experienced trauma in their careers. The original research method involved the completion of surveys by licensed social workers from a link posted on a Facebook page (SWAPS). Although unsuccessful, helpful information was gained by performing a systematic review to determine that social support is an extremely important factor in the facilitation of PTG. Another contributing factor was the completion or being enrolled in a trauma-focused therapy such as, PE or CPT.

Social workers that have a client caseload of veterans that have experienced trauma should familiarize themselves with the symptoms of PTSD and also be able to recognize the concept of PTG. PTG is characterized by gains made in its five domains, Relating to Others, Personal Strength, New Possibilities, Appreciation of Life, and Spiritual Change. PTG is strongly related to the strengths-based theoretical approach in that an individual possesses inner strengths to get through tough times. Recognizing strengths and gains in the five domains is a way of reframing into a more positive outcome for the veteran, their family, and our communities.

References

- American Psychiatric Association. (2013) PTSD Fact Sheet. Retrieved from <http://www.dsm5.org/Documents/PTSD%20Fact%20Sheet.pdf>
- Barglow, P. (2012). We can't treat soldiers' PTSD without a better diagnosis: Post-Traumatic Stress Disorder is a diagnosis fully accepted by the U.S. Veterans administration, psychiatrists, and the American public. But PTSD does not meet the criteria for a real psychiatric-medical disease. *Skeptical Inquirer*, 36(3), 42. Retrieved from http://go.galegroup.com/ps/i.do?id=GALE%7CA287956928&v=2.1&u=clie_stthomas&it=r&p=ITOF&sw=w&asid=2f8bdaa76455c8493327a751e66dd4ec
- Deviva, J., Sheerin, C., Southwick, S., Roy, A., Pietrzak, R., & Harpaz-Rotem, I. (2015). Correlates of VA Mental Health Treatment Utilization Among OEF/OIF/OND Veterans: Resilience, Stigma, Social Support, Personality, and Beliefs About Treatment. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <http://dx.doi/10.1037/tra0000075>.
- Feder, A., Southwick, S., Goetz, R., Wang, Y., Alonso, A., Smith, B., Buckholz, K., Waldeck, T., Ameli, R., Moore, J., Hain, R., Charney, D., & Vythilingham, M. (2008). Posttraumatic Growth in Former Prisoners of War. *Psychiatry*, 71(4), 359-370.
- Friedman, M. (2013). PTSD History and Overview <http://www.ptsd.va.gov/professional/PTSD-overview/ptsd-overview.asp>.

- Greene, R. (2013). Resilience. Encyclopedia of Social Work. Retrieved 19 Jun. 2016, from <http://socialwork.oxfordre.com/view/10.1093/acrefore/9780199975839.001.0001/acrefore-9780199975839-e-344>.
- Grinnell, R., Williams, M., & Unrau, Y. (2016). Research methods for social workers. An introduction (11th ed.). Kalamazoo, MI: Pair Bond (ISBN 9780981510071).
- Hagenaars, M., & Minnen, A. (2010). Posttraumatic Growth in Exposure Therapy for PTSD. *Journal of Traumatic Stress, 23*(4), 504-508.
- Hijazi, A., Keith, J., & O'Brien, C. (2015). Predictors of Posttraumatic Growth in a Multiwar Sample of U.S. Combat Veterans. *Peace and Conflict: Journal of Peace Psychology, 21*(3), 395-408.
- Joseph, S., & Linley, P.A. (2005). Positive adjustment to threatening events: An organismic valuing theory of growth through adversity. *Review of General Psychology, 9*(3), 262-280. doi: 10.1037/1089-2680.9.3.262.
- Kaler, M., Erbes, C., Tedeschi, R., Arbisi, P., & Polusny, M. (2011). Factor structure and concurrent validity of the posttraumatic growth inventory-short form among veterans from the Iraq war. *Journal of Traumatic Stress, 24*(2), 200-207. doi:10.1002/jts.20623
- Levine S., Laufer A., Stein E., Hamama-Raz Y., & Solomon Z. (2009). Examining the relationship between resilience and posttraumatic growth. *Journal of Traumatic Stress, 22*(4), 282-286. doi: 10.1002/jts.20409

Linley, P.A., & Joseph, S. (2004). Positive change following trauma and adversity: A review.

Journal of Traumatic Stress, 17(1), 11-21. doi:10.1023/B:JOTS.0000014671.27856.7e.

Maguen, S., Vogt, D., King, L., King, D., & Litz, B. (2006). Posttraumatic growth among gulf

war I veterans: The predictive role of deployment-related experiences and background characteristics. *Journal of Loss & Trauma*, 11(5), 373-388.

doi:10.1080/15325020600672004

Marotta-Walters, S., Choi, J., & Shaine, M. D. (2015). Posttraumatic growth among combat

veterans: A proposed developmental pathway. *Psychological Trauma: Theory, Research, Practice, and Policy*, 7(4), 356-363.

<http://dx.doi.org.ezproxy.stthomas.edu/10.1037/tra0000030>

McLean, C., Handa, S., Dickstein, B., Benson, T., Baker, M., Isler, W., Peterson, A., & Litz, B.

(2011). Posttraumatic Growth and Posttraumatic Stress Among Military Medical Personnel.

Psychological Trauma: Theory, Research, Practice, and Policy. Advance online

publication. doi: 10.1037/a0022949.

Miley, K., O'Melia, M. & Dubois, B. (2011). *Generalist Social Work Practice: An Empowering*

Approach (Updated edition, 6/e). Boston: Allyn & Bacon.

Mitchell, M., Gallaway, M., Millikan, A., & Bell, M. (2013). Combat exposure, unit cohesion,

and demographic characteristics of soldiers reporting posttraumatic growth. *Journal of Loss*

& Trauma, 18(5), 383-395. doi:10.1080/15325024.2013.768847

- Moran, S., Burker, E., & Schmidt, J. (2013). Posttraumatic growth and posttraumatic stress disorder in veterans. *The Journal of Rehabilitation*, 79(2), 34. Retrieved from http://go.galegroup.com/ps/i.do?id=GALE%7CA329301782&v=2.1&u=clic_stthomas&it=r&p=HRCA&sw=w&asid=04aced1ff86930fe0d42c9393cb9e2fe
- Park, C., Lee, S., Smith, P., Mazure, C., McKee, S., & Hoff, R. (2017). Positive and Negative Religious/Spiritual Coping and Combat Exposure as Predictors of Posttraumatic Stress and Perceived Growth in Iraq and Afghanistan Veterans. *Psychology of Religion and Spirituality*, 9(1), 13-20.
- Pietrzak, R., Goldstein, M., Malley, J., Rivers, A., Johnson, D., Morgan, C., & Southwick, S. (2010). Posttraumatic growth in Veterans of Operations Enduring Freedom and Iraqi Freedom. *Journal of Affective Disorders*, 126, 230-235.
- Rodgers, S. (2014). Posttraumatic Growth. *Encyclopedia of Social Work*. Retrieved 18 Jun. 2016, from <http://socialwork.oxfordre.com/view/10.1093/acrefore/9780199975839.001.0001/acrefore-9780199975839-e-1001>.
- Rothbaum, B., Foa, E., & Hembree, E. *Reclaiming your Life After a Traumatic Experience, Workbook*, 2007. New York: Oxford University Press, Inc.
- Sayer, N., Spoont, M., & Nelson, D. (2004). Veterans seeking disability benefits for post-traumatic stress disorder: Who applies and the self-reported meaning of disability compensation. *Social Science & Medicine*, 58(11), 2133-2143.
doi:<http://dx.doi.org.ezproxy.stthomas.edu/10.1016/j.socscimed.2003.08.009>

- Sayer, N., Noorbaloochi, S., Frazier, P., Carlson, K., Gravelly, A., & Murdoch, M. (2010). Reintegration problems and treatment interests among Iraq and Afghanistan combat veterans receiving VA medical care. *Psychiatric Services* (Washington, D.C.), 61(6), 589-597. doi:10.1176/ps.2010.61.6.589
- Tedeschi, R., & Calhoun, L. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage.
- Tedeschi, R., & Calhoun, L. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455-471.
- Tedeschi, R., & Calhoun, L. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychology Inquiry, 15*, 1-18. doi:10.1207/s15327965pli1501_01
- Tedeschi, R., & McNally, R. (2011). Can we facilitate posttraumatic growth in combat veterans? *American Psychologist, 66*(1), 19-24. <http://dx.doi.org/10.1037/a0021896>
- The U.S. Department of Veterans Affairs National Center for PTSD. Cognitive Processing Therapy for PTSD. 2017. Retrieved from:
https://www.ptsd.va.gov/public/treatment/therapy-med/cognitive_processing_therapy.asp
- The U.S. Department of Veterans Affairs National Center for PTSD. Eye Movement Desensitization and Reprocessing (EMDR) for PTSD. 2017. Retrieved from:
<https://www.ptsd.va.gov/public/treatment/therapy-med/emdr-for-ptsd.asp>
- The U.S. Department of Veterans Affairs National Center for PTSD. Prolonged Exposure Therapy for PTSD. 2017. Retrieved from:
<https://www.ptsd.va.gov/public/treatment/therapy-med/prolonged-exposure-therapy.asp>

The U.S. Department of Veterans Affairs National Center for PTSD. PTSD and the Military.

2013. Retrieved from: <http://www.ptsd.va.gov/public/PTSD-overview/basics/how-common-is-ptsd.asp>

Tsai, J., El-Gabalawy, R., Sledge, W., Southwick, S., & Pietrzak, R. (2015). Post-traumatic Growth Among Veterans in the USA: Results from the National Health and Resilience in Veterans Study. *Psychological Medicine*, 45, 165-179. doi:10.1017/S0033291714001202

Tsai, J., Mota, N., Southwick, S., & Pietrzak, R. (2014). What doesn't kill you makes you stronger: A national study of U.S. military veterans. *Journal of Affective Disorders*, 189, 269-271. <http://dx.doi.org.ezproxy.stthomas.edu/10.1016/j.jad.2015.08.076>

Tsai, J., Sippel, L., Mota, N., Southwick, S., & Pietrzak, R. (2015). Longitudinal Course of Posttraumatic Growth Among U.S. Military Veterans: Results from the National Health and Resilience in Veterans Study. *Depression and Anxiety*, 0, n/a. doi:10.1002/da.22371

Appendix A: Survey questions

1. What is your level of education in social work?
1)LICSW 2) LGSW 3) PH.D/DSW., LP 4) Other
2. How long have you been a licensed social worker?
1)Less than 1 year 2) 1-2 years 3) 3-5 years 3) 6-10 years 4) 11 or more years
3. Do you have clients that are military veterans with exposure to trauma in their military careers?
1)Yes 2) No
4. Describe the demographics (in percentages) of the military veterans with exposure to trauma in their military careers.
Veterans of color (%)
Female veterans (%)
Male veterans (%)
Married veterans (%)
Veterans with strong social support (%)
5. Of those military veterans with exposure to trauma in their military careers tell me about the type of traumas they have experienced (combat, military sexual trauma, etc.)
6. Have you received formal training for trauma focused psychotherapy?
1)Yes 2) No
7. If so, what type?
1)Cognitive Behavior Therapy(CBT) 2) Cognitive Processing Therapy (CPT) 3)
Prolonged Exposure (PE) 4) Eye movement desensitization and reprocessing (EMDR) 5)
Talk therapy 6) Group therapy 7) Other-
8. If not, what is the reason?
1)Learned informally 2) Not needed for your specific clients 3) No interest to provide this
therapy 4) Staffing/Client ratio is too large 5) Other
9. In your clinical practice with military veterans tell me about the procedures used in diagnosing military veterans with Posttraumatic Stress Disorder (PTSD)?
10. How familiar are you with the concept of Posttraumatic Growth (PTG)?
-Extremely Unfamiliar -Somewhat Unfamiliar -Neither -Somewhat Familiar -Extremely
Familiar
11. In your clinical practice with military veterans have you administered measures such as the Post Traumatic Growth Inventory(PTGI) or the short form (PTGI-SF)?
1)Yes 2) No

12. In your clinical practice tell me of instances where you observed positive growth (PTG) in military veterans diagnosed with PTSD. These could include areas of improvement in-Relating to Others -Personal Strength -New Possibilities -Appreciation of Life -Spiritual Change

13. In those military veterans diagnosed with PTSD, tell me about times when military veterans have explicitly expressed growth (PTG) from traumatic experiences. These could include areas of improvement in-Relating to Others -Personal Strength -New Possibilities -Appreciation of Life -Spiritual Change

14. In those military veterans diagnosed with PTSD that have experienced growth either through observation (by the social worker) or explicitly (by the military veteran), tell me what types of trauma focused therapy (s) were used to achieve that result.

15. How much do you agree with the following statement: PTG is a real concept experienced by military veterans that have experienced trauma in their military careers?

-Extremely Disagree -Somewhat Disagree -Neither -Somewhat Agree -Extremely Agree

16. In concluding this survey please add any extra information you feel would be beneficial to the researcher.

Appendix B:

Table 1: Articles that studied OEF/OIF veterans

AUTHOR	DESIGN	MEASURES	TYPE	SAMPLE	FINDINGS
Deviva et al (2015)	Examined relationship b/w MH care utilization and measures of PTSD symptoms, res., stigma, beliefs about MH, perceived barriers to MH, PTG, and meaning, and personality factors	Stigma scale (STSI), beliefs about psychotropic med & therapy (BMP), CD-RISC, meaning in life questionnaire (MLQ), PTGI, RSES, TIPI, PCL, PDSSS, USS, BCI	quantitative	100 OEF/OIF/OND veterans with PTSD referred to VA MH care OEF/OIF	Social support is essential in mental health treatment utilization
Hagenaars and Minnen (2010)	80 mixed trauma vets involved in PE treatment	Structured clinical interview for DSM-IV, PSS-SF, PTGI, pre-and post-measures	quantitative	80 outpatients with PTSD, 65 that completed treatment OEF/OIF	Neg ass. b/w PTG and PTSD, PTG fluctuates over time, PE increases likelihood of benefits in relating to others, new possibilities, and personal strengths
Hijazi et al (2015)	Clinical sample of combat veterans	Various personality & psychological functioning as part of screening for admission to VA PTSD treatment program	quantitative	167 vets 35.9% Vietnam, 37.2% OEF/OIF, 26.9% other wars All eras	69% endorsed moderate PTG on at least 1 dimension, increased appreciation for life most frequent Factors like minority, higher cog. Functioning, greater perception of wrongdoing higher
Marotta-Walters et al (2015)	Explore psychosocial dev. b/w PTSS and PTG in OEF/OIF vets	Demographics, CAPS, CES, level of perceived threat, MPD, PTGI	quantitative	107 male vets from OEF/OIF registered at SE VA OEF/OIF	Psychosocial development may mediate the process of meaning making from experiences
Mclean et al (2011)	Military medical personnel facing combat and medical stressors	PTGI, PCL-M, MHSS, CES, CSAC, GMES	quantitative	253 AF medical personnel deployed in OEF/OIF	Both types of stress (combat and medical) inverted u-shaped

				OEF/OIF	relationship with PTG
Mitchell et al (2011)	Predict PTG from combat exposure, unit cohesion, and demographics	PTGI, combat exposure scale, demographics	quantitative	1663 soldiers that participated in a study 6 months after redeployment OEF/OIF	+combat exposure, and stronger unit cohesion ass. with + PTG, married, minority, junior enlisted +PTG
Park et al (2016)	Survey of experiences of returning veterans (SERV)	RS coping scale, mental health outcomes-PCL, PTGI, combat experiences subscale from DRRI, sociodemographic characteristics	quantitative	630 vets OEF/OIF	Neg. RS coping was inversely ass. with PPTG & + w/ PTSD while + RS coping related only to PPTG, those with high combat exp. & high RS had highest PTSD symptoms
Pietrzak et al (2010)	Examine prevalence and correlates of PTG in white OEF/OIF vets, examine dimensions of PTG ass. w/ PTSD	PTGI, CES, PCL-M, PDS, CD-RISC, USS, PSSS	quantitative	272 older reserve/ng OEF/OIF vets OEF/OIF	Interventions to bolster unit member support and to enhance perceptions of effort and perseverance may help promote PTG in OEF/OIF vets
Tsai et al (2015)	Longitudinal study of us military vets over a 2-yr. period to examine long term effects	Trauma history screen, PTGI-SF	quantitative	1838 vets that participated in both waves of NHRVS study and that reported at least 1 trauma All eras	Majority maintained PTG over time highlighting stability of PTG
Tsai et al (2016)	Examine whether certain dimensions of PTG protect against exasperation of PTSD symptoms	same	quantitative	1057 vets from same study that reported a new trauma between waves 1 and 2 All eras	Suggests that vets that experience PTG in personal strength through gaining greater coping skills may be better able to cope with subsequent traumas

Tsai et al (2014)	Data analyzed from national health and resilience in Veterans study	Survey-sociodemographic, military, health, & psychosocial & PTGI-SF	quantitative	3157 veterans From All eras	50% of all vets and 72% of those + for PTSD reported 'moderate' PTG Greater social-connectedness, intrinsic religiosity and purpose in life associated with PTG
-------------------	---	---	--------------	-----------------------------------	--

Appendix C:

Table 2: Articles that studied all eras

Author	DESIGN	MEASURES	TYPE	SAMPLE	FINDINGS
Feder et al (2008)	Examined reported PTG and its relationship to other psychosocial characteristics and PTG with purpose in life	SCID, caps1, ids-c30, PTGI, lot-r, RCOPE, MOS social support survey, purpose in life scale,	Quantitative	30 former Vietnam POW Vietnam	+correlation of PTG and optimism, +religious coping, social support related to optimism
Hijazi et al (2015)	Clinical sample of combat veterans	Various personality & psychological functioning as part of screening for admission to VA PTSD treatment program	Quantitative	167 vets 35.9% Vietnam, 37.2% OEF/OIF, 26.9% other wars All eras	69% endorsed moderate PTG on at least 1 dimension, increased appreciation for life most frequent Factors like minority, higher cog. Functioning, greater perception of wrongdoing higher
Maguen et al (2006)	Identify deployment related and demographic predictors of several factors of PTG	Demographics, DRRI, PTGI	quantitative	83 Gulf war 1 vets from registry from Boston VA for any type of care Gulf War	+PTG with higher social support, ethnic minority,
Tsai et al (2015)	Longitudinal study of us military vets over a 2-yr. period to examine long term effects	Trauma history screen, PTGI-SF	quantitative	1838 vets that participated in both waves of NHRVS study and that reported at least 1 trauma All eras	Majority maintained PTG over time highlighting stability of PTG
Tsai et al (2016)	Examine whether certain dimensions of PTG protect against exasperation of PTSD symptoms	same	quantitative	1057 vets from same study that reported a new trauma between waves 1 and 2 All eras	Suggests that vets that experience PTG in personal strength through gaining greater coping skills may be better able to cope

					with subsequent traumas
Tsai et al (2014)	Data analyzed from national health and resilience in Veterans study	Survey-sociodemographic, military, health, & psychosocial & PTGI-SF	quantitative	3157 veterans From All eras	50% of all vets and 72% of those + for PTSD reported 'moderate' PTG Greater social-connectedness, intrinsic religiosity and purpose in life associated with PTG